DRAFT ENVIRONMENTAL IMPACT ASSESSMENT

&

ENVIRONMENT MANAGEMENT PLAN

FOR OBTAINING

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

"B1" CATEGORY (Cluster) – MINOR MINERAL - PATTA LAND – FRESH QUARRY

VIRALIPATTI ROUGH STONE AND GRAVEL QUARRIES

Cluster Extent- 11.60.5 Ha

<table>
<tr><th colspan="2">PROPONENT</th></tr>
<tr><td colspan="2">M/S. ADAYAR GRANITES,
Thiru. M.C. Saju, Managing Partner,
No. 15/113-2, KPC Complex, Perunai Post,
Changanacherry, Kottayam District,
Kerala State – 686 102.</td></tr>
<tr><th>PROJECT DETAIL P1</th><th>PROJECT DETAIL P2</th></tr>
<tr><td>Location Details
S.F.Nos. 2/1 and 1269/3
Extent 3.13.5 Ha,
Viralipatti Village, Nilakottai Taluk,
Dindigul District.</td><td>Location Details
S.F.Nos. 4/2, 1274/1 and 1274/2
Extent 3.95.0 Ha,
Viralipatti Village, Nilakottai Taluk,
Dindigul District.</td></tr>
<tr><td>Production Details
Mineable Reserves : 3,06,760m^3 of Rough stone
1,07,060m^3 of Weathered rock
35,660m^3 of Gravel

Peak Production : 55,650m^3 of Rough stone
37,310m^3 of Weathered rock
12,012m^3 of Gravel
Depth : 46.5m bgl</td><td>Production Details
Mineable Reserves : 4,53,280m^3 of Rough stone
1,43,190m^3 of Weathered rock
46,505m^3 of Gravel

Peak Production : 91,325m^3 of Rough stone
55,475m^3 of Weathered rock
19,902m^3 of Gravel
Depth : 51.5m bgl</td></tr>
<tr><td>ToR obtained vide
File No. 11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025-</td><td>ToR obtained vide
File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025-</td></tr>
<tr><td>Environmental Consultant
GEO EXPLORATION AND MINING SOLUTIONS
Old No. 260-B, New No. 17,
Advaitha Ashram Road, Alagapuram,
Salem – 636 004, Tamil Nadu, India
Accredited for sector 1 Cat 'A', sector 31 & 38 Cat 'B'
Certificate No : NABET/EIA/2225/RA 0276
Phone: 0427-2431989,
Email: infogeoexploration@gmail.com
Web: www.gemssalem.com</td><td>Laboratory
GLOBAL LAB AND CONSULTANCY SERVICES,
Salem , Tamil Nadu</td></tr>
<tr><td colspan="2">Baseline Monitoring Period
MARCH to MAY 2025</td></tr>
<tr><td colspan="2">JUNE 2025</td></tr>
</table>

UNDERTAKING

I Saju M.C. given undertaking that this EIA & EMP report prepared cumulatively for our Rough stone and Gravel quarries situated in S.F.Nos. 2/1 and 1269/3 over an Extent of 3.13.5 Ha as P1 and S.F. Nos 4/2, 1274/1 and 1274/2 over an Extent 3.95.0 Ha as P2 in Viralipatti Village, Nilakottai Taluk, Dindigul District based on the ToR issued by the State Level Environmental Impact Assessment Authority (SEIAA), Tamil Nadu vide File No. 11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025 & File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025.

I hereby assured that the Data's submitted and information given by me is true and correct to the best of my knowledge.

Signature of the Project Proponent

For

M/S. ADAYAR GRANITES

M.C. Saju,

Managing Partner

Place: Dindigul

Dated:

DECLARATION

I S. Nagamani – EIA Coordinator declare that the EIA & EMP report for the Rough stone and Gravel quarries situated in S.F.Nos. 2/1 and 1269/3 over an Extent of 3.13.5 Ha as P1 and S.F. Nos 4/2, 1274/1 and 1274/2 over an Extent 3.95.0 Ha as P2 in Viralipatti Village, Nilakottai Taluk, Dindigul District has been prepared by Geo Exploration and Mining Solutions, Salem, Tamil Nadu.

The Data's provided in the EIA report are true and correct to the best of my knowledge.

Signature of the EIA Co Ordinator

S. Nagamani

M/s. Geo Exploration and Mining Solutions

Place: Salem

Dated:

For easy represantation of Proposed and Existing Quarries in the Cluster are given unique codes and identifies and studied in this EIA/ EMP Report.

PROPOSED QUARRIES					
CODE	**Name of the Owner**	**Village**	**S.F. Nos**	**Extent in Ha**	**Status**
P1	Tvl. Adayar Granites	Viralipatty	S.F.No. 2/1 and 1269/3	3.13.5	File No.11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025
P2	Tvl. Adayar Granites	Viralipatty	S.F.No. 4/2, 1274/1 and 1274/2	3.95.0	File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025
	TOTAL EXTENT			**7.08.5 ha**	
EXISTING QUARRIES					
CODE	**Name of the Owner**	**Village**	**S.F. Nos**	**Extent in Ha**	**Status**
E-1	Tvl. Adayar Granites	Viralipatty	S.F.No 3/1, 3/2 and 4/1	4.52.0	25.07.2023 to 24.07.2033
	TOTAL EXTENT			**4.52.0 ha**	
	TOTAL CLUSTER EXTENT			**11.60.5 Ha**	

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

TERMS OF REFERENCE (ToR) COMPLIANCE

Tvl. Adayar Granites – P1

File No. 11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025

1.0 SEAC SPECIFIC CONDITIONS – SITE SPECIFIC 1.1		
1	The PP shall furnish the details on no. of trees to be removed for the proposed quarrying activity and the compensatory planting proposed for the same in EIA report.	**Noted & Agreed** There are about 350 Nos of Mango trees which was used for the commercial purpose, the age of the trees are more than 20 years. Yield of the mango is drastically declined due to the age and poor rainfall. It is planned to plant around 3500 Nos of trees in the boundary barrier, Village roads and haul roads as a compensatory plantation in 1: 10 ratio.
2	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organisation chart of the Committee with defining the role of the members (iii) The 'Standard Operating Procedures' (SoP) executing the planned activities.	**Noted & agreed.** There are three quarries in the cluster all the leases belongs to the same project proponent. Hence the project proponent is provided Standard operating procedure for the three mines while the operation and the details are given as affidavit. Enclosed along with this report.
3	As this is an existing quarry, the PP shall ensure that the CCTV Cameras are installed inside the mine premises and the photographs of the same shall be submitted at the time of EIA appraisal.	**Noted and agreed.** **It is a fresh lease** PP agreed to install the CCTV Cameras will be installed in the mine premises after commencing the mining operation.
4	The Boundary pillars to be erected as per the mine rules and the evidence should be submitted along with the EIA report.	**Noted & agreed.** The boundary pillars were erected in accordance with the mining rules
5	The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	**Noted and agreed.** Plantation activities has been carried out and the area has been fenced. The photographs will be submitted during the appraisal. There are 350 nos of mango trees within the lease applied area the trees will be removed as a compensatory plantation 3500 Nos of trees will be planted.
6	The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report	**Noted and agreed** Biodiversity study has been carried out by Functional Area Expert by the NABET accredited consultant. The detailed study is given in the Chapter No.3
7	The PP shall prepare the EMP for the entire project life of mine, and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	**Noted and agreed** PP prepared for EMP for entire lease of mines period
8	The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures	**Noted & Agreed** PP has agreed to conduct thorough study on the cumulative environmental effects of both the current and proposed quarries on the adjacent village and its structures.

2.SEAC STANDARD CONDITIONS **2.1**		
1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (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.	Not applicable, it is a fresh proposal application submitted for the Prior Environmental Clearance Fresh lease.
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.	**Noted & agreed.** The PP obtained VAO Certificate regarding the location of habitations within 300m radius from the periphery of the site and enclosed with as annexure 4.
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.,	**Noted and agreed** The structure study has been carried out within the radius of 300m. There is no habitation within the radius of 300m from the project site. One abandoned poultry shed and two farm sheds are situated within the radius of 300m. The Structure study has been carried out around 500m radius and the details are given in the Chapter No 3.
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.	**Noted and agreed** The hydro-geological study was conducted to evaluate the possible impact on the ground water table. There is no surface water bodies adjacent to the project site. The nearest water body is odai which is about 880m SW side.
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	**Noted and agreed** The Biodiversity study has been carried out by Functional Area Expert by the NABET accredited consultant. There is no wild life Sanctuary within the radius of 10km and the area is dry barren land considering this we request to kindly refer our Biodiversity study given in the Chapter No.3.
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	The nearest Reserve forest is Vellaikaradu RF – 1.22km – North East & Palapattykaradu R.F – 4.23km – North West. The datas taken from the TNGIS.
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	**Not applicable** It is a fresh proposal.

	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.	**Noted and agreed** The total depth of the mine is 46.5m bgl it is ensured that the slope stability study will be carried out when the mine reach 30m depth bgl and the report will be submitted along with Half yearly compliance 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.	**Noted and agreed** Proponent given affidavit stating that the blasting will be carried out under the supervision of Competent person.
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	**Noted and agreed** The conceptual mining plan prepared considering the bench height of 5m and width of 5m. The theoretical blast induced vibration study conducted and it is inferred the peak particle velocity is within the limits.
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	**Noted and agreed.** Another one exiting quarry is situated within the radius of 500m the details are as follows. Extent 4.52.0 Ha Lease period 25.07.2023 to 24.07.2033
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.	**Not applicable** It is a fresh proposal
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	**Not applicable** It is a fresh proposal
14	Quantity of minerals mined out. • 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.	**Not applicable** It is a fresh proposal
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No.. Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,	**Noted and agreed.** PP carried out the drone video survey and will be submitted during the appraisal.
17	The proponent shall furnish photographs of adequate fencing, green belt along the periphery including	**Noted and agreed**

	replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	The area has been fenced and plantation activities carried out within the project site.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	**Noted and agreed** The total Mineable reserves Rough stone = 3,06,760m^3 Weathered rock = 1,07,060m^3 Gravel = 35,660m^3 The same is proposed to excavate in the first five years plan period. Open cast mechanized mining method is proposed by forming the bench heights of 5m & width of 5m. Drilling will be carried out using Jack hammer drilling and Controlled blasting will be used by NONEL. The anticipated impact and mitigation measures are given in the Chapter No. IV.
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.	**Noted and agreed.** The PP provided 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
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.	**Noted and agreed** The hydro-geological study was conducted by detailing the number of ground water pumping wells and open wells within 1km radius map, the contour map of the water level is given in the Hydrogeological study, Chapter No .3. It is inferred from the hydrogeological study the proposed depth of the mine 46.5m bgl will not intersect the ground water table and the water table in the area is around 65-70m bgl.
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	**Noted and agreed** Baseline Data were collected for One Season (Pre monsoon) March to May 2025 as per CPCB Notification and MoEF & CC Guidelines. The Details of the Baseline Data's are given in the Chapter No. 3.
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	**Noted and agreed** The Cumulative impact study due to mining operations with specific environment term is given in the Chapter No.7.
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted and agreed The Rainwater harvesting structure will be constructed in the mine office, labour shed after commencing the mining operation.
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.	**Noted and agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2

25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable. The entire quarried out material will be utilized 100%. The overburden will be transported to the needy customers for the filling and levelling of low lying areas.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	**Noted and agreed** Part of the working pit will be allowed to collect rain water during the spell of rain will be used for greenbelt development and dust suppression. The Mine Closure Plan is prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
28	Impact on local transport infrastructure due to the Project should be indicated.	**Noted and agreed** The incremental traffic density along with mitigation measured are given in the Traffic study in Chapter No. 2.
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	**Noted and agreed** Details of the trees in the buffer zone given in Chapter No.3 & 4.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific	**Noted and agreed** After the completion of mining operation, the part of the quarried-out land will be utilized as temporary storage reservoir. The site specific mine closure plan has been prepared and enclosed got approval along with mining plan. The Mine closure plan is given in the Chapter No. 2.
31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible	**Noted and agreed**
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.	**Noted and agreed** Around 1500 Nos of saplings are proposed to plant on behalf of this project and 3500 nos of trees will be planted as a compensatory afforestation.
33	Taller/one-year-old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	**Noted and agreed** The native species will be planted in the safety barrier in consultation with the forest authorities.
34	A Disaster Management Plan shall be prepared and included in the EIA/EMP Report for the	**Noted and agreed** Disaster management Plan details in Chapter-7

	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	**Noted and agreed** A Risk Assessment and management Plan Chapter- 7
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	**Noted and agreed** Occupational Health impact due to this project and periodical medical examination is given in the Chapter No 10.
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	**Noted and agreed** No Public Health Implications anticipated due to this project. The villages are more than 500m (Danger zone/impact zone) from this proposal. The Mining operation will not produce any toxic effluent in the form of liquid and gas.
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.	**Noted and agreed** The Socio-Economic study has been carried out as per the ToR condition. The details of the study is given in the Chapter No.3.
39	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	**Noted and agreed** No Litigation pending 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.	**Noted and agreed** The project benefit is given in the Chapter No 8..
41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	**Not applicable** It is a fresh lease
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	**Noted and agreed** The EMP prepared for the life of the mine and discussed in chapter 10.
43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted & agreed.

3. SEIAA STANDARD CONDITIONS **3.1**		
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.	**Noted and agreed** The quarries falls in the cluster is belongs to same project proponent. Specific SOP will be prepared for the individual leases falls in this cluster.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	**Noted and agreed** The quarries falls in the cluster is belongs to same project proponent.
3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	**Noted and agreed** The cluster management committee activities will be submitted to AD/Mines before resuming the mining operation.
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.	**Noted and agreed** The blasting frequency of the individual mines will be monitored by the competent person appointed specifically. Existing village road is situated on the north side, the same will be utilized for the transportation.
5	The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	**Noted and agreed** The occupational health and safety and risk assessment are described in the chapter No 10. The same will be followed during the mining operation.
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 in the EIA Report.	**Noted and agreed** The quarries falls in the cluster is belongs to same project proponent and the company framed Environmental Policy and the same will be followed. The details of the Environmental policy are detailed in the EIA Report Chapter No. 6
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	**Noted and agreed** The Restoration strategy is discussed in the progressive mine closure plan and enclosed in the Scheme of Mining plan.
8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity.	**Noted and agreed** The information on the health of the workers and the local people will be updated periodically along with medical examination.
Agriculture & Agro-Biodiversity		
9	Impact on surrounding agricultural fields around the proposed mining Area.	**Noted and agreed** The area is surrounded by dry barren land, the commercial plantation activities Mangoes and Coconut plantation is situated on the North and East side. The Mining operation will be carried out without hindrance to the agriculture lands by following the Environmental Management plan as per this EIA report.
10	Impact on soil flora & vegetation around the project site.	Detailed discussed in chapter 4.
11	Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP.	**Noted and agreed** The area is proposed Lease & Few trees present with in lease.
12	The Environmental Impact Assessment should study the agro-biodiversity, agro-forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	**Noted and agreed.**

13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	**Noted & agreed** After completion of the mining operation the land will be facilitate to collect the rainwater which will be utilized during the drought season.
14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock	**Noted and agreed** The project area is dry barren land, the horticulture plantation such as mangoes and coconut are adjacent to the project site. The Mining operation will be carried out without hindrance to the agriculture activities near the project site by following the Environmental Management plan.
Forests		
15	The project proponent shall detail study on impact of mining on Reserve forests and free ranging wildlife	Noted and agreed. The Nearest reserve forest is Vellaikaradu RF – 1.22km – North East Palapattykaradu R.F – 4.23km – North West. It is inferred from the Baseline studies and impact study the mining operation will not create hindrance to the Reserve forest and wild life.
16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	**Noted and agreed** The area is surrounded by Barren land. Details of flora and fauna studies given in the Chapter No.3.
17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection	**Noted and agreed** There are about 350 Nos of Mango trees within the project site and the trees are more than 20 years old, due to the poor rainfall the productivity yield is declined. Hence the mango trees will be removed and as a compensatory plantation around 3500 Nos of trees will be planted in the haul road and village road in consultation with the forest officers.
18	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site	**Noted & agreed.** The EIA study has been carried out considering the impact to the protected areas, Reserve Forest, National Parks, Corridors and Wild life Pathways, near the project site it is inferred that the mining operation will not create significant impact on the Environment.
Water Environment		
19	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	**Noted and agreed** The hydro-geological study was conducted by detailing the number of ground water pumping wells and open wells within 1km radius map, the contour map of the water level is given in the Hydrogeological study, Chapter No .3. It is inferred from the hydrogeological study the proposed depth of the mine 46.5m bgl will not intersect the ground water table and the water table in the area is around 65-70m bgl.
20	Erosion Control measures	**Noted & agreed** It is proposed to erect Garland drains around the project site to control the Soil erosion during the rainy season.
21	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.	**Noted & agreed** The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4.
22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir	**Noted & agreed** There is no proposal for the disposal of waste/ mine pit water to the nearby water body. Hence this project will not impact to the fish habitats.
23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	**Noted & agreed** The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4

24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Noted & agreed. The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components	Noted & agreed. The top layer in the form of Gravel and weathered rock. The Soil quality analysis has been carried out and detailed in the EIA report Chapter No 3 & 4.
26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites	Noted & agreed. The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4
27	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including environmental stress. c) Sediment geochemistry in the surface streams.	**Not applicable** There is no volcanic prone area is in the region hence this Hydrothermal/Geothermal is not anticipated. There are no streams near the project site.
Energy		
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	**Noted and agreed** Details in Chapter 3 environmental monitoring details.
Climate Change		
29	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	**Noted and agreed** Details of carbon emission and mitigation activities are given in the Chapter No.4
30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features	**Noted and agreed** The small scale of Mining operation will not cause to the climate change. The details of the Air quality study is given in the Chapter No. 4.
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	**Noted and agreed** Details of GHGs emissions and mitigation activities are given in the Chapter No.4
Mine Closure Plan		
32	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	**Noted and agreed** The Mine closure plan has been prepared and got approval along with the Mining plan. After completion of Mining operation the land will be facilitate to collect the rain water to act as temporary reservoir.
EMP		
33	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs	**Noted and agreed** The Mining plan is prepared for the period of 10 years. Adopting best practices in mining operations, such as reducing mineral waste. Supporting community development projects, promoting education and healthcare, and providing economic opportunities.
34	The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.	**Noted and agreed** The Environmental impact assessment study has been carried out with detailed EMP for the green belt development and Mine closure plan the details of the EMP budget is given in the Chapter No 10.

Risk Assessment		
35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	**Noted and agreed** The details of the anticipated risk during the mining with mitigation measures both in operation and post closure phase is given in the Chapter No. 7.
Disaster Management Plan		
36	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.	**Noted and agreed** The Disaster Management plan is given in the Chapter No 7.
Others		
37	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.,	**Noted & agreed.** The VAO certificate stating that there is no approved habitation within the radius of 300m is enclosed as Annexure 4. There are no Water bodies within the radius of 300m the details of the water bodies, Habitation, Schools and archaeological sites are given in the Chapter No. 2.
38	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.	**Noted and agreed** The Concerns raised during the public hearing along with proponent commitments will be addressed in the final EIA report after completion of the Public hearing.
39	The project proponent shall study and furnish the possible pollution due to plastic and micro plastic on the environment. The ecological risks and impacts of plastic & micro plastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported	**Noted and agreed** The details of the plastic and waste management is given in the Chapter No. 7.

Standard Terms of Reference for (Mining of minerals)

1.

S.No	Terms of Reference	Remarks
1.1	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 proposal is fresh lease
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	**Noted and agreed** The precise area communication letter granted in the name of project proponent. The proponent is right full lessee and the details of the land documents are enclosed with the Mining plan.
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee	**Noted and agreed** The EIA report and another terms of Mine lease area, production levels, mining technology etc., are compatible with one another and in the name of the lessee.
1.4	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	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No..

	land use and other ecological features of the study area (core and buffer zone)	Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
1.5	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	**Noted and agreed** The Toposheet map prepared and indicating the land use and geomorphology of the area is given in the Chapter No. 2.
1.6	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	**Noted and agreed** It is a patta land belongs to the project proponent, the area has been inspected by the concern department and passed precise area communication letter for the mining operation.
1.7	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	**Noted and agreed** The company has framed the Environmental Policy and the same has been approved by the Managing partner. The details of the Environmental policy are given in the Chapter No. 6.
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	**Noted and Agreed** It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90^0 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate.
1.9	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.	**Noted and Agreed** The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is for the Life of the Mine / lease period.
1.10	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.	**Noted and Agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2,
1.11	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	**Not Applicable.** The overburden in the form of gravel formation, this will be removed and transported to the needy customers. No dumps is proposed outside the lease area.
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent	**Not Applicable.** There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land.

	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.	The land documents are enclosed along with the Mining plan enclosed as Annexure – 2.
1.13	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.	**Not Applicable.** The proposed project area does not involve any Forest Land.

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 proposal is fresh lease
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	**Noted and agreed** The precise area communication letter granted in the name of project proponent. The proponent is right full lessee and the details of the land documents are enclosed with the Mining plan.
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	**Noted and agreed** The EIA report and another terms of Mine lease area, production levels, mining technology etc., are compatible with one another and 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)	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No.. Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
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	**Noted and agreed** The Toposheet map prepared and indicating the land use and geomorphology of the area is given in the Chapter No. 2.
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	**Noted and agreed** It is a patta land belongs to the project proponent, the area has been inspected by the concern department and passed precise area communication letter for the mining operation.
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	**Noted and agreed** The company has framed the Environmental Policy and the same has been approved by the Managing partner. The details of the Environmental policy are given in the Chapter No. 6.

	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.	**Noted and Agreed** It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90^0 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate.
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.	**Noted and Agreed** The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is for the Life of the Mine / lease period.
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	**Noted and Agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2,
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	**Not Applicable.** The overburden in the form of gravel formation, this will be removed and transported to the needy customers. No dumps is proposed outside the lease area.
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	**Not Applicable.** There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land. The land documents are enclosed along with the Mining plan enclosed as Annexure – 2.
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.	**Not Applicable.** The proposed 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.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	**Noted and Agreed** The details of the vegetation in the study area covering RF/PF is given in the Chapter No.3

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.	**Not Applicable.** There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
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	**Not Applicable.** There are no National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
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.	**Noted and agreed.** Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
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 within a radius of 300 meters. Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.
22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season);	**Noted and agreed**

	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.	Baseline Data were collected for Pre Monsoon Season March to May 2025 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. 3.
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.	**Noted and agreed** Air Quality Modelling for prediction of incremental GLC's of pollutant was carried out using AERMOD Model. Details in Chapter No. 4.
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	**Noted and agreed** Total Water Requirement for this project would be around 3 Kld the details are given in the chapter No 2.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	**Not applicable.** No withdrawal of water for this proposal the water for the dust suppression and greenbelt development will be get from the rainwater stored in the mine pit. The water for drinking and domestic purpose will be sourced from the 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.	**Noted and agreed** The rain water collected in the pits after spell of rain will be used for greenbelt development and dust suppression.
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	**Noted and agreed** The mining operation will not produce any toxic effluent and the proposed depth will not intersect the water table. The details of the anticipated impact both surface and ground water is given in the Chapter No 3.
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.	**Noted and agreed** The ground water table is at 60-65 m below ground level. The ultimate depth of this projects is 46.5m from the general ground profile.
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.	**Noted and agreed** There is no River, Stream, Seasonal passing through the lease area, adjacent to the project site.
30	Information on site elevation, working depth, groundwater table etc., Should be provided both in	**Noted and agreed** The elevation of the project site is 243m AMSL

<table>
<tr><td></td><td>AMSL and BGL. A schematic diagram may also be provided for the same.</td><td><table><tr><td></td><td>AMSL</td><td>BGL</td></tr><tr><td>Working Depth</td><td>196.5m</td><td>46.5m</td></tr><tr><td>Ground water table</td><td>178-173</td><td>65 - 70m</td></tr></table></td></tr>
<tr><td>31</td><td>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.</td><td>Noted and agreed

It is proposed to plant around 1500 Nos of trees from this project in the safety barrier and village roads. The native species will be planted in the safety barrier in three tier to control the dust propagation in the nearby agriculture lands.
The details of the greenbelt development are given in the Chapter No. 3.</td></tr>
<tr><td>32</td><td>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.</td><td>Noted and agreed

The existing village road is situated about 100m from the project site.
The incremental traffic density due to this project along with measures are given in the chapter No.2</td></tr>
<tr><td>33</td><td>Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.</td><td>Noted and agreed
The onsite shelter such as Mine office, labour shed will be provided after commencing the mining lease.</td></tr>
<tr><td>34</td><td>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.</td><td>Noted and agreed

The Conceptual plan has been prepared for the ultimate depth by the bench height and width of 5m. The Conceptual plan along with sections are given in the Mining plan enclosed as Annexure – 2.</td></tr>
<tr><td>35</td><td>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.</td><td>Noted and agreed

The occupational health impacts of the project along with mitigation measures are given in the Chapter No.10.</td></tr>
<tr><td>36</td><td>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.</td><td>Noted and agreed

The details of the public health implication and details are given in the Chapter No. 7</td></tr>
<tr><td>37</td><td>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.</td><td>Noted and agreed
The details of the socio economic status is given in the EIA report Chapter No 3 and anticipated impact along with mitigation measures given in the Chapter No 4.</td></tr>
</table>

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.	**Noted and agreed** The detailed Environmental Management plan has been prepared and given in the EIA report, Chapter No 10.
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.	**Noted and agreed** The Details of the public hearing, points raised by the peoples along with project proponent commitments will be detailed given along with 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.	**Noted and agreed** There is no litigation pending 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.	**Noted and agreed** The total Project cost is 91,36,000/- The EMP cost is given in the Chapter No 10
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	**Noted and agreed** The Disaster Management plan is given in the Chapter No 10.
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.,	**Noted and agreed** The Details of the project benefits is given in the Chapter No 8.
44	**Besides the above, the below mentioned general points are also to be followed: -**	
A	Executive Summary of the EIA/EMP Report	Executive summary of the EIA/EMP report both in Tamil and English is enclosed along with this document
B	All documents to be properly referenced with index and continuous page numbering.	All the documents are properly referenced with index and continuous page numbering.
C	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	List of Tables and source of the data collected are given properly.
D	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project	Baseline monitoring reports are enclosed as Annexure 5
E	Where the documents provided are in a language other than English, an English translation should be provided.	Noted and agreed.
F	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The Questionnaire of the project will be submit along with Final EIA & EMP report along with Public hearing comments.
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.	Noted and agreed.
H	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	Noted & agreed. There is no changes in the basic scope of the parameters to this EIA report.
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	Not applicable. It is a fresh proposal

	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.	Noted and agreed The surface plan of the project site is enclosed along with Mining plan as Plate No. I The Geological plan and sections with proposed mine pit is enclosed as Plate No II.

TERMS OF REFERENCE (ToR) COMPLIANCE

Tvl. Adayar Granites - P2

File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025

2.0 SEAC SPECIFIC CONDITIONS – SITE SPECIFIC 1.1		
1	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (iv) Copy of the agreement forming CMC. (v) The Organisation chart of the Committee with defining the role of the members (vi) The 'Standard Operating Procedures' (SoP) executing the planned activities.	**Noted & agreed.** There are three quarries in the cluster all the leases belongs to the same project proponent. Hence the project proponent is provided Standard operating procedure for the three mines while the operation and the details are given as affidavit. Enclosed along with this report.

2.SEAC STANDARD CONDITIONS 2.1		
1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (x) Original pit dimension (xi) Quantity achieved Vs EC Approved Quantity (xii) Balance Quantity as per Mineable Reserve calculated. (xiii) Mined out Depth as on date Vs EC Permitted depth (xiv) Details of illegal/illicit mining (xv) Violation in the quarry during the past working. (xvi) Quantity of material mined out outside the mine lease area (xvii) Condition of Safety zone/benches (xviii) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	Not applicable, it is a fresh proposal application submitted for the Prior Environmental Clearance Fresh lease.
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.	**Noted & agreed.** The PP obtained VAO Certificate regarding the location of habitations within 300m radius from the periphery of the site and enclosed with as annexure 4.
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.,	**Noted and agreed** The structure study has been carried out within the radius of 300m. There is no habitation within the radius of 300m from the project site. One abandoned poultry shed and two farm sheds are situated within the radius of 300m. The Structure study has been carried out around 500m radius and the details are given in the Chapter No 3.
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations	**Noted and agreed**

	on the waterbodies like lake, water tanks, etc., are located within 1 km of the proposed quarry.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. There is no surface water bodies adjacent to the project site. The nearest water body is odai which is about 350m SW side.
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	**Noted and agreed** The Biodiversity study has been carried out by Functional Area Expert by the NABET accredited consultant. There is no wild life Sanctuary within the radius of 10km and the area is dry barren land considering this we request to kindly refer our Biodiversity study given in the Chapter No.3.
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	The nearest Reserve forest is Vellaikaradu RF – 1.6 km – North East & Palapattykaradu R.F – 4.37 km – North West. The datas taken from the TNGIS.
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.	**Not applicable** It is a fresh proposal.
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.	**Noted and agreed** The total depth of the mine is 51.5m bgl it is ensured that the slope stability study will be carried out when the mine reach 30m depth bgl and the report will be submitted along with Half yearly compliance 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.	**Noted and agreed** Proponent given affidavit stating that the blasting will be carried out under the supervision of Competent person.
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	**Noted and agreed** The conceptual mining plan prepared considering the bench height of 5m and width of 5m. The theoretical blast induced vibration study conducted and it is inferred the peak particle velocity is within the limits.
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	**Noted and agreed.** Another one exiting quarry is situated within the radius of 500m the details are as follows. Extent 4.52.0 Ha Lease period 25.07.2023 to 24.07.2033
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.	**Not applicable** It is a fresh proposal
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	**Not applicable** It is a fresh proposal

14	Quantity of minerals mined out. • 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.	**Not applicable** It is a fresh proposal
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No.. Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,	**Noted and agreed.** PP carried out the drone video survey and will be submitted during the appraisal.
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.	**Noted and agreed** The area has been fenced and plantation activities carried out within the project site.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	**Noted and agreed** The total Mineable reserves Rough stone = 4,53,280m^3 Weathered rock = 1,43,190m^3 Gravel = 46,505m^3 The same is proposed to excavate in the first five years plan period. Open cast mechanized mining method is proposed by forming the bench heights of 5m & width of 5m. Drilling will be carried out using Jack hammer drilling and Controlled blasting will be used by NONEL. The anticipated impact and mitigation measures are given in the Chapter No. IV.
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.	**Noted and agreed.** The PP provided 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
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.	**Noted and agreed** The hydro-geological study was conducted by detailing the number of ground water pumping wells and open wells within 1km radius map, the contour map of the water level is given in the Hydrogeological study, Chapter No .3. It is inferred from the hydrogeological study the proposed depth of the mine 51.5m bgl will not intersect the ground water table and the water table in the area is around 65-70m bgl.
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to	**Noted and agreed**

	surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study	Baseline Data were collected for One Season (Pre monsoon) March to May 2025 as per CPCB Notification and MoEF & CC Guidelines. The Details of the Baseline Data's are given in the Chapter No. 3.
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	**Noted and agreed** The Cumulative impact study due to mining operations with specific environment term is given in the Chapter No.7.
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted and agreed The Rainwater harvesting structure will be constructed in the mine office, labour shed after commencing the mining operation.
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.	**Noted and agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable. The entire quarried out material will be utilized 100%. The overburden will be transported to the needy customers for the filling and levelling of low lying areas.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	**Noted and agreed** Part of the working pit will be allowed to collect rain water during the spell of rain will be used for greenbelt development and dust suppression. The Mine Closure Plan is prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
28	Impact on local transport infrastructure due to the Project should be indicated.	**Noted and agreed** The incremental traffic density along with mitigation measured are given in the Traffic study in Chapter No. 2.
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	**Noted and agreed** Details of the trees in the buffer zone given in Chapter No.3 & 4.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific	**Noted and agreed** After the completion of mining operation, the part of the quarried-out land will be utilized as temporary storage reservoir. The site specific mine closure plan has been prepared and enclosed got approval along with mining plan. The Mine closure plan is given in the Chapter No. 2.

31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible	**Noted and agreed**
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.	**Noted and agreed** Around 1500 Nos of saplings are proposed to plant on behalf of this project and 4000 nos of trees will be planted as a compensatory afforestation.
33	Taller/one-year-old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	**Noted and agreed** The native species will be planted in the safety barrier in consultation with the forest authorities.
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	**Noted and agreed** Disaster management Plan details in Chapter-7
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	**Noted and agreed** A Risk Assessment and management Plan Chapter- 7
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	**Noted and agreed** Occupational Health impact due to this project and periodical medical examination is given in the Chapter No 10.
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	**Noted and agreed** No Public Health Implications anticipated due to this project. The villages are more than 500m (Danger zone/impact zone) from this proposal. The Mining operation will not produce any toxic effluent in the form of liquid and gas.
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.	**Noted and agreed** The Socio-Economic study has been carried out as per the ToR condition. The details of the study is given in the Chapter No.3.
39	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	**Noted and agreed** No Litigation pending 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.	**Noted and agreed** The project benefit is given in the Chapter No 8..

41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	**Not applicable** It is a fresh lease
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	**Noted and agreed** The EMP prepared for the life of the mine and discussed in chapter 10.
43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted & agreed.

3. SEIAA STANDARD CONDITIONS **3.1**		
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.	**Noted and agreed** The quarries fall in the cluster is belongs to same project proponent. Specific SOP will be prepared for the individual leases falls in this cluster.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	**Noted and agreed** The quarries fall in the cluster is belongs to same project proponent.
3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	**Noted and agreed** The cluster management committee activities will be submitted to AD/Mines before resuming the mining operation.
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.	**Noted and agreed** The blasting frequency of the individual mines will be monitored by the competent person appointed specifically. Existing village road is situated on the north side, the same will be utilized for the transportation.
5	The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	**Noted and agreed** The occupational health and safety and risk assessment are described in the chapter No 10. The same will be followed during the mining operation.
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 in the EIA Report.	**Noted and agreed** The quarries fall in the cluster is belongs to same project proponent and the company framed Environmental Policy and the same will be followed. The details of the Environmental policy are detailed in the EIA Report Chapter No. 6
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	**Noted and agreed** The Restoration strategy is discussed in the progressive mine closure plan and enclosed in the Scheme of Mining plan.
8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity.	**Noted and agreed** The information on the health of the workers and the local people will be updated periodically along with medical examination.
Agriculture & Agro-Biodiversity		
9	Impact on surrounding agricultural fields around the proposed mining Area.	**Noted and agreed** The area is surrounded by dry barren land, the commercial plantation activities Mangoes and Coconut plantation is situated on the East side. The Mining operation will be carried out without hindrance to the agriculture lands by following the Environmental Management plan as per this EIA report.
10	Impact on soil flora & vegetation around the project site.	Detailed discussed in chapter 4.
11	Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP.	**Noted and agreed** There are about 400 Nos of Mango trees situated within the project site. This trees will be removed around 4000 Nos trees will be planted in the safety barrier and haul roads as compensatory afforestation.
12	The Environmental Impact Assessment should study the agro-biodiversity, agro-forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	**Noted and agreed.**

13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	**Noted & agreed** After completion of the mining operation the land will be facilitate to collect the rainwater which will be utilized during the drought season.
14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock	**Noted and agreed** The project area is dry barren land, the horticulture plantation such as mangoes and coconut are adjacent to the project site. The Mining operation will be carried out without hindrance to the agriculture activities near the project site by following the Environmental Management plan.
Forests		
15	The project proponent shall detail study on impact of mining on Reserve forests and free ranging wildlife	Noted and agreed. The Nearest reserve forest is Vellaikaradu RF – 1.6 km – North East Palapattykaradu R.F – 4.37 km – North West. It is inferred from the Baseline studies and impact study the mining operation will not create hindrance to the Reserve forest and wild life.
16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	**Noted and agreed** The area is surrounded by Barren land. Details of flora and fauna studies given in the Chapter No.3.
17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection	**Noted and agreed** There are about 400 Nos of Mango trees within the project site and the trees are more than 20 years old, due to the poor rainfall the productivity yield is declined. Hence the mango trees will be removed and as a compensatory plantation around 4000 Nos of trees will be planted in the haul road and village road in consultation with the forest officers.
18	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site	**Noted & agreed.** The EIA study has been carried out considering the impact to the protected areas, Reserve Forest, National Parks, Corridors and Wild life Pathways, near the project site it is inferred that the mining operation will not create significant impact on the Environment.
Water Environment		
19	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	**Noted and agreed** The hydro-geological study was conducted by detailing the number of ground water pumping wells and open wells within 1km radius map, the contour map of the water level is given in the Hydrogeological study, Chapter No .3. It is inferred from the hydrogeological study the proposed depth of the mine 51.5m bgl will not intersect the ground water table and the water table in the area is around 65-70m bgl.
20	Erosion Control measures	**Noted & agreed** It is proposed to erect Garland drains around the project site to control the Soil erosion during the rainy season.
21	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.	**Noted & agreed** The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4.
22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir	**Noted & agreed** There is no proposal for the disposal of waste/ mine pit water to the nearby water body. Hence this project will not impact to the fish habitats.
23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	**Noted & agreed** The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4

24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Noted & agreed. The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components	Noted & agreed. The top layer in the form of Gravel and weathered rock. The Soil quality analysis has been carried out and detailed in the EIA report Chapter No 3 & 4.
26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites	Noted & agreed. The Details of the impact study and mitigation measures are given in the Chapter No 3 & 4
27	The EIA shall include the impact of mining activity on the following: d) Hydrothermal/Geothermal effect due to destruction in the Environment. e) Bio-geochemical processes and its foot prints including environmental stress. f) Sediment geochemistry in the surface streams.	**Not applicable** There is no volcanic prone area is in the region hence this Hydrothermal/Geothermal is not anticipated. There are no streams near the project site.
Energy		
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	**Noted and agreed** Details in Chapter 3 environmental monitoring details.
Climate Change		
29	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	**Noted and agreed** Details of carbon emission and mitigation activities are given in the Chapter No.4
30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features	**Noted and agreed** The small scale of Mining operation will not cause to the climate change. The details of the Air quality study is given in the Chapter No. 4.
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	**Noted and agreed** Details of GHGs emissions and mitigation activities are given in the Chapter No.4
Mine Closure Plan		
32	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	**Noted and agreed** The Mine closure plan has been prepared and got approval along with the Mining plan. After completion of Mining operation the land will be facilitate to collect the rain water to act as temporary reservoir.
EMP		
33	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs	**Noted and agreed** The Mining plan is prepared for the period of 10 years. Adopting best practices in mining operations, such as reducing mineral waste. Supporting community development projects, promoting education and healthcare, and providing economic opportunities.
34	The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.	**Noted and agreed** The Environmental impact assessment study has been carried out with detailed EMP for the green belt development and Mine closure plan the details of the EMP budget is given in the Chapter No 10.

Risk Assessment		
35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	**Noted and agreed** The details of the anticipated risk during the mining with mitigation measures both in operation and post closure phase is given in the Chapter No. 7.
Disaster Management Plan		
36	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.	**Noted and agreed** The Disaster Management plan is given in the Chapter No 7.
Others		
37	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.,	**Noted & agreed.** The VAO certificate stating that there is no approved habitation within the radius of 300m is enclosed as Annexure 4. There are no Water bodies within the radius of 300m the details of the water bodies, Habitation, Schools and archaeological sites are given in the Chapter No. 2.
38	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.	**Noted and agreed** The Concerns raised during the public hearing along with proponent commitments will be addressed in the final EIA report after completion of the Public hearing.
39	The project proponent shall study and furnish the possible pollution due to plastic and micro plastic on the environment. The ecological risks and impacts of plastic & micro plastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported	**Noted and agreed** The details of the plastic and waste management is given in the Chapter No. 7.

Standard Terms of Reference for (Mining of minerals)

2.

S.No	Terms of Reference	Remarks
1.1	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 proposal is fresh lease
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	**Noted and agreed** The precise area communication letter granted in the name of project proponent. The proponent is right full lessee and the details of the land documents are enclosed with the Mining plan.
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee	**Noted and agreed** The EIA report and another terms of Mine lease area, production levels, mining technology etc., are compatible with one another and in the name of the lessee.
1.4	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	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No..

	land use and other ecological features of the study area (core and buffer zone)	Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
1.5	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	**Noted and agreed** The Toposheet map prepared and indicating the land use and geomorphology of the area is given in the Chapter No. 2.
1.6	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	**Noted and agreed** It is a patta land belongs to the project proponent, the area has been inspected by the concern department and passed precise area communication letter for the mining operation.
1.7	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	**Noted and agreed** The company has framed the Environmental Policy and the same has been approved by the Managing partner. The details of the Environmental policy are given in the Chapter No. 6.
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	**Noted and Agreed** It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90^0 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate.
1.9	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.	**Noted and Agreed** The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is for the Life of the Mine / lease period.
1.10	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.	**Noted and Agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2
1.11	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	**Not Applicable.** The overburden in the form of gravel formation, this will be removed and transported to the needy customers. No dumps is proposed outside the lease area.
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent	**Not Applicable.** There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land.

	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.	The land documents are enclosed along with the Mining plan enclosed as Annexure – 2.
1.13	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.	**Not Applicable.** The proposed project area does not involve any Forest Land.

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 proposal is fresh lease
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	**Noted and agreed** The precise area communication letter granted in the name of project proponent. The proponent is right full lessee and the details of the land documents are enclosed with the Mining plan.
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	**Noted and agreed** The EIA report and another terms of Mine lease area, production levels, mining technology etc., are compatible with one another and 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)	**Noted and agreed** The project site super imposed on satellite imagery along with Co ordinates is given in the Chapter No.. Figure No.. Geo morphology, Geology map given in the Chapter No.. Figure No.. Land use pattern map of the study area is given in the Chapter No.. Figure No…
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	**Noted and agreed** The Toposheet map prepared and indicating the land use and geomorphology of the area is given in the Chapter No. 2.
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	**Noted and agreed** It is a patta land belongs to the project proponent, the area has been inspected by the concern department and passed precise area communication letter for the mining operation.
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	**Noted and agreed** The company has framed the Environmental Policy and the same has been approved by the Managing partner. The details of the Environmental policy are given in the Chapter No. 6.

	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.	**Noted and Agreed** It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90^0 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate.
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.	**Noted and Agreed** The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is for the Life of the Mine / lease period.
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	**Noted and Agreed** Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2
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	**Not Applicable.** The overburden in the form of gravel formation, this will be removed and transported to the needy customers. No dumps is proposed outside the lease area.
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	**Not Applicable.** There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land. The land documents are enclosed along with the Mining plan enclosed as Annexure – 2.
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.	**Not Applicable.** The proposed 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.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	**Noted and Agreed** The details of the vegetation in the study area covering RF/PF is given in the Chapter No.3

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.	**Not Applicable.** There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
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	**Not Applicable.** There are no National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
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.	**Noted and agreed.** Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
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 within a radius of 300 meters. Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.
22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season);	**Noted and agreed**

	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.	Baseline Data were collected for Pre Monsoon Season March to May 2025 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. 3.
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.	**Noted and agreed** Air Quality Modelling for prediction of incremental GLC's of pollutant was carried out using AERMOD Model. Details in Chapter No. 4.
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	**Noted and agreed** Total Water Requirement for this project would be around 3 Kld the details are given in the chapter No 2.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	**Not applicable.** No withdrawal of water for this proposal the water for the dust suppression and greenbelt development will be get from the rainwater stored in the mine pit. The water for drinking and domestic purpose will be sourced from the 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.	**Noted and agreed** The rain water collected in the pits after spell of rain will be used for greenbelt development and dust suppression.
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	**Noted and agreed** The mining operation will not produce any toxic effluent and the proposed depth will not intersect the water table. The details of the anticipated impact both surface and ground water is given in the Chapter No 3.
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.	**Noted and agreed** The ground water table is at 65-70 m below ground level. The ultimate depth of this projects is 46.5m from the general ground profile.
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.	**Noted and agreed** There is no River, Stream, Seasonal passing through the lease area, adjacent to the project site.
30	Information on site elevation, working depth, groundwater table etc., Should be provided both in	**Noted and agreed** The elevation of the project site is 243m AMSL

<table>
<tr><td></td><td>AMSL and BGL. A schematic diagram may also be provided for the same.</td><td><table><tr><td></td><td>AMSL</td><td>BGL</td></tr><tr><td>Working Depth</td><td>191.5m</td><td>46.5m</td></tr><tr><td>Ground water table</td><td>178 - 173</td><td>65-70</td></tr></table></td></tr>
<tr><td>31</td><td>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.</td><td>Noted and agreed

It is proposed to plant around 1500 Nos of trees from this project in the safety barrier and village roads. The native species will be planted in the safety barrier in three tier to control the dust propagation in the nearby agriculture lands.
The details of the greenbelt development are given in the Chapter No. 3.</td></tr>
<tr><td>32</td><td>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.</td><td>Noted and agreed

The existing village road is situated about 500m from the project site.
The incremental traffic density due to this project along with measures are given in the chapter No.2</td></tr>
<tr><td>33</td><td>Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.</td><td>Noted and agreed
The onsite shelter such as Mine office, labour shed will be provided after commencing the mining lease.</td></tr>
<tr><td>34</td><td>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.</td><td>Noted and agreed

The Conceptual plan has been prepared for the ultimate depth by the bench height and width of 5m. The Conceptual plan along with sections are given in the Mining plan enclosed as Annexure – 2.</td></tr>
<tr><td>35</td><td>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.</td><td>Noted and agreed

The occupational health impacts of the project along with mitigation measures are given in the Chapter No.10.</td></tr>
<tr><td>36</td><td>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.</td><td>Noted and agreed

The details of the public health implication and details are given in the Chapter No. 7</td></tr>
<tr><td>37</td><td>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.</td><td>Noted and agreed
The details of the socio economic status is given in the EIA report Chapter No 3 and anticipated impact along with mitigation measures given in the Chapter No 4.</td></tr>
</table>

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.	**Noted and agreed** The detailed Environmental Management plan has been prepared and given in the EIA report, Chapter No 10.
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.	**Noted and agreed** The Details of the public hearing, points raised by the peoples along with project proponent commitments will be detailed given along with 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.	**Noted and agreed** There is no litigation pending 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.	**Noted and agreed** The total Project cost is 4,02,18,000/- The EMP cost is given in the Chapter No 10
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	**Noted and agreed** The Disaster Management plan is given in the Chapter No 10.
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.,	**Noted and agreed** The Details of the project benefits is given in the Chapter No 8.
44	**Besides the above, the below mentioned general points are also to be followed: -**	
A	Executive Summary of the EIA/EMP Report	Executive summary of the EIA/EMP report both in Tamil and English is enclosed along with this document
B	All documents to be properly referenced with index and continuous page numbering.	All the documents are properly referenced with index and continuous page numbering.
C	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	List of Tables and source of the data collected are given properly.
D	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project	Baseline monitoring reports are enclosed as Annexure 5
E	Where the documents provided are in a language other than English, an English translation should be provided.	Noted and agreed.
F	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The Questionnaire of the project will be submit along with Final EIA & EMP report along with Public hearing comments.
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.	Noted and agreed.
H	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	Noted & agreed. There is no changes in the basic scope of the parameters to this EIA report.
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	Not applicable. It is a fresh proposal

	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.	Noted and agreed The surface plan of the project site is enclosed along with Mining plan as Plate No. I The Geological plan and sections with proposed mine pit is enclosed as Plate No II.

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1.INTRODUCTION

1.0 PREAMBLE

The project proponent M/s. Adayar Granites applied for Rough Stone and Gravel Quarry lease for two leases in Viralipatti Village, Nilakottai Taluk and Dindigul District. These two proposals falls under B1 Category. As per the EIA Notification, 2006 and subsequent amendments and OM The proposal falls in the B1 Category (Cluster quarries - 2 proposal and 1 Exiting quarries forming Cluster Category {Total Extent of the Cluster is 11.60.5 Ha}- Cluster area calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016).

Based on the ToR Baseline Monitoring study has been carried out for one season i.e., (**Pre Monsoon Season**)., **March to May 2025** and this EIA/EMP report is prepared for considering cumulative impacts arising out of this project, the Cumulative Environmental Impact Assessment study is undertaken, which is followed by preparation of a detailed Environmental Management Plan (EMP) to minimize those adverse impacts.

For the Easy representation the two proposals have been marked as P 1 & P2. And the details of the projects are tabulated below.

TABLE 1.1: DETAILS OF PROPOSAL FOR ENVIRONMENTAL CLEARANCE

Description	P1 (File No 11873 Extent 3.13.5 Ha)	P2 (File No 11767 Extent 3.95.0 Ha)
S.F.Nos	2/1 and 1269/3	4/2, 1274/1 and 1274/2
Precise area communication letter Granted	Rc. No. 260/Mines/2024, Dated: 11.01.2025	Rc. No. 259/Mines/2024, Dated: 11.01.2025
Mining plan prepared got approval	Rc. No. 260/Mines/2024, Dated: 22.01.2025	Rc. No. 259/Mines/2024, Dated: 22.01.2025
Mining plan approved quantity	3,06,760m^3 of Rough stone 1,07,060m^3 of Weathered rock 35,660m^3 of Gravel	4,53,280m^3 of Rough stone 1,43,190m^3 of Weathered rock 46,505m^3 of Gravel
Peak production	55,650m^3 of Rough stone 37,310m^3 of Weathered rock 12,012m^3 of Gravel	91,325m^3 of Rough stone 55,475m^3 of Weathered rock 19,902m^3 of Gravel
Depth in m	46.5m bgl	51.5m bgl
ToR Granted details	TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025-	TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025-

1.1 PURPOSE OF THE REPORT

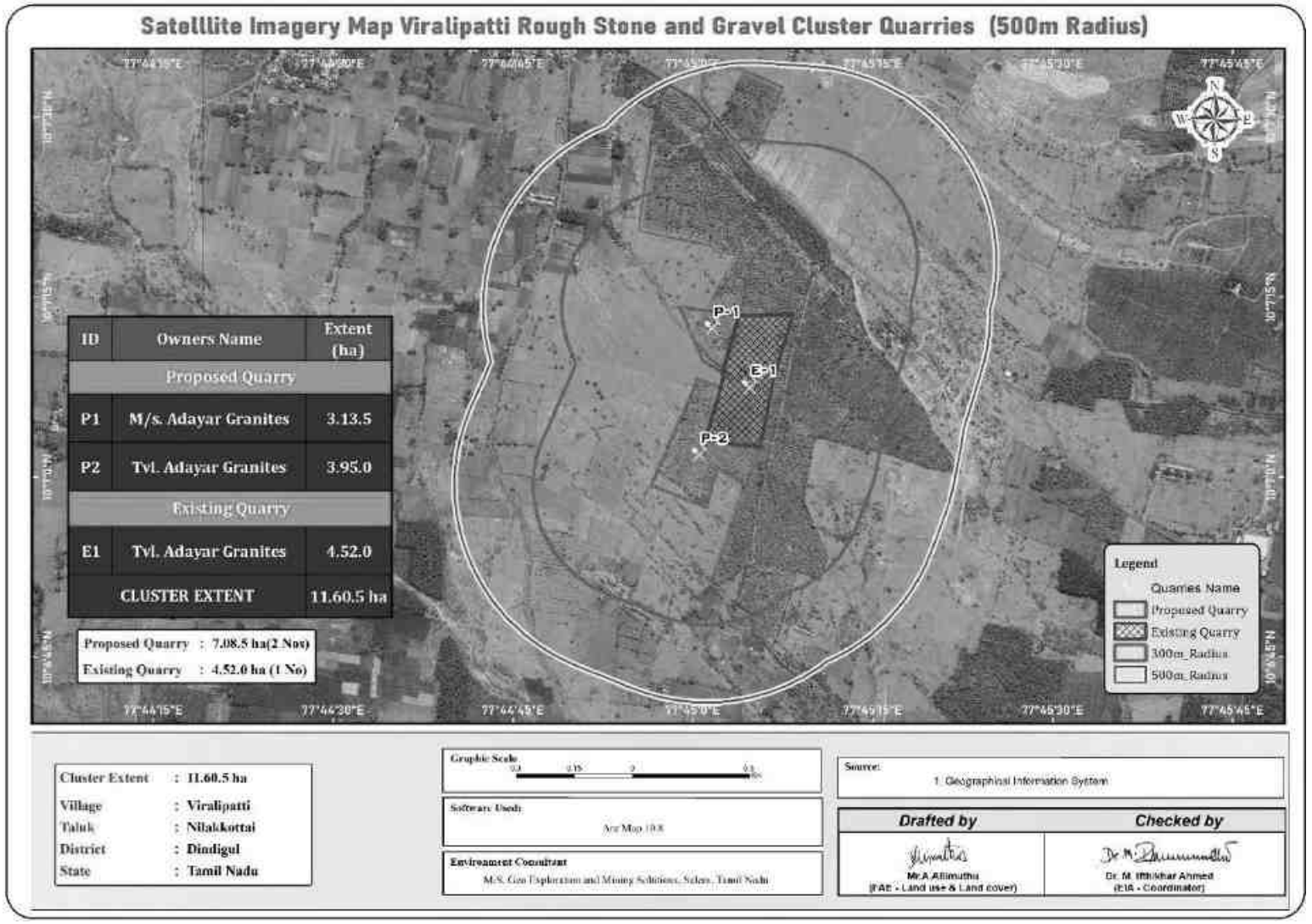
The Ministry of Environment and Forests, Govt. of India, through its EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 1889 of 20thApril 2022, Mining Projects are classified under two categories i.e. A (> 250 Ha) and B (≤ 250 Ha), and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

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B1 and appraised by SEAC/ SEIAA as well as for cluster situation.

The proposed projects are categorized under category "B1" Activity 1(a) (mining lease area in cluster situation) and will be considered at SEIAA – TN after conducting Public Hearing and Submission of EIA/EMP Report for Grant of Environmental Clearance.

"Draft EIA report prepared on the basis of ToR Issued for carrying out public hearing for the grant of Environmental Clearance from SEIAA, Tamil Nadu"

FIGURE 1.1 SATELLITE IMAGERY CLUSTER QUARRIES



1.2 IDENTIFICATION OF PROJECT AND PROJECT PROPONENTS

1.2.1 Identification of Project Proponent

These two proposals are belongs to the same project proponent

TABLE 1.1A: DETAILS OF PROJECT PROPONENT

Name of the Project Proponent	Tvl. Adayar Granites Managing Partner Thiru. Saju M.C
Address	No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District, Kerala State – 686 102.
Mobile	+91 94473 91909, 98421 88331
Email	adayargranites@gmail.com
Status	Partnership firm Thiru. Saju M.C Managing partner and authorized signatory of this firm

1.2.2 Identification of Project

TABLE 1.2: SALIENT FEATURES OF THE PROPOSED PROJECT- P1

Name of the Project	M/s. Adayar Granites Rough Stone and Gravel Quarry Project		
S.F. No.	2/1 and 1269/3		
Extent	3.13.5 Ha		
Village,Taluk and District	Viralipatti Village, Nilakottai Taluk, Dindigul District.		
Land Type	It is Patta land, registered in the name of M/s. Mirones Builders and Developers Private limited Vide Patta No. 5265. The Company has obtained Lease Deed Registered from the Pattadhar for the period of fifteen years from the date 11.03.2021 to 10.03.2036 and duly registred in Sub register office, Batlagundu vide Document No. 1028/2021, Dated: 11.03.2021.		
Toposheet No	58 F/12 & 58F/16		
Latitude between	10°07’08.63”N to 10°07’18.16”N		
Longitude between	77°44’59.03"E to 77°45’09.06”E		
Elevation of the area	243m AMSL		
Lease period	10 Years		
Mining Plan period	10 years (After completion of Five years the Review of Mining plan will be submitted)		
Proposed Depth of Mining	46.5m bgl (1.5m Gravel + 5m Weathered rock + 40m Rough stone)		
Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (40m thickness)
	47,025	1,56,750	14,10,750
Mineable Reserves	35,660	1,07,060	3,06,760
Year wise Production for five years 1st to Vth Year	35,660	1,07,060	1,83,800
Year wise Production for five years VIth to Xth Year	Nil	Nil	1,22,960
Peak Production	12,012	37,310	55,650
Quantity after amalgamation with adjacent proposal			
Mineable Reserves	37,443	1,16,060	4,45,600
Ultimate Pit dimension	Leaving safety and benches	XY – AB – 121m (L) X 88m (W) X 36.5m (D) X1Y1 – CD – 125m (L) X 105m (W) X 46.5m (D)	
Water Level in the region	68-73m bgl		
Method of Mining	Opencast Mechanized Mining Method involving drilling and Controlled blasting using Slurry Explosives		
Topography	The lease applied area is plain terrain. The area has gentle sloping towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel followed by Weathered rock 5m thickness and Rough stone formation is estimated for 40m thickness. The lithological variations observed from the nearby existing quarry pit.		
Machinery proposed	Hand Jack Hammer	8 Nos	
	Compressor	2 Nos	

	Excavator with Bucket and Rock Breaker	3 Nos
	Water sprinklers	1 No
	Tippers	6 Nos
Blasting Method	Controlled Blasting Method by shot hole drilling and small dia of 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling is proposed.	
Proposed Manpower Deployment	45 Nos	
Project Cost	Rs. 91,36,000/-	
EMP Cost	Rs. 3,80,000/-	
CER Cost	Rs. 3,00,000/-	
Nearby Water Bodies	Odai	600m SW
	Canal	1km SE
	Vaigai River	1.7km SE
	Tank	1.8km East
	Veerakudumban Lake	2.5km North
Greenbelt Development Plan	Proposed to plant 1500 Nos of trees. The plantation will be developed around the project site and nearby village roads	
Proposed Water Requirement	3.0 KLD	
Nearest Habitation	620m – North west	
Nearest Reserve Forest	Vellaikaradu RF – 1.22km – North East (Source - TNGIS) Palapattykaradu R.F – 4.23km – North West	
Nearest Wild Life Sanctuary	Kodaikanal Wildlife Sanctuary – 10.5km – North West	

Source: Approved Mining, PFR & Form – I.

TABLE 1.3: SALIENT FEATURES OF THE PROPOSED PROJECT- P2

Name of the Project	M/s. Adayar Granites Rough Stone and Gravel Quarry Project		
S.F. No.	4/2, 1274/1 and 1274/2		
Extent	3.95.0 Ha		
Village,Taluk and District	Viralipatti Village, Nilakottai Taluk, Dindigul District.		
Land Type	It is Patta land, registered in the name of M/s. Mirones Builders and Developers Private limited Vide Patta No. 5265. The Company has obtained Lease Deed Registered from the Pattadhar for the period of fifteen years from the date 11.03.2021 to 10.03.2036 and duly registred in Sub register office, Vattalagundu vide Document No. 1028/2021, Dated: 11.03.2021		
Toposheet No	58 F/12 & 58F/16		
Latitude between	10°06’57.4958”N to 10°07’08.2157”N		
Longitude between	77°44’56.3163"E to 77°45’05.4135”E		
Elevation of the area	243m AMSL		
Lease period	10 Years		
Mining Plan period	10 years (After completion of Five years the Review of Mining plan will be submitted)		
Proposed Depth of Mining	51.5m bgl (1.5m Gravel + 5m Weathered rock + 45m Rough stone)		
Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (50m thickness)
	59,250	1,97,500	17,77,500
Mineable Reserves	46,505	1,43,190	4,53,280
Year wise Production for five years 1st to Vth Year	46,505	1,09,275	2,76,295
Year wise Production for five years VIth to Xth Year	Nil	33,915	1,76,985
Peak Production	19,902	55,475	91,325
Quantity after amalgamation with adjacent proposal			
Mineable Reserves	49,913	1,57,805	6,89,610
Ultimate Pit dimension	Leaving safety and benches	XY – AB – 108m (L) X 65m (W) X 21.5m (D) X1Y1 – CD – 170m (L) X 124m (W) X 51.5m (D) X2Y2-EF - 75m (L) X 69m (W) X 26.5m (D	
Water Level in the region	68-73m bgl		

Method of Mining	Opencast Mechanized Mining Method involving drilling and Controlled blasting using Slurry Explosives	
Topography	The lease applied area is plain terrain. The area has gentle sloping towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel followed by Weathered rock 5m thickness and Rough stone formation is estimated for 50m thickness. The lithological variations observed from the nearby existing quarry pit.	
Machinery proposed	Hand Jack Hammer	4 Nos
	Wagon drill machine	1 Nos (will be used only after obtaining permission for the deep hole drilling)
	Compressor	1 Nos
	Excavator with Bucket and Rock Breaker	2 Nos
	Water sprinklers	1 No
	Truck	4 Nos
Blasting Method	Controlled Blasting Method by shot hole drilling and small dia of 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling is proposed.	
Proposed Manpower Deployment	34 Nos	
Project Cost	Rs. 3,80,03,000/-	
EMP Cost	Rs. 3,80,000/-	
CER Cost	Rs. 3,00,000/-	
Nearby Water Bodies	Odai	350m SW
	Canal	720m SE
	Vaigai River	1.5km SE
	Tank	1.8km East
	Veerakudumban Lake	2.8km North
Greenbelt Development Plan	Proposed to plant 1500 Nos of trees. The plantation will be developed around the project site and nearby village roads	
Proposed Water Requirement	3.0 KLD	
Nearest Habitation	860m – North west	
Nearest Reserve Forest	Vellaikaradu RF – 1.62 km – North East (Source – TNGIS) Palapattykaradu R.F – 4.37 km – North West	
Nearest Wild Life Sanctuary	Kodaikanal Wildlife Sanctuary – 10.7 km – North West	

Source: Approved Mining, PFR & Form – I.

1.3 BRIEF DESCRIPTION OF THE PROJECT

1.3.1 Nature and Size of the Project

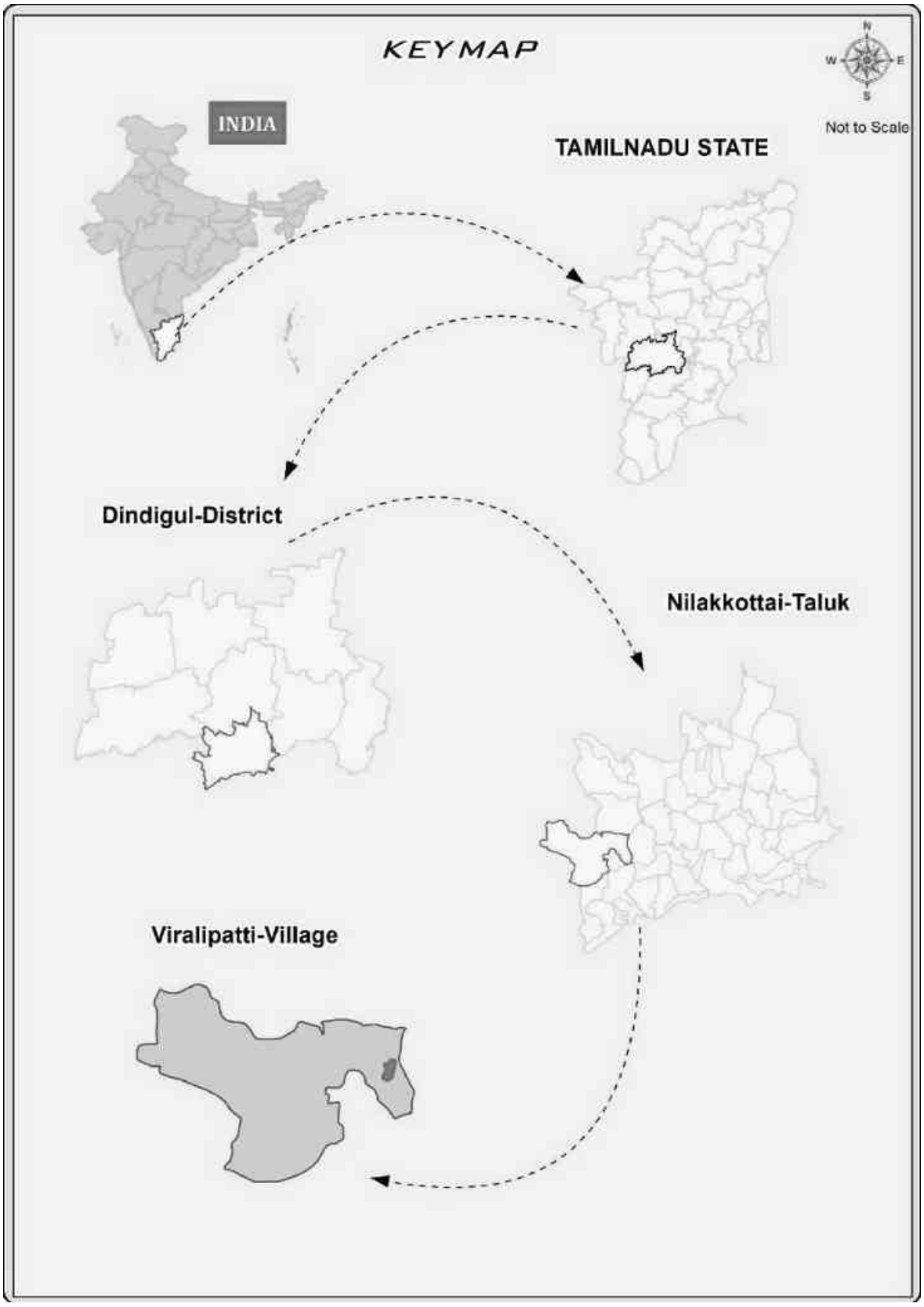
The quarrying operation is proposed to be carried out by Opencast Mechanized Mining method with 5.0m bench height and 5.0m bench width by deploying Jack Hammer Drilling & Slurry Explosive during blasting. Hydraulic Excavator and tippers are used for Loading and transportation. Rock Breakers are deployed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

1.3.2 Location of the Project

- The cluster quarry project site is located in Viralipatti Village, Nilakottai Taluk and Dindigul District.
- Nilakottai is located about 32 km South west from Dindigul, the project site is situated abroiund 16.5Km from Nilakottai Taluk 16.5 km South West of Vembakkam and 2 km Southwest side of the chithathoor village.

Dindigul —32 km (South West)→ Nilakottai —16.5 km (South West)→ Project site

FIGURE 1.2 LOCATION MAP OF THE PROJECT SITE



Source: Survey of India Toposheet

FIGURE 1.3: TOPOSHEET MAP OF THE STUDY AREA 10 KM RADIUS

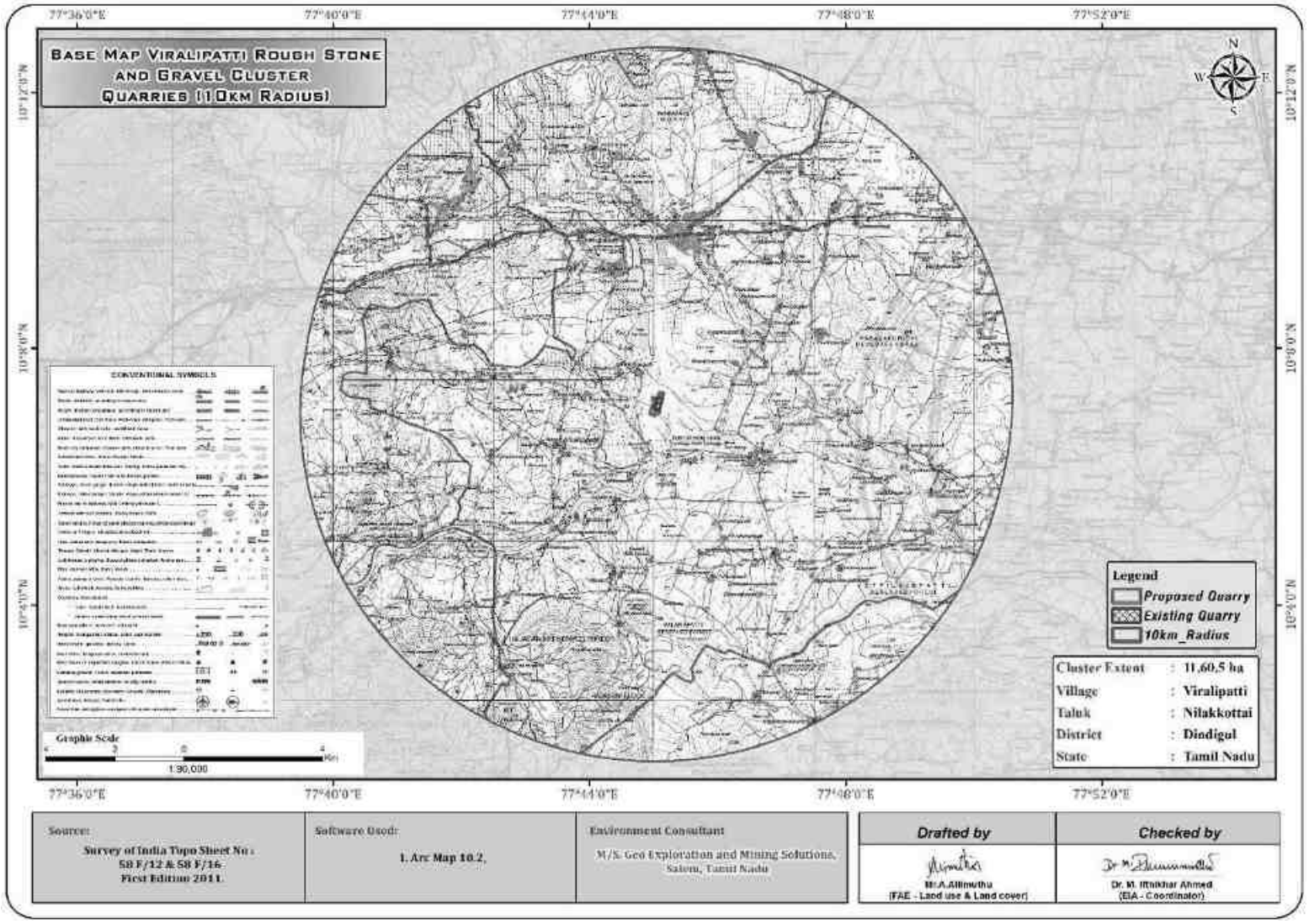
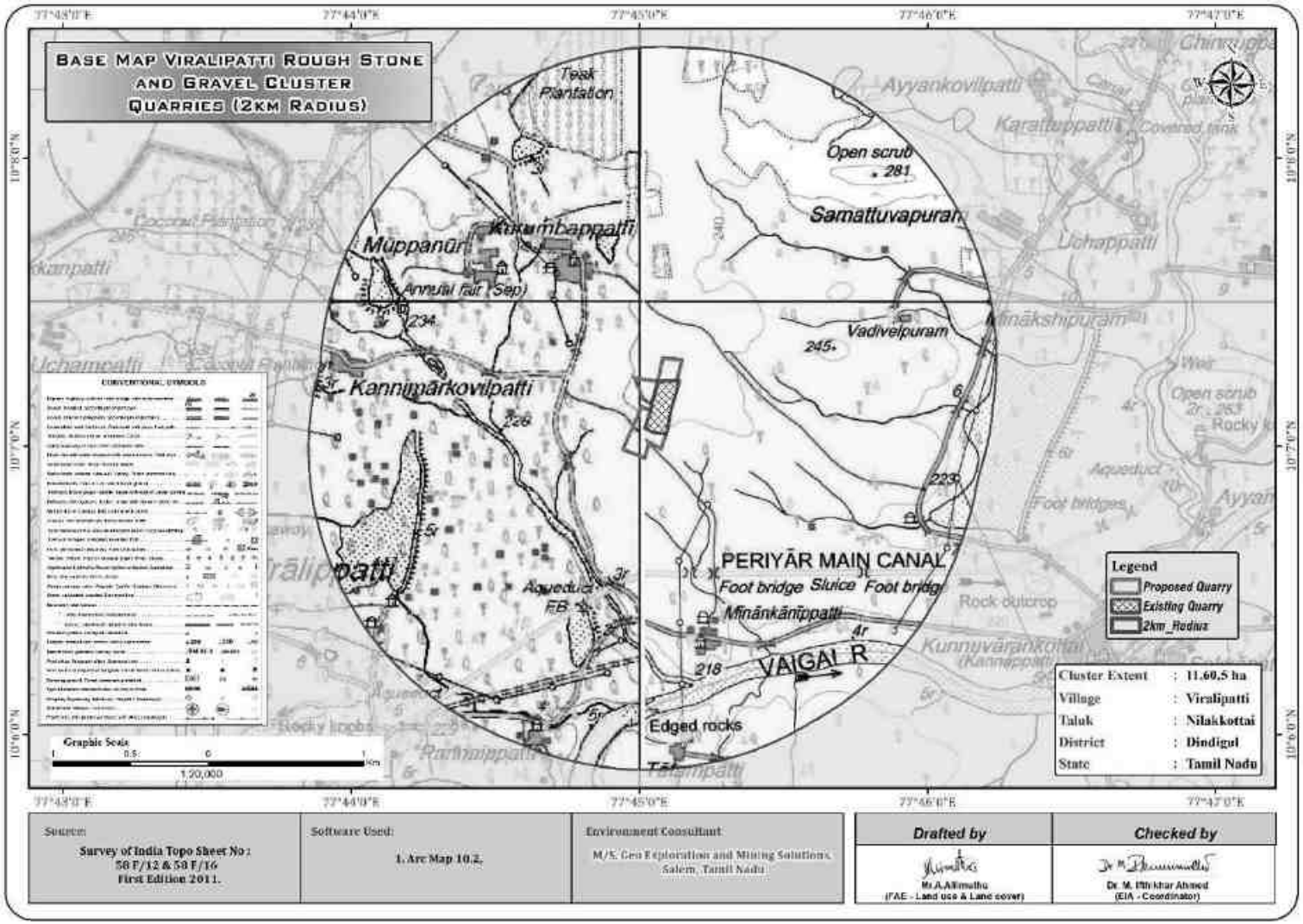


FIGURE 1.4: TOPOSHEET MAP OF THE STUDY AREA 2KM RADIUS



1.4 ENVIRONMENTAL CLEARANCE

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

- Screening,
- Scoping
- Public consultation &
- Appraisal

SCREENING – P1

- Proponent applied for Rough stone and Gravel quarry lease on 16.09.2024
- Precise area communication letter was issued by the District Collector vide RC. No. 260/Kanimam/2024 Dated 11.01.2025
- The Mining Plan was prepared by Qualified Person and approved by Assistant Director, Geology and Mining, Dindigul District, vide RC. No. 260/Mines/2024, Dated: 22.01.2025
- The proposed project falls under "B1" Category as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018
- Proponent applied for ToR for Environmental Clearance vide online Proposal No. SIA/TN/MIN/521185/2025 Dated: 31.01.2025

SCREENING – P2

- Proponent applied for Rough stone and Gravel quarry lease on 16.09.2024
- Precise area communication letter was issued by the District Collector vide Rc. No. 259/Mines/2024, Dated: 11.01.2025
- The Mining Plan was prepared by Recognized Qualified Person and approved by Assistant Director, Geology and Mining, Dindigul District, vide Rc. No. 259/Mines/2024, Dated: 22.01.2025
- The proposed project falls under "B1" Category as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018
- Proponent applied for ToR for Environmental Clearance vide online Proposal No. SIA/TN/MIN/520970/2025 Dated: 29.01.2025

SCOPING:

- Both the proposal was placed in 538th SEAC meeting held on 01.03.2025 and the committee recommended for issue of ToR.
- The proposal was considered in 804thSEIAA meeting held on 01.04.2025 and issued Terms of Reference as follows

  File No 11873 – ToR Granted vide ToR identification No TO25B0108TN5571923N Dated 07.04.2025

  File No 11767 – ToR Granted vide ToR identification No TO25B0108TN5628642N Dated 07.04.2025

PUBLIC CONSULTATION

Application to The Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing is submitted along with this Draft EIA/ EMP Report and the outcome of public hearing proceedings will be detailed in the Final EIA/EMP Report.

APPRAISAL –

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

1.5 TERMS OF REFERENCE (ToR)

The ToR was issued by the SEIAA vide Terms of Reference

Issued File No 11873 – ToR Granted vide ToR identification No TO25B0108TN5571923N Dated 07.04.2025

File No 11767 – ToR Granted vide ToR identification No TO25B0108TN5628642N Dated 07.04.2025

1.60 POST ENVIRONMENT CLEARANCE MONITORING

The proponent shall submit a half-yearly compliance report in respect of stipulated Environmental Clearance terms and conditions to MoEF & CC Regional Office & SEIAA after grant of EC on 1st June and 1st December of each calendar year as per MoEF & CC Notification S.O. 5845 € Dated: 26.11.2018.

1.61 GENERIC STRUCTURE OF EIA DOCUMENT

The overall contents of the EIA report follow the list of contents prescribed in the EIA Notification 2006 and the "Environmental Impact Assessment Guidance Manual for Mining of Minerals" published by MoEF & CC.

1.7 THE SCOPE OF THE STUDY

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during the Pre monsoon Season (March to May 2025) for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project.

TABLE 1.4: ENVIRONMENT ATTRIBUTES

Sl.No.	Attributes	Parameters	Source and Frequency
1	Ambient Air Quality	PM_{10}, PM $_{2.5}$, SO_2, NO_2	Continuous 24-hourly samples twice a week for three months at 7 locations (2 Core & 5 Buffer)
2	Meteorology	Wind speed and direction, temperature, relative humidity and rainfall	Near project site continuous for three months with hourly recording and from secondary sources of IMD station
3	Water quality	Physical, Chemical and Bacteriological parameters	Grab samples were collected at 6 locations – 3 Surface water and 3 Ground water samples; once during study period.
4	Ecology	Existing terrestrial and aquatic flora and fauna within 10 km radius circle.	Limited primary survey and secondary data was collected from the Forest department.
5	Noise levels	Noise levels in dB(A)	7 locations – data monitored once for 24 hours during EIA study
6	Soil Characteristics	Physical and Chemical Parameters	Once at 6 locations during study period
7	Land use	Existing land use for different categories	Based on Survey of India topographical sheet and satellite imagery and primary survey.
8	Socio-Economic Aspects	Socio-economic and demographic characteristics, worker characteristics	Based on primary survey and secondary sources data like census of India 2011.
9	Hydrology	Drainage pattern of the area, nature of streams, aquifer characteristics, recharge and discharge areas	Based on data collected from secondary sources as well as hydro-geology study report prepared.
10	Risk assessment and Disaster Management Plan	Identify areas where disaster can occur by fires and explosions and release of toxic substances	Based on the findings of Risk analysis done for the risk associated with mining.

Source: Field Monitoring Data

1.8 Regulatory Compliance & Applicable Laws/Regulations for all Proposed Quarries

- Application for Quarrying Lease as per Tamil Nadu Minor Mineral Concession Rules, 1959.
- Obtained Precise Area Communication Letter as per Tamil Nadu Minor Mineral Concession Rules, 1959 for Preparation of Mining Plan and obtaining Environmental Clearance.
- The Mining Plan has been approved under Rule 41 & 42 as amended of Tamil Nadu Minor Mineral Concession Rules, 1959.
- Environment Protection Act, 1986
- EIA Notification, 2006.
- Water (Prevention and control of Pollution) act, 1974
- Air (Prevention and control of Pollution) act, 1981
- Terms of Reference File no.11873 & 11767

2. PROJECT DESCRIPTION

2.0 GENERAL

The Proposed Rough Stone and Gravel Quarries requires Environmental Clearance. There are 2 proposed and 1 existing quarries forming a cluster; calculated as per MoEF & CC Notification S.O. 2269€ Dated 1st July 2016 and the total extent of cluster is 11.60.5 Ha.

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

2.1 DESCRIPTION OF THE PROJECT

The proposed project is site specific and there is no additional area required for this project. There is no effluent generation/discharge from this project. Method of mining is opencast mechanized method involving splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers and rock breakers to avoid secondary blasting.

2.2 LOCATION OF THE PROJECT

Dindigul —32 km, South West→ Nilakottai —16.5 km, South West→ Project site

TABLE 2.1: SITE CONNECTIVITY

Nearest Roadway	(NH-183) Dindigul – Theni - 5Km – NW (SH-154) Vattalagundu – Usilampatti – 1.7 Km – SE
Nearest Village	V.Kurumbapatty – 1.30 Km – North West
Nearest Town	Vattalagundu – 4.7 km – North
Nearest Railway Station	Usilampatti – 17.3 km – SE
Nearest Airport	Madurai – 48.9 km – SE
Seaport	Cochin Port – 165 km – West

Source: Survey of India Toposheet

TABLE 2.2: CO-ORDINATES – PROJECT BOUNDARY –P1 &P2

P1		
Corner Nos.	**Latitude**	**Longitude**
1	10° 07' 08.63" N	77° 45' 02.46" E
2	10° 07' 09.73" N	77° 45' 00.81" E
3	10° 07' 14.17" N	77° 44' 59.03" E
4	10° 07' 13.39" N	77° 45' 03.91" E
5	10° 07' 18.16" N	77° 45' 05.02" E
6	10° 07' 17.82" N	77° 45' 09.06" E
7	10° 07' 13.48" N	77° 45' 07.87" E
Datum: UTM-WGS84, Zone 44 North		

P2		
Corner Nos.	**Latitude**	**Longitude**
1	10° 06’ 59.3334” N	77° 44’ 56.3163” E
2	10° 07’ 00.6106” N	77° 44’ 56.8911” E
3	10° 07’ 07.5299” N	77° 44’ 59.9120” E
4	10° 07’ 08.2157” N	77° 45’ 00.1564” E
5	10° 07’ 07.4569” N	77° 45’ 02.0771” E
6	10° 07’ 03.7247” N	77° 45’ 00.9707” E
7	10° 07’ 02.8163” N	77° 45’ 02.6092” E
8	10° 07’ 02.5440” N	77° 45’ 05.4135” E
9	10° 06’ 59.4976” N	77° 45’ 04.2640” E
10	10° 07’ 00.7703” N	77° 45’ 01.7725” E
11	10° 06’ 57.4958” N	77° 45’ 00.8913” E
Datum: UTM-WGS84, Zone 44 North		

Source: Approved Mining Plan

FIGURE 2.1: TOPOGRAPHICAL VIEW OF PROJECT AREA

Project site Photographs – P1

Project site Photographs – P2

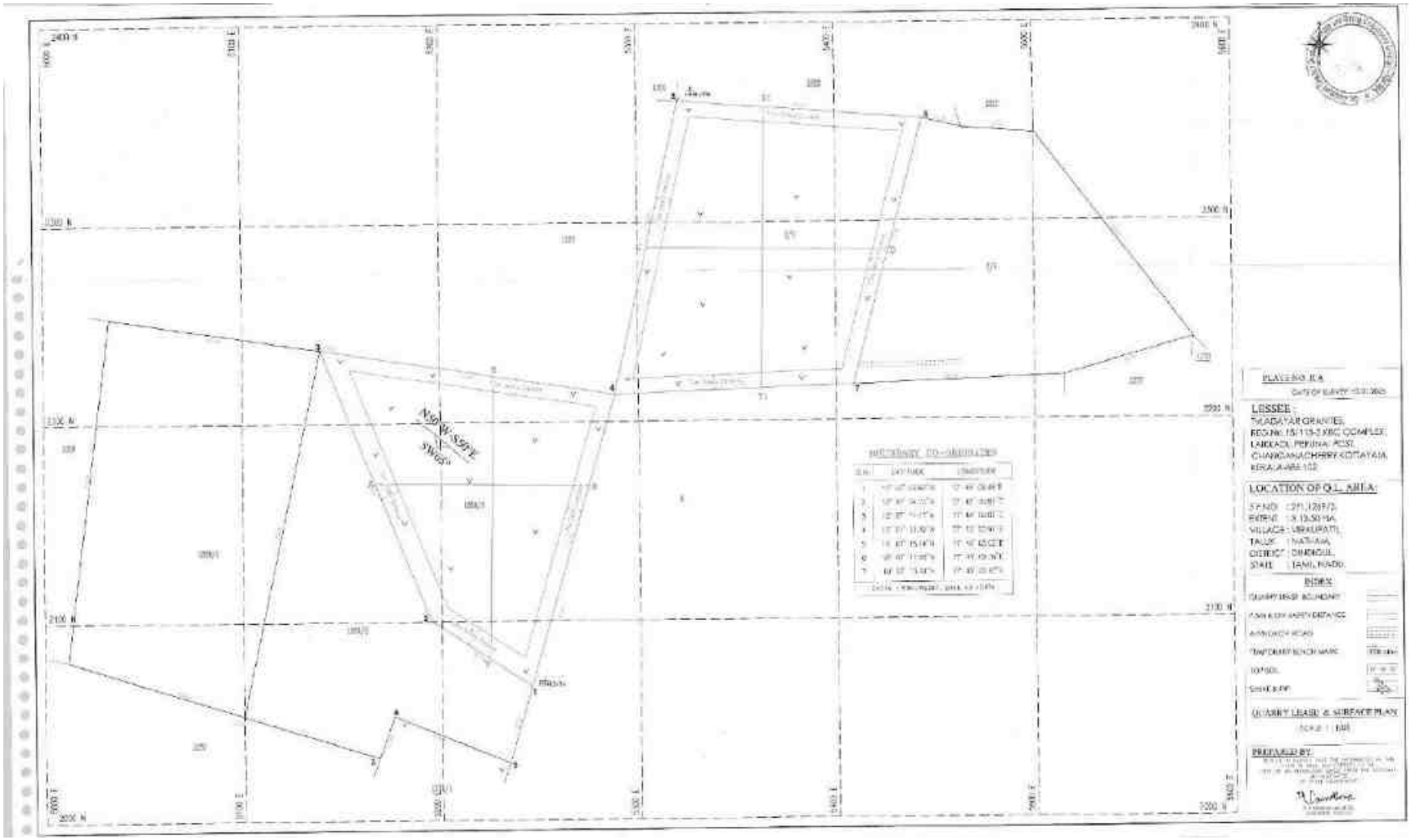
FIGURE 2.3: GOOGLE IMAGE OF THE PROJECT AREA –P1

Source: Google Earth Imagery

FIGURE 2.4: GOOGLE IMAGE OF THE PROJECT AREA –P2

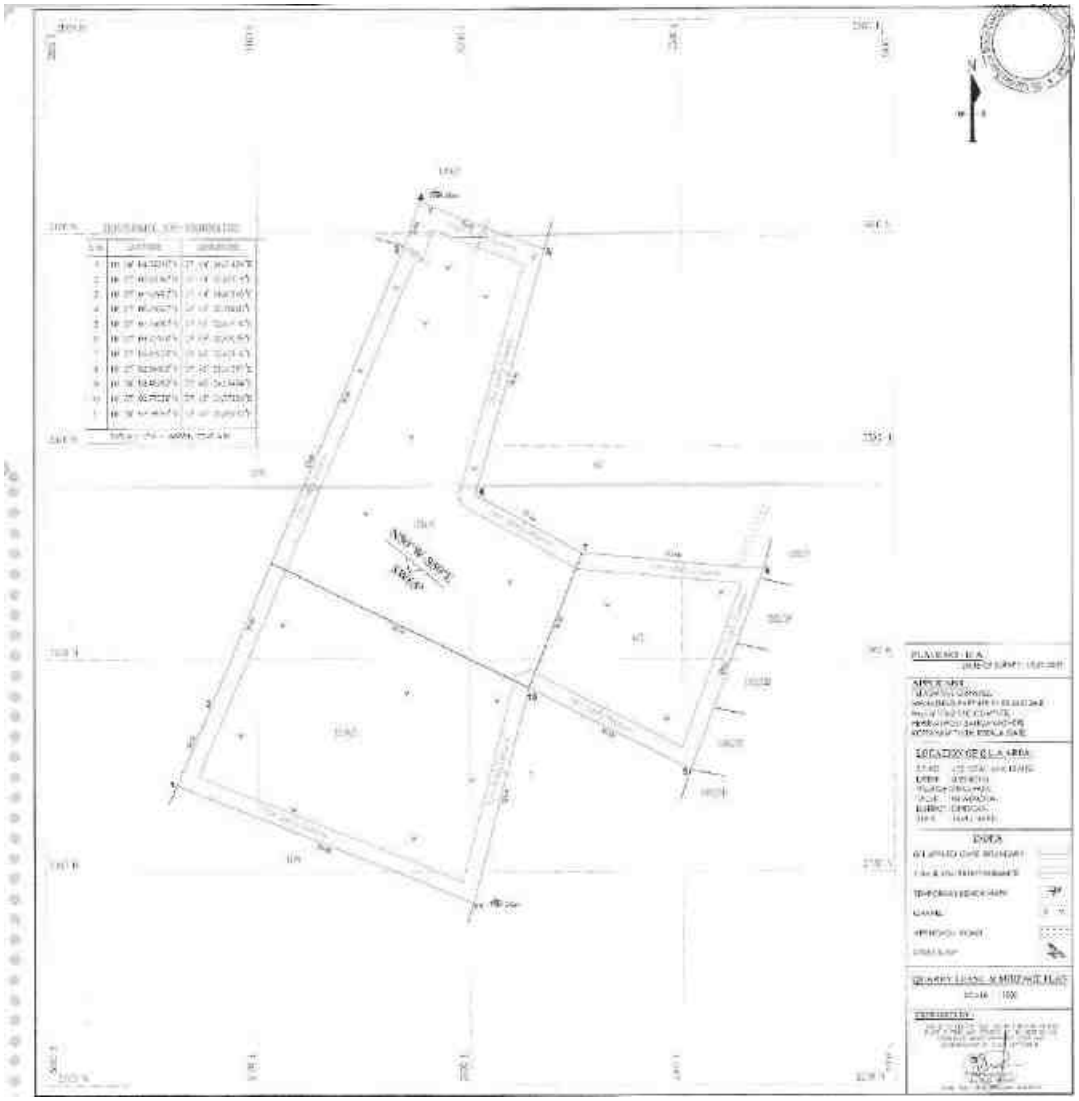
Source: Google Earth Imagery

FIGURE 2.5: QUARRY LEASE PLAN / SURFACE PLAN- P1



Source: Approved Mining Plan

FIGURE 2.6: QUARRY LEASE PLAN / SURFACE PLAN- P2



Source: Approved Mining Plan

FIGURE 2.6A: VILLAGE MAP SUPERIMPOSED ON GOOGLE EARTH IMAGE

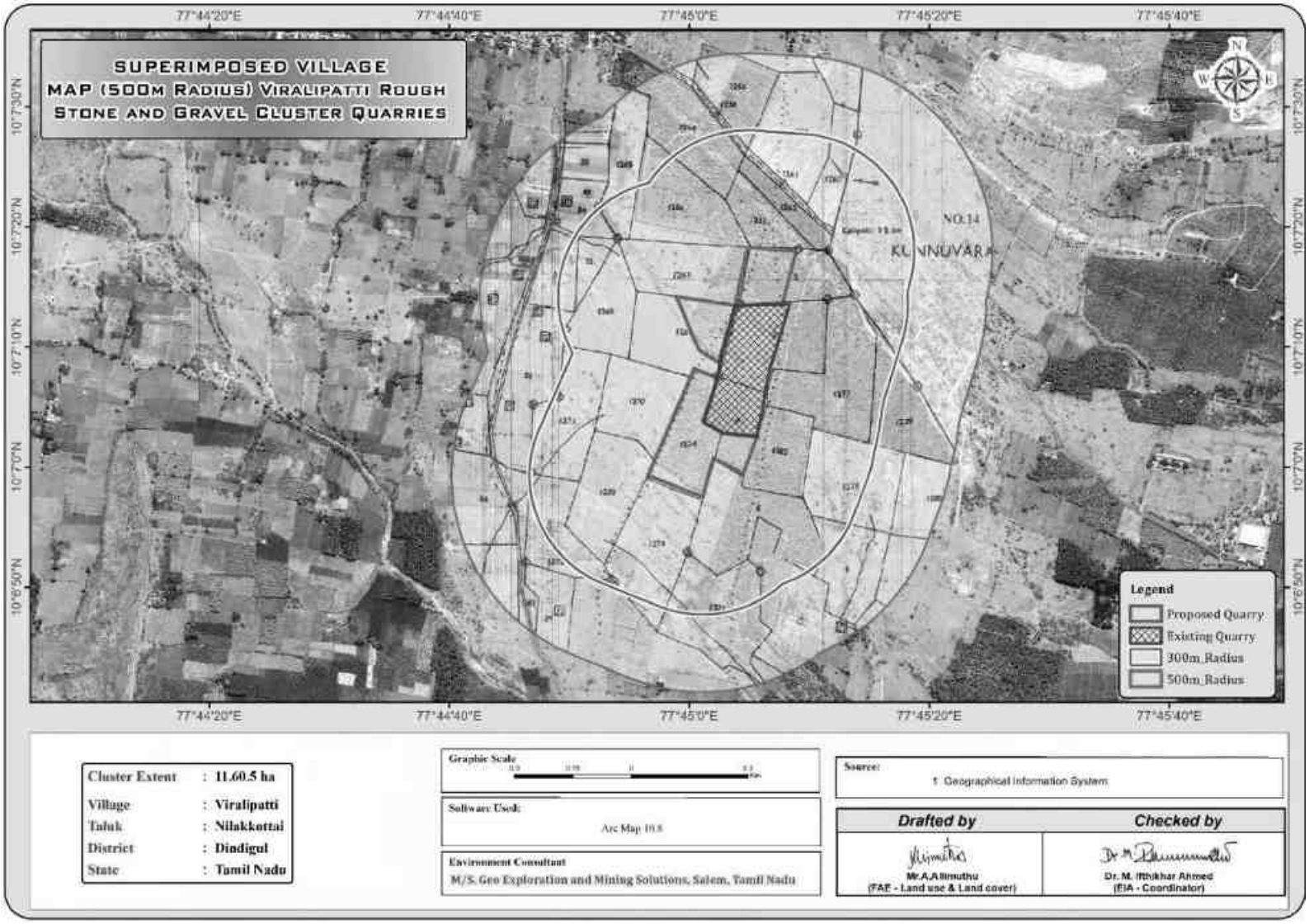


FIGURE 2.6B: IMAGE SHOWING SURFACE FEATURES AROUND 5 KM RADIUS

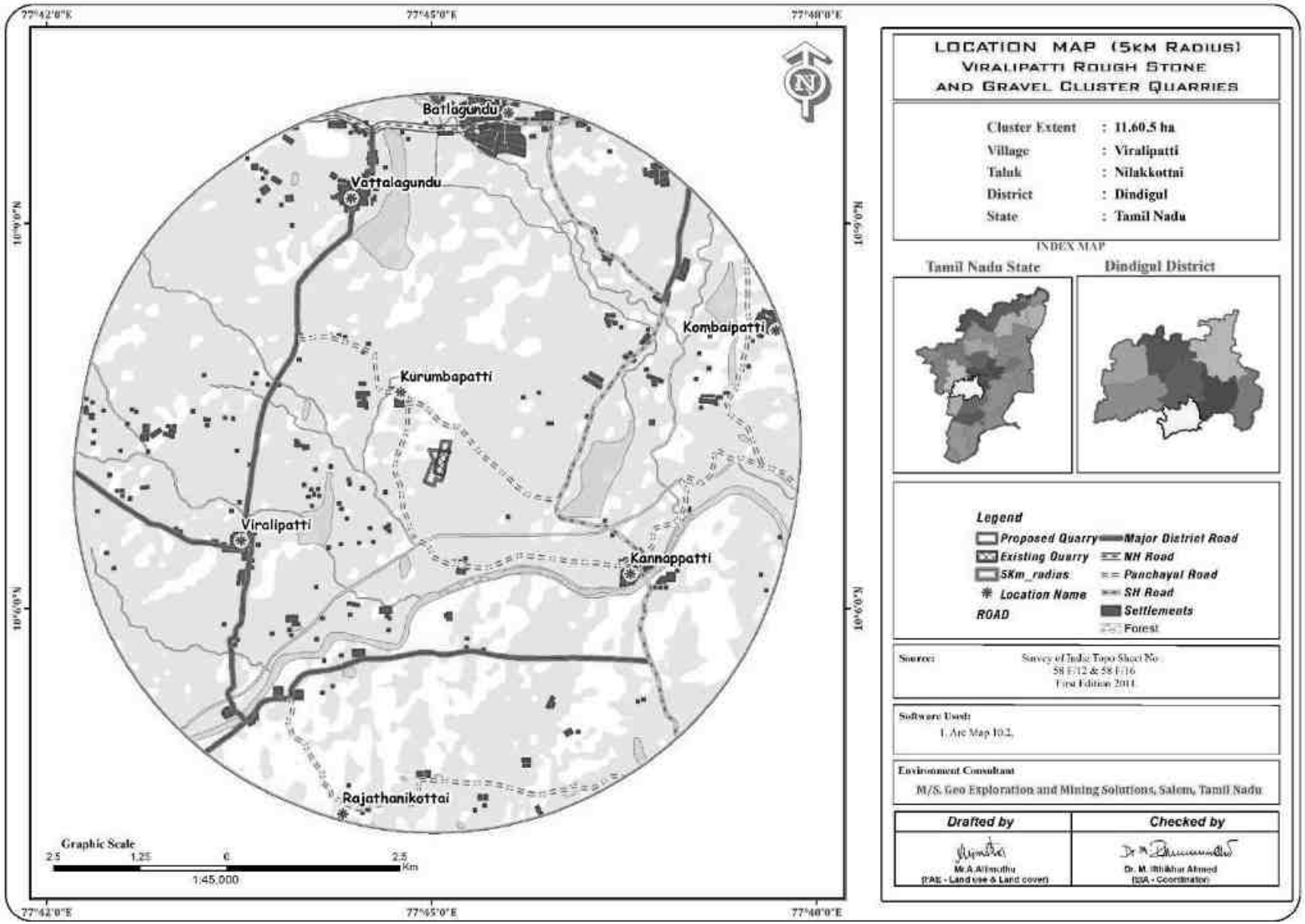
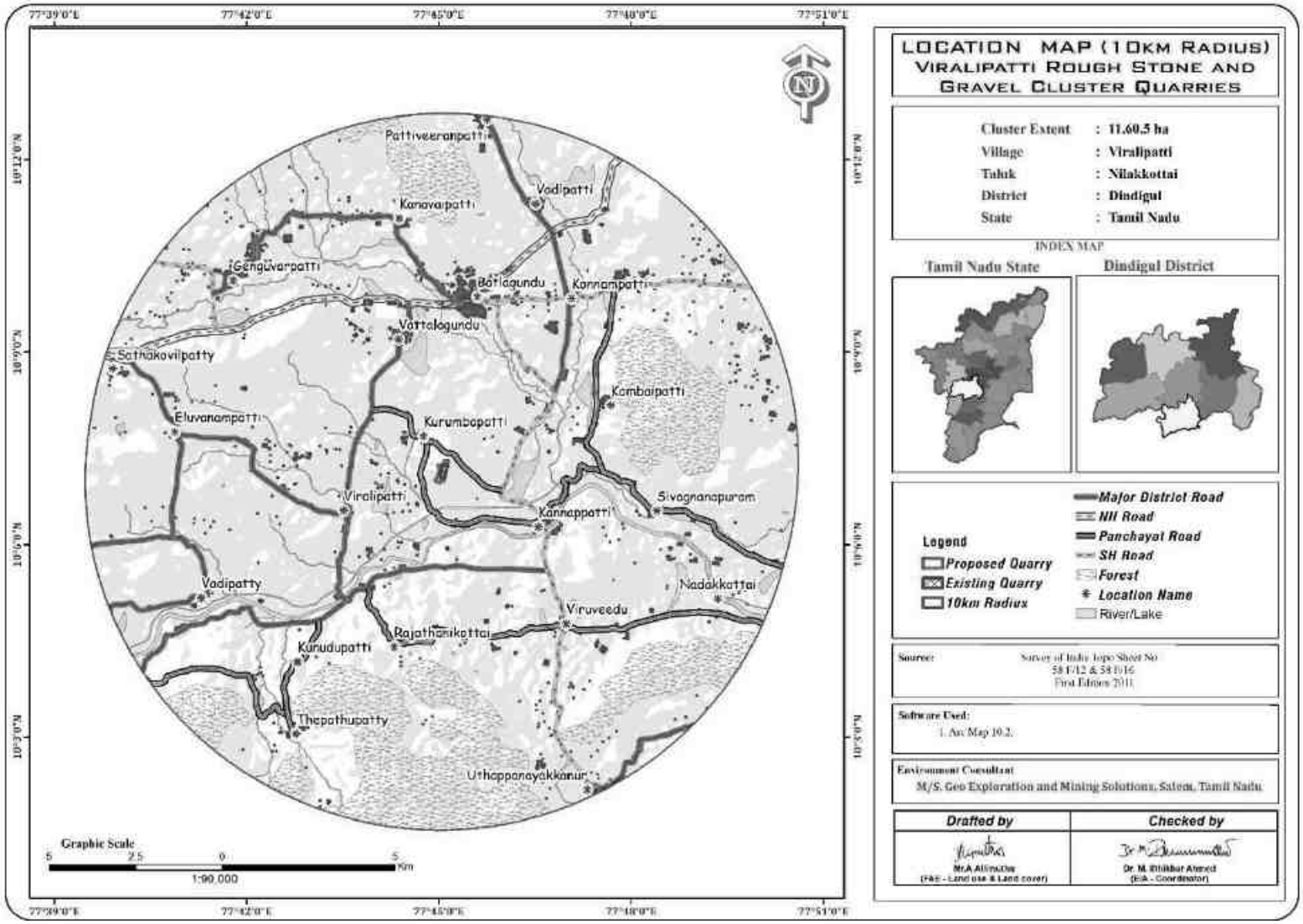


FIGURE 2.7: IMAGE SHOWING SURFACE FEATURES AROUND 10 KM RADIUS



Project Area

- The project is site specific & no beneficiation or processing in the project site.
- There is no forest land involved in the proposed projects and is devoid of major vegetation and trees.

TABLE 2.3: LAND USE PATTERN –P1

Description	Proposed Amalgamation		Leaving safety and Benches	
	Area to be required at the present mining plan period (Ha)	Area at the end of lease period (Ha)	Area to be required at the present mining plan period (Ha)	Area at the end of lease period (Ha)
Area Under Quarry	2.33.16	2.33.16	2.54.88	2.54.88
Site Services	0.02.00	0.02.00	0.02.00	0.02.00
Roads	0.02.00	0.02.00	0.02.00	0.02.00
Green Belt	0.34.74	0.76.34	0.26.28	0.54.62
Unutilized Area	0.41.60	Nil	0.28.34	Nil
Grand Total	**3.13.50**	**3.13.50**	**3.13.50**	**3.13.50**

TABLE 2.4: LAND USE PATTERN –P2

Description	Present Area (Ha)	Proposed Amalgamation		Leaving safety and Benches	
		Area required during the first five years (Ha)	Area at the end of lease period (Ha)	Area required during the first five years (Ha)	Area at the end of lease period (Ha)
Area Under Quarry	Nil	3.35.0	3.35.0	3.17.0	3.17.0
Site Services	Nil	0.01.0	0.01.0	0.01.0	0.01.0
Roads	Nil	0.02.0	0.02.0	0.02.0	0.02.0
Green Belt	Nil	0.57.0	0.57.0	0.75.0	0.75.0
Unutilized Area	3.95.0	Nil	Nil	Nil	Nil
Grand Total	**3.95.0**	**3.95.0**	**3.95.0**	**3.95.0**	**3.95.0**

Source: Approved Mining Plan

Size or Magnitude of Operation

TABLE 2.5: RESOURCES AND RESERVES –P1

Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (40m thickness)
	47,025	1,56,750	14,10,750
Mineable Reserves	35,660	1,07,060	3,06,760
Year wise Production for five years 1st to Vth Year	35,660	1,07,060	1,83,800
Year wise Production for five years VIth to Xth Year	Nil	Nil	1,22,960
Peak Production	12,012	37,310	55,650
Production per day	40	124	185
Lorry loads per day ($12m^3$ Capacity)	3-4 Lorry loads	10 lorry loads	15 Lorry loads
Total Depth of mining	46.5m bgl		

TABLE 2.6: RESOURCES AND RESERVES –P2

Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (50m thickness)
	59,250	1,97,500	17,77,500
Mineable Reserves	46,505	1,43,190	4,53,280
Year wise Production for five years 1st to Vth Year	46,505	1,09,275	2,76,295
Year wise Production for five years VIth to Xth Year	Nil	33,915	1,76,985
Peak Production	19,902	55,475	91,325
Production per day	66	185	304
Lorry loads per day ($12m^3$ Capacity)	5-6 Lorry loads	15 Lorry loads	25 Lorry loads
Total Depth of the mining	51.5m bgl		

Source: Approved mining plan.

2.3 GEOLOGY

2.3.1 Regional Geology

Dindigul district is essentially a high grade gneissic terrain characterized by highly deformed rocks, which can be classified under three groups as 1) Khondalite Group, 2) Charnockite Group and 3) Migmatite Group. The terrain also exposes basic/ultrabasic and younger acid intrusives.

Crystalline rocks of Archaean to late Proterozoic age occupy over 80% of the area of the state of Tamilnadu, while the rest is covered by Phanerozoic sedimentary rocks mainly along the coastal belt and in a few inland River valleys. The hard rock terrain comprises predominantly of Charnockite and Khondalite groups and their migmatitic derivatives, supracrustal sequences of Sathyamangalam and Kolar groups and Peninsular Gneissic Complex (Bhavani Group), intruded by ultramafic-mafic complexes, basic dykes, granites and syenites. The sedimentary rocks of the coastal belt include fluviatile, fluvio-marine and marine sequences, such as Gondwana Supergroup (Carboniferous to Permian and Upper Jurassic to Lower Cretaceous), marine sediments of Cauvery basin (Lower Cretaceous to Paleogene), Cuddalore /Pannambarai Formation (Mio-Pliocene) and sediments of Quaternary and Recent age.

Khondalite Group comprises quartzite, calc granulite / crystalline limestone, garnet-sillimanite gneiss, garnet-cordierite gneiss and garnet quartz-feldspar gneiss. Quartzite is an important member of the group, which occurs as linear bands of 5 m to 50 m thick and occupies the crest of linear ridges. It is white or smoky grey and consists of interlocking grains of quartz with minerals like garnet, biotite, diopside, sillimanite and magnetite as accessories. Magnetite quartzite bands are of restricted thickness. Calcgneiss is grey or green and banded,which shows typical ribbed weathering. It consists of diopside, calcite, scapolite, wollastonite and sphene in various proportions with a small amount of quartz and garnet. With decrease in silicate minerals and increase in carbonates, it grades into crystalline limestone. Crystalline limestone is white, medium to coarse, with interlocking calcite, with a small amount of diopside, biotite and magnetite. Garnetsillimanite gneiss is medium to coarse grained, 5 to 100m thick and can be traced over a few kilometers along strike. It is mainly made of bands of quartz-k-feldspar rich layers alternating with layers rich in biotite, sillimanite and garnet. Garnet porphyroblasts upto 3 cm in diameter and sillimanite needles upto 5 cm x 2.5 mm size, are seen at a few places. This rock also has thin interbands of garnet-cordierite gneiss and garnetquartz-feldspar gneiss.

STRATIGRAPHY OF DINDIGUL DISTRICT

AGE	GROUP	LITHOLOGY
QUATERNARY	Recent to Pleistocene	Kankar
		Laterite
PROTEROZOIC	Acid Intrusives	Quartz veins
		Pegmatite
		Granite
ARCHAEAN – PROTEROZOIC	Migmatite Group	Pink Migmatite
		Granitic Gneiss
		Hornblende-Biotite gneiss
	Basic / Ultrabasic intrusives	Anorthosite
		Amphibolite / Norite /
		Gabbro Ultramafics
	Charnockite Group	Magnetite quartzite
		Pyroxene
		Granulite
		Charnockite
	Khondalite Group	Garnet quartz – feldspar gneiss
		Garnet – sillimanite gneiss
		cordierite Calc-gneiss / Limestone
		Quartzite

Khondalite Group

Khondalite Group comprises quartzite, calc granulite / crystalline limestone, garnetsillimanite gneiss, garnet-cordierite gneiss and garnet quartz-feldspar gneiss. Quartzite is an important member of the group, which occurs as linear bands of 5 m to 50m thick and occupies the crest of linear ridges. It is white or smoky grey and consists of interlocking grains of quartz with minerals like garnet, biotite, diopside, sillimanite and magnetite as accessories. Magnetitequartzite bands are of restricted thickness. Calcgneiss is grey or green and banded.

Metasedimentary rocks

The metasedimentary rocks occur either as individual bands or as swathes of bands repeated several times with width varying from 10m to 100 m and exposed length from 100 m to a few kilometers, within the Charnockites and Migmatites. These bands are repeated several times because of tectonic slicing.

Charnockite Group

The Charnockite Group comprises pyroxene granulite and charnockite. The pyroxene granulite is dark grey, medium grained granulitic rock with typical salt and pepper texture, seen on the weathered surface. It consists of diopside, hypersthene, plagioclase, hornblende, biotite and quartz. Charnockite is the predominant rock in the area. It is grey, medium to coarse grained, greasy looking with foliation seen prominently on the weathered surface. It is essentially made of smoky or grey quartz, pale grey microcline and hypersthene as major minerals with plagioclase, hornblende and biotite as accessories. It forms high hills / hill ranges and also occupies the plains, covered by 1-2 m thick soil.

Migmatite Group

Migmatite is a group of banded felsic rocks of varying mineralogical composition that are formed due to the influx of quartzo-feldspathic material into high grade metamorphic rocks. Two types of migmatite are seen in the Dindigul district, one is grey and the other is pink. Next to charnockite, migmatite gneiss is the second most extensive rock. The migmatite gneiss consists of quartz, kfeldspar, plagioclase, hornblende and biotite in varying proportions.

Intrusive igneous rocks

Intrusive igneous rocks are seen in the area are meta-gabbro and anorthosites as for example around Oddanchatram and east of Vedasandur. Meta gabbro is coarse grained, dark grey, mainly comprising pyroxene, amphibole and plagioclase. Anorthosite is pale pink to light brown, medium to coarse grained rock essentially made up of plagioclase with a small amount of pyroxene and amphibole. Quartz and pegmatite veins are of restricted areal extent. Minor bodies of younger granite are exposed in the area east of Vedasandur. Foliation/ gneissosity, the prominent planar structure seen in the metamorphic rocks is ENE-WSW in the west and near N-S in the central part of the district. The eastern part of the district shows complicated folded structures due to interference of two phases of folding, forming a series of domes and basins. Faults and shear zones trend N-S in the central part, and NW-SE in the southern part.

Foliation/ gneissosity, the prominent planar structure seen in the metamorphic rocks is ENE-WSW in the west and near N-S in the central part of the district. The eastern part of the district shows complicated folded structures due to interference of two phases of folding, forming a series of domes and basins. Faults and shear zones trend N-S in the central part, and NW-SE in the southern part.

Local Geology: -

- The geology of the applied area is a part of Regional Geology which exhibits a hilly topography covered with top layer of topsoil formation and massive batholith formation of Charnockite below it.
- The massive Charnockite formation is clearly visible from the existing quarries within the radius of 500m from the applied area.
- The Charnockite deposit contains mostly Quartz and Feldspar with some ferromagnesian minerals.
- The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock.
- The strike of the Charnockite formation is N-S with Vertical Dip.

Hydrogeology

Dindigul district forms parts of Cauvery, Vaigai, and Pampar basins. The northern part of the district falls in the Cauvery basin. The main rivers that drain this basin are Shanmuganadhi, Nangangiar and Kodaganar River. The Southern part of the district falls under Vaigai basin. The main rivers that drain in this basin are Marudha Nadhi, Manjalar and Vaigai River. The Pampar basin forms the eastern part of the district and the minor rivers in this basin are Thirumanimuthar and Palar-Puranthalar.

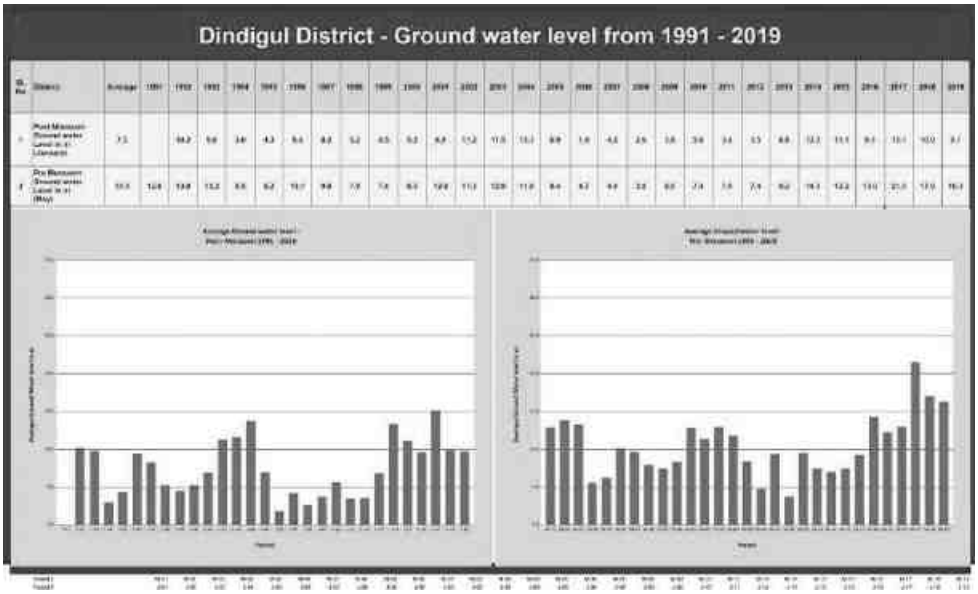
Kodavanar, Vaigai, Manjalaru, Maruda, Nanganchi, Palar, Porundalar Shanmukha River etc. are the major rivers and streams in the Dindigul district.

The major part of the district is underlain by Archaean crystalline metamorphic complex. The important aquifer systems encountered in the district are classified into i) Fissured, fractured and weathered crystalline formations consisting of charnockites, Granite Gneisses and ii) Valley fill sediments (Unconsolidated Sediments) comprising clay, sand, silt and kankar . Valley fill sediments have been observed along valley portions in the depth range of 35 to 40 m bgl in Natham and Sanarpatti blocks. The depth of weathering varies from place to place from less than a metre to a maximum of 40 m bgl. The number of saturated fracture zones varied from 1 to 6 occurring at depths between 10 and 164m bgl.

(Secondary Source Data – District Survey Report, Department of Geology and Mining, Govt. of Tamil Nadu)

The Ground Water levels from the 48 number of observation wells of TWAD have been analysed for Post-Monsoon and Pre-Monsoon. 5 years average Ground water level in m Below Ground Level for pre- and post-monsoon is as follows:

GROUND WATER LEVEL VARIATIONS OF DINDIGUL DISTRICT



GROUND WATER LEVEL VARIATIONS OF DINDIGUL DISTRICT

Jan 2020	May 2020	Jan 2021	May 2021	Jan 2022	May 2022	Jan 2023	May 2023	Jan 2024	May 2024	5 Years Pre Monsoon Average	5Years Post Monsoon Average
78	20.86	8.38	19.02	9.31	12.38	6.63	10.41	7.16	11.38	14.81	8.25

FIGURE 2.8: REGIONAL GEOLOGY MAP

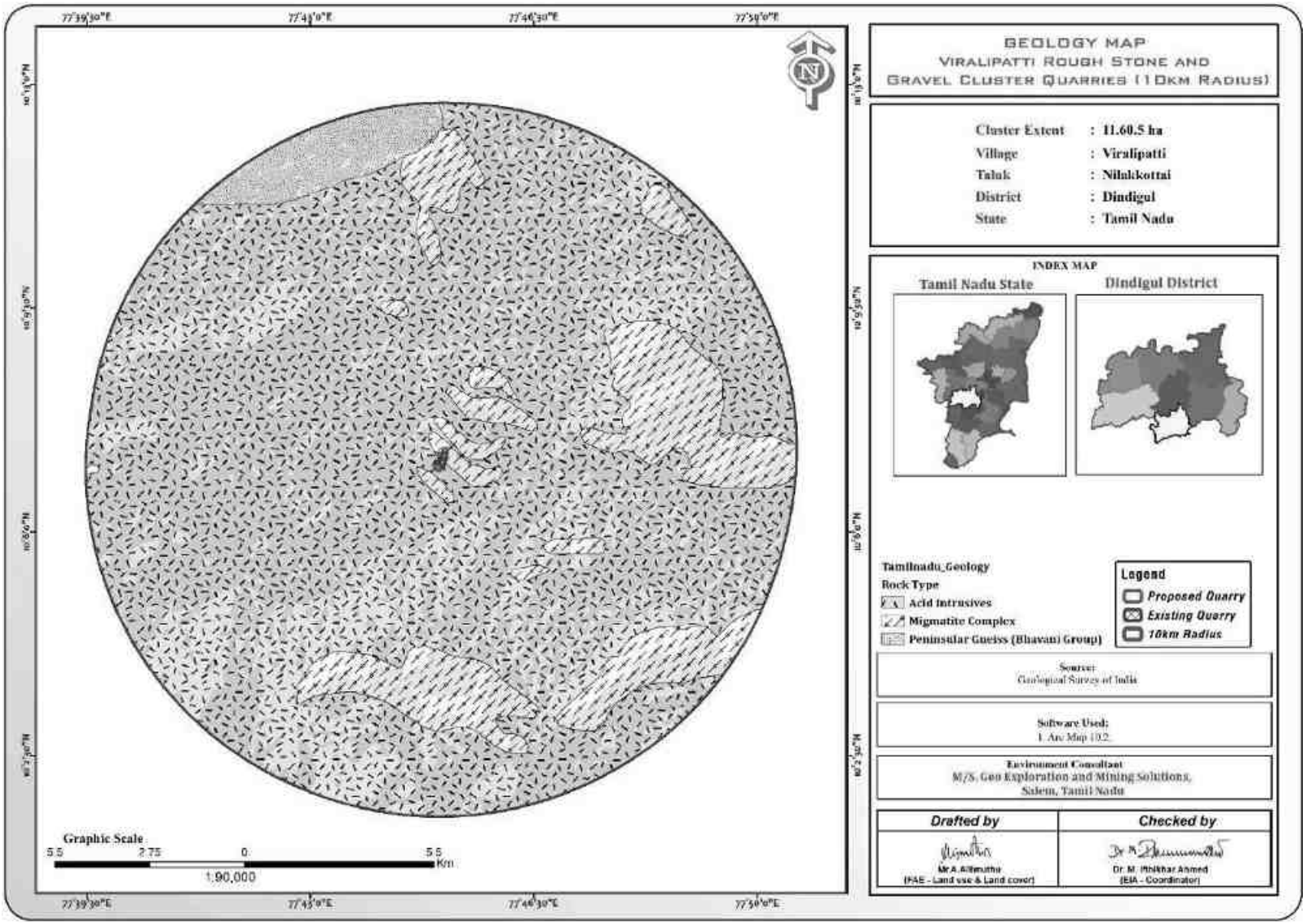
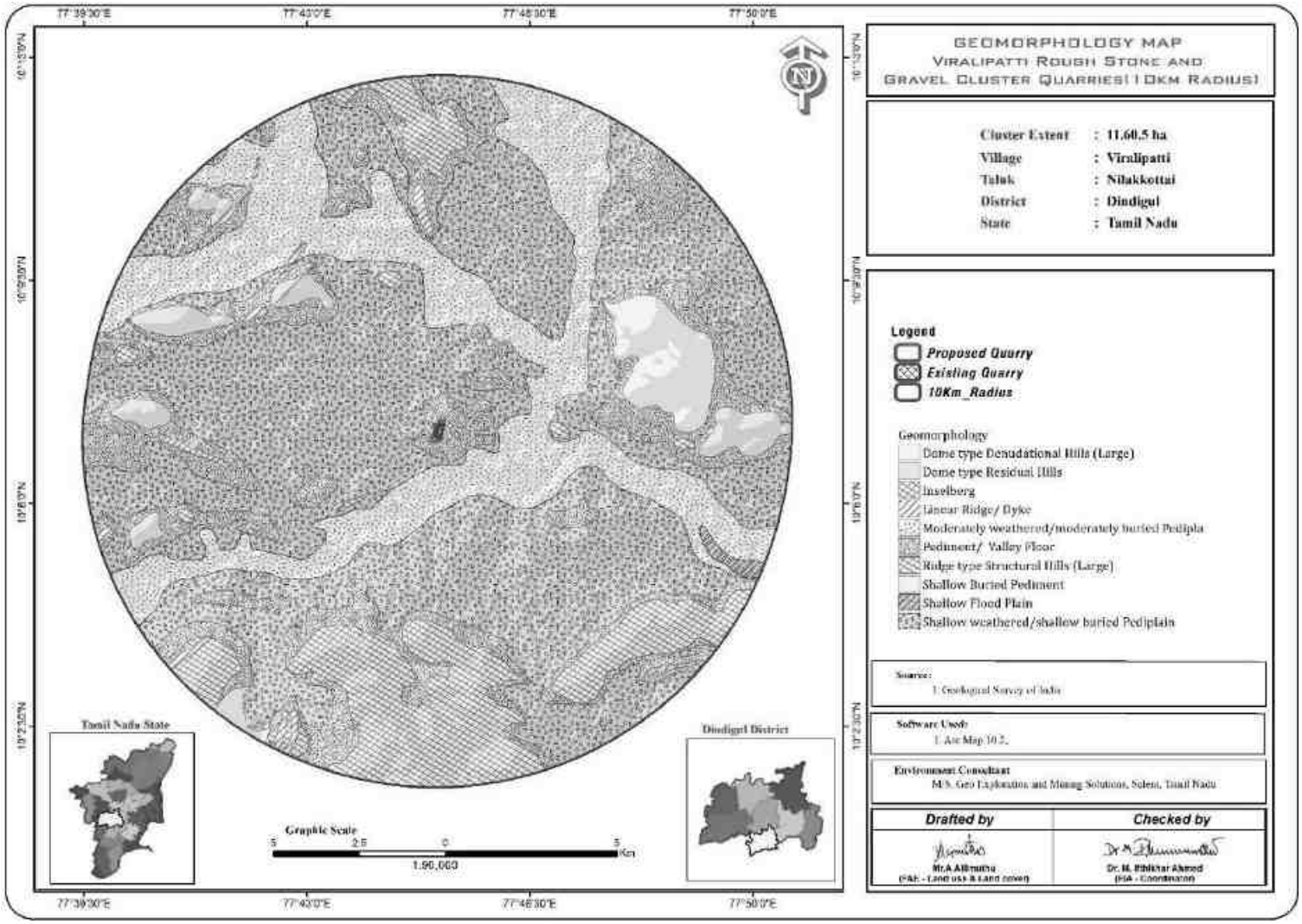


FIGURE 2.9: GEOMORPHOLOGY MAP



RESOURCES AND RESERVES

The Resources and Reserves of Rough Stone and Gravel were calculated based on Cross-Section Method by plotting sections to cover the maximum lease area. 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 7.5 m (Safety Barrier all around the applied area) and safety distance as per precise area communication letter and deducting the locked up reserves during bench formation (Also called as Bench Loss) and the Mineable Reserves is calculated considering there is no waste / overburden / side burden (100% Recovery Anticipated).

TABLE 2.7: RESOURCES AND RESERVES

P1

Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (40m thickness)
	47,025	1,56,750	14,10,750
Mineable Reserves	35,660	1,07,060	3,06,760
Year wise Production for five years 1st to Vth Year	35,660	1,07,060	1,83,800
Year wise Production for five years VIth to Xth Year	Nil	Nil	1,22,960
Peak Production	12,012	37,310	55,650
Production per day	40	124	185

P2

Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (50m thickness)
	59,250	1,97,500	17,77,500
Mineable Reserves	46,505	1,43,190	4,53,280
Year wise Production for five years 1st to Vth Year	46,505	1,09,275	2,76,295
Year wise Production for five years VIth to Xth Year	Nil	33,915	1,76,985
Peak Production	19,902	55,475	91,325
Production per day	66	185	304

Source: Approved Mining Plan

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

YEAR	Rough Stone (m^3)	Weathered rock in m^3	Gravel in m^3
I	36,500	35,000	11,813
II	55,650	34,750	11,835
III	30,650	37,310	12,012
IV	30,700		
V	30,300		
Total	**1,83,800**	**1,07,060**	**35,660**
VI	24,250		
VII	24,250		
VIII	24,740		
IX	24,390		

X	25,330		
TOTAL	**1,22,960**		
Grand total	**3,06,760**	**1,07,060**	**35,660**

TABLE 2.9: YEAR-WISE PRODUCTION PLAN FOR TEN YEARS- P2

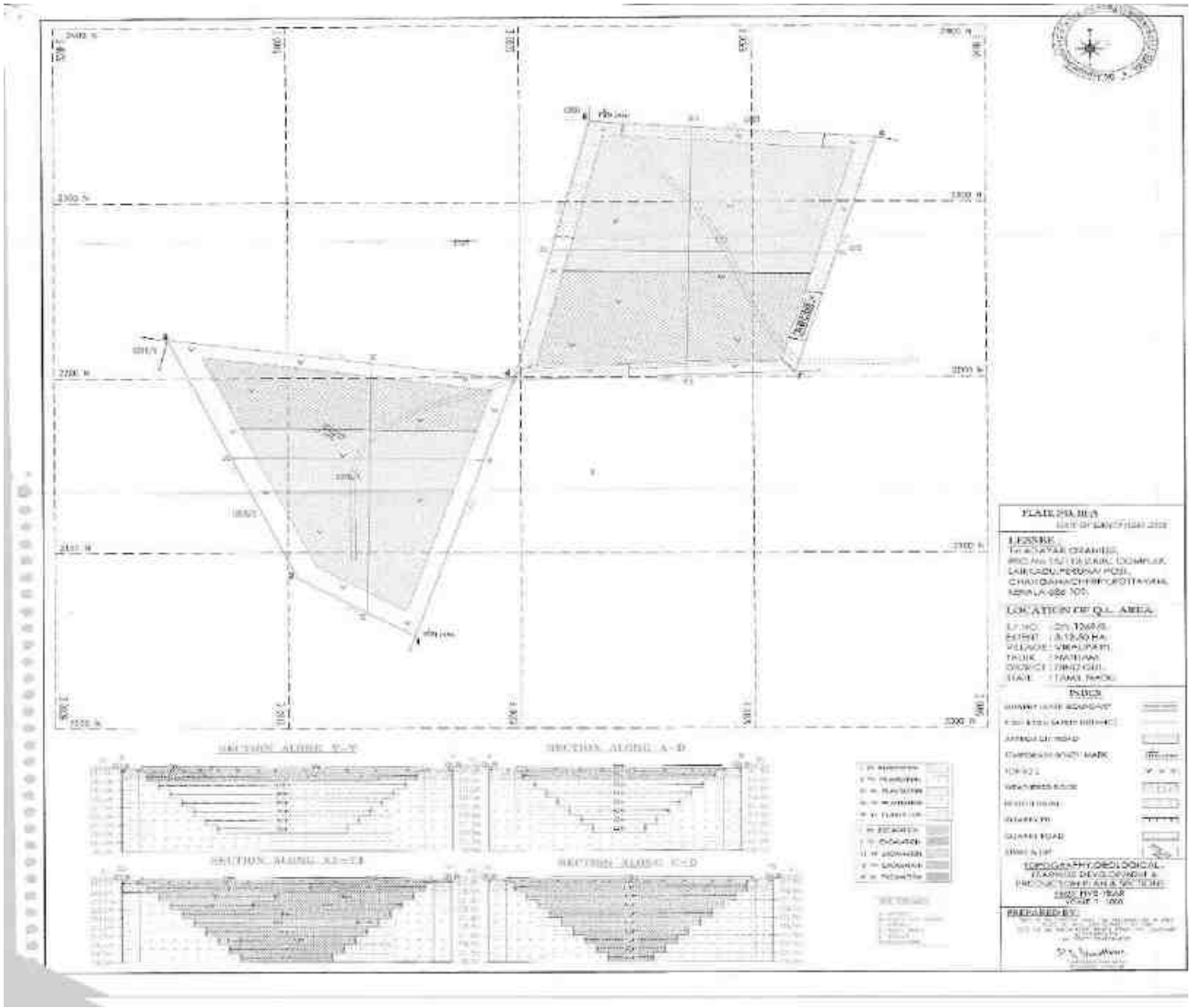
YEAR	Rough Stone (m^3)	Weathered rock in m^3	Gravel in m^3
I	36,500	35,000	11,813
II	55,650	34,750	11,835
III	30,650	37,310	12,012
IV	30,700		
V	30,300		
Total	**1,83,800**	**1,07,060**	**35,660**
VI	24,250		
VII	24,250		
VIII	24,740		
IX	24,390		
X	25,330		
TOTAL	**1,22,960**		
Grand total	**3,06,760**	**1,07,060**	**35,660**

Source: Approved Mining Plan

Disposal of Waste

The overburden in the form of Gravel formation is about 31,244m^3 up to depth 2m for during this period. The Gravel will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

FIGURE 2.10: TOPOGRAPHY, GEOLOGICAL, YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTIONS FOR FIRST FIVE YEAR –P1



Source: Approved Mining Plan

FIGURE 2.11: TOPOGRAPHY, GEOLOGICAL, YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTIONS FOR SECOND FIVE YEAR –P1

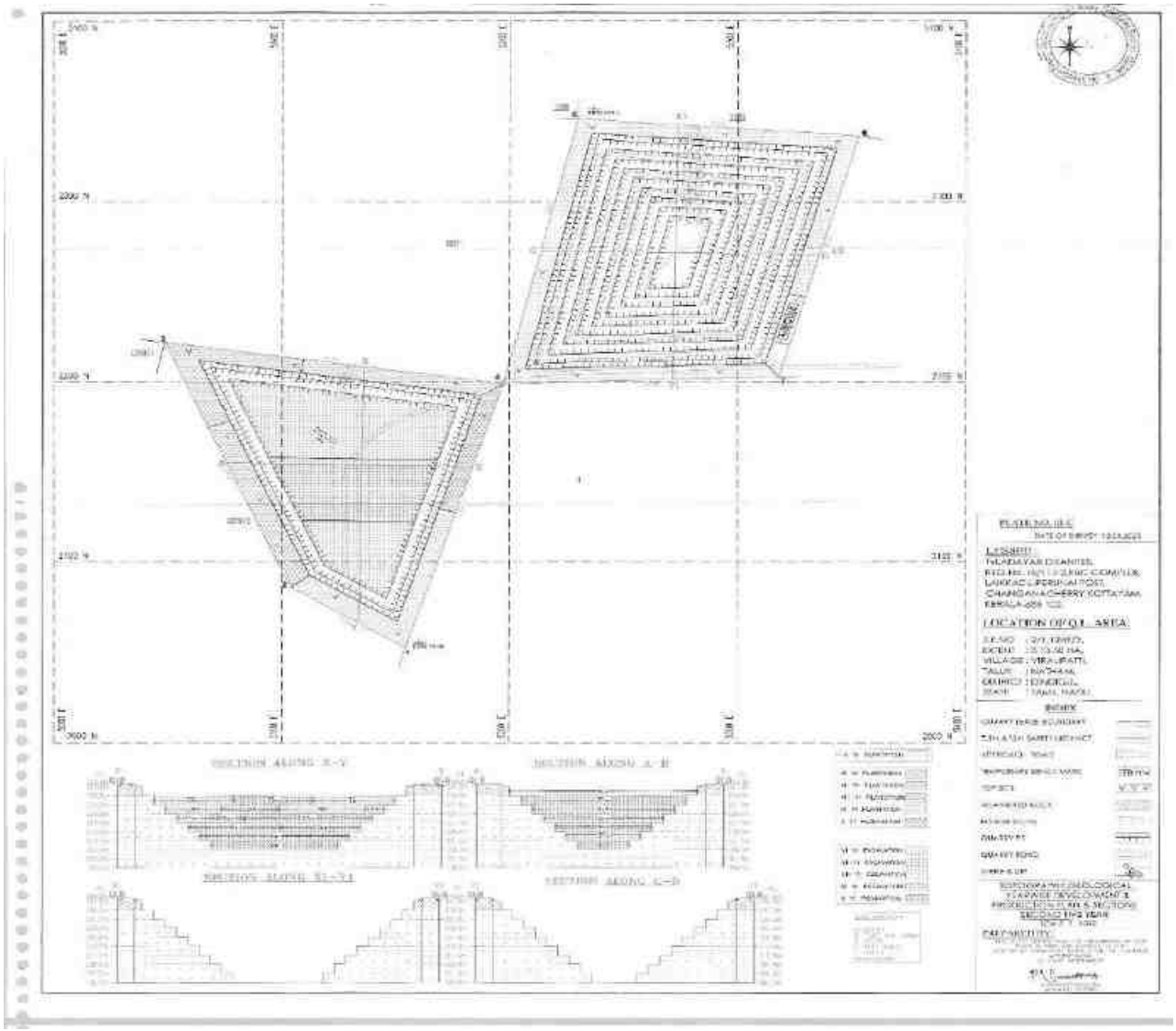


FIGURE 2.12: TOPOGRAPHY, GEOLOGICAL, YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTIONS FOR FIRST FIVE YEAR–P2

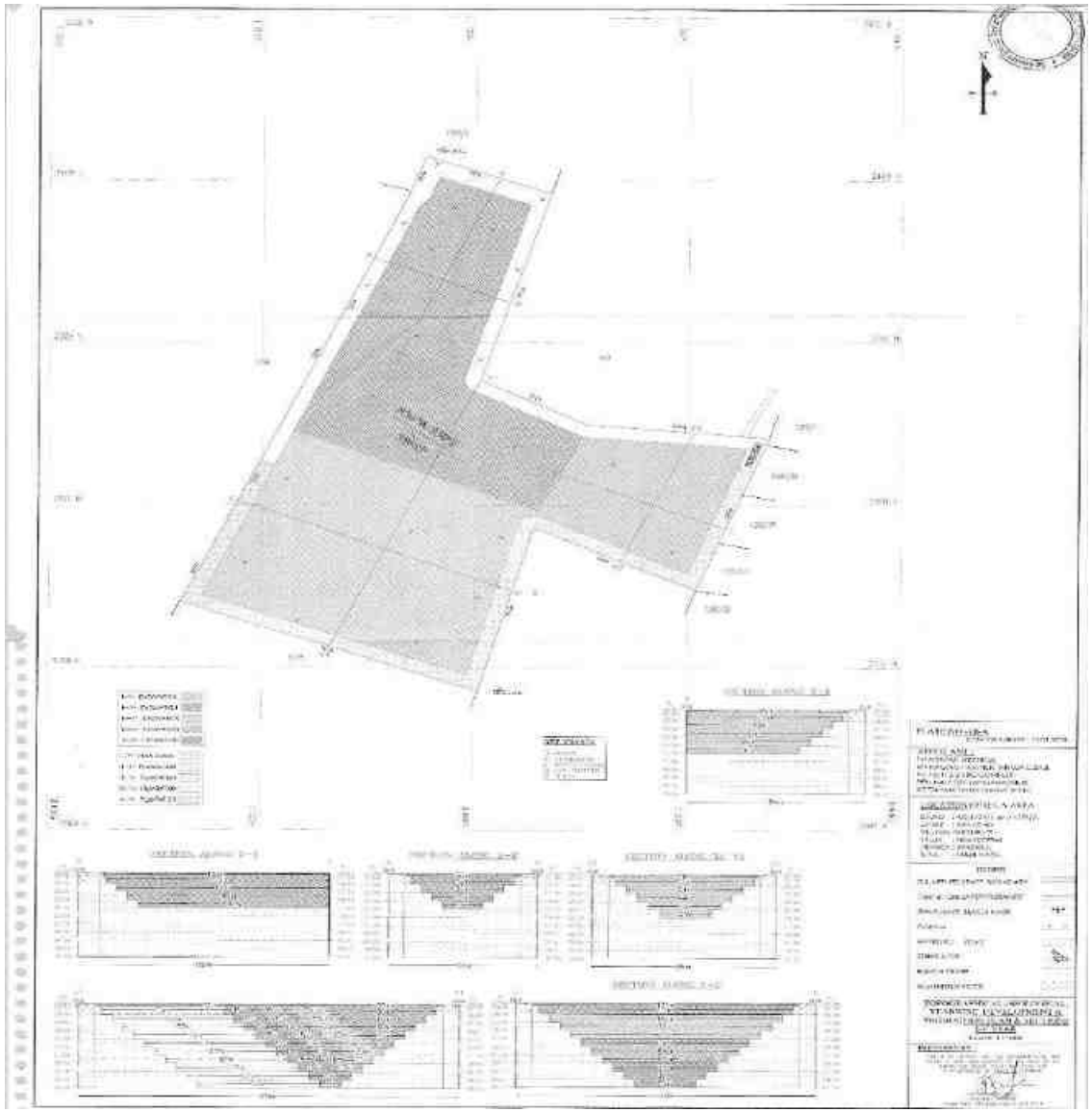
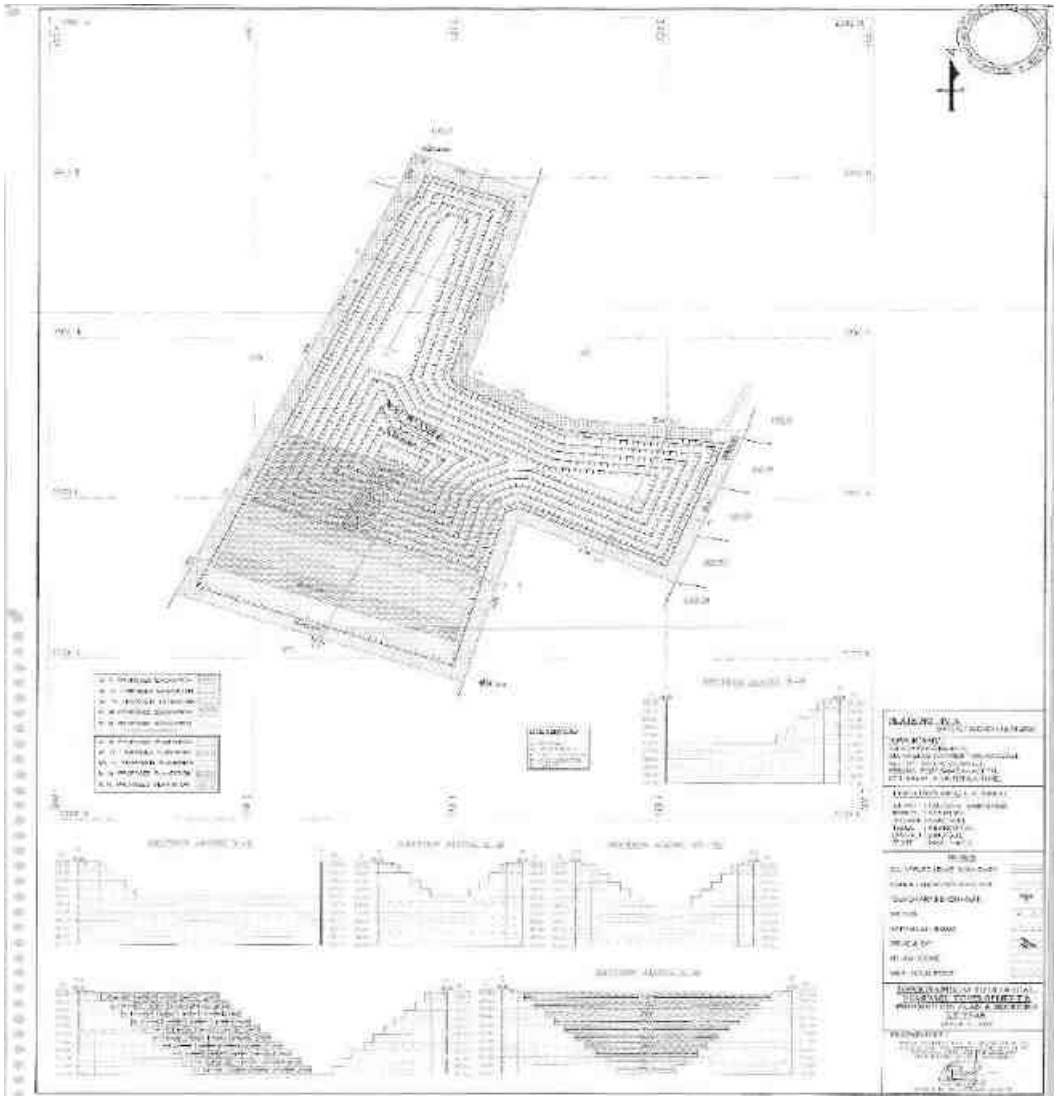


FIGURE 2.13: TOPOGRAPHY, GEOLOGICAL, YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTIONS FOR SECOND FIVE YEAR–P2



Source: Approved Mining Plan

Conceptual Mining Plan/ Final Mine Closure Plan

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

TABLE 2.10: ULTIMATE PIT DIMENSION-P1

Amalgamating Mine Boundary	**Pit**	**Length (Max) (m)**	**Width (Max) (m)**	**Depth (Max)**
	XY-AB	120	93	51.5m bgl
	X1Y1-CD	134	103	46.5m bgl
Leaving safety and benches	Pit	**Length (Max) (m)**	**Width (Max) (m)**	**Depth (Max)**
	XY-AB	121	88	36.5 m bgl
	X1Y1-CD	125	105	46.5 m bgl

Source: Approved Mining Plan

TABLE 2.11: ULTIMATE PIT DIMENSION-P2

Amalgamating Mine Boundary	**Pit**	**Length (Max) (m)**	**Width (Max) (m)**	**Depth (Max)**
	XY-AB	108	65	46.5m bgl
	X1Y1-CD	170	124	51.5 m bgl
	X2Y2 – EF	69	75	46.5m bgl
Leaving safety and benches	Pit	**Length (Max) (m)**	**Width (Max) (m)**	**Depth (Max)**
	XY-AB	108	65	21.5 m bgl
	X1Y1-CD	170	124	51.5 m bgl
	X2Y2 – EF	75	69	26.5 m bgl

FIGURE 2.14: CLOSURE PLAN AND SECTIONS –P1

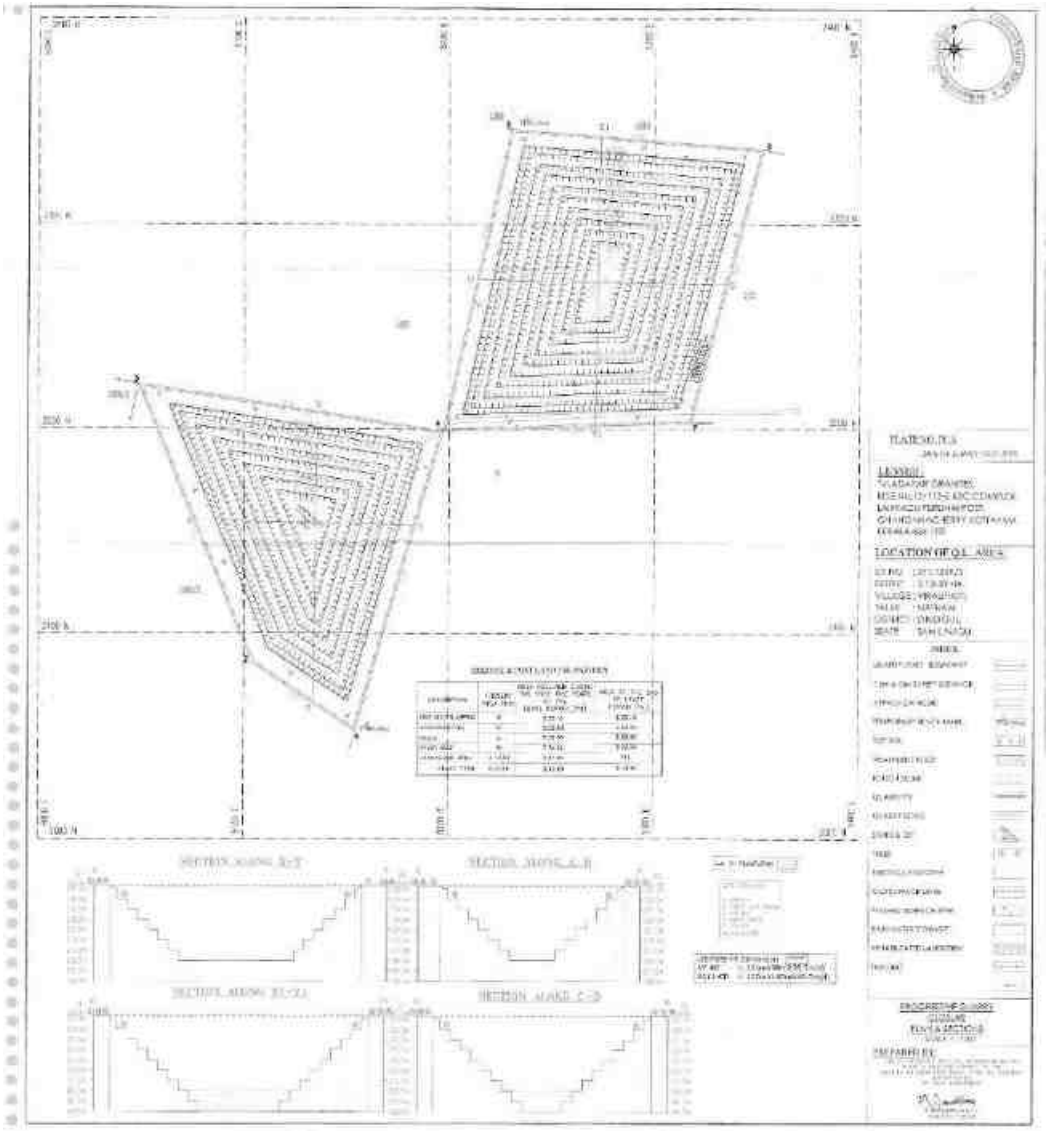
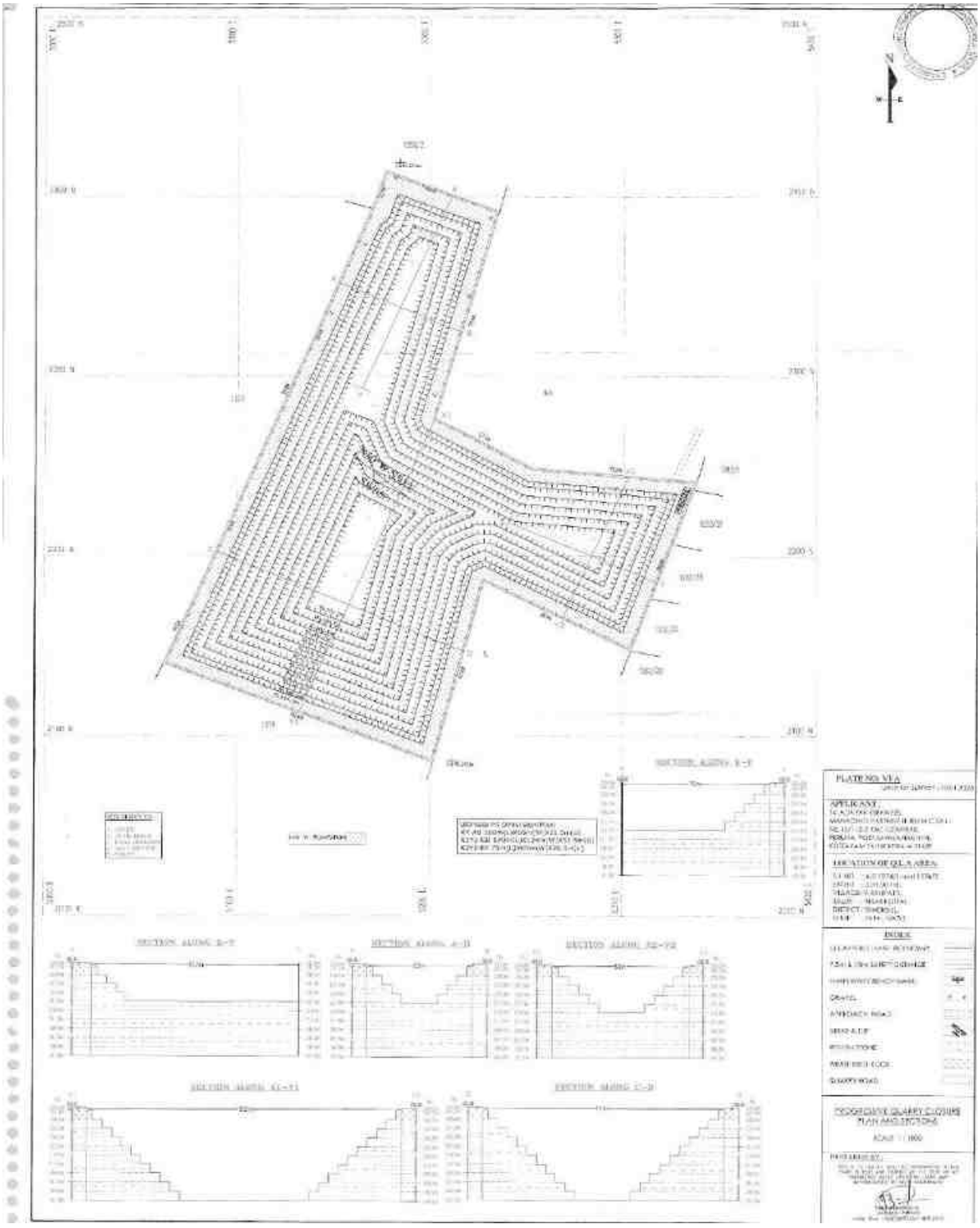


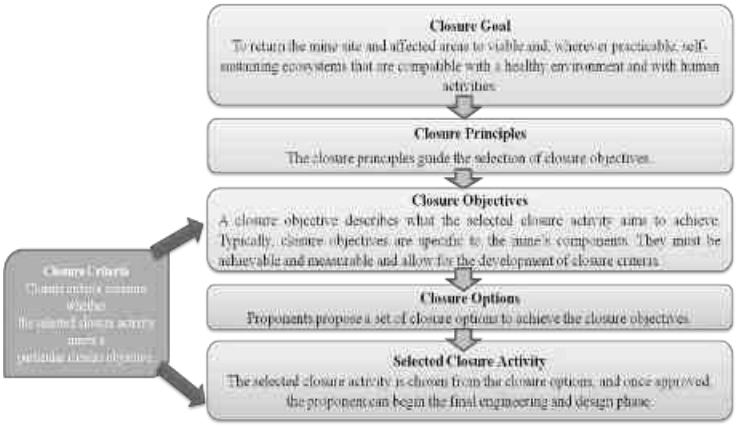
FIGURE 2.15: CLOSURE PLAN AND SECTIONS –P2



Source: Approved Mining Plan

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

Closure Objectives –



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

Closure Planning & Options Considerations in Mine Design –

- The closure of mine is well planned at the initial stage of planning & design consideration by the internal and external stake holders
- Construction of 2m height bund all along the mine pit boundary and ensure its stability all time & construction of garland drain along the natural slope to avoid sliding and collection of soil to the pit & surface runoff during rainfall
- After complete exploitation of mineral, the lowest bench foot wall side will be maintained as plain surface without any sump pits to avoid any accidents
- All the sharp edges will be dressed to smoother face before the closure of mine and ensure no loose debris on hanging wall side
- The project proponent as a part of social responsibilities assures to supply the stored mine pit water to the nearby villages after effective treatment process as per the standards of TNPCB & TWAD
- Native species will be planted in 3 row patterns on the boundary barriers and 1st bench, a full-time sentry will be appointed at the gate to prevent inherent entry of public & cattle.
- The access road to the quarry will be cut-off immediately after the closure

- The layout design shall be prepared and get approved from Department of Geology and Mining.
- The proponent is instructed to construct as per the layout approved
- Physical and chemical stability of structures left in place at the site, the natural rehabilitation of a biologically diverse, stable environment, the ultimate land use is optimized and is compatible with the surrounding area and the requirements of the local community, and taking the needs of the local community into account and minimizing the socio-economic impact of closure
- There will be a positive change in the environmental and ecology due to the mine closure

3.1 METHOD OF MINING

Opencast Mechanized Mining Method is proposed by formation of 5.0-meter height bench with a bench width not less than the bench height. Bench slope will be maintained as 60^0.

The Rough Stone is a batholith formation and the splitting of rock mass of considerable volume from the parent rock mass will be carried out by deploying jackhammer drilling and Slurry Explosives will be used for blasting. Hydraulic Excavator attached with rock breaker/ bucket with tipper combination will be involved for the excavation/breaking of Rough stone after blasting. Hydraulic excavators attached with bucket unit will be deployed for loading the Rough Stone into the tippers and then the stone is transported from pithead to the nearby crushers.

It is recommended to obtain necessary statutory permission from the Department of Geology and Mining for Using Heavy Earth Moving Machineries, Blasting and appointment of Mines Manager etc.,

Drilling & Blasting Parameters

Drilling will be carried out using Jack hammer and compressor, the depth of the hole will be maximum 1.5m Drilling & Blasting will be carried out as per parameters given below: -

For P1

Spacing	–	1.0 m
Burden	–	1.0 m
Depth of hole	–	1.5 m
Charge per hole	–	0.50 – 0.75kg
Powder factor	–	8.0 tonnes/kg
Diameter of hole	–	32-35 mm
Peak production Capacity	=	185m^3 of Rough stone per day
Spacing X Burden X Depth	=	1.0 m X 1.0 m X 1.5 m = 1.5 m^3
	=	1.5 m^3 X 2.6 (Bulk Density) = 3.9 Ts per hole

hence for the peak production of 185m^3 (481Ts) = 120 Nos of holes to be drilled per day

Explosives per hole = ½ kg hence 60 kg of Explosives will be utilized maximum considering the peak production

For P2

Spacing	–	1.0 m
Burden	–	1.0 m
Depth of hole	–	1.5 m
Charge per hole	–	0.50 – 0.75kg
Powder factor	–	8.0 tonnes/kg
Diameter of hole	–	32-35 mm
Peak production Capacity	=	304m^3 of Rough stone per day
Spacing X Burden X Depth	=	1.0 m X 1.0 m X 1.5 m = 1.5 m^3
	=	1.5 m^3 X 2.6 (Bulk Density) = 3.9 Ts per hole

hence for the peak production of 304m^3 (790Ts) = 197 Nos of holes to be drilled per day

Explosives per hole = ½ kg hence 98 kg of Explosives will be utilized maximum considering the peak production

Type of Explosives to be used –

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

Storage of Explosives –

No proposal for storage of explosives within the project area, the project proponent will have made agreement with authorized explosives agencies for carrying out blasting activities and competent person as per DGMS guidelines will be employed for safety and supervision of overall quarrying activities.

The explosives will be sourced from the blasting agency on daily basis and the blasting will be carried out under the supervision of competent qualified Blaster and it will be ensured that there shall be no balance of explosive stock; any balance stock will be taken back by the supplier.

3.1.1 Extent of Mechanization

TABLE 2.12 PROPOSED MACHINERY DEPLOYMENT

P1				
S.NO.	**TYPE**	**NOS**	**SIZE/CAPACITY**	**MOTIVE POWER**
1	Hand Jack hammers	8	1.2m to 2.0m	Compressed air
2	Compressor	2	400psi	Diesel Drive
3	Excavator with Bucket and Rock Breaker	3	300 HP	Diesel Drive
4	Tippers	6	20 Tonnes	Diesel Drive
5	Water Sprinkling Tanker	1	6,000 Litres	Diesel Drive
P2				
S.NO.	**TYPE**	**NOS**	**SIZE/CAPACITY**	**MOTIVE POWER**
1	Wagon drill machine	1	3m to 10m	Diesel Drive
2	Hand Jack hammers	4	1.2m to 2.0m	Compressed air
3	Compressor	1	400psi	Diesel Drive
4	Excavator with Bucket and Rock Breaker	2	300 HP	Diesel Drive
5	Tippers	4	30 Tonnes	Diesel Drive
6	Water Sprinkling Tanker	1	10,000 litres	Diesel Drive

2.6 GENERAL FEATURES

2.6.1 Existing Infrastructures

Infrastructures like Mine office, Temporary Rest shelters for workers, Latrine and Urinal Facilities will be constructed as per the Mine Rule after the grant of quarry lease in all the proposed quarries.

Drainage Pattern

There are no streams, canals or water bodies crossing within the project area. The drainage pattern of the area is dendritic – sub dendritic.

Traffic Density

The traffic survey conducted based on the transportation route of material, the Rough Stone is proposed to be transported mainly through

Traffic density measurements were performed at two locations

1. Kurumbapatty Panchayat Road
2. Batlagundu-Usilampatti SH Road

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

TABLE.2.13: TRAFFIC SURVEY LOCATIONS

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Kurumbapatty Panchayat Road	850m NW	Panchayat Road
TS2	Batlagundu-Usilampatti SH Road	1.6 Km NE	State Highway

Source: On-site monitoring by GEMS FAE & TM

TABLE 2.14: EXISTING TRAFFIC VOLUME

Station code	HMV		LMV		2/3 Wheelers		Total PCU
	No	PCU	No	PCU	No	PCU	
TS1	100	300	80	80	70	35	415
TS2	150	450	120	120	220	110	680

Source: On-site monitoring by GEMS FAE & TM

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

TABLE 2.15: ROUGH STONE & GRAVEL HOURLY TRANSPORTATION REQUIREMENT

Transportation of Rough Stone & Gravel per day		
Capacity of trucks	No. of Trips per day	Volume in PCU
20 tonnes	40	120

FIGURE.2.16: MINERAL TRANSPORTATION ROUTE MAP

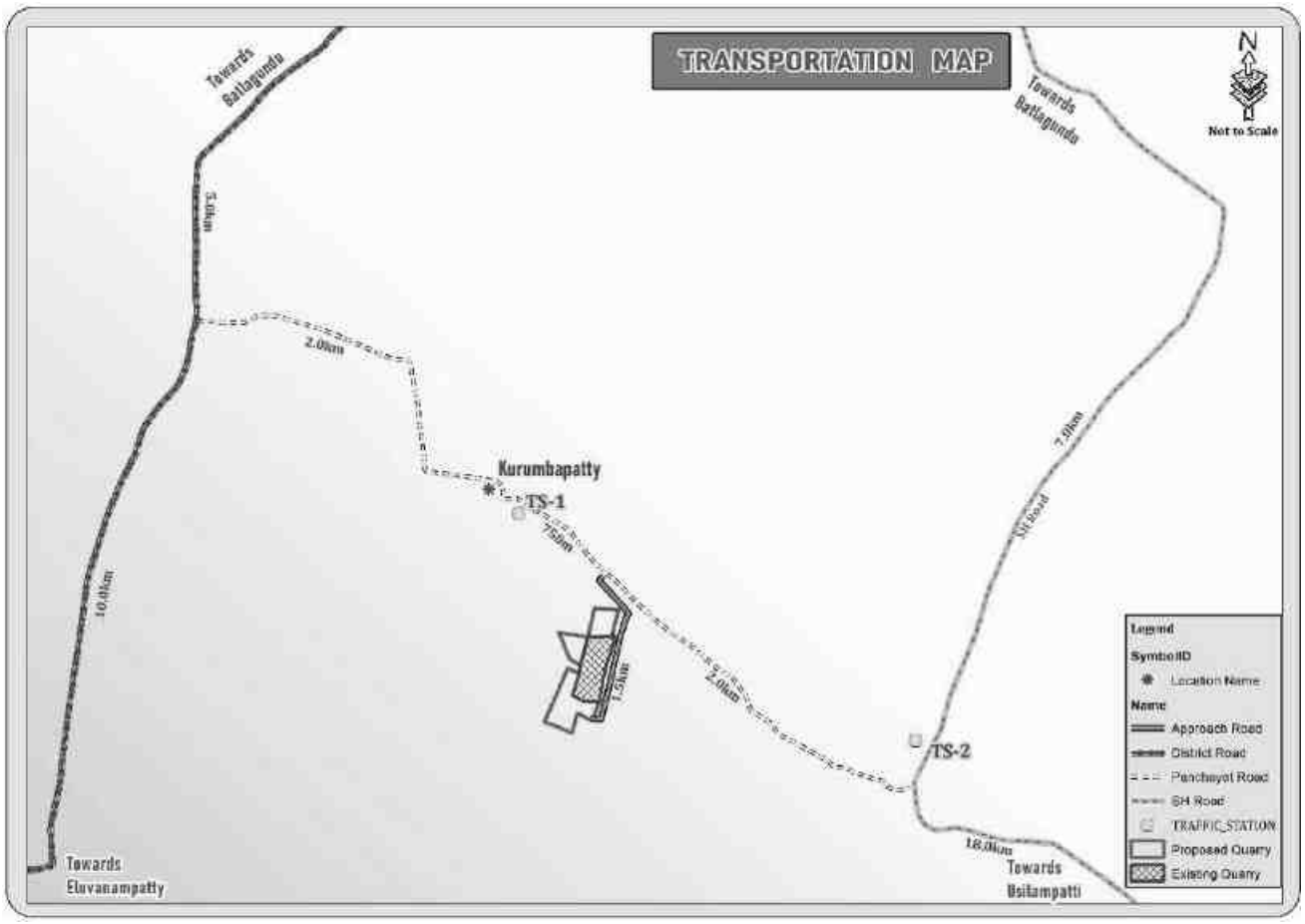


TABLE 2.16: SUMMARY OF TRAFFIC VOLUME

Route	Existing Traffic volume in PCU	Incremental traffic due to the project	Total traffic volume	Hourly Capacity in PCU as per IRC – 1960guidelines
Kurumbapatty Panchayat Road	415	120	535	1200
Batlagundu-Usilampatti SH Road	680	120	800	1500

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

- Due to these projects the existing traffic volume will not exceed
- As per the IRC 1960 this existing District road can handle 1,200 PCU in hour and State Highway road can handle 1500 PCU in hour hence there will not be any conjunction due to this proposed transportation.

Mineral Beneficiation and Processing

There is no proposal for the mineral processing or ore beneficiation in any of the proposed project.

2.7 PROJECT REQUIREMENT

2.7.1 Water Source & Requirement

Detail of water requirements in KLD as given below:

TABLE 2.17: WATER REQUIREMENT FOR THE PROJECT

P1		
Purpose	**Quantity**	**Source**
Dust Suppression	1.0 KLD	From the existing pit or from the water vendors
Green Belt	1.4 KLD	From the existing pit or from the water vendors
Sanitation & Drinking	0.6 KLD	From the existing pit or from the water vendors.
Total	**3.0 KLD**	
P2		
Purpose	**Quantity**	**Source**
Dust Suppression	1.0 KLD	From the existing pit or from the water vendors
Green Belt	1.5 KLD	From the existing pit or from the water vendors
Sanitation & Drinking	0.5 KLD	From the existing pit or from the water vendors.
Total	**3.0 KLD**	

Source: Prefeasibility report

Power and Other Infrastructure Requirement

Power is not required for the mining operation; the mining operation will be carried out using Diesel Generator and Earth moving machineries using diesel. The quarrying activity is proposed during day time only (General Shift 8 AM – 5 PM, Lunch Break 1 PM – 2 PM). Electricity for use in office and other internal infrastructure will be obtained from TNEB by project proponent.

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

Fuel Requirement- P1

One Excavator will excavate 25m^3 of Broken up Rough stone per hour and 60m^3 of Gravel per hour.

Peak production of Rough stone = 185m^3

Peak production of Gravel = 252m^3

Type of machinery	Working hours	Average Diesel consumption/ Hour	Quantity of Diesel in Ltrs
Working hours of Excavator (Aprx)	185m^3/25m^3 =8 Hrs (Rough stone)	22 Ltrs	176
	39/60m^3 = 1Hrs	18 Ltrs	18
Compressor	Working hours per day 3 Hrs	8 Ltrs	24
Tippers, Motor pumps to drain water	Occasionally		20
Total Diesel Consumption			**238**

The Maximum diesel consumption is around 238 Ltrs per day considering the peak production.

Fuel Requirement- P2

One Excavator will excavate 25m^3 of Broken up Rough stone per hour and 60m^3 of Gravel per hour.

Peak production of Rough stone = 304m^3

Peak production of Gravel = 105m^3

Type of machinery	Working hours	Average Diesel consumption/ Hour	Quantity of Diesel in Ltrs
Working hours of Excavator (Aprx)	304m^3/25m^3 =13 Hrs (Rough stone)	22 Ltrs	286
	105/60m^3 = 2Hrs	18 Ltrs	36
Compressor	Working hours per day 3 Hrs	8 Ltrs	24
Tippers, Motor pumps to drain water	Occasionally		20
Total Diesel Consumption			**366**

The Maximum diesel consumption is around 366 Ltrs per day considering the peak production.

Project Cost

The Environmental Management plan has been prepared considering the mode of working, Safety of the employees and Monitoring periods the total Cost is given below

Code	Project cost
P1	Rs.71,41,000/-
P2	Rs.3,80,03,000/-

.

EMPLOYMENT REQUIREMENT:

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous mine's regulations, 1961.

TABLE 2.18: PROPOSED MANPOWER DEPLOYMENT

P1	
Designation	**No of persons**
Mines Manager	1
Geologist	1
Mines Foreman	1
Mate/Blaster	1
Excavator Operator	3
Truck Driver	6
Water Sprinkler Driver	1
Jack hammer operator	16
Security	1
Labour & Helper	4
Cleaner & Co-operator	10
Total	**45**

P2	
Designation	**No of persons**
Mines Manager	1
Mines Manager 2nd class	1
Mines Foreman	1
Mate/Blaster	1
Excavator Operator	2
Wagon Drill Operator	1
Truck Driver	4
Water Sprinkler Driver	1
Jack hammer operator	8
Security	1
Labour & Helper	4
Cleaner & Co-operator	9
Total	**34**

Source: Approved Mining Plan & Pre-Feasibility report.

PROJECT IMPLEMENTATION SCHEDULE

The mining operation will commence after the grant of Environmental Clearance, Consent to operate (CTO), Execution of Lease Deed and Obtaining permission from the DGMS (Notice of Opening).

TABLE 2.19: EXPECTED TIME SCHEDULE

Sl.No.	Particulars	Time Schedule (In Month)					Remarks if any
		1st	2nd	3rd	4th	5th	
1	Environmental Clearance						
2	Consent to Operate						
3	Execution of Lease deed						
4	Permission from DGMS						
Time line may vary; subjected to rules and regulations /& other unforeseen circumstances							

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

3. DESCRIPTION OF ENVIRONMENT

3.0 GENERAL

The baseline environment quality represents the background environmental scenario of various environmental components such as Land, Water, Air, Noise, Biological and Socio-economic status of the study area. Field monitoring studies to evaluate the base line status of the project site were carried out covering March to May 2025 with CPCB guidelines for the following attributes –

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

Environmental data has been collected with reference to cluster quarries by Global Lab and Consultancy Services, – An accredited by ISO/IEC 17025:2017 (NABL).

Study Area

An area of 10 km radius (aerial distance) from the periphery of the cluster is considered for EIA study. The study area has been divided into two zones viz **core zone** and **buffer zone**.

- Core zone is considered as cluster area
- Buffer zone taken as 10km radius from the periphery of the Cluster. Both Core zone and Buffer zone is taken as the study area.

Study Period

The baseline study was conducted during the **Pre Monsoon** i.e., **March to May 2025**

Study Methodology

- The project area was surveyed in detail with the help of Total Station Survey instruments and pillars were marked. The boundary coordinates were superimposed on the satellite imagery to understand the relief of the area, besides Land use pattern of the area was studied through the Bhuvan (ISRO)
- Soil samples were collected and analysed for relevant physio-chemical characteristics in order to assess the impact due to mining activities and to recommend saplings for Greenbelt development.
- Ground water samples were collected from the existing bore wells, Surface water was collected from water bodies in the buffer zone and analysed as per CPCB Guidelines.
- An onsite meteorological station was setup in cluster area, to collect data about wind speed, wind direction, temperature, relative humidity, rainfall and general weather conditions were recorded throughout the study period.
- Air quality Data's were collected by installation of Respiratory Dust Samplers (RDS) for Fugitive dust, PM_{10} and SO_2, NO_X with gaseous attachments & Fine Dust Samplers (FDS) for $PM_{2.5}$ and other parameters as per NAAQ norms and analysed for primary air pollutants to work out the existing status of air quality.
- The Noise level measurements were also made at various locations in different intervals of time with the help of sound level meter to establish the baseline noise levels in the impact zone.
- Baseline biological studies were carried out to assess the ecology of the study area to study the existing flora and fauna pattern of the area.

- Socio-Economic survey was conducted at village and household level in the study area to understand the present socio-economic conditions and assess the extent of impact due to the proposed mining project.

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

TABLE 3.1: MONITORING ATTRIBUTES AND FREQUENCY OF MONITORING

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land-use Land cover	Land-use Pattern within 10 km radius of the study area	Data from census handbook 2011 and from the satellite imagery	Study Area	Satellite Imagery Primary Survey
*Soil	Physio-Chemical Characteristics	Once during the study period	6 (2 core & 4 buffer zone)	IS 2720 Agriculture Handbook – Indian Council of Agriculture Research, New Delhi
*Water Quality	Physical, Chemical and Bacteriological Parameters	Once during the study period	6 (2 surface water & 4 ground water)	IS 10500& CPCB Standards
Meteorology	Wind Speed Wind Direction Temperature Cloud cover Dry bulb temperature Rainfall	1 Hourly Continuous Mechanical/Automatic Weather Station	1	Site specific primary data& Secondary Data from IMD Station
*Ambient Air Quality	PM10 PM2.5 SO2 NOX Fugitive Dust	24 hourly twice a week (March 2025 – May 2025)	7 (2 core & 5 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient Noise	Hourly observation for 24 Hours per location	7 (2 core & 5 buffer zone)	IS 9989 As per CPCB Guidelines
Ecology	Existing Flora and Fauna	Through field visit during the study period	Study Area	Primary Survey by Quadrate & Transect Study Secondary Data – Forest Working Plan
Socio Economic Aspects	Socio–Economic Characteristics, Population Statistics and Existing Infrastructure in the study area	Site Visit & Census Handbook, 2011	Study Area	Primary Survey, census handbook & need based assessments.

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS

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

3.1 LAND ENVIRONMENT

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

3.1.1 Land Use/ Land Cover

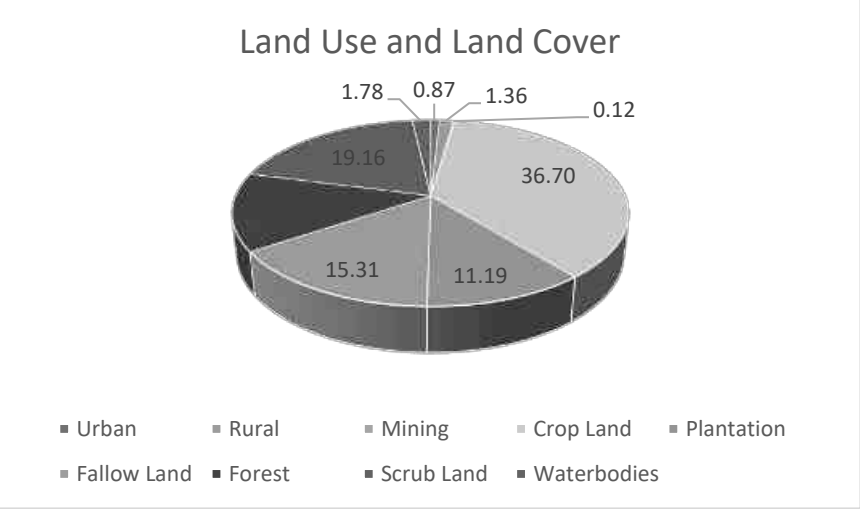
A visual interpretation technique has been adopted for land use classification based on the keys suggested in the chapter – V of the guidelines issued by NNRMS Bangalore & Level III classification with 1:50,000 scale for the preparation of land use mapping. Land use pattern of the area was studied through LISS III imagery of Bhuvan (ISRO). The 10 km radius map of study area was taken for analysis of Land use cover.

TABLE 3.2: LAND USE / LAND COVER TABLE 10 Km RADIUS

S. No	CLASSIFICATION	AREA in HA	AREA in %
	BUILTUP		
1	Urban	287.29	0.87
2	Rural	452.26	1.36
3	Mining	41.30	0.12
	AGRICULTURAL LAND		
4	Crop Land	12162.47	36.70
5	Plantation	3707.64	11.19
6	Fallow Land	5073.23	15.31
	FOREST		
7	Forest	4475.11	13.50
	BARREN/WASTE LANDS		
8	Scrub Land	6349.87	19.16
	WETLANDS/ WATER BODIES		
9	Waterbodies	589.40	1.78
TOTAL		**33138.58**	**100.00**

Source: Survey of India Toposheet and Landsat Satellite Imagery

FIGURE 3.1: PIE DIAGRAM OF LAND USE AND LAND COVER



From the above table, pie diagram and land use map it is inferred that the majority of the land in the study area is Agriculture includes crop land 63.2% followed by Built-up Lands – 2.35%, Scrub land – 19.16%, and Water bodies 1.78%.

The total mining area within the study area is 41.30 ha i.e., 0.12%. The cluster area of 11.60.5 ha contributes about 3.55% of the total mining area within the study area. This small percentage of Mining Activities shall not have any significant impact on the environment.

3.1.2 Topography

The project area is almost plain terrain having gentle slope towards Southern side. The altitude of the area is 243m AMSL The area is covered by 2m thickness of gravel & 5m thickness of weathered rock followed by massive charnockite which is clearly inferred from the surface outcrops

3.1.3 Drainage Pattern of the Area

The drainage pattern of the area is dendritic – sub dendritic. Drainage pattern is the pattern formed by the streams, rivers, and lakes in a particular drainage basin. They are governed by the topography of the land, whether a particular region is dominated by hard or soft rocks, and the gradient of the land. There are no streams, canals or water bodies crossing within the project area.

3.1.4 Seismic Sensitivity

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

3.1.5 Environmental Features in the Study Area

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

FIGURE 3.2: PHYSIOGRAPHIC MAP 10KM RADIUS

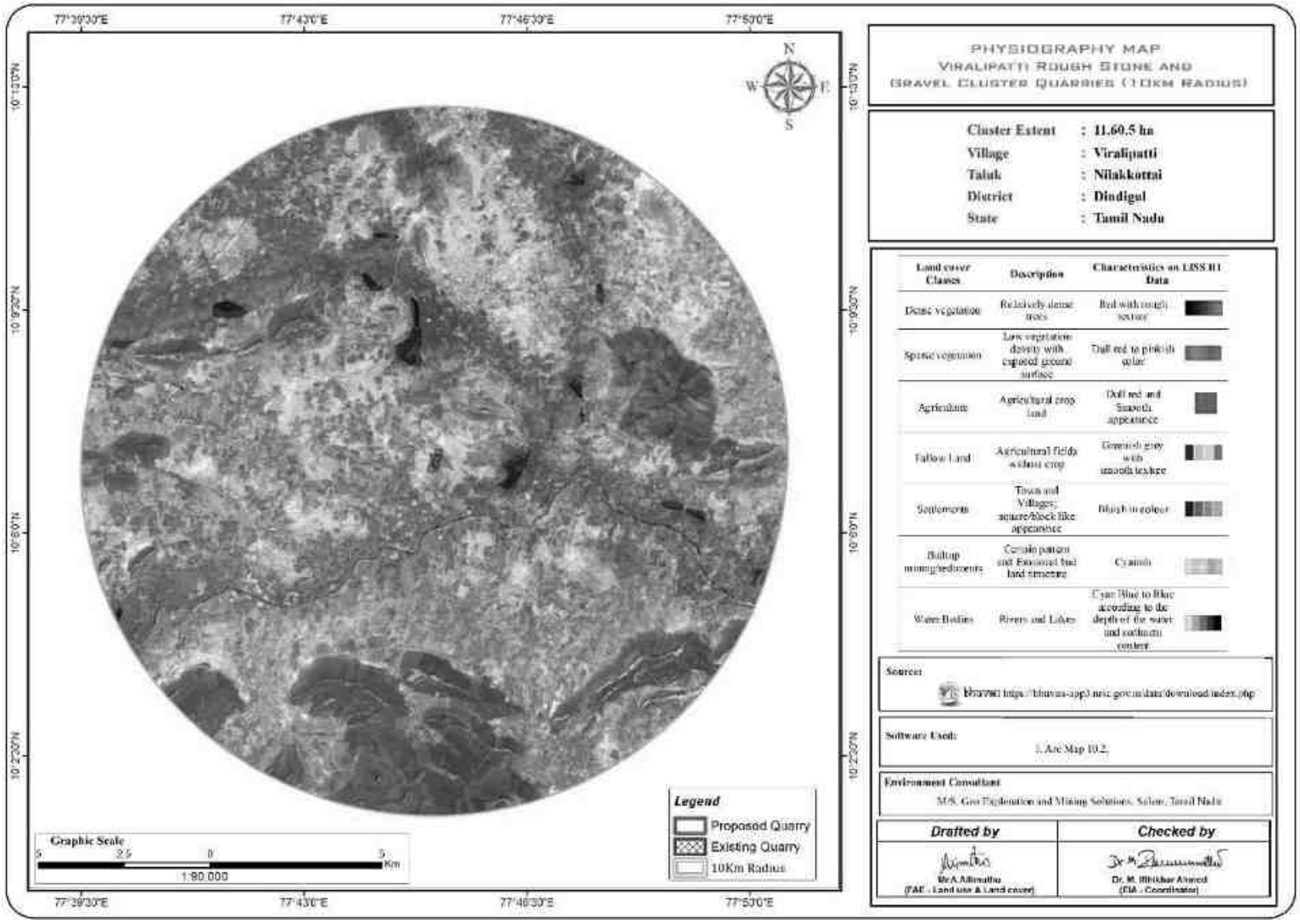
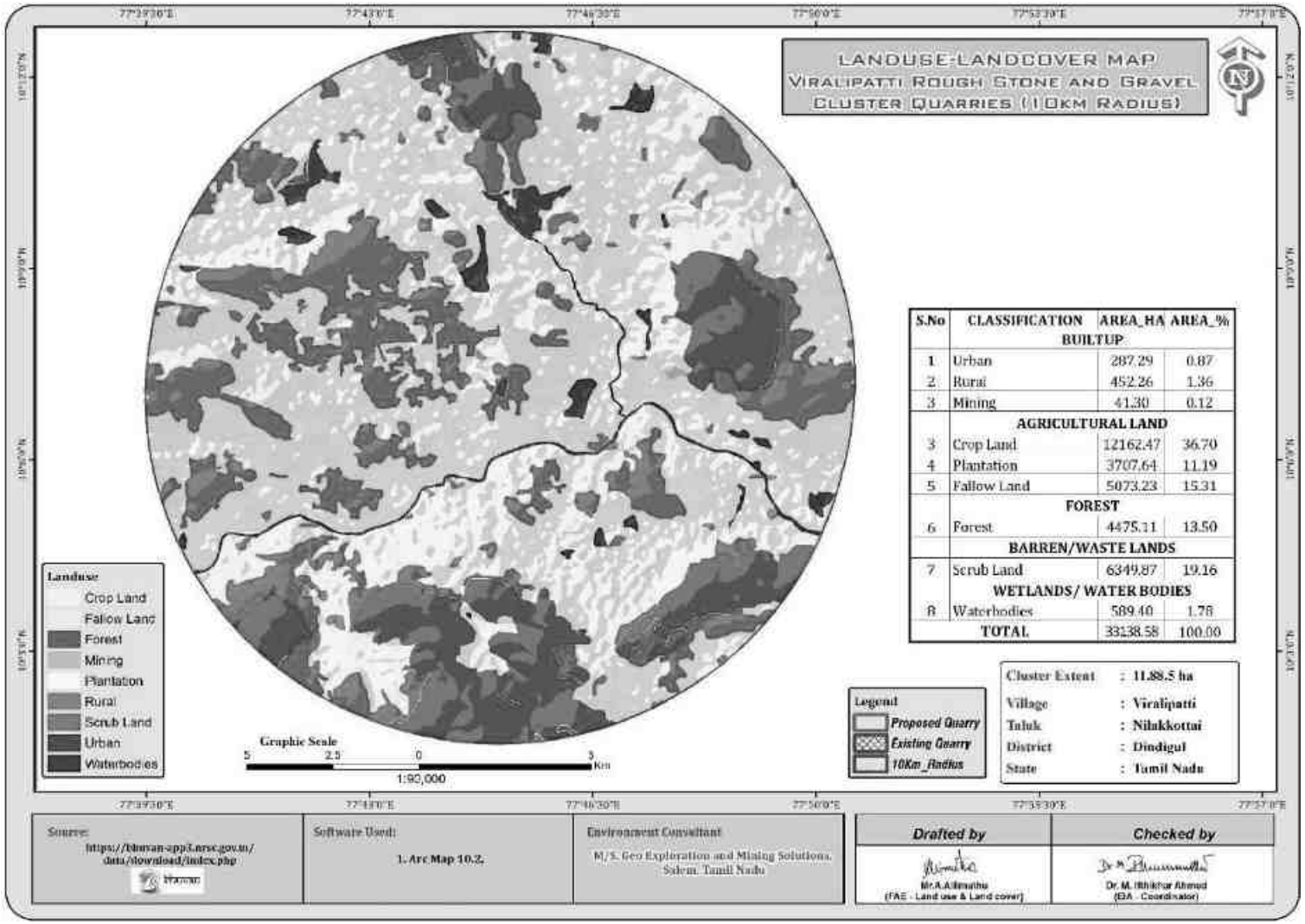


FIGURE 3.3: LAND USE LAND COVER MAP 10KM RADIUS



S.No	CLASSIFICATION	AREA_HA	AREA_%
	BUILTUP		
1	Urban	287.29	0.87
2	Rural	452.26	1.36
3	Mining	41.30	0.12
	AGRICULTURAL LAND		
3	Crop Land	12162.47	36.70
4	Plantation	3707.64	11.19
5	Fallow Land	5073.23	15.31
	FOREST		
6	Forest	4475.11	13.50
	BARREN/WASTE LANDS		
7	Scrub Land	6349.87	19.16
	WETLANDS/ WATER BODIES		
8	Waterbodies	589.40	1.78
	TOTAL	33138.58	100.00

TABLE 3.3: DETAILS OF ENVIRONMENT SENSITIVITY AROUND THE CLUSTER

Sl.No	Sensitive Ecological Features	Name	Arial Distance in km from Cluster
1	National Park / Wild life Sanctuaries	Kodaikanal Birds Sanctuary	10.7 km – NW
2	Reserve Forest	Vellaikaradu – R.F	1.6 km – NE (Source – TNGIS)
3	Tiger Reserve/ Elephant Reserve/ Biosphere Reserve	None	Nil within 10Km Radius
4	Critically Polluted Areas	None	Nil within 10km Radius
5	Mangroves	None	Nil within 10km Radius
6	Mountains/Hills	None	Nil within 10km Radius
7	Notified Archaeological Sites	None	Nil within 10km Radius
8	Industries/ Thermal Power Plants	None	Nil within 10km Radius
9	Defence Installation	None	Nil within 10km Radius

Source: Survey of India Toposheet

TABLE 3.4: NEARBY WATER BODIES FROM THE PROPOSED PROJECT SITE

P1		
Sl.No	**NAME**	**DISTANCE & DIRECTION**
1	Odai	600m SW
2	Canal	1km SE
3	Vaigai River	1.7km SE
4	Tank	1.8km East
5	Veerakudumban Lake	2.5km North
P2		
Sl.No	**NAME**	**DISTANCE & DIRECTION**
1	Odai	350m SW
2	Canal	720m SE
3	Vaigai River	1.5km SE
4	Tank	1.8km East
5	Veerakudumban Lake	2.8km North

Source: Village Cadastral Map and Field Survey

3.1.6 Soil Environment

Soil quality of the study area is one of the important components of the land environment. The composite soil samples were collected from the study area and analysed for different parameters. The locations of the monitoring sites are detailed in Table 3.5 and Figure 3.5.

The objective of the soil sampling is –

To determine the baseline soil characteristics of the study area; study the impact of proposed activity on soil characteristics and study the impact on soil more importantly agriculture production point of view.

TABLE 3.5: SOIL SAMPLING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	S1	Core Zone	Project Area	10° 7’13.14”N 77°45’3.51”E
2	S2	Core Zone	Project Area	10° 6’59.27”N 77°44’57.22”E
3	S3	Viruvidu	5km SE	10° 4’43.56”N 77°46’45.36”E
4	S4	Kombaipatty	4.7km NE	10° 8’6.90”N 77°47’36.97”E

5	S5	Povampatty	6km SW	10° 5'10.36"N 77°42'12.16"E
6	S6	Vattalagundu	3.7km NW	10° 9'12.40"N 77°44'14.90"E

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS.

Methodology –

For studying soil quality, sampling locations were selected to assess the existing soil conditions in and around the project site representing various land use conditions. The samples were collected by auger boring into the soil up to 90-cm depth. Six (6) locations were selected for soil sampling on the basis of soil types, vegetative cover, industrial & residential activities including infrastructure facilities, which would accord an overall idea of the soil characteristics. The samples were analysed for physical and chemical characteristics. The samples were sent to laboratory for analysis. The samples were filled in Polythene bags, coded and sent to laboratory for analysis and the details of methodology in respect are given in below Table 3.6.

TABLE 3.6: METHODOLOGY OF SAMPLING COLLECTION

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

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS

Soil Testing Result –

The samples were analysed as per the standard methods prescribed in "Soil Chemical Analysis (M.L. Jackson, 1967) & Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India". The important properties analysed for soil are bulk density, porosity, infiltration rate, pH and Organic matter, kjeldahi Nitrogen, Phosphorous and Potassium. The standard classifications of soil are presented below in Figure 3.4 and the physico-chemical characteristics of the soil & Test Results in Table 3.7.

FIGURE 3.4: SOIL SAMPLING LOCATIONS AROUND 10 KM RADIUS

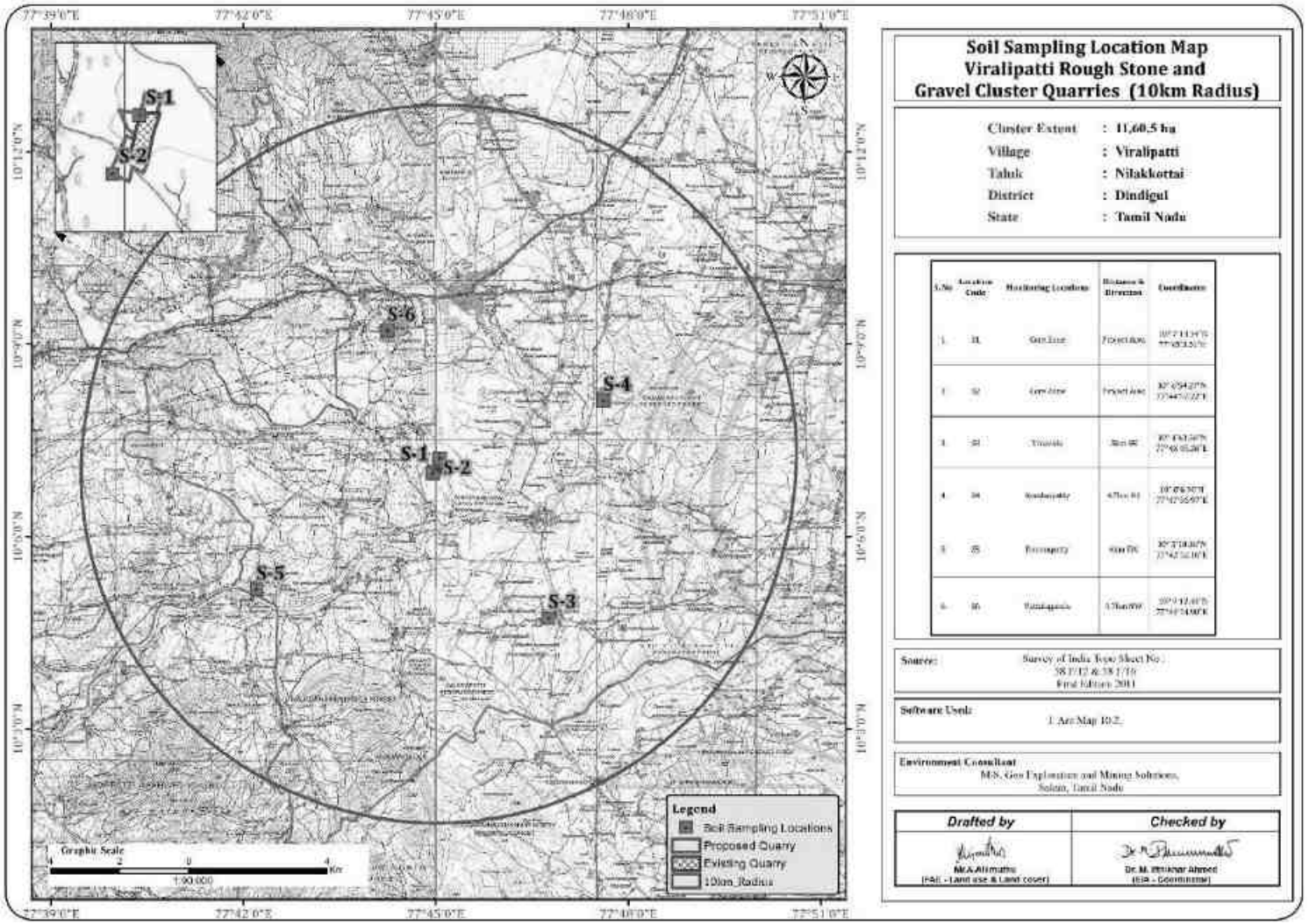


FIGURE 3.5: SOIL MAP

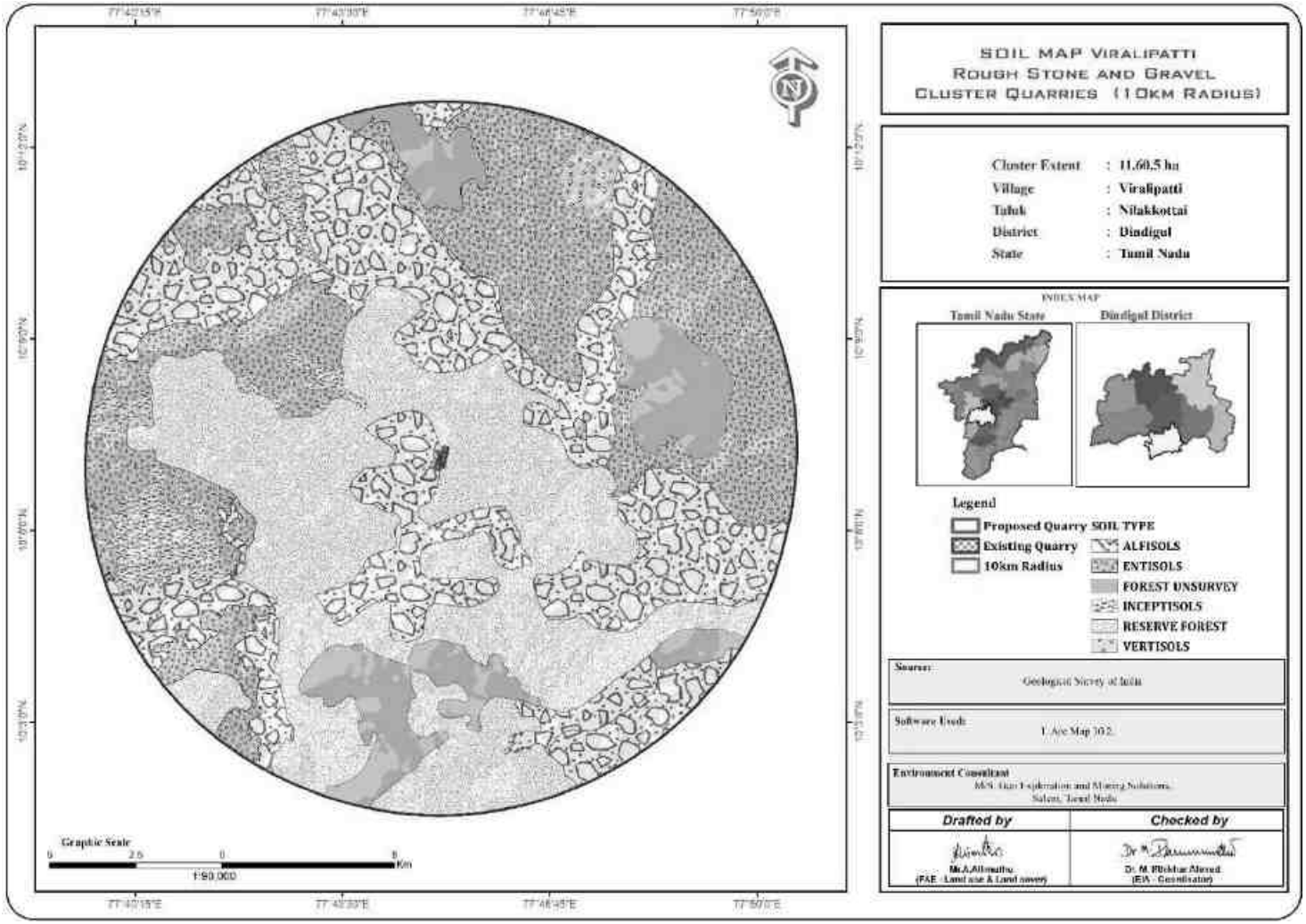


TABLE 3.7: SOIL QUALITY OF THE STUDY AREA

Parameter		Units	S-1	S-2	S-3	S-4	S-5	S-6
1	Available Nitrogen as N	kg/ha	476.7	526.8	602	464	451.6	577
2	Available Phosphorous(as P)	mg/kg	46.3	27.6	30.8	23.1	182	20.8
3	Boron	mg/kg	15.69	10.0	9.2	9.56	7.8	8.2
4	Bulk Density	g/cc	1.06	1.1	1.12	1.14	1.06	1.18
5	Cadmium	mg/kg	7.1	4.32	5.4	3.2	6.5	5.5
6	Cation Exchange Capacity	meq/100g	52.8	45	47.2	41.6	51.2	41.2
7	Chlorides (as Cl-) in saturation extract	meq/l	4.8	5.6	3.8	4.3	6.2	5.3
8	Chromium	mg/kg	19.6	12.73	13	8.6	20.76	14.2
9	Copper	mg/kg	BDL(DL0.5)	5.7	3.3	BDL(DL 0.5)	5.1	1.2
10	Exchangeable Calcium (as Ca)	meq/100g	3.5	2.6	2.9	1.8	2.1	1.6
11	Exchangeable Magnesium (as Mg)	meq/100g	2.3	1.9	1.7	2.2	1.7	1.8
12	Iron	mg/kg	20.83	40.7	54.5	35	55.8	40.4
13	Lead	mg/kg	2.5	3.4	1.5	BDL (DL 0.5)	1.1	1.2
14	Manganese	mg/kg	3.9	5.7	5.7	4.9	21.7	7.7
15	Organic Carbon	%	0.40	0.69	0.85	0.47	0.87	0.9
16	Organic Matter	%	0.69	1.2	1.47	0.81	1.50	1.55
17	pH Value	-	7.96	8.06	7.56	7.69	8.24	7.84
18	Soluble Potassium (as K) in saturation extract	mg/100g	1.24	2.15	1.6	1.36	1.44	1.64
19	Specific Electrical Conductivity	µS/cm	364	514	410	378	623	514
20	Sulphate (as SO4)	mg/100g	3.4	3.5	4.3	2.3	3.3	4.1
21	Texture : Clay	%	25.88	27.5	28.68	22.0	24.20	24.45
22	Texture : Sand	%	39.80	36.5	33.80	35.70	40.30	36.20
23	Texture : Silt	%	34.32	36	37.52	42.30	35.50	39.35
24	Water Holding Capacity	%	54	46	44.8	42	48	50
25	Zinc	mg/kg	34.3	14.3	19.3	8.1	10.9	19.7

Source: Sampling Results by Global Lab and Consultancy Services in association with GEMS

Interpretation & Conclusion

Physical Characteristics –

The physical properties of the soil samples were examined for texture, bulk density, porosity and water holding capacity. The soil texture found in the study area is Clay (22.0 % to 28.68%) to Sandy Loam Soil and Bulk Density of Soils in the study area varied between 1.1 – 1.18 g/cm^3. The Water Holding Capacity is found to be medium i.e., ranging from 42 – 54 %.

Chemical Characteristics –

- The nature of soil is slightly alkaline to strongly alkaline with pH range 7.56 – 8.24
- The available Nitrogen content range between 451.6 – 602 mg/kg
- The available Phosphorus content range between 18.2 – 46.3 mg/kg
- The available Potassium range between 1.24 – 1.64 mg/kg

Observation:

The pH of the Soil indicates that the soil is Neutral and arid region and ideal for plant growth.

3.2 WATER ENVIRONMENT

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

3.2.1 Surface Water Resources:

Vaigai River is the major surface water body in the study area and the rainfall over the area is moderate, the rainwater storage in open wells and trenches are in practice over the area and the stored water acts as source of drinking water for few months after rainy season.

3.2.2 Ground Water Resources:

Groundwater occurs in all the crystalline formations of oldest Achaeans and Recent Alluvium. The occurrence and behaviour of groundwater are controlled by rainfall, topography, geomorphology, geology, structures etc., The weathering is controlled by the intensity of weathering and fracturing. Dug wells as wells as bore wells are more common ground water abstraction structures in the area. The diameter of the dug well is in the range of 7 to 10 m and depth of dug wells range from 7.2 to 13 m bgl. The dug wells yield up to 1 lps in summer months and few wells remains dry. The yield is adequate for irrigation for one or two crops in monsoon period.

3.2.3 Methodology

Reconnaissance survey was undertaken and monitoring locations were finalized based on;

- Drainage pattern;
- Location of Residential areas representing different activities/likely impact areas; and
- Likely areas, which can represent baseline conditions

Two (2) surface water and Four (4) ground water samples were collected from the study area and were analysed for physio-chemical, heavy metals and bacteriological parameters in order to assess the effect of mining and other activities on surface and ground water. The samples were analysed as per the procedures specified by CPCB, IS-

10500:2012 and 'Standard methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA). The water sampling locations are given in Table 3.8 and shown as Figure 3.5.

TABLE 3.8: WATER SAMPLING LOCATIONS

S.NO	CODE	LOCATIONS	DISTANCE & DIRECTION	CO-ORDINATES
SURFACE WATER				
1	SW1	Vaigai River	1.5km SE	10° 6'16.24"N 77°45'31.62"E
2	SW2	Veerakudumban Lake	3km NW	10° 8'55.05"N 77°44'49.27"E
GROUND WATER				
3	WW-1	Near Project Area	520m SW	10° 6'51.30"N 77°44'41.38"E
4	WW-2	Kombaipatty	4.6km NE	10° 8'21.89"N 77°47'28.07"E
5	BW-1	Near Project Area	430m NW	10° 7'27.42"N 77°44'53.34"E
6	BW-2	Povampatty	6km SW	10° 5'11.90"N 77°42'11.90"E

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS

FIGURE 3.6: WATER SAMPLING LOCATIONS AROUND 10 KM RADIUS

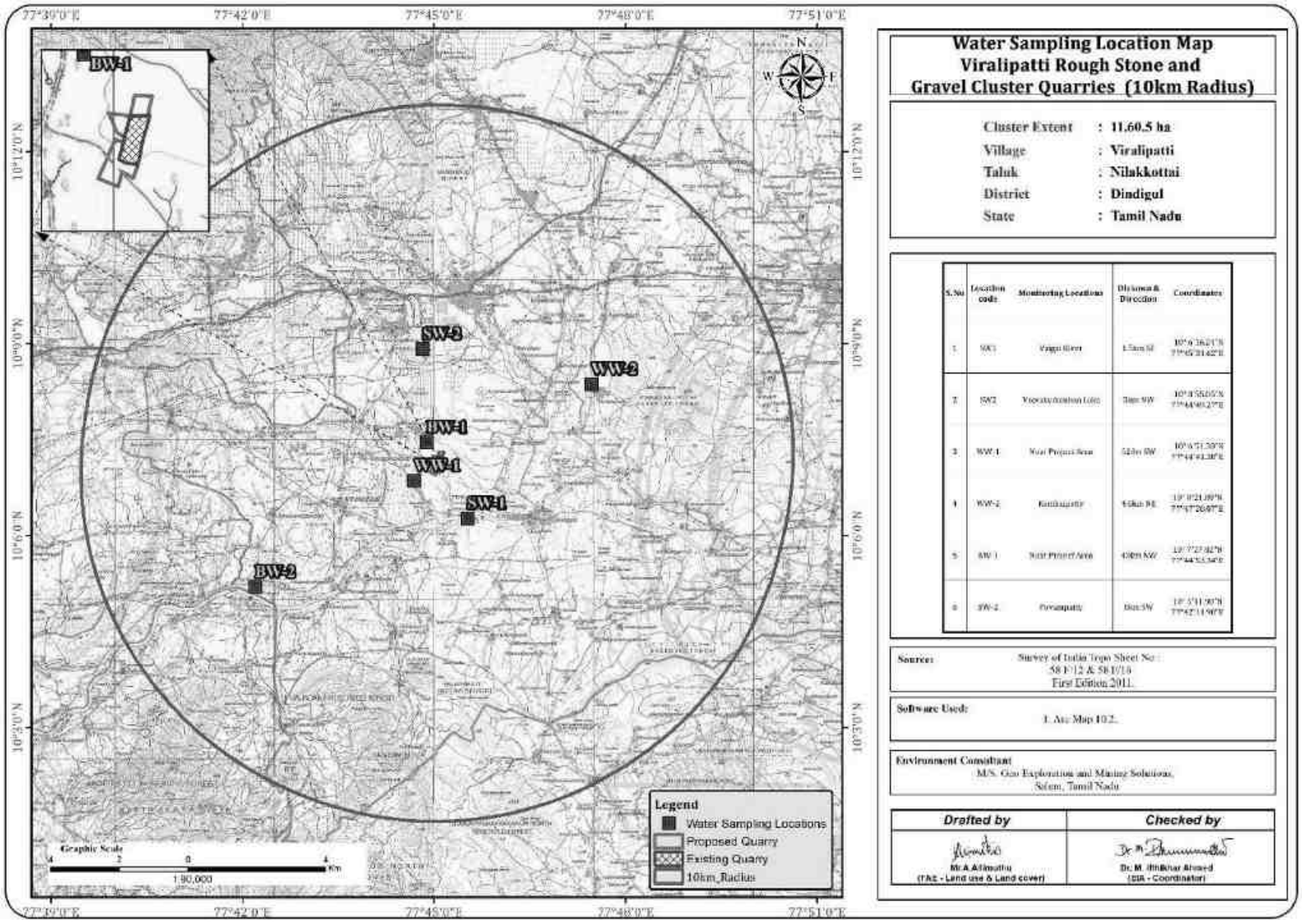


TABLE 3.9: GROUND WATER SAMPLING RESULTS

S.NO	Parameter	Units	WW-1	WW-2	BW-1	BW-2 S
1	Aluminium	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	mg/l	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)
3	Arsenic as As	mg/l	BDL (DL;0.002)	BDL (DL;0.002)	BDL (DL;0.002)	BDL (DL;0.002)
4	Barium as Ba	mg/l	0.012	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
5	Boron as B	mg/l	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)
6	Cadmium as Cd	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
7	Calcium as Ca	mg/l	112	72	140	124
8	Chloride as Cl-	mg/l	215	325	290	245
9	Chromium as Cr	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
10	Color	CU	<1	<1	<1	<1
11	Copper as Cu	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
12	Cyanide as CN	mg/l	BDL (DL;0.02)	BDL (DL;0.02)	BDL (DL;0.02)	BDL (DL;0.02)
13	Electrical Conductivity (EC)	µS/cm	1510	1664	2068	1560
14	Fluoride as F-	mg/l	0.42	0.39	0.39	0.47
15	Free Residual Chlorine as Cl2	mg/l	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)
16	Iron as Fe	mg/l	BDL (DL;0.1)	0.14	BDL (DL;0.1)	0.13
17	Lead as Pb	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
18	Magnesium as Mg	mg/l	68	51	90	78
19	Manganese as Mn	mg/l	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)
20	Mercury as Hg	mg/l	BDL (DL;0.002)	BDL (DL;0.002)	BDL (DL;0.002)	BDL (DL;0.002)
21	Molybdenum as Mo	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)	BDL (DL;0.01)
22	Nitrate as NO3	mg/l	BDL (DL;2.0)	BDL (DL;2.0)	BDL (DL;2.0)	BDL (DL;2.0)
23	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
24	pH	-	7.68	7.28	7.69	6.96
25	Phenols	mg/l	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)	BDL (DL;0.1)
26	Selenium as Se	mg/l	BDL (DL;0.005)	BDL (DL;0.005)	BDL (DL;0.005)	BDL (DL;0.005)
27	Sulphate as SO4	mg/l	125	91	126	110
28	Sulphide as S (Iodometric Method)	mg/l	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)	BDL (DL;1.0)
29	Total Alkalinity as CaCO3	mg/l	360	340	480	300
30	Total Dissolved Solids (TDS)	mg/l	980	1080	1340	1010
31	Total Hardness as CaCO3	mg/l	560	390	720	630
32	Total Suspended Solids (TSS)	mg/l	BDL (DL;2.0)	BDL (DL;2.0)	BDL (DL;2.0)	BDL (DL;2.0)
33	Turbidity	NTU	<1	<1	<1	<1
34	Zinc as Zn	mg/l	BDL (DL;0.01)	BDL (DL;0.01)	0.019	BDL (DL;0.01)
35	Escherichia coli	MPN/100ml	Absent	Absent	Absent	Absent
36	Total Coliforms	MPN/100ml	Present	Present	Present	Present

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

TABLE 3.10: SURFACE WATER SAMPLING RESULTS

Sl. No.	Parameter	Unit	RESULT SW1	RESULT SW2
1	Aluminium	mg/l	0.013	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	mg/l	BDL (DL;1.0)	BDL (DL;1.0)
3	Arsenic as As	mg/l	BDL (DL;0.002)	BDL (DL;0.002)
4	Barium as Ba	mg/l	0.11	0.017
5	Biochemical Oxygen Demand (BOD) at 27ºC for 3 Days	mg/l	BDL (DL;2.0)	BDL (DL;2.0)
6	Boron as B	mg/l	BDL (DL;0.1)	BDL (DL;0.1)
7	Cadmium as Cd	mg/l	BDL (DL;0.01)	BDL (DL;0.01)
8	Calcium as Ca	mg/l	100	72
9	Chemical Oxygen Demand (COD)	mg/l	30	BDL (DL;10.0)
10	Chloride as Cl-	mg/l	290	190
11	Chromium as Cr	mg/l	BDL (DL;0.01)	BDL (DL;0.01)
12	Color	CU	<1	<1
13	Copper as Cu	mg/l	BDL (DL;0.01)	BDL (DL;0.01)
14	Cyanide as CN	mg/l	BDL (DL;0.02)	BDL (DL;0.02)
15	Dissolved Oxygen (DO)	mg/l	5.0	5.1
16	Electrical Conductivity	µS/cm	1788	1345
17	Fluoride as F-	mg/l	0.62	0.47
18	Free Residual Chlorine as Cl2	mg/l	BDL (DL;1.0)	BDL (DL;1.0)
19	Iron as Fe	mg/l	0.28	0.21
20	Lead as Pb	mg/l	BDL (DL;0.01)	BDL (DL;0.01)
21	Magnesium as Mg	mg/l	61	44
22	Manganese as Mn	mg/l	BDL (DL;0.1)	BDL (DL;0.1)
23	Mercury as Hg	mg/l	BDL (DL;0.002)	BDL (DL;0.002)
24	Molybdenum as Mo	mg/l	BDL (DL;0.01)	BDL (DL;0.01)
25	Nitrate as NO3	mg/l	BDL (DL;2.0)	BDL (DL;2.0)
26	Odor	-	Agreeable	Agreeable
27	pH	-	7.86	7.43
28	Phenols	mg/l	BDL (DL;0.1)	BDL (DL;0.1)
29	Selenium as Se	mg/l	BDL (DL;0.005)	BDL (DL;0.005)
30	Sulphate as SO4	mg/l	132	155
31	Sulphide as S (Iodometric Method)	mg/l	BDL (DL1.0)	BDL (DL;1.0)
32	Total Alkalinity as CaCO3	mg/l	430	280
33	Total Dissolved Solids (TDS)	mg/l	1162	874
34	Total Hardness as CaCO3	mg/l	470	360
35	Total Suspended Solids	mg/l	26	BDL (DL;2.0)
36	Turbidity	NTU	6	<1
37	Zinc as Zn	mg/l	BDL (DL;0.01)	BDL (DL;0.001)

38	Escherichia coli	MPN/100ml	Absent	Absent
39	Total Coliforms	MPN/100ml	Absent	Absent

Note : APHA – American Public Health Association, BDL – Below Detection Limit, DL – Detection Limit, MPN – Most Probable Number.

3.2.4 Interpretation& Conclusion

Surface Water

The pH varied from 7.43 – 7.86 while turbidity found within the standards (Optimal pH range for sustainable aquatic life is 6.5 to 8.5 pH).

Total Dissolved Solids:

Total Dissolved Solids varied from 874 – 1162 mg/l, the TDS mainly composed of carbonates, bicarbonates, Chlorides, phosphates and nitrates of calcium, magnesium, sodium and other organic matter.

Other parameters:

Chloride content is 190 – 290 mg/l. while sulphates varied from 132 – 155 mg/l.

Ground Water

The pH of the water samples collected ranged from 6.96 – 7.69 and within the acceptable limit of 6.5 to 8.5. pH, Sulphates and Chlorides of water samples from all the sources are within the limits as per the Standard. On Turbidity, the water samples meet the requirement. Total Dissolved Solids were found in the range of 9880 – 1340 mg/l in all samples. Total hardness varied between 390 – 720 mg/l for all samples.

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

3.2.5 Hydrology and Hydrogeological studies

The district is underlain by hard rock formation fissured and fractured crystalline rocks constitute the important aquifer systems in the district. Geophysical prospecting was carried out in that area by SSRMP-80 Instrument by qualified Geo physicist with the help of IGIS software and it was inferred that the low resistance encountered at the depth between 88-86m bgl. The maximum depth proposed out of proposed projects is 76m (2m Gravel + 74m Rough stone) below ground level.

Ground water levels and Flow Direction based on the Bore well and open well Data's

In general, the ground water movement is based on the gradient ie., water moves from the highest static ground water elevation to lowest static ground water elevation point. The ground water movement is important aspect to locating the recharge and discharge areas. Therefore, the data has been collected in the study area. Water level measured in the ten open well and eight borewells.

The average water level in the open well is varies from = 11.4m to 13.9m bgl

The water level in the bore well is varies from = 89.6 to 91.8m bgl

Based on the water level contour map of the open well and bore well the water flow direction in the particular region is towards North side.

The water level in the area is above 88-86 m hence there is no possibilities of water table intersection during the entire mine life period besides it is also inferred topographically that there are no major water bodies intersecting the project area.

TABLE 3.11: WINTER SEASON WATER LEVEL OF OPEN WELLS 1 KM RADIUS

S.NO	LABEL	LONGITUDE	LATITUDE	Mar-25	Apr-25	May-25
1	OW-1	77° 44’ 41.3862” E	10° 06’ 51.3800” N	11.2	12	12.6
2	OW-2	77° 44’ 28.2528” E	10° 06’ 35.4546” N	11.6	12.4	13
3	OW-3	77° 44’ 45.4026” E	10° 07’ 15.9353” N	11.4	12.2	12.8
4	OW-4	77° 44’ 06.8446” E	10° 07’ 01.7505” N	11.5	12.3	12.9
5	OW-5	77° 45’ 12.6781” E	10° 07’ 46.5081” N	11.3	12.1	12.7
6	OW-6	77° 45’ 15.5086” E	10° 06’ 53.5342” N	11.8	12.6	13.2
7	OW-7	77° 45’ 49.3795” E	10° 07’ 12.3420” N	11.7	12.5	13.1
8	OW-8	77° 45’ 29.0628” E	10° 06’ 45.6147” N	11.5	12.3	12.9

Source: Onsite monitoring data

FIGURE 3.7: OPEN WELL CONTOUR MAP MAR 2025 – MAY 2025

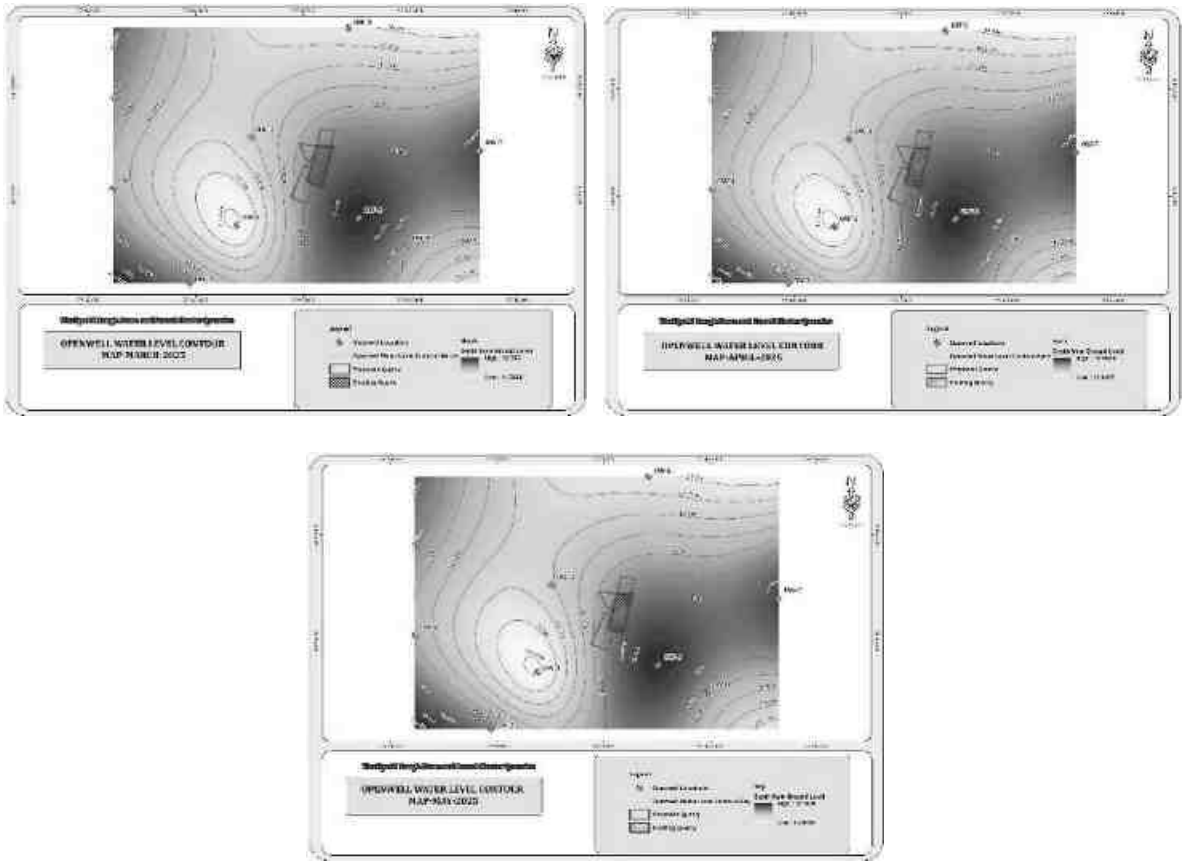
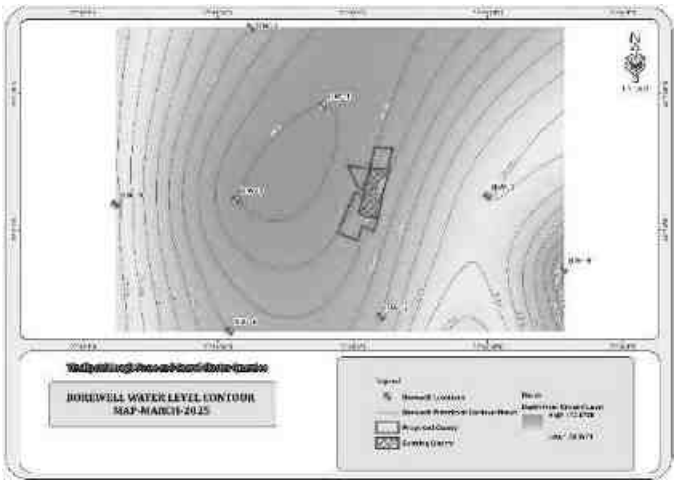


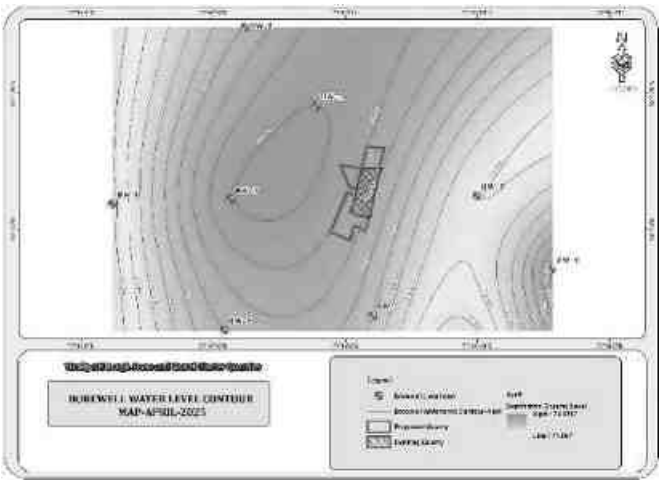
TABLE 3.12: WINTER SEASON WATER LEVEL OF BOREWELLS 1 KM RADIUS

S.NO	LABEL	LONGITUDE	LATITUDE	Mar-25	Apr-25	May-25
1	BW1	77° 44’ 53.3449” E	10° 07’ 27.3502” N	72	72.8	73.2
2	BW2	77° 44’ 37.2448” E	10° 07’ 44.7880” N	71.4	72.2	72.6
3	BW3	77° 45’ 29.8057” E	10° 07’ 07.2699” N	70.6	71.4	71.8
4	BW4	77° 45’ 46.8009” E	10° 06’ 51.0276” N	71.9	72.7	73.1
5	BW5	77° 45’ 06.2408” E	10° 06’ 40.6343” N	71.2	72	72.4
6	BW6	77° 44’ 32.4704” E	10° 06’ 37.3710” N	71.4	72.2	72.6
7	BW7	77° 44’ 33.9323” E	10° 07’ 06.5012” N	72	72.8	73.2
8	BW8	77° 44’ 07.1394” E	10° 07’ 05.5534” N	70.3	71.1	71.5

Source: Onsite monitoring data

FIGURE 3.8: BOREWELL CONTOUR MAP – MAR 2025 – MAY 2025





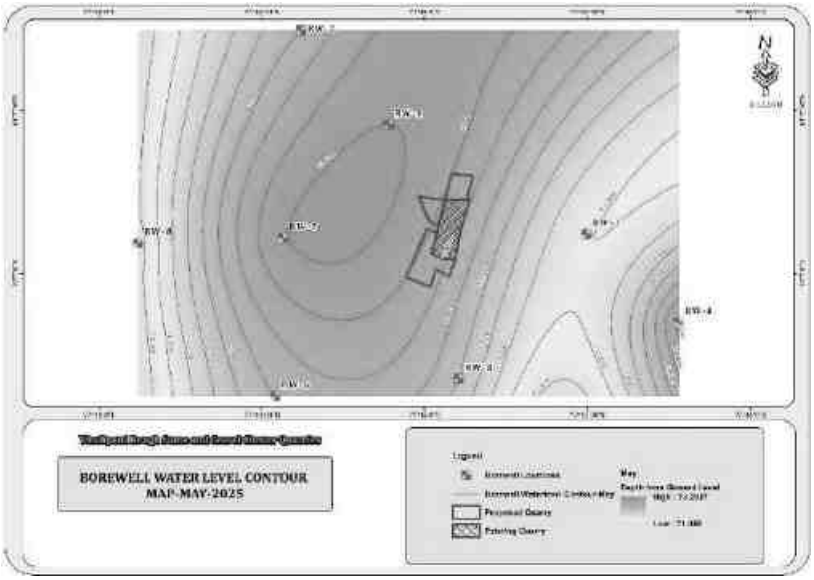
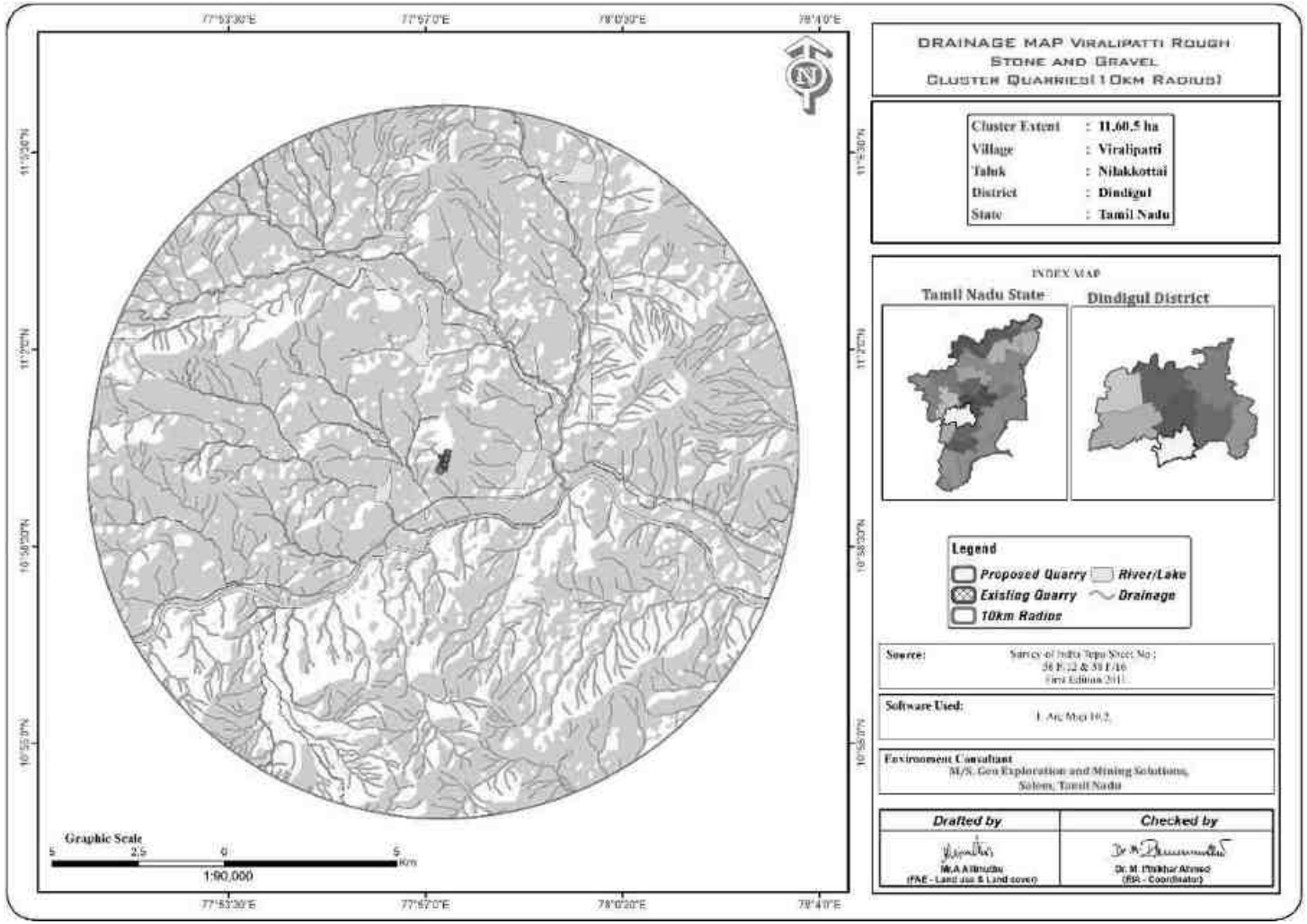
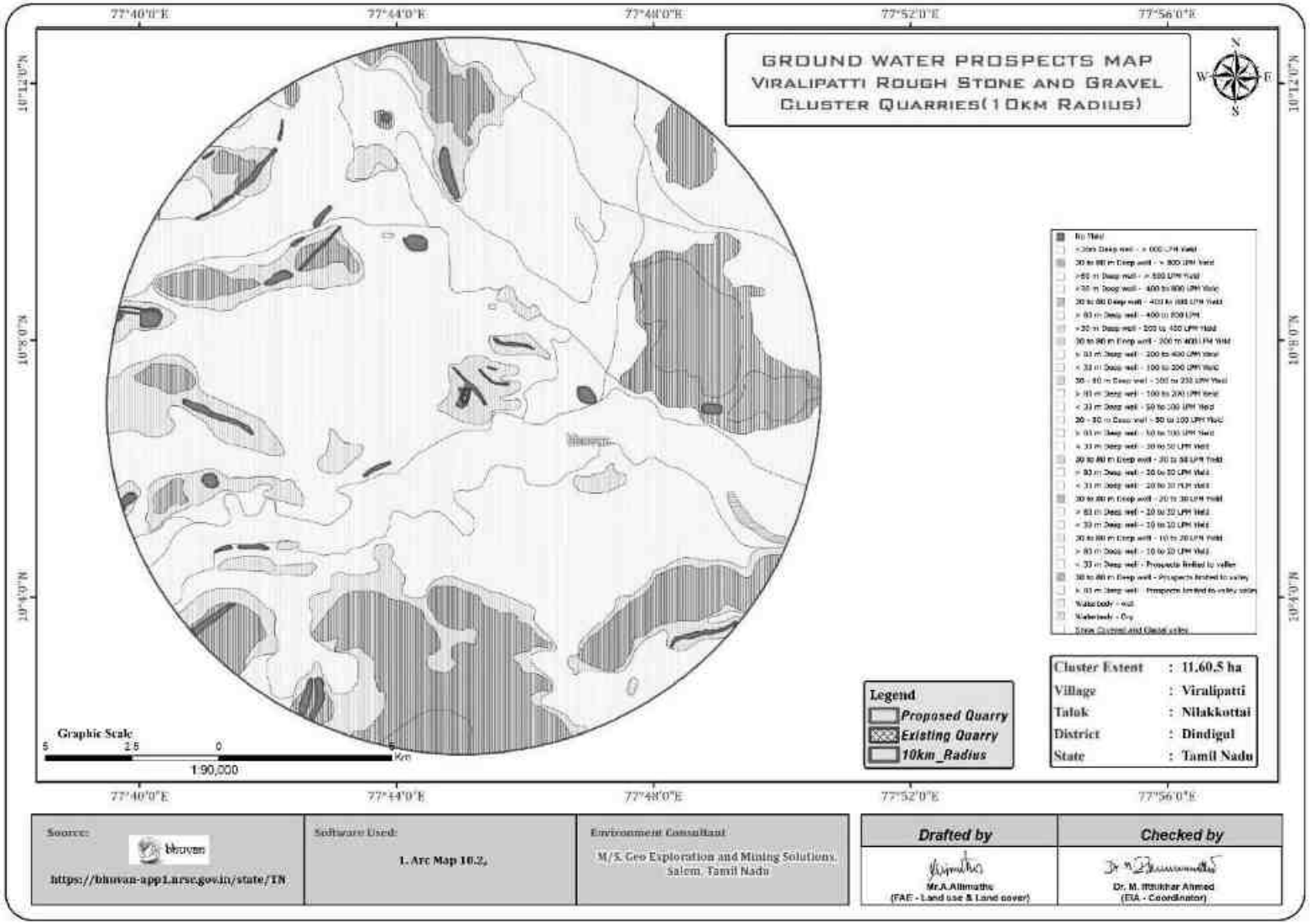


FIGURE 3.9: DRAINAGE MAP AROUND 10 KM RADIUS FROM PROJECT SITE



Remarks: it is inferred that the area is dendritic to sub dendritic pattern

FIGURE 3.10: GROUND WATER PROSPECT MAP



Remarks: Water table in the area is 30-80m as per the Bhuvan Data

Geophysical Resistivity Survey

3.2.5.1 Methodology and Data Acquisition

The Geophysical Electrical Resistivity survey conducted in the area Schlumberger configuration, Vertical Electrical Sounding (VES) method. Schlumberger electrode set up was employed for making sounding measurements. Since it is least influenced by lateral in homogeneities and is capable of providing higher depth of investigation. This is four electrodes collinear set up where in the outer electrodes send current into the ground and the inner electrodes measure the potential difference.

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

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

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

ΔV = potential difference between receiving electrodes

G = Geometric Factor.

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

$$\rho_r = F\rho_w = a\,Ø^m\rho_w$$

ρr = Resistivity of Rocks

ρw = Resistivity of water in pores of rock

F = Formation Factor

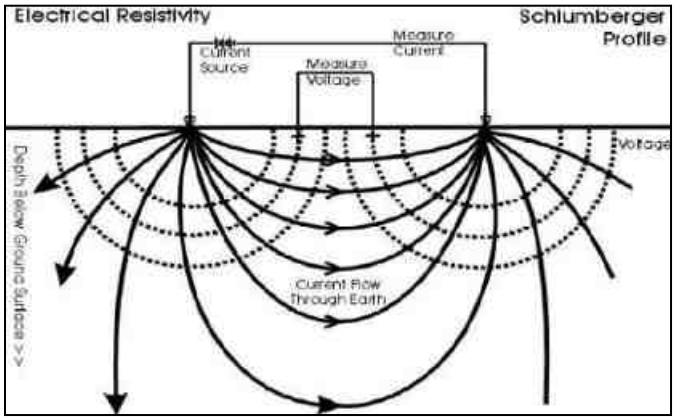
Ø = Fractional pore volume

A = Constants with values ranging from 0.5 to 2.5

3.2.5.2 Survey Layout

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

RESISTIVITY SURVEY PROFILE



Measurements of ground Resistivity is essentially done by sending a current through two electrodes called current electrodes (C_1& $C_{2)}$ and measuring the resulting potential by two other electrodes called potential electrode (P_1& P_2). The amount of current required to be sent into the ground depends on the contact resistance at the current electrode, the ground resistivity and the depth of interest.

3.2.5.3 Data Presentation

It was inferred that the low resistance encountered at the depth between 68 -73m. The maximum depth proposed out of proposed projects 46.5m BGL for P1 & 51.5 m BGL for P2 Hence there is no possibilities of water table intersection during the entire mine life period besides it is also inferred topographically that there are no major water bodies intersecting the project area.

3.2.5.4 Geophysical Data Interpretation

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

It is inferred that the existing quarries in the surrounding area reaches maximum of 45m and the water table is not intersected, only the seepage water during rainy season encountered from the upper layer and it will be used for the Greenbelt development, Dust suppression and quarrying operation.

3.3 AIR ENVIRONMENT

The existing ambient air quality of the area is important for evaluating the impact of mining activities on the ambient air quality.

The baseline studies on air environment include identification of specific air pollution parameters and their existing levels in ambient air. The ambient air quality with respect to the study zone of 10 km radius around the cluster forms the baseline information. The prime objective of the baseline air quality study was to establish the existing ambient air quality of the study area. These will also be useful for assessing the conformity to standards of the ambient air quality during the operation of proposed projects in cluster.

3.3.1 Meteorology & Climate

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

A temporary meteorological station was installed at project site by covering cluster quarries. The station was installed at a height of 3 m above the ground level in such a way that there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature are recorded on hourly basis.

Climate

- The climatic conditions of Dindigul are characterized by a tropical climate. The summers are much rainier than the winters in Dindigul. This climate is considered to be Aw according to the Köppen-Geiger climate classification. In Dindigul, the average annual temperature is 27.2 °C | 80.9 °F. Each year, there is an approximate 1480 mm | 58.3 inch of precipitation that occurs.
- The Dindigul are located close to the equator, making the summers difficult to define. The most popular time to visit is January, February, March, April, May, June, July, August, September, October, November, December.
- In terms of precipitation, the month with the lowest amount of rainfall is January, recording a mere 25 mm | 1.0 inch in its entirety. This denotes an exceptionally dry period within that particular time frame. The greatest amount of precipitation occurs in October, with an average of 259 mm | 10.2 inch.
- The month that experiences the highest temperatures throughout the year is referred to as April, where an average temperature of 30.4 °C | 86.7 °F prevails. The lowest average temperatures in the year occur in December, when it is around 23.8 °C | 74.8°F.

https://en.climate-data.org/asia/india/tamil-nadu/dindigul-24012/

Rainfall

TABLE 3.13: RAINFALL DATA

Actual Rainfall in mm						Normal Rainfall in mm
019	2020	2021	2022	2023	2024(As on 30.09.2024)	
712.8	918.4	1238.5	1303.6	1132.2	598.0	930.7

Source: https://www.twadboard.tn.gov.in/content/dindigul

TABLE 3.14: METEOROLOGICAL DATA RECORDED AT SITE

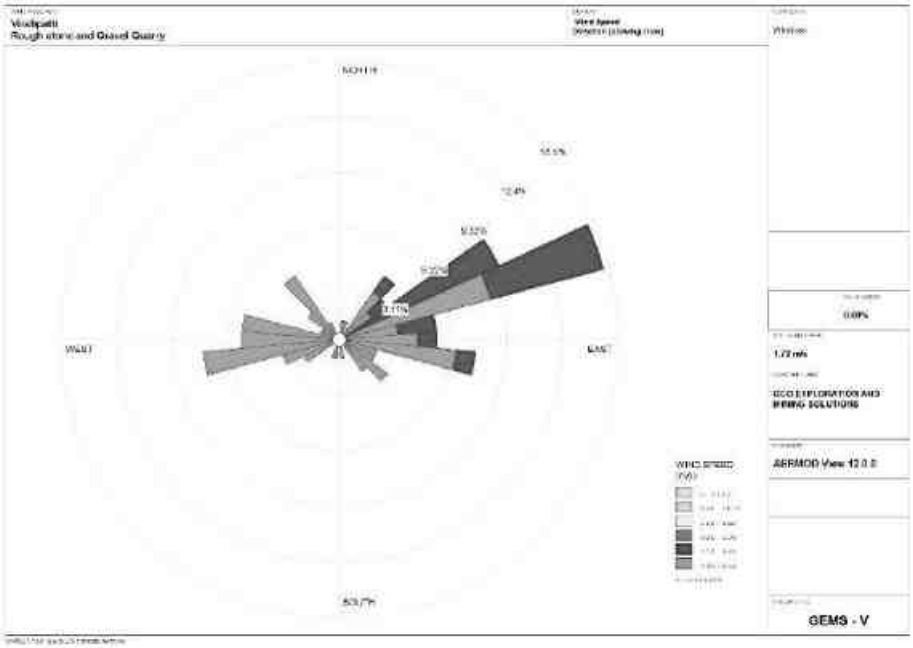
S.No	Parameters		Mar–2025	Apr–2025	May-2025
1	Temperature (^{0}C)	Max	27.11	27.7	29.21
		Min	22.57	24.83	22.67
		Avg	24.84	26.26	25.94
2	Relative Humidity (%)	Avg	64.89	72.25	72.91
3	Wind Speed (m/s)	Max	3.53	2.05	3.06
		Min	1.26	0.93	0.83
		Avg	2.39	1.49	1.94
4	Cloud Cover (OKTAS)		0-8	0-8	0-8
5	Wind Direction		ENE,E	NW,W	W,ENE

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS

Correlation between Secondary and Primary Data

The average rain fall over the period of five years is 930.7mm. The meteorological data collected at the site is almost similar to that of secondary data collected from IMD Chennai. A comparison of site data generated during the three months with that of IMD, Chennai. Wind rose diagram of the study site is depicted in Figure. 3.13 Predominant downwind direction of the area during study season is –South west to North East.

FIGURE 3.11: WINDROSE DIAGRAM



In the abstract of collected data wind rose were drawn on presented in figure No.3.13 during the monitoring period in the study area

1. Predominant winds were from E, ENE, NW, ENE
2. Wind velocity readings were recorded between 1.49 – 2.39 m/s
3. Calm conditions prevail of about 0.00 % of the monitoring period
4. Temperature readings ranging from 24.84 to 26.26 °C
5. Relative humidity ranging from 64.89 to 72.91 %
6. The monitoring was carried out continuously for three months. (March 2025 – May 2025)

3.3.2 Methodology and Objective

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

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

3.3.3 Sampling and Analytical Techniques

TABLE 3.15: METHODOLOGY AND INSTRUMENT USED FOR AAQ ANALYSIS

Parameter	Method	Instrument
PM2.5	Gravimetric Method Beta attenuation Method	Fine Particulate Sampler Make – Thermo Environmental Instruments – TEI 121
PM10	Gravimetric Method Beta attenuation Method	Respirable Dust Sampler Make –Thermo Environmental Instruments – TEI 108
SO2	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
Nox	IS-5182 Part II (Jacob & Hochheiser modified method)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

Source: Sampling Methodology followed by Global Lab and Consultancy Services & CPCB Notification

TABLE 3.16: NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl.No.	Pollutant	Time Weighted Average	Concentration in ambient air	
			Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
1	Sulphur Dioxide (µg/m3)	Annual Avg.* 24 hours**	50.0 80.0	20.0 80.0
2	Nitrogen Dioxide (µg/m3)	Annual Avg. 24 hours	40.0 80.0	30.0 80.0
3	Particulate matter (size less than 10µm) PM10 (µg/m3)	Annual Avg. 24 hours	60.0 100.0	60.0 100.0
4	Particulate matter (size less than 2.5 µm PM2.5 (µg/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

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

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

3.3.4 Frequency & Parameters for Sampling

Ambient air quality monitoring has been carried out with a frequency of two samples per week at Seven (7) locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period Dec 2024 to Feb 2025 The baseline data of ambient air has been generated for PM_{10}, $PM_{2.5}$, Sulphur Dioxide (SO_2) & Nitrogen Dioxide (NO_2) Monitoring has been carried out as per the CPCB, MoEF guidelines and notifications.

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 open space free from trees and vegetation which otherwise act as a sink of pollutants resulting in lower levels in monitoring results.

3.3.5 Ambient Air Quality Monitoring Stations

Seven (7) monitoring stations were set up in the study area as depicted in Figure 3.15 for assessment of the existing ambient air quality. Details of the sampling locations are as per given below.

TABLE 3.17: AMBIENT AIR QUALITY (AAQ) MONITORING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	AAQ-1	Core Zone	Project Area	10° 7’13.73”N 77°45’7.46”E
2	AAQ-2	Core Zone	Project Area	10° 7’0.72”N 77°44’57.41”E
3	AAQ-3	Kurumbapatty	700m NW	10° 7’36.80”N 77°44’51.73”E
4	AAQ-4	Viruvidu	5km SE	10° 4’43.94”N 77°46’46.30”E
5	AAQ-5	Kombaipatty	4.7km NE	10° 8’11.42”N 77°47’38.97”E
6	AAQ-6	Povampatty	6km SW	10° 5’9.80”N 77°42’12.20”E
7	AAQ-7	Vattalagundu	3.7km NW	10° 9’9.77”N 77°44’14.09”E

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS.

FIGURE 3.12: AMBIENT AIR QUALITY LOCATIONS AROUND 10 KM RADIUS

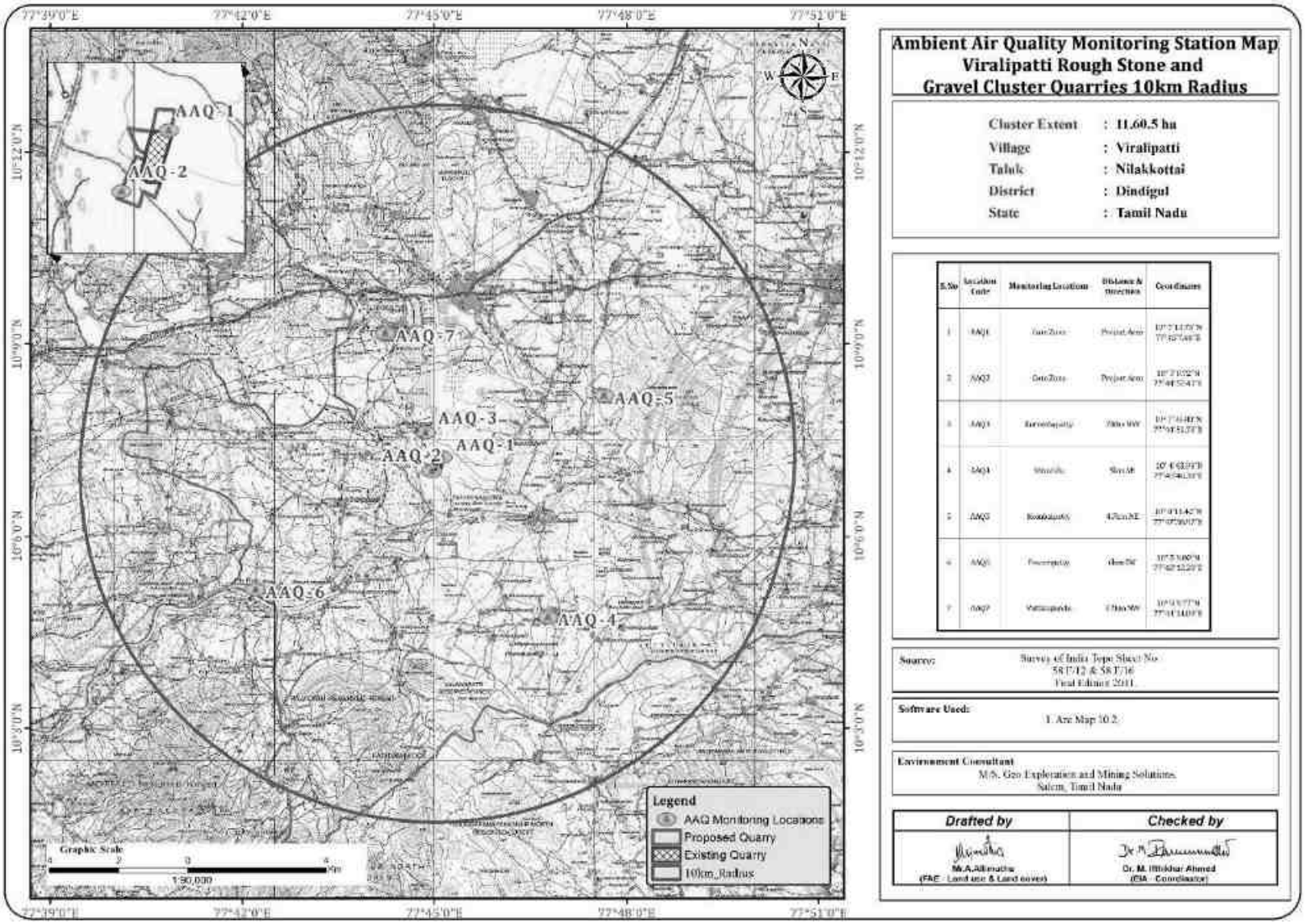


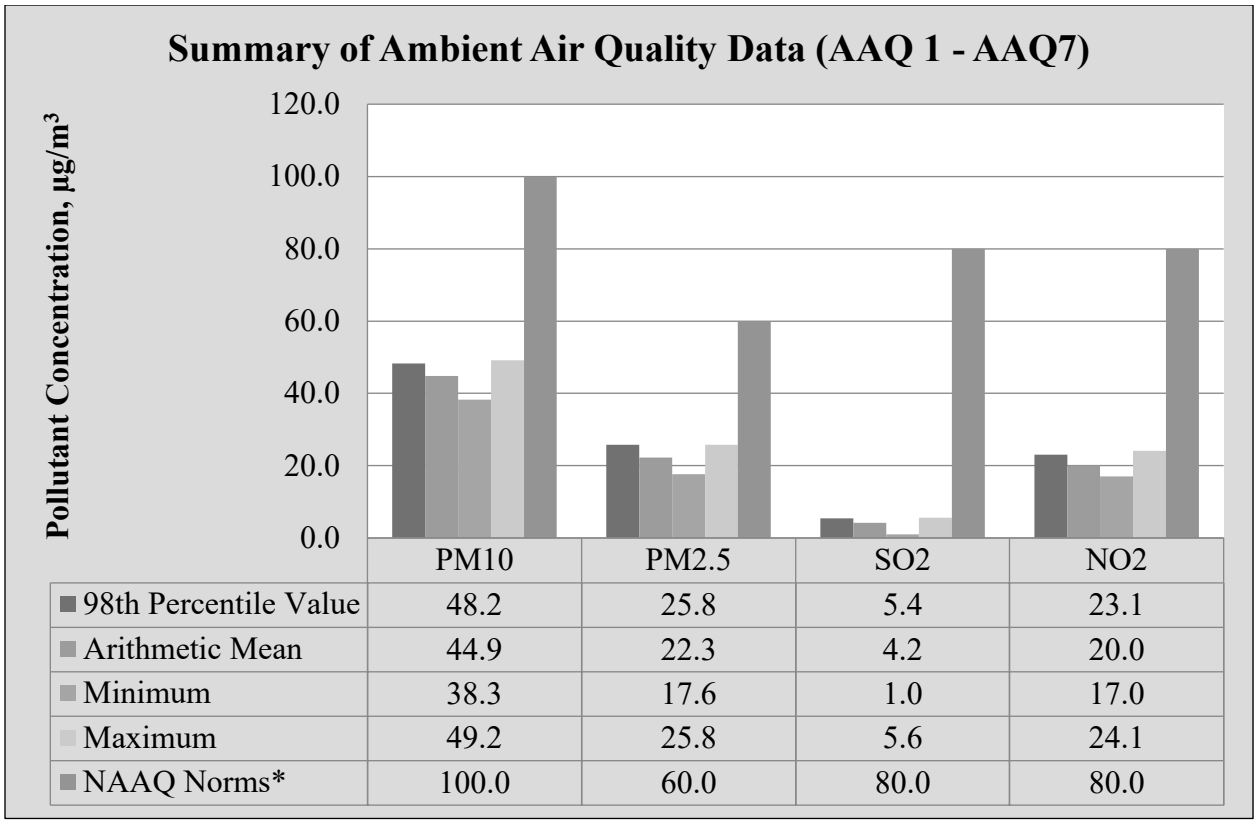
TABLE 3.18: SUMMARY OF AAQ 1 to AAQ 7

PM_{10}	**AAQ1**	**AAQ2**	**AAQ3**	**AAQ4**	**AAQ5**	**AAQ6**	**AAQ7**
Arithmetic Mean	42.4	42.6	45.7	46.0	46.1	45.4	45.8
Minimum	38.8	38.3	41.7	41.3	41.1	40.2	42.7
Maximum	46.7	46.6	48.4	48.3	47.7	48.8	49.2
NAAQ Norms	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
$PM_{2.5}$	**AAQ1**	**AAQ2**	**AAQ3**	**AAQ4**	**AAQ5**	**AAQ6**	**AAQ7**
Arithmetic Mean	19.8	20.4	22.3	22.9	23.7	23.2	23.6
Minimum	17.6	17.6	18.8	19.2	19.5	19.5	21.2
Maximum	22.0	23.3	24.1	25.4	25.8	25.8	25.8
NAAQ Norms	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**
SO_2	**AAQ1**	**AAQ2**	**AAQ3**	**AAQ4**	**AAQ5**	**AAQ6**	**AAQ7**
Arithmetic Mean	3.6	4.0	4.1	4.4	4.4	4.4	4.6
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5.5	5.1	5.2	5.4	5.6	5.2	5.2
NAAQ Norms	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**
NO_2	**AAQ1**	**AAQ2**	**AAQ3**	**AAQ4**	**AAQ5**	**AAQ6**	**AAQ7**
Arithmetic Mean	19.3	19.5	19.9	20.5	20.5	20.2	20.0
Minimum	17.6	17.5	17.3	18.3	18.0	18.3	17.0
Maximum	24.1	22.3	21.8	23.4	23.3	23.3	22.9
NAAQ Norms	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**

TABLE 3.19: ABSTRACT OF AMBIENT AIR QUALITY DATA

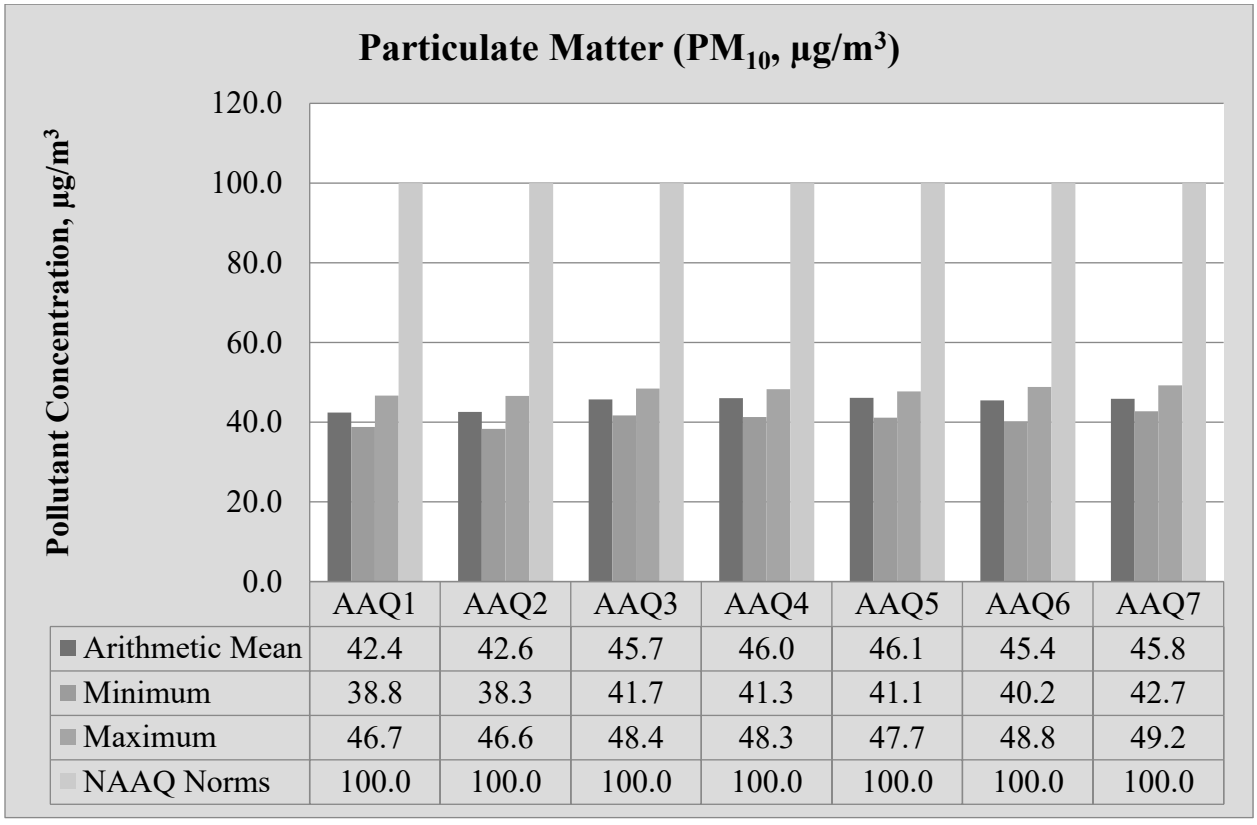
1	**Parameter**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_2**
2	No. of Observations	182	182	182	182
3	10^{th} Percentile Value	41.3	19.5	1.3	18.2
4	20^{th} Percentile Value	42.9	20.4	4.2	18.6
5	30^{th} Percentile Value	44.1	20.8	4.3	19.1
6	40^{th} Percentile Value	44.8	21.6	4.4	19.5
7	50^{th} Percentile Value	45.4	22.6	4.5	19.9
8	60^{th} Percentile Value	45.8	23.3	4.6	20.4
9	70^{th} Percentile Value	46.3	23.7	4.7	20.6
10	80^{th} Percentile Value	46.6	24.1	4.8	21.3
11	90^{th} Percentile Value	47.2	24.6	5.0	21.9
12	95^{th} Percentile Value	47.6	25.4	5.2	22.4
13	98^{th} Percentile Value	48.2	25.8	5.4	23.1
14	Arithmetic Mean	44.9	22.3	4.2	20.0
15	Geometric Mean	44.8	22.2	3.9	19.9
16	Standard Deviation	2.2	2.1	1.1	1.4
17	Minimum	38.3	17.6	1.0	17.0
18	Maximum	49.2	25.8	5.6	24.1
19	**NAAQ Norms***	**100.0**	**60.0**	**80.0**	**80.0**

FIGURE 3.13: BAR DIAGRAM OF SUMMARY OF AAQ 1 – AAQ7



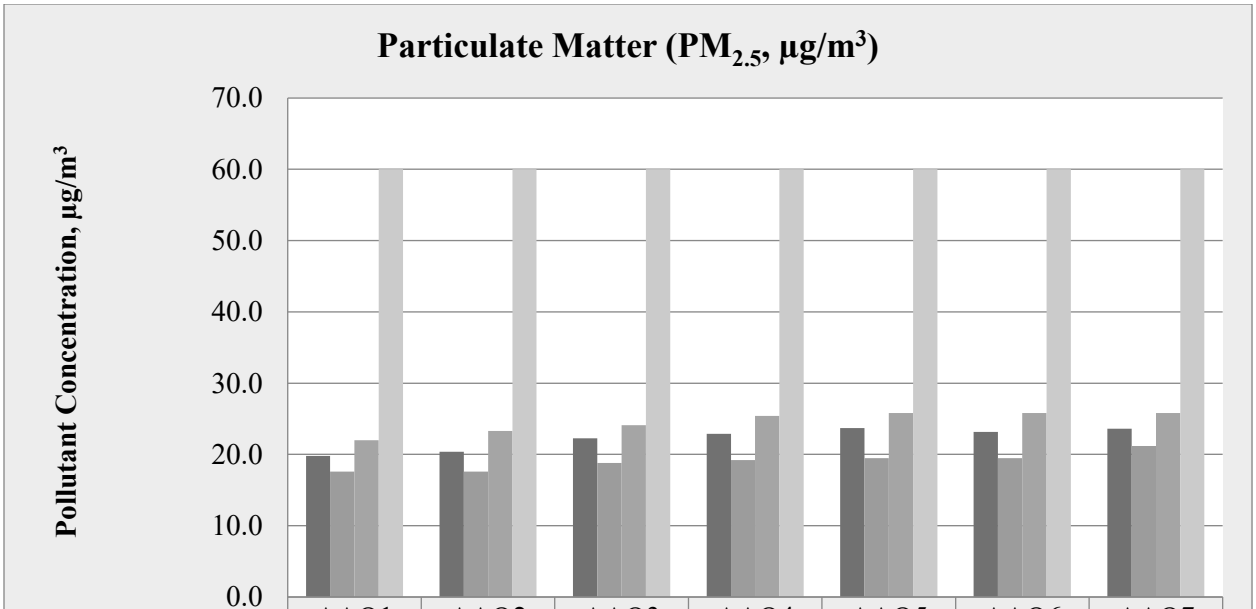
	PM10	PM2.5	SO2	NO2
98th Percentile Value	48.2	25.8	5.4	23.1
Arithmetic Mean	44.9	22.3	4.2	20.0
Minimum	38.3	17.6	1.0	17.0
Maximum	49.2	25.8	5.6	24.1
NAAQ Norms*	100.0	60.0	80.0	80.0

FIGURE 3.14: BAR DIAGRAM OF PARTICULATE MATTER PM_{10}



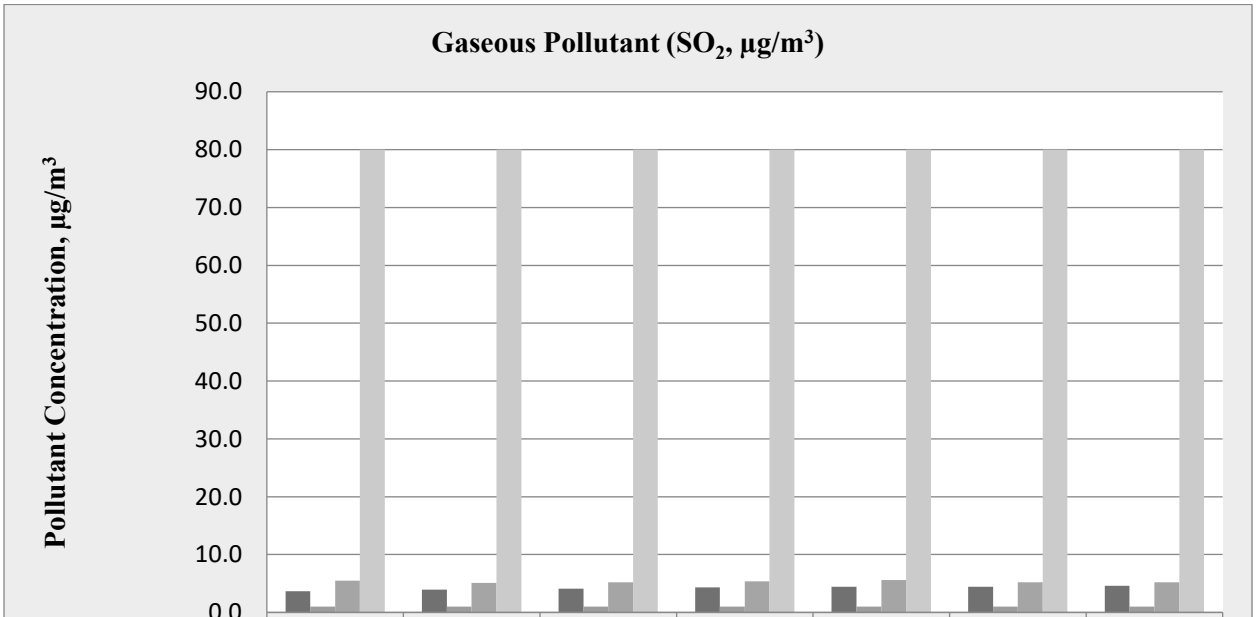
	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	42.4	42.6	45.7	46.0	46.1	45.4	45.8
Minimum	38.8	38.3	41.7	41.3	41.1	40.2	42.7
Maximum	46.7	46.6	48.4	48.3	47.7	48.8	49.2
NAAQ Norms	100.0	100.0	100.0	100.0	100.0	100.0	100.0

FIGURE 3.15: BAR DIAGRAM OF PARTICULATE MATTER $PM_{2.5}$



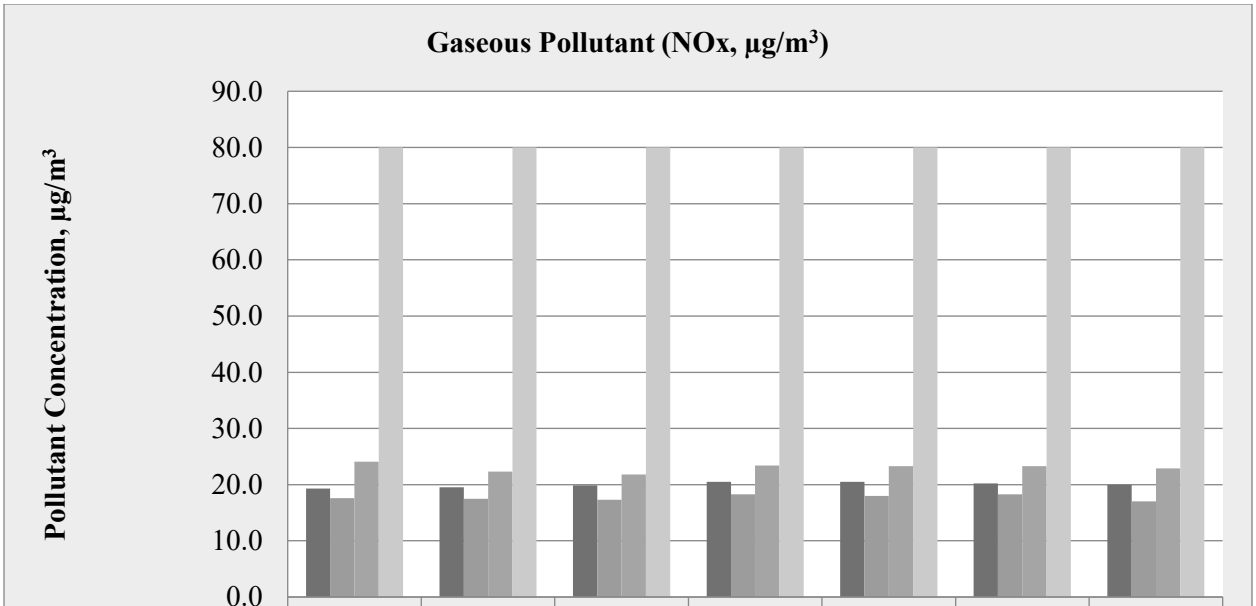
	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	19.8	20.4	22.3	22.9	23.7	23.2	23.6
Minimum	17.6	17.6	18.8	19.2	19.5	19.5	21.2
Maximum	22.0	23.3	24.1	25.4	25.8	25.8	25.8
NAAQ Norms	60.0	60.0	60.0	60.0	60.0	60.0	60.0

FIGURE 3.16: BAR DIAGRAM OF GASEOUS POLLUTANT SO_2



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	3.6	4.0	4.1	4.4	4.4	4.4	4.6
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5.5	5.1	5.2	5.4	5.6	5.2	5.2
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0

FIGURE 3.17: BAR DIAGRAM OF GASEOUS POLLUTANT NO_x



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	19.3	19.5	19.9	20.5	20.5	20.2	20.0
Minimum	17.6	17.5	17.3	18.3	18.0	18.3	17.0
Maximum	24.1	22.3	21.8	23.4	23.3	23.3	22.9
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0

3.3.6 Interpretations & Conclusion

As per monitoring data, PM_{10} ranges from 38.3 µg/m^3 to 49.2 µg/m^3, $PM_{2.5}$ data ranges from 17.6 µg/m^3 to 25.8 µg/m^3, SO_2 ranges from 1.0 µg/m^3 to 5.6 µg/m^3 and NO_2 data ranges from 17.0 µg/m^3 to 24.1 µg/m^3. The concentration levels of the above criteria pollutants were observed to be well within the limits of NAAQS prescribed by CPCB.

3.4 NOISE ENVIRONMENT

The vehicular movement on road and mining activities is the major sources of noise in study area, the environmental assessment of noise from the mining activity and vehicular traffic can be undertaken by taking into consideration various factors like potential damage to hearing, physiological responses, and annoyance and general community responses. The main objective of noise monitoring in the study area is to establish the baseline noise level and assess the impact of the total noise expected to be generated during the project operations around the project site.

3.4.1 Identification of Sampling Locations

In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Seven (7) locations. The noise level measurement was carried out at each ambient air quality station. The main aim of the noise level monitoring is

- To assess the ambient Noise level in the study area
- Type of noise pollution generated in the core zone

- To predict the temporal changes in the ambient noise level in the area

The noise level monitoring locations were carried out by covering commercial, residential, rural areas within the radius of 10km. A noise monitoring methodology was chosen such that it best suited the purpose and objectives of the study.

TABLE 3.20: DETAILS OF SURFACE NOISE MONITORING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	N1	Core Zone	Project Area	10° 7'13.65"N 77°45'5.46"E
2	N2	Core Zone	Project Area	10° 6'58.21"N 77°44'59.57"E
3	N3	Kurumbapatty	700m NW	10° 7'36.69"N 77°44'52.36"E
4	N4	Viruvidu	5km SE	10° 4'43.28"N 77°46'45.76"E
5	N5	Kombaipatty	4.7km NE	10° 8'12.05"N 77°47'39.20"E
6	N6	Povampatty	6km SW	10° 5'11.02"N 77°42'12.35"E
7	N7	Vattalagundu	3.7km NW	10° 9'11.65"N 77°44'14.63"E

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS.

3.4.2 Method of Monitoring

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

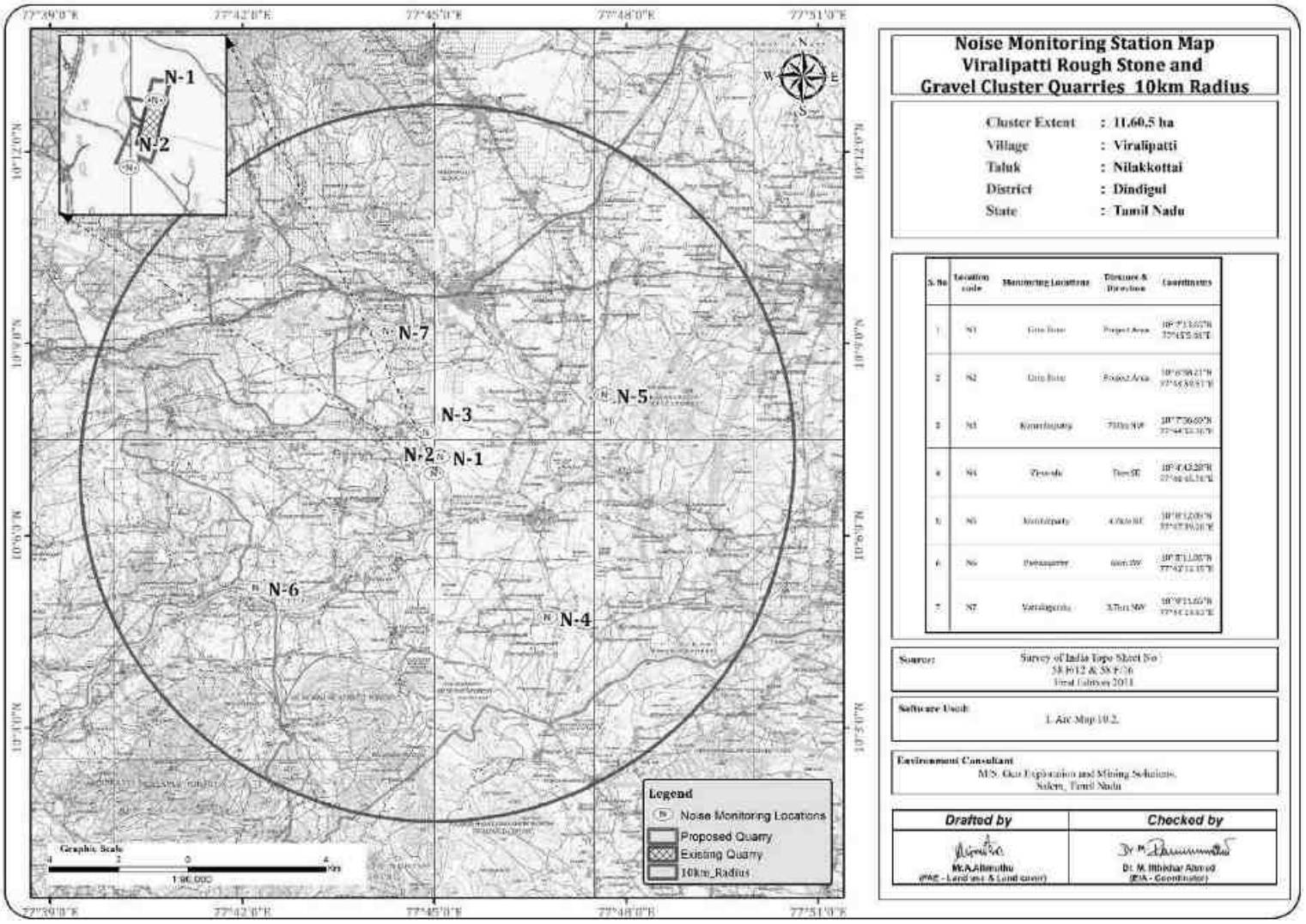
$Leq = 10 \text{ Log } L / T\sum (10Ln/10)$

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

T = Time interval of observation

Measured noise levels, displayed as a function of time, is useful for describing the acoustical climate of the community. Noise levels recorded at each station with a time interval of about 60minutes are computed for equivalent noise levels. Equivalent noise level is a single number descriptor for describing time varying noise levels.

FIGURE 3.18: NOISE MONITORING STATIONS AROUND 10 KM RADIUS



3.4.3 Analysis of Ambient Noise Level in the Study Area

The Digital Sound pressure level has been measured by a sound level meter (Model: HTC SL-1352)

An analysis of the different Leq data obtained during the study period has been made. Variation was noted during the day-time as well as night-time. The results are presented in below Table 3.32.

Day time: 6:00 hours to 22.00 hours.

Night time: 22:00 hours to 6.00 hours.

TABLE 3.21: AMBIENT NOISE QUALITY RESULT

S. No	Locations	Noise level (dB (A) Leq)		Ambient Noise Standards
		Day Time	Night Time	
1	Core Zone	46.0	36.9	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
2	Core Zone	49.0	38.9	
3	Kurumbapatty	49.9	37.7	**Residential Day Time– 55 dB (A) Night Time- 45 dB (A)**
4	Viruvidu	47.9	37.0	
5	Kombaipatty	48.2	39.6	
6	Povampatty	45.4	37.1	
7	Vattalagundu	46.1	36.7	

Source: On-site monitoring/sampling by Global Lab and Consultancy Services in association with GEMS

FIGURE 3.19: DAY TIME NOISE LEVELS IN CORE AND BUFFER ZONE

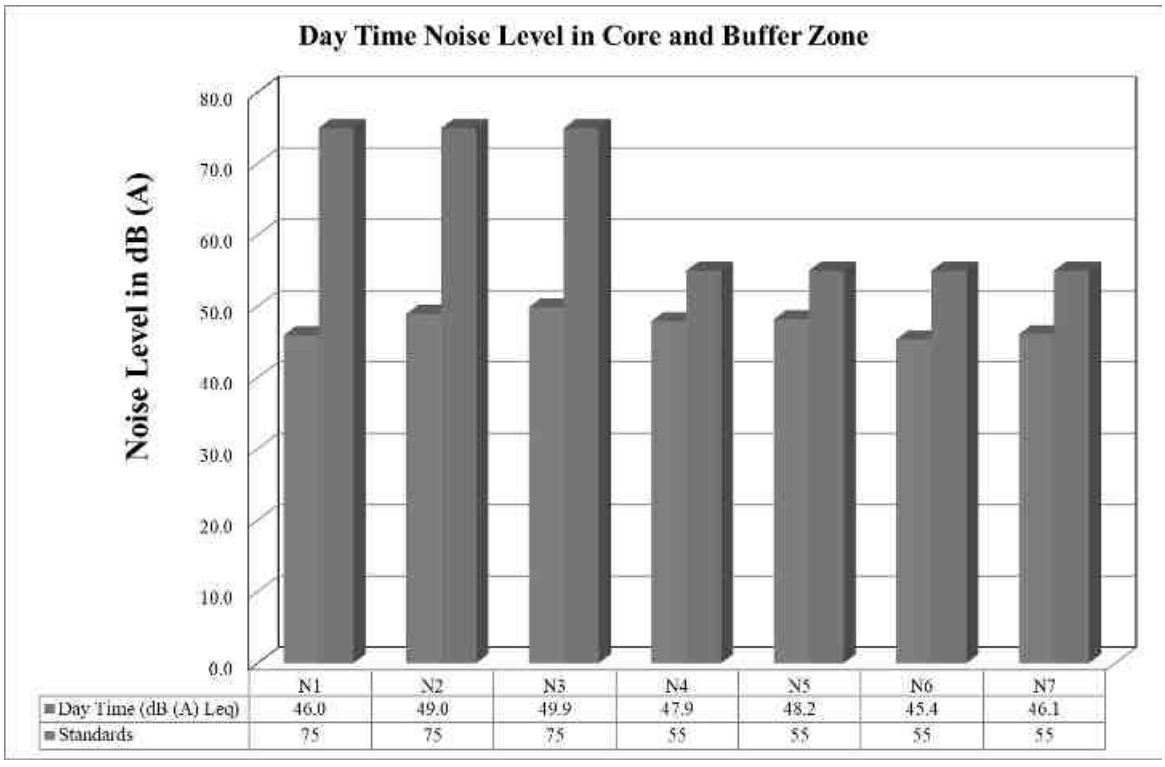
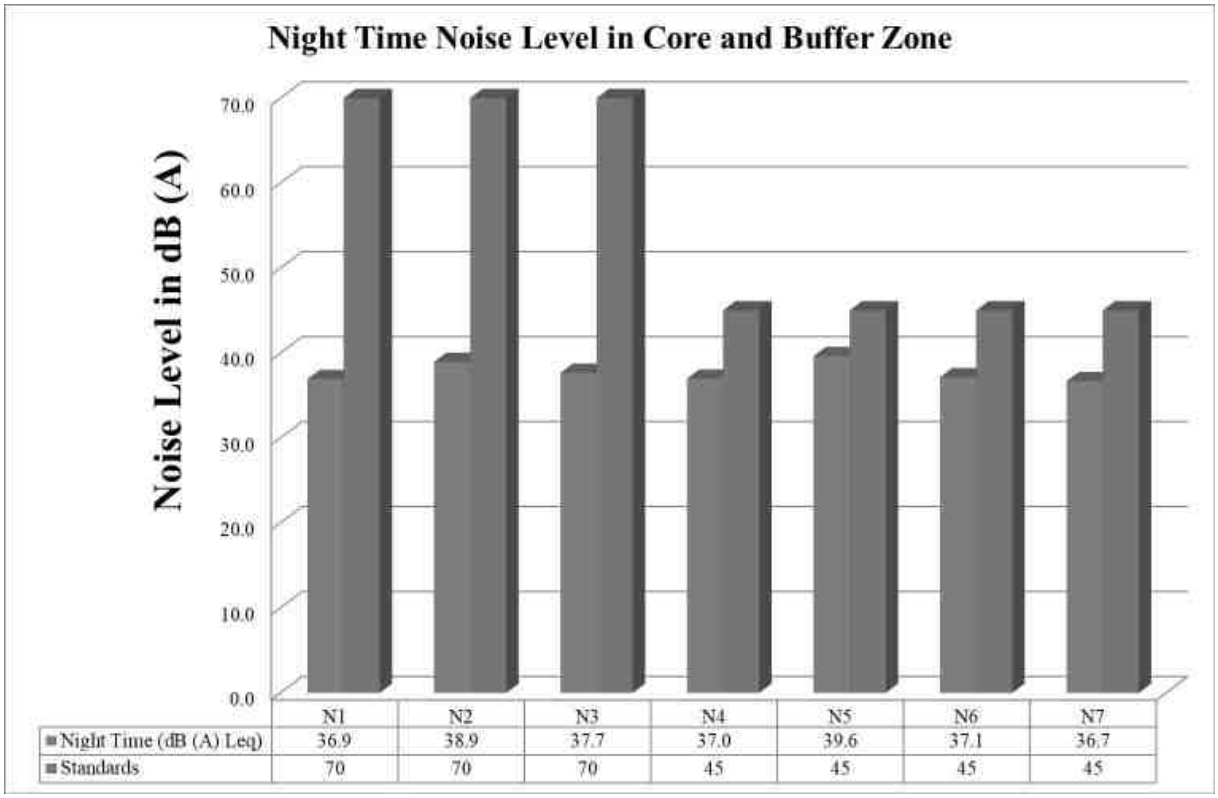


FIGURE 3.20: NIGHT TIME NOISE LEVELS IN CORE AND BUFFER ZONE



3.4.4 Interpretation & Conclusion:

Ambient noise levels were measured at 7 (Seven) locations around the proposed project area. Noise levels recorded in core zone during day time were from 49.0 – 46.0 dB (A) Leq and during night time were from 36.9 – 38.9 dB (A) Leq. Noise levels recorded in buffer zone during day time were from 46.1 – 49.9 dB (A) Leq and during night time were from 36.7 – 39.6 dB (A) Leq. Thus, the noise level for Industrial and Residential area meets the requirements of CPCB.

3.5. BIOLOGICAL ENVIRONMENT

Ecology is a branch of science that dealing the relations and interactions between organisms and their environment. An ecological survey of the study area was conducted, particularly with reference to the listing of species and assessment of the existing baseline ecological conditions in the study area. The main objective of the biological study is to collect the baseline data regarding flora and fauna in the study area. Data has been collected through extensive surveys of the area with reference to flora and fauna. Information is also collected from different sources i.e. government departments such as the District Forest Office, Government of Tamil Nadu.

The main objective of the present study is to assess the current ecology & and biodiversity scenario during primary field survey carried out within 10 km radius impact zone around the study area of Rough stone quarry is 7.08.5Ha to understand the presence and behaviour of the floral and faunal diversity of the study area with respect to terrestrial flora and fauna with special emphasis on Rare, Endangered and Threatened species & carry out Environmental Management Plan. The plan will identify and address the impacts, where these are adverse in nature, and thereafter design mitigation measures to manage such impacts in a manner as to conserve the environment and ecology of the area.

3.5.2. Objectives of Biological Studies

a) To study the likely impact of the proposed mining project on the local biodiversity and to suggest mitigation measures, if required, for vulnerable biota.
b) Undertake intensive field survey to assess the status of floral & faunal component in different habitats in the core and buffer areas of the project site.
c) Identification and listing of flora and fauna which are important as per the Wildlife (Protection) Act 1972.
d) Suggest Wildlife conservation (species specific/habitat specific) and management plan for the threatened (critically endangered & endangered species – schedule I) faunal species if any reported within the study area as per the Wildlife (Protection) Amendment Act 2022.
e) To identify the impacts of mining on agricultural lands and how it affects.
f) Proper collection of information about wildlife Sanctuaries/ national parks/ biosphere reserves of the project area.
g) Devise management & conservation measures for biodiversity.

3.5.2.1. Methodology of Sampling

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

The faunal elements (animal species) of core and buffer zone were identified by direct sightings or indirect evidences viz. pug marks, skeletal remains, scats and droppings etc. (Jayson and Easa 2004). Standard binocular was used for the observations. The authenticity of faunal elements occurrence was confirmed by interaction with the local people. Avifauna identification was done with pictorial descriptions of published literature. Information pertaining to existence of any migratory corridors and paths were obtained from local inhabitants. The status of each faunal element was determined and wildlife schedule category was ascertained as per the IUCN-Red Data Book and Indian wildlife (Protection) Amendment Act, 2022.

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

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

3.5.2.2. Field surveys

The field visit was carried out to understand and assess the impacts of mining activities on flora & and fauna and natural habitats and prediction after the enhancement of the production capacity of the mine. We evaluated the distribution and abundance of flora and fauna in the study area through primary and secondary data sources.

3.5.3. Floral Study

- The floral survey of the project area is based on field survey of the area.
- The local flora was identified by their morphological observation, such as the size and shape of the leaf, flowers, fruits, and their bark features of the stem, and also documented their habitat viz. Trees, Shrubs, Herbs, Grasses, Climbers etc.
- After surveying the core and the buffer areas, a detailed floral inventory has been compiled. A list of all plants from the study area was prepared and their habitats were recorded.
- Selection of sampling locations was made with reference to topography, land use, vegetation pattern, wind pattern, etc. The observations were taken on natural vegetation, roadside plantations, and non-forest areas (agricultural fields, in plain areas, village wasteland, etc.) for quantitative representation of different species.

3.5.3.1. Sampling

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

3.5.3.2. Sampling Size

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

3.5.3.3. Timing of Study

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

3.5.3.4. Observations from Sampling

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

3.5.3.5. Equipment/ References

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

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

3.5.4. Part I Field Sampling Techniques

3.5.4.1. Transect walk – Birds

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

3.5.4.2. Modified Pollard Walk – for Butterflies

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

3.5.4.3. Visual Encounter Survey (VES) – reptiles and amphibians

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

3.5.4.4. Observational methods- Mammals

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

3.5.4.5. Multiple Stage Quadrat – Vegetation

A variety of habitat or vegetation structure variables were measured using the Multiple Stage Quadrat sampling protocol (Sykes and Horrill 1977). All of those areas were sampled, and the major corners were temporarily delineated with colored ribbons. Each site was identified in the field using a compass and clinometer, and the plot's latitude, longitude, and elevation were recorded using a handheld Global Positioning System (Garmin 12XL).

3.5.5. Flora

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

3.5.5.1. Flora Composition in the Core Zone

Taxonomically a total of 31 species belonging to 15 families have been recorded from the core mining lease area. The lease applied area is situated in flat terrain. Based on habitat classification of the enumerated plants the majority of species were Herbs 13 followed by Trees 7, Shrubs 7, and Grasses 4. Details of flora with the scientific name were mentioned in Table No. 3.53. The result of the core zone of flora studies shows that Fabaceae and Poaceae and Lamiaceae are the main dominating species in the study area mentioned in Table No.3.53. No species were found as a threatened category (Table No. 3.53).

Table No: 3.5.3. Flora in the Core zone of Viralipatti Village, Rough stone and Gravel quarry, Nilakkottai Taluk, Dindigul District.

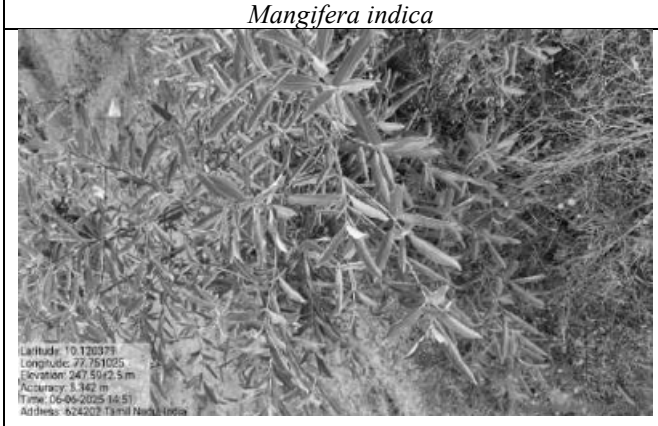
SI. No	English Name	Vernacular Name	Scientific Name	Family Name
Trees				
1.	Neem	Vembu	*Azadirachta indica*	Meliaceae
2.	Mesquite	Mullu maram	*Prosopis juliflora*	Fabaceae
3.	Indian mulberry	Nuna maram	*Morinda citrifolia*	Rubiaceae
4.	Mango tree	Mamaram	*Mangifera indica*	Anacardiaceae
5.	Indian Jujube	Elanthai maram	*Ziziphus mauritiana*	Rhamnaceae
6.	Oil cake tree	Arapu maram	*Albizia amara*	Fabaceae
7.	Monkeypod tree	kona puliyanga	*Pithecellobium dulce*	Fabaceae
Shrubs				
1.	Milk Weed	Erukku	*Calotropis gigantea*	Apocynaceae
2.	Karai	Karrai mul sedi	*Canthium coromandelicum*	Rubiaceae

3.	Avaram	Avarai	*Senna auriculata*	Fabaceae
4.	Indian mallow	Thuthi	*Abutilon indicum*	Malvaceae
5.	Lantana	Uni chedi	*Lantana camara*	Verbenaceae
6.	sleepy morning	Sengalipoondu	*Waltheria indica*	Malvaceae
7.	Christmas bush	Kampu rodda	*Chromolaena odorata*	Asteraceae
Herbs				
1.	Common leucas	Thumbai	*Leucas aspera*	Lamiaceae
2.	Devil‘s thorn	Nerunji	*Tribulus terrestris*	Zygophyllales
3.	Fish poison	Kolinchi	*Tephrosia purpurea*	Fabaceae
4.	Flannel Weed	Sida mutti	*Sida cordifolia*	Malvaceae
5.	Pignut	Nattapoochedi	*Hyptis suaveolens*	Lamiaceae
6.	Shameplant	Thottachenunki	*Mimosa pudica*	Fabaceae
7.	Chritsmas Bush	Poom pul	*Chromolaena odorata*	Asteraceae
8.	Asthma-plant	Amman pacharisi	*Euphorbia hirta*	Euphorbiaceae
9.	Indian doab	Arugampul	*Cynodon dactylon*	Poaceae
10.	Carrot grass	Parttiniyam	*Parthenium hysterophorus*	Asteraceae
11.	Prickly chaff flower	Nayuruv	*Achyranthes aspera*	Amaranthaceae
12.	Adamant creeper	Pirandai	*Cissus quadrangularis*	Vitaceae
13.	Coat buttons	Thatha poo	*Tridax procumbens*	Asteraceae
Grass				
1.	Eragrostis	Pullu	*Eragrostis ferruginea*	Poaceae
2.	Nut grass	Korai	*Cyperus rotandus*	Poaceae
3.	Natal grass	Red pullu	*Melinis repens*	Poaceae
4.	swollen fingergrass	Kuruthu-pillu	*Chloris barbata*	Poaceae

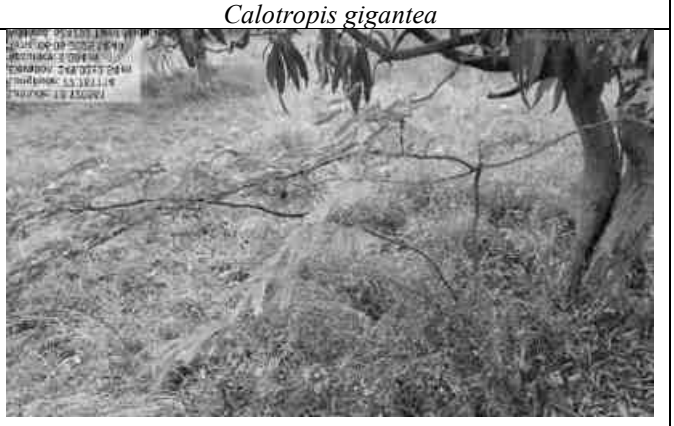
Sources: Species observation in the field study

Mangifera indica

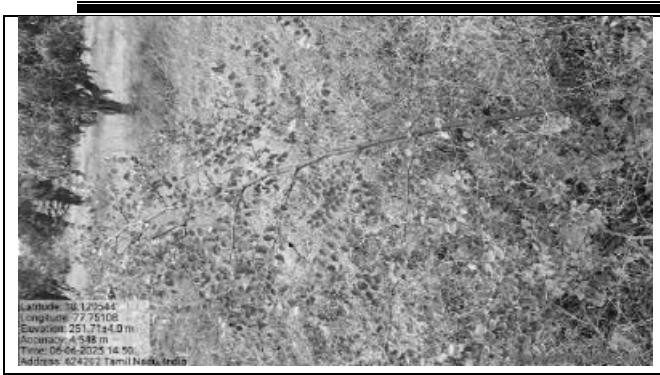
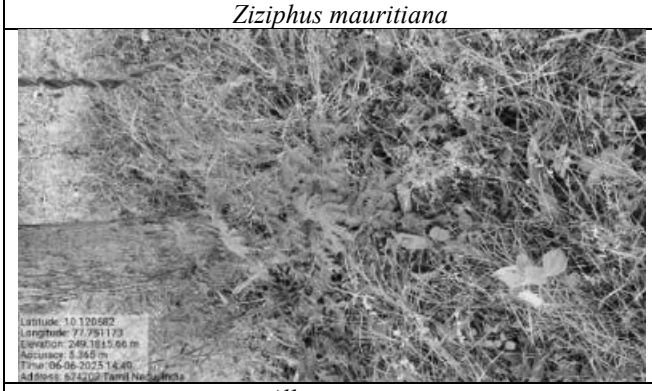
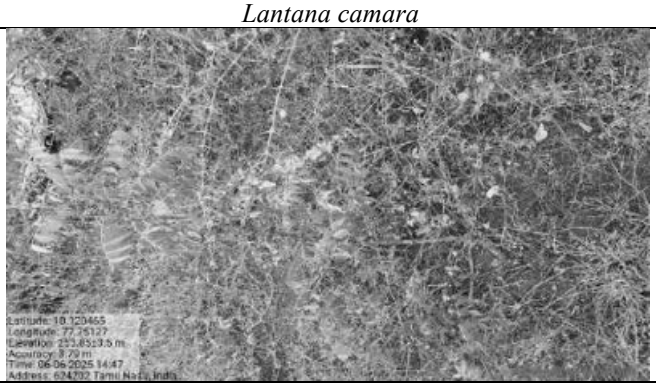
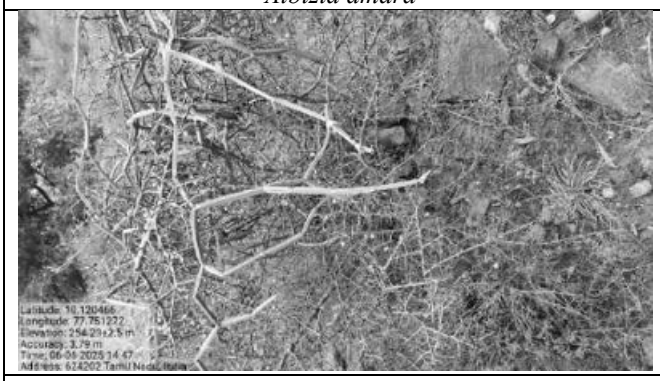
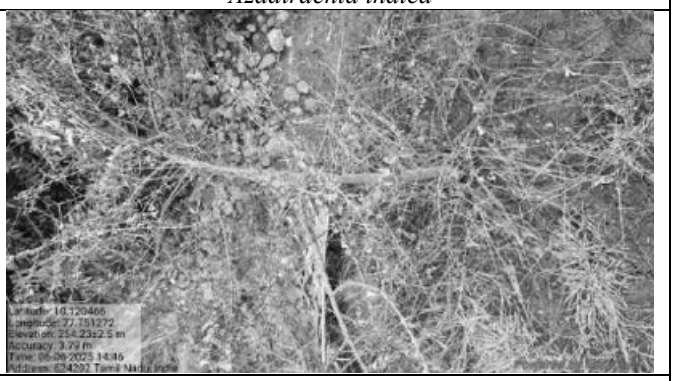
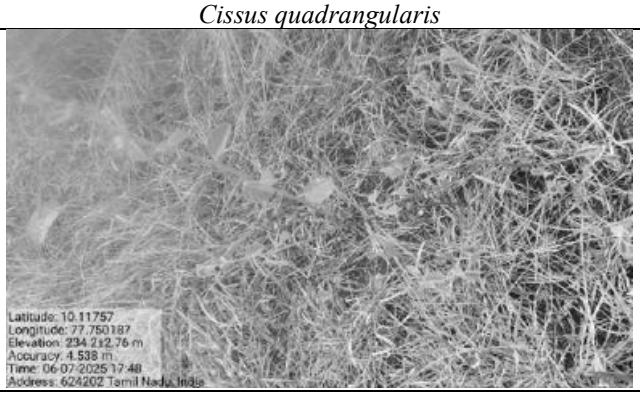
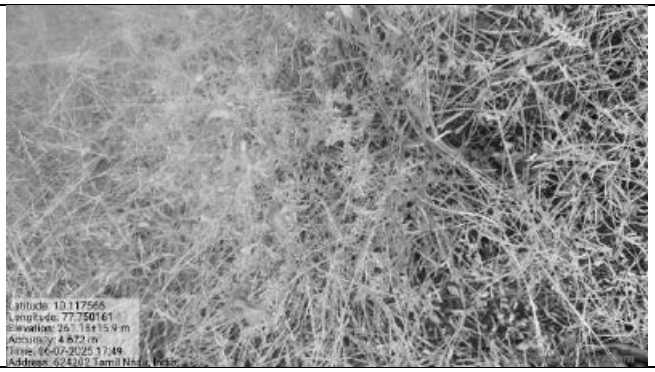
Calotropis gigantea



Morinda citrifolia



Prosopis juliflora

	
Ziziphus mauritiana	*Lantana camara*
	
Albizia amara	*Azadirachta indica*
	
Cissus quadrangularis	*Canthium coromandelicum*
	
Waltheria indica	*Ocimam sanctum*

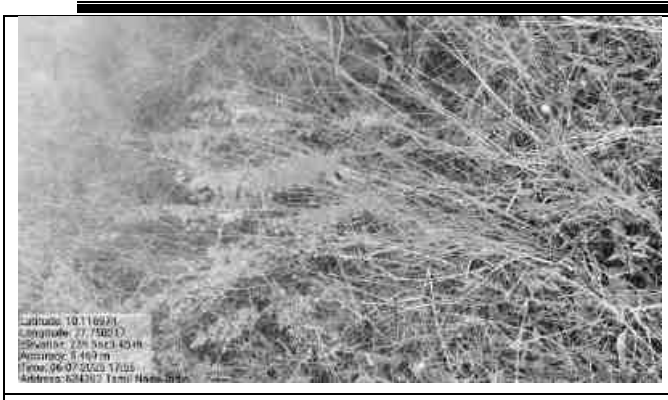
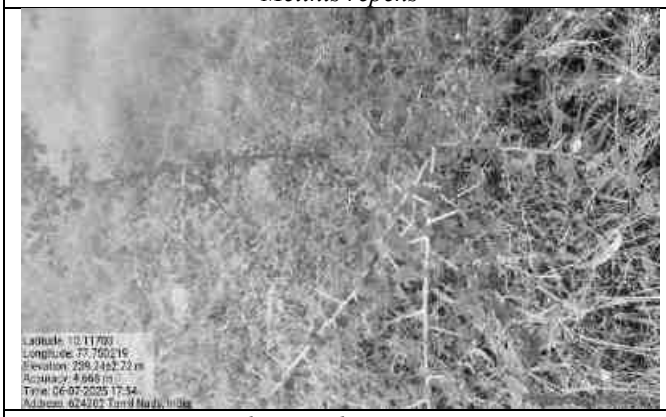
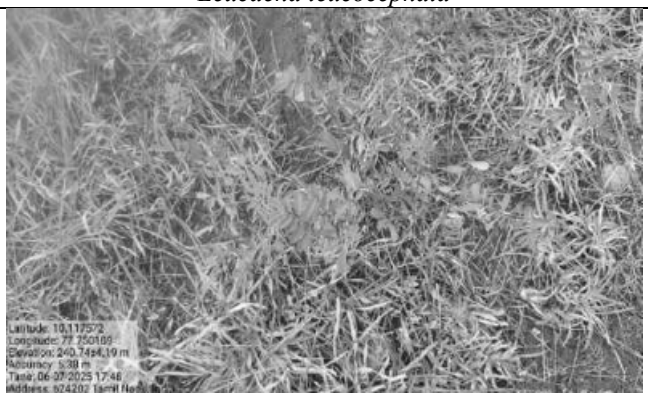
	
Melinis repens	*Leucaena leucocephala*
	
Flueggea leucopyrus	*Tephrosia purpurea*
Pithecellobium dulce	*Capparis 88pprox.88te*

Fig No: 3.5.5.1.2. Flora species observation in the Core zone area

Fig No. 3.34: Graph Showing % Distribution Of Floral Life Forms (Core Zone)

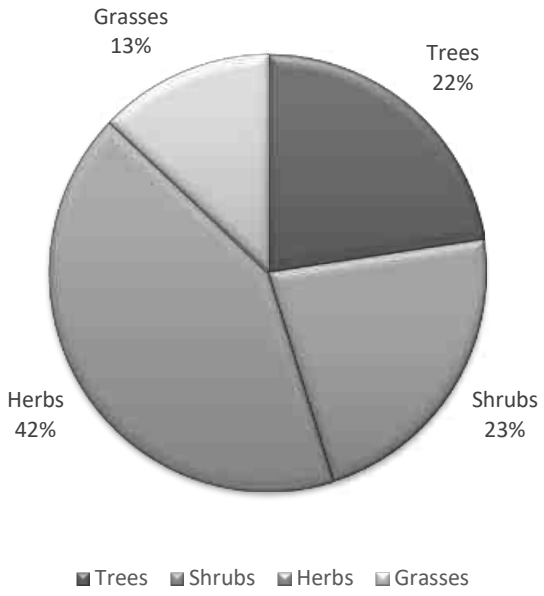


Table No: 3.54. Flora in the Buffer zone Viralipatti Village, Rough stone quarry, Nilakkottai Taluk, Dindigul District.

Sl.No.	English Name	Vernacular Name	Scientific Name	Resource use type *(E,M,EM)
Trees				
1.	Neem or Indian lilac	Vembu	*Azadirachta indica*	M
2.	Banyan tree	Alamaram	*Ficus benghalensis*	E
3.	Tamarind	Puliyamaram	*Tamarindus indica*	EM
4.	Coconut	Thennai maram	*Cocos nucifera*	EM
5.	Monkey pod tree	Thungumoonchi	*Samanea saman*	E
6.	Wild Date Palm	Pericham	*Phoenix sylvestris*	E
7.	River tamarind	Savundal	*Leucaenaleucocephala*	E
8.	Lemon	Ezhumuchaipalam	*Citrus lemon*	EM
9.	Mesquite	Sema Karuvelam	*Prosopis juliflora*	E
10.	Asian Palmyra palm	Panai maram	*Borassus flabellifer*	E
11.	Gum 90pprox tree	Karuvelam	*Acacia nilotica*	NE
12.	Creamy Peacock flower	Vadanarayani	*Delonix elata*	M
13.	White Bark Acacia	Vela maram	*Vachellia leucophloea*	E
14.	Beauty leaf	Punnai	*Calophyllu inophyllum*	M
15.	Copperpod	Iyal Vaagai	*copperpod*	E
16.	Castor oil plant	Amanakku	*Ricinus communis*	M
17.	Mango	Manga	*Mangifera indica*	E
18.	False ashoka	Asoka maram	*Polyalthia longifolia*	E
19.	Peepal	Arasanmaram	*Ficus religiosa*	M
20.	Banana Tress	Vazhaimaram	*Musa paradisiaca*	EM
21.	Giant thorny bamboo	Perumungil	*Bambusa bambos*	M
22.	Madras Thorn	Kodukapuli	*Pithecellobium dulce*	E
23.	Eucalyptus	Eucalyptus	*Eucalyptus globules*	EM
24.	Custard apple	Seethapazham	*Annona reticulata*	E
25.	Indian gooseberry	Nelli	*Emblica officinalis*	EM
26.	Acacia Nilotica	Karuvelam maram	*Vachellia nilotica*	M
27.	Teak	Thekku	*Tectona grandis*	E
28.	Henna	Marudaani	*Lawsonia inermis*	EM
29.	Sacred fig	Arasan	*Ficus religiosa*	E
30.	Indian mulberry	Nuna	*Morinda tinctoria*	E
31.	Bitter Albizia	Arappu	*Albizia amara*	M
32.	Bamboo	Moonghil	*Bambusa bambo*	E

33.	Chinese chaste tree	Nochi	*Vitex negundo*	E
34.	Portia tree	Poovarasan	*Thespesia populnea*	E
35.	Millettia pinnata	Pongam oiltree	*Pongamia pinnata*	E
36.	Guava	Koyya	*Psidium guajava*	EM
37.	Curry tree	Velipparuthi	*Murraya koenigii*	EM
38.	Mesquite	Velikathan maram	*Prosopis juliflora*	M
39.	Drumstick tree	Murunga maram	*Moringa oleifera*	EM
40.	Indian almond	Padam maram	*Terminalia catappa*	EM
41.	Papaya	Pappali maram	*Carica papaya*	EM
Shrubs				
1.	Indian Oleander	Arali	*Nerium indicum*	M
2.	Night shade plan	Sundaika	*Solanum torvum*	EM
3.	Indian jujube	Elanthai	*Ziziphus mauritiana*	M
4.	Thorn apple	Oomathai	*Datura stramonium*	E
5.	Triangular spruge	Chaturakalli	*Euphorbia antiquorum*	NE
6.	Carray Cheddle	Kaarai	*Canthiumparviflorum*	M
7.	Avaram	Avarai	*Senna auriculata*	M
8.	Coffee senna	Kattuttakarai	*Senna occidentalis*	M
9.	Rosy Periwinkle	Nithyakalyani	*Cathranthus roseus*	M
10.	Century plant	Anaikathalai	*Agave americana*	M
11.	Chinese chastetree	Nochi	*Vitex negundo*	M
12.	Indian mallow	Thuthi	*Abutilon indicum*	M
13.	Lantana	Unnichedi	*Lantana camara*	M
14.	Castor oil plant	Amanakku	*Ricinus communis*	M
15.	Hopbush	Virali	*Dodonaea viscosa*	E
16.	Puriging nut	Kattamanakku	*Jatropha curcas*	EM
17.	Columnar Cactus	Sappathikalli	*Cereus pterogonus*	M
18.	Peacock Flower	Mayil Kontai	*Caesalpinia pulcherrima*	M
19.	Datura metel	Uumaththai	*Datura metel*	NE
20.	Jackal jujube	Soorai pazham	*Ziziphus oenopolia*	M
21.	Flame of the Woods	Idlipoo	*Xoracoc cinea*	M
22.	Milk Weed	Erukku	*Calotropis gigantea*	M
23.	Water spinach	Nalikam	*Ipomoea aquatica*	E
24.	Bush Morning Glory	Neyvelik Kattamanakku	*Ipomoea carnea*	E
25.	Paper flower	Kahitha poo	*Bougainvillea glabra*	M
26.	Shoe flower	Chemparuthi	*Hibiscu rosa-sinensis*	EM
Herbs				

1.	Asthma-plant	Ammanpacharisi	*Euphorbia hirta*	M
2.	Tridax daisy	Veetukaayapoondu	*Tridax procumbens*	M
3.	Licorice weed	Kallurukki	*Scoparia dulcis*	M
4.	Fish poison	Kolinchi	*Tephrosia purpurea*	
5.	Indian doab	Arugampul	*Cynodon dactylon*	E
6.	Carrot grass	Parttiniyam	*Parthenium hysterophorus*	NE
7.	Cleome viscosa	Nai kadugu	*Celome viscosa*	M
8.	Porcupine flower	Shemmuli	*Barleria prionitis*	E
9.	Common Wireweed	Arivalmanai poondu	*Sida acuta*	M
10.	Common leucas	Thumbai	*Leucas aspera*	M
11.	Indian Copperleaf	Kuppaimeni	*Acalypha indica*	M
12.	Node Flower	Kumattikkirai	*Allmania nodiflora*	M
13.	Indian Catmint Plant	Pei viratti	*Anisomeles malabarica*	M
14.	Prickly chaff flower	Nayuruvi	*Achyranthes aspera*	M
15.	Threadstem carpetweed	Parpatakam	*Mollugo cerviana*	M
16.	Slender dwarf morning-glory	Vittunu-k-kiranti	*Evolvulus alsinoides*	M
17.	Spiny amaranth	Mullu keerai	*Amaranthus spinosus*	M
18.	Cracker plant	Tapas kaaya	*Ruellia tuberosa*	M
19.	Flannel Weed	Sida mutti	*Sida cordifolia*	M
20.	Green amaranth	Mulai keerai	*Amaranthus viridis*	M
21.	Marsh barbel	Neermulli	*Hygrophila auriculata*	M
22.	Yellow-fruit nightshade	Kandakathirika	*Solanum surattense*	M
23.	Prostrate Globe Amaranth	-	*Gomphrena serrata*	M
24.	Water willow	Kodakasalai	*Justicia procumbens*	M
25.	Mexican prickly poppy	Kudiyotti	*Argemone mexicana*	M
26.	Fish poison	Kolinchi	*Tephrosia purpurea*	M
27.	Common Purslane	Paruppu keerai	*Portulaca oleracea*	M
28.	Sessile Joyweed	Ponnankanni	*Alternanthera sessilis*	M
29.	Indian mint	Karpura valli	*Coleus amboinicus*	EM
30.	Europeanblack nightshade	Manathakkali	*Solanumnigrum*	EM
31.	Coat buttons	Thatha poo	*Tridax procumbens*	M
32.	Pink Blumea	Suvattru mullangi	*Blumea mollis*	M
33.	Madagascar Periwinkle	Nithykalyani Podi	*Catharanthus roseus*	E
34.	Chritsmas Bush	Poom pul	*Chromolaena odorata*	M
35.	Asian spiderflower	Naaikaduku	*Cleome viscosa L*	M
36.	Digeria muricata	Thoiya keerai	*Digeria muricata*	EM
37.	Red Spiderling	Mukirattai	*Boerhavia diffusa*	M

38.	Pignut	Nattapoochedi	*Hyptis suaveolens*	M
39.	Bindii	Nerunchi	*Tribulus terrestris*	M
40.	Holy basil	Thulasi	*Ocimum tenuiflorum*	M
41.	Punarnava	Mukkirattai	*Boerhaavia diffusa*	EM
42.	False daisy	Karisalankanni	*Eclipta alba*	M
43.	Chilli	Milakai	*Capsicum annuum*	EM
44.	Shameplant	Thottachenunki	*Mimosa pudica*	M
45.	Eggplant	Kathrikkai	*Solanum melongena*	EM
46.	Chrysanthemum	Samanthi Poo	*Chrysanthemum*	E
47.	Aloe	Katrazhai	*Aloe vera*	EM
Climber				
1.	Rosary pea	Kuntumani	*Abrus precatorius L*	EM
2.	Bottle Guard	Sorakkai	*Lagenaria siceraria*	EM
3.	Balloon vine	Mudakkotan	*Cardiospermum helicacabum*	EM
4.	Indian sarsparilla	Nannari	*Hemidesmus indicus*	EM
5.	Pointed gourd	Kovakkai	*Trichosanthes dioica*	EM
6.	Butterfly-pea	Sangupoo	*Clitoria ternatia*	EM
7.	Wild jasmine	Malli	*Jasminum augustifolium*	EM
8.	Ivy gourd	Kovai	*Coccinia grandis*	EM
9.	Stemmed vine	Perandai	*Cissus quadrangularis*	EM
Creepers				
1.	Ipomoea reniformis chois	Elikkathilai	*Merremia gangetica*	M
2.	Merremia	Muthiyar koontha	*Merremia tridentata*	M
3.	Bitter Apple	Thumattikai	*Cucumis callosus*	M
Grass				
1.	Jungle rice	Kuthirai vaal Kattu arusi	*Echinochloa colona*	NE
2.	Mauritian Grass	Moongil pul	*Apluda mutica*	NE
3.	Swollen Windmill Grass	Kondai Pul	*Chloris barbata*	NE
4.	Needle Grass	Thodappam	*Aristida adscensionis*	E
5.	Eragrostis	Pullu	*Eragrostis ferruginea*	E
6.	Windmill grass	Chevvarakupul	*Chloris barbata*	NE
7.	Sugarcane	Karumbu	*Saccharum*	E

Sources: Species observation in the field study and secondary data

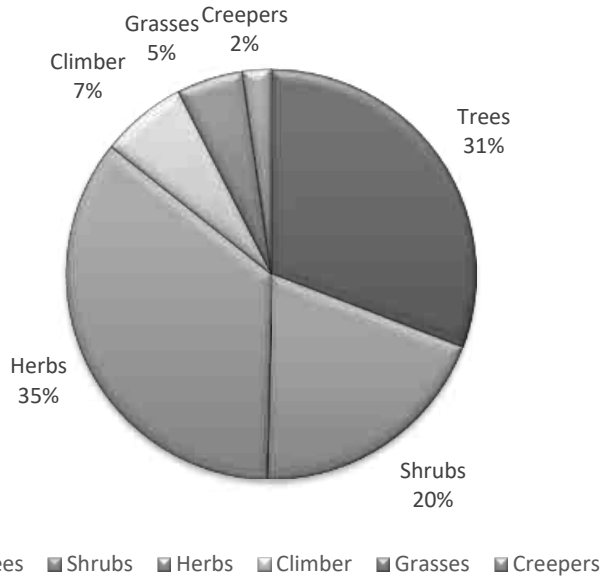
3.5.6. Flora Composition in the Buffer Zone

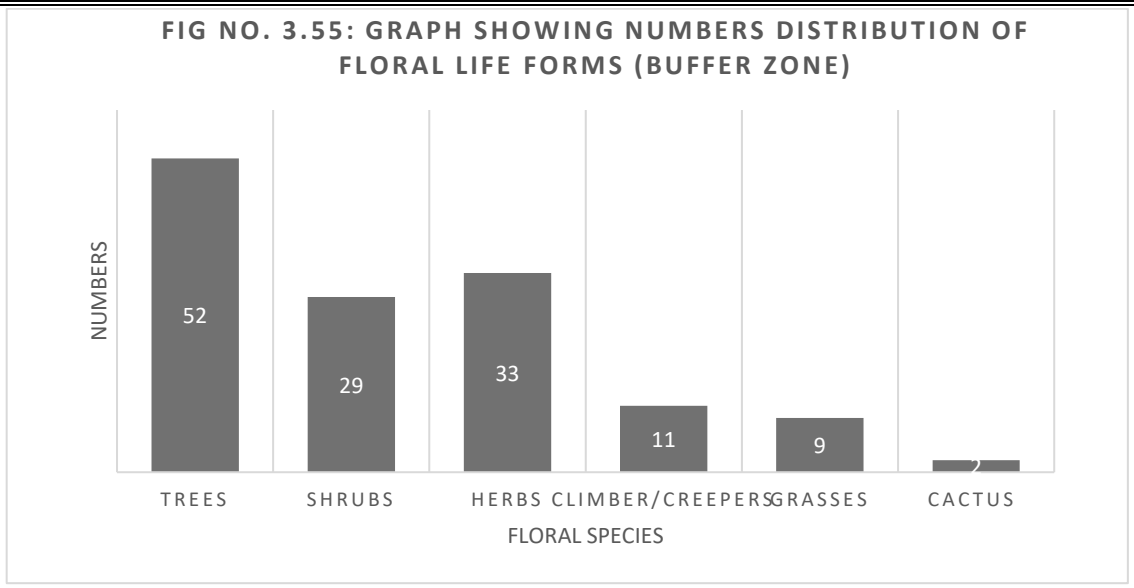
Similar habitats may be found in the buffer area as well, although there is a wider variety of plants there than in the core zone area. The proposed project site there are 133 species in the buffer zone study area in total, based on records. The floral (133) varieties among them Trees 41, Herbs 47, Shrubs 26, Climbers 9, Creepers 3 and Grasses 7, were identified. The result of the buffer zone of flora studies shows that Fabaceae and Cucurbitaceous, Euphorbiaceae is the main dominating species in the study area mentioned in Table No.3.54. There are no impacts due to this mining activity. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. Apart from the proposed project area, there is agricultural land. Horticulture and agricultural land are untouched. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. A list of floral species has been prepared based on primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.55 and their % distribution is shown in Figure 3.35.

Table 3.55: Number of floral life forms in the Study Area

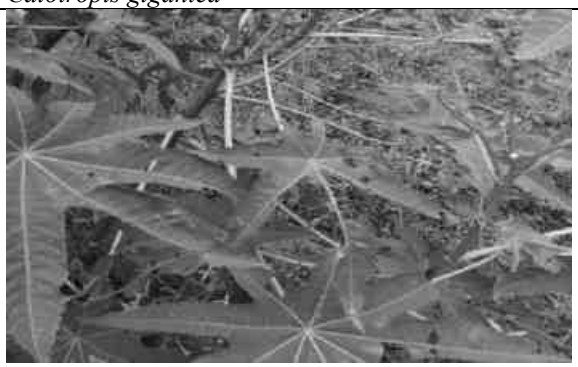
S. No	Plant Life Form	Number of Species
1	Trees	41
2	Shrubs	26
3	Herbs	47
4	Climber	9
6	Grasses	7
7	Creepers	3
Total No. of Species		**133**

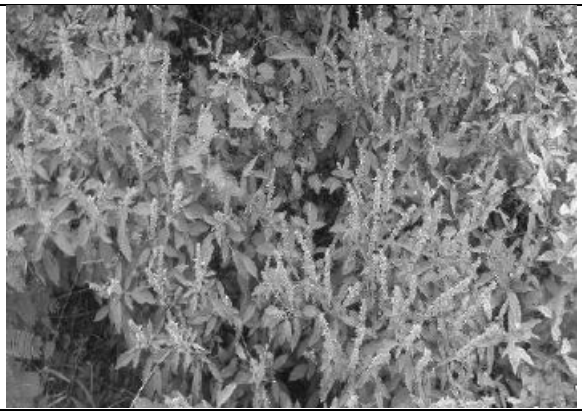
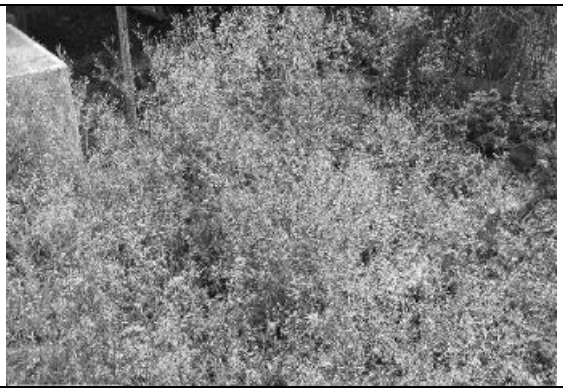
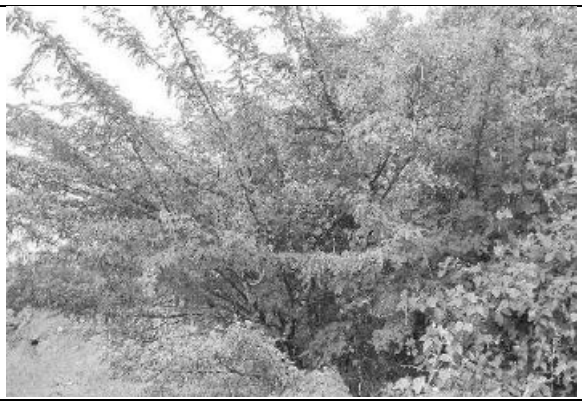
Fig No. 3.55: Graph Showing % Distribution Of Floral Life Forms (Buffer Zone)





Acalypha indica	*Catharanthus roseus*
Mangifera indica	*Alysicarpus ovalifolius*

Cissus quadrangularis	*Calotropis gigantea*
	
Euphorbia hirta	*Ricinus communis*
Lantana camara	*Martynia annua*

Merrimea tridentata	*Moringa oleifera*
	
Musa paradisiaca	*Ocimum americanum*
	
Opuntia dillenii	*Parthenium hysterophorus*
	
Tamarindus indica	*Prosopis juliflora*

Carica papaya	*Rungia crenata*
Senna auriculata	*Sida acuta*
Jatropha curcas	*Techoma stans*

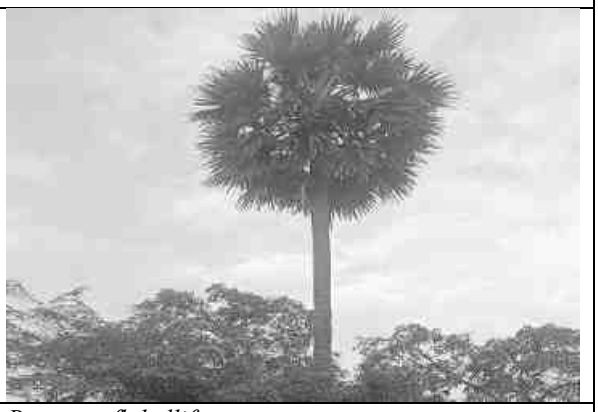
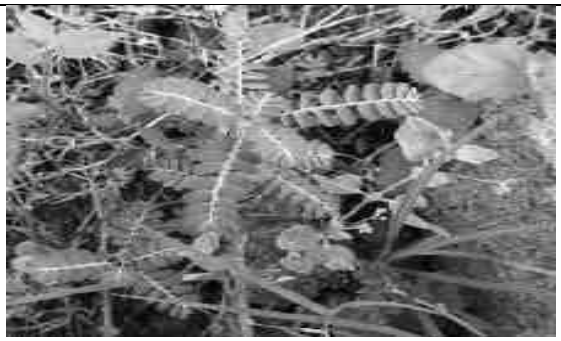
Annona reticulata	*Tephrosia villosa*
	
Wrightia tinctoria	*Borassus flabellifer*
	
Passiflora foetida	*Phyllanthus debilis*
Aerva lanata	*Abutilon indicum*

Fig No: 3.55. Flora species observation in the Buffer zone area

3.5.7. The vegetation in the RF / PF areas, ecologically sensitive areas

Vellaikaradu R.F. has located about 1.22km on the Northeast side followed by Palapattykaradu R.F. located about 4.23km on the North west side, Kadavakurichi R.F. located about 5.04km on the North East side, Valayapatti R.F. is located about 5.6km on the South side, Rajadani R.F. is located about 6.25km on the South west side, Mankaradu R.F. is located about 6.7km on the North side, Vethalipatti R.F. is located about 7.68km on the South east side, Uthappanaickanur I R.F. is located about 8.38km on the South east side, Vikaramangalam R.F. is located about 8.4km on the South east side, Andipatti North R.F. is located about 8.7km on the South west side, Bodi Karadu Bit 123 R.F. is located about 8.55km on the North western side, Kannivadi Block II R.F. is located about 8.75km on the North side and Usilan Karadu R.F. is located about 9.68km on the South west side and no protected (PF) forests either in the mine lease area or in the buffer zone. Thus, no forest land is involved in any manner. There are no impacts due to this mining activity.

There are no protected or ecologically sensitive areas such as National parks or Important Bird Areas (IBAs), or Wetlands or migratory routes of fauna or water bodies or human settlements within the proposed mine lease area. There are no Biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), or migratory routes of fauna. Thus, the area under study (Mine lease area and the 10 Km buffer zone) is not ecologically sensitive. It is away from the proposed project site. There are neither forests nor forest dwellers nor forest-dependent communities in the mine lease area. There shall be no forest-impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.

3.6. FAUNA

The faunal survey has been carried out as per the methodology cited and listed out Mammals, birds, Reptiles, Amphibians, and Butterflies. All the listed species were compared with the Red Data Book and the Indian Wildlife Protection Act, 1972 / the Indian Wildlife Protection Amendment Act, 2022. There are no rare, endangered, threatened (RET), and endemic species present in the core area.

3.6.1. Fauna Composition in the Core Zone

A total of 18 varieties of species were observed in the Core zone of Viralipatti Village, Rough stone and Gravel quarry (Table No.3.55) among them numbers of Insects 5, Reptiles 3, Mammals 3 and Avian 7. None of these species are threatened or endemic in the study area and surroundings. There is no Schedule I species and Seven species are under schedule II according to the Indian wild life Protection Amendment Act 2022. A total of 7 species of bird were sighted in the mining lease area. There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of fauna in core zone with the scientific name were mentioned in Table No. 3.55.

Table No: 3.55. Fauna in the Core zone of Viralipatti Village, Rough stone and Gravel quarry, Nilakkottai Taluk, Dindigul District

SI. No	Common name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
Insects/ Butterflies			
1.	Common Tiger	*Danaus genutia*	---
2.	Common emigrant	*Catopsilia pomona*	---
3.	Grasshopper	*Hieroglyphus sp*	----
4.	Danaid egg fly	*Hypolimnas misippus*	Schedule II
5.	Dragonfly	*Ceratogomphus pictus*	---
Reptiles			

1.	Oriental garden lizard	*Calotes versicolor*	---
2.	Common skink	*Mabuya carinatus*	---
3.	Common krait	*Bungarus caeruleus*	---
Mammals			
1.	Indian Field Mouse	*Mus booduga*	---
2.	Brown rat	*Rattus norwegicus*	---
3.	Indian palm squirrel	*Funambulus palmarum*	---
Aves			
4	Common myna	*Acridotheres tristis*	Schedule II
5	Green bee-eater	*Merops orientalis*	Schedule II
6	Common Kingfisher	*Alcedo atthis*	Schedule II
7	Black drongo	*Dicrurus macrocercus*	Schedule II
8	Asian Koel	*Eudynamys scolopaceus*	Schedule II
9	House crow	*Corvus splendens*	---
10	Cattle egret	*Bubulcus ibis*	Schedule II

(Sources: Species observation in the field study)

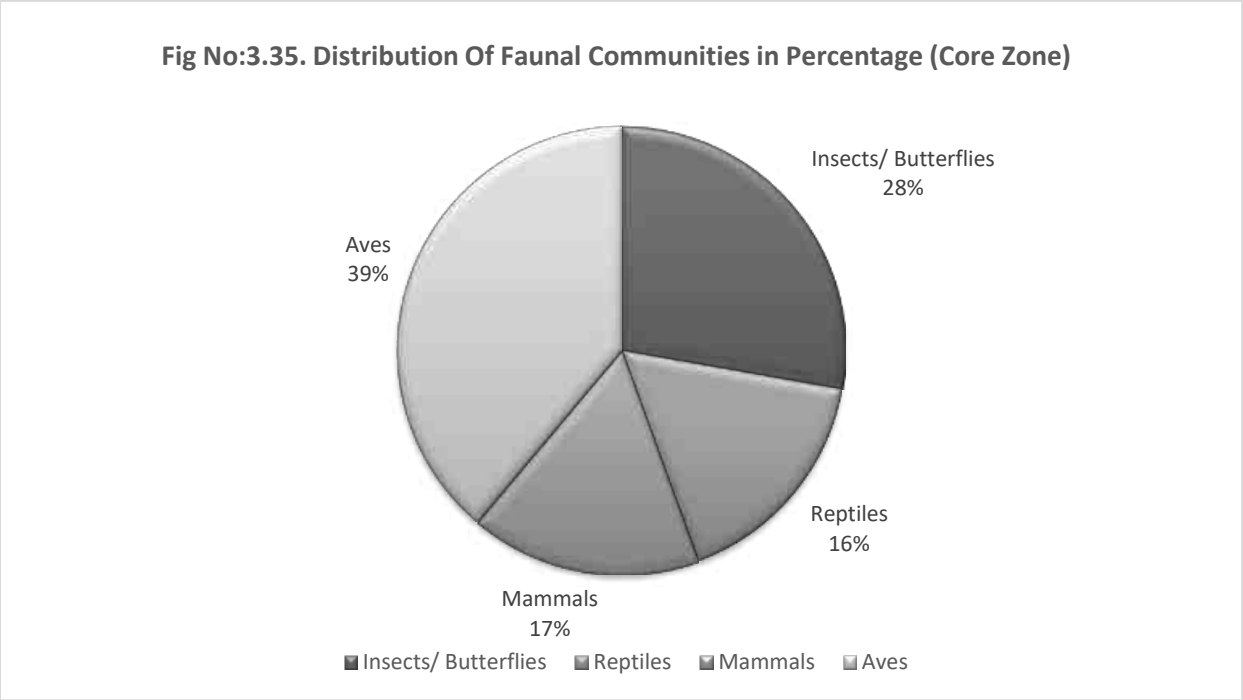


Fig No. 3.35: Diagram showing % distribution of faunal life forms

Fauna Composition in the Buffer Zone

As animals, especially vertebrates move from place to place in search of food, shelter, mate or other biological needs, separate lists for core and buffer areas are not feasible however, a separate list of fauna pertaining to core and

buffer zone are listed separately. Though there is no reserved forests in the buffer zone. As such there are no chances of occurrence of any rare or endangered or endemic or threatened (REET) species within the core or buffer area.

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

The list of Mammals (*directly sighted animals & Secondary data) is given in table No.3.56. The list of bird species recorded during the field survey and literature from the study area are given in Table 3.57. The list of reptilian species recorded during the field survey and literature from the study area is given in Table 3.58. The list of insect species recorded during the field survey and literature from the study area are given in Table 3.59. The list of Butterflies species recorded during the field survey and literature from the study area are given in Table 3.60. It is apparent from the list that none of the species either spotted or reported is included in Schedule I of the Wildlife Protection Act. Similarly, none of them comes under the REET category.

Taxonomically a total of 63 species recorded were from the buffer zone area. Based on habitat classification the majority of species were birds 31, followed by Butterflies 14, Reptiles 5, Insects 6, Mammals 4. There are no critically endangered, endangered, vulnerable, and endemic species were observed. There are no impacts on nearby fauna species.

Dominant species are mostly birds, butterflies, and insects was observed during the extensive field visit *Eudynamys scolopaceus, Pachliopta aristolochiaee, Poecilotheria regalis*, etc. There is no Schedule I Species in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed.

Table 3.56. List of Fauna & Their Conservation Status,
Mammals: (*directly sighted animals & Secondary data)

SI. No	Common Name/English Name	Scientific Name	Schedule list The Wildlife (Protection) Amendment Act, 2022
1.	Indian palm squirrel	*Funambulus palmarum*	---
2.	Indian Field Mouse	*Mus booduga*	---
3.	Brown rat	*Rattus norwegicus*	---
4.	Indian hare	*Lepus nigricollis*	Schedule II

Table 3.57. Listed birds

SI. No	Common Name/English Name	Scientific Name	Schedule list The Wildlife (Protection) Amendment Act, 2022
1.	Black kite	*Milvus migrans*	Schedule II
2.	Little Cormorant	*Microcarbo niger*	Schedule II
3.	Jungle babbler	*Argya striata*	Schedule II
4.	Indian robin	*Saxicoloides fulicatus*	Schedule II
5.	Black-headed Cuckooshrike	*Lalage melanoptera*	Schedule II
6.	Asian Koel	*Eudynamys scolopaceus*	Schedule II
7.	Cattle egret	*Bubulcus ibis*	Schedule II
8.	Rock pigeon	*Columba livia*	---
9.	House crow	*Corvussplendens*	---
10.	Common myna	*Acridotheres tristis*	Schedule II
11.	Red Vented Bulbul	*Pycnonotus cafer*	Schedule II

12.	Green Bee Eater	*Merops orientalis*	Schedule II
13.	Purple sunbird	*Cinnyris asiaticus*	Schedule II
14.	Pond heron	*Ardeola grayii*	Schedule II
15.	House sparrow	*Passer domesticus*	Schedule II
16.	Common Kingfisher	*Alcedo atthis*	Schedule II
17.	Purple Rumped Sunbird	*Leptocoma zeylonica*	Schedule II
18.	Rose-ringed parkeet	*Psittacula krameri*	Schedule II
19.	Large-billed Crow	*Corvus macrorhynchos*	Schedule II
20.	Common quail	*Coturnix coturnix*	Schedule II
21.	Blue-tailed Bee-eater	*Merops philippinus*	Schedule II
22.	Black drongo	*Dicrurus macrocercus*	Schedule II
23.	Gray Francolin	*Ortygornis pondicerianus*	Schedule II
24.	Red-wattled Lapwing	*Vanellus indicus*	Schedule II
25.	Common Swallow	*Hirundo rustica*	Schedule II
26.	Booted Warbler	*Iduna caligata*	Schedule II
27.	Wood Sandpiper	*Tringa glareola*	Schedule II
28.	Indian Roller	*Coracias benghalensis*	Schedule II
29.	Ashy Prinia	*Prinia socialis*	Schedule II
30.	Purple Sunbird	*Cinnyris asiaticus*	Schedule II

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

https://ebird.org

Table 3.58. List of Reptiles either spotted or reported from the study area.
(*indicates direct observations & Secondary data)

SI. No	Common Name/English Name	Scientific Name	Schedule list The Wildlife (Protection) Amendment Act, 2022
1.	Oriental garden lizard	*Calotes versicolor*	---
2.	Common skink	*Mabuya carinatus*	---
3.	Green vine snake	*Ahaetulla nasuta*	---
4.	Common krait	*Bungarus caeruleus*	---
5.	House lizards	*Hemidactylus flaviviridis*	---

Table 3.59. List of insects either spotted or reported from the study area

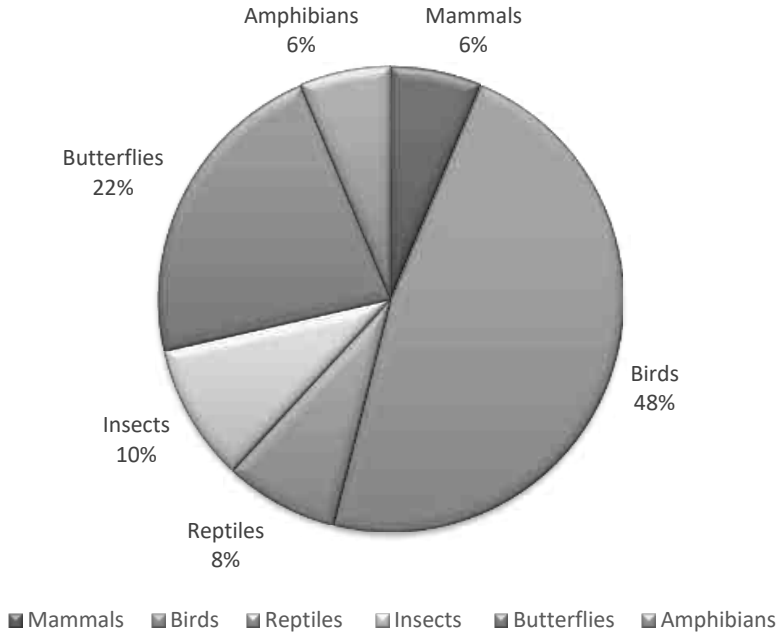
SI. No	Common Name/English Name	Scientific Name	Schedule list WLPAA 2022
1.	Indian honey bee	*Apis cerana*	-
2.	Dragonfly	*Ceratogomphus pictus*	-
3.	Termite	*Hamitermes silvestri*	-
4.	Grasshopper	*Hieroglyphus sp*	-
5.	Ant	*Camponotus Vicinus*	-
6.	Indian ornamental tree spider	*Poecilotheria regalis*	Schedule II

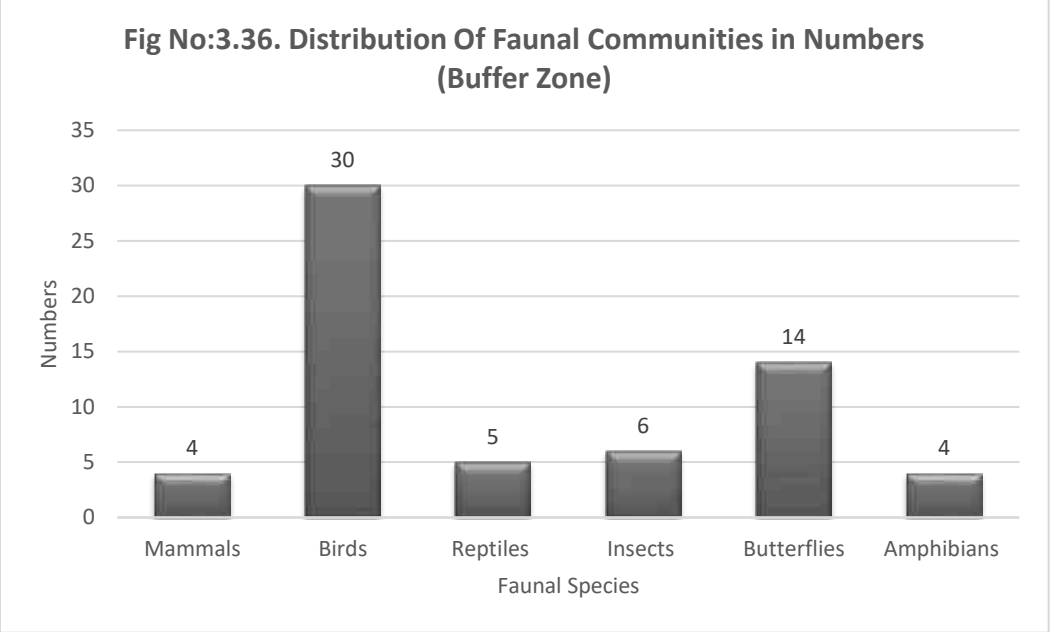
Table.3.60. List of Butterflies reported from the study area

SI. No	Common Name/English Name	Scientific Name	Schedule
1.	Indian palm bob	*Suastus gremius*	---
2.	Lime Butterfly	*Papilio demoleus*	---

3.	Common Mormon	*Papilio polytes*	---
4.	Common rose	*Pachliopta aristolochiaee*	---
5.	Yellow Pansy	*Junonia hierta*	---
6.	Spotless grass yellow	*Eurema laeta*	---
7.	Common Tiger	*Danaus genutia*	---
8.	Common emigrant	*Catopsilia pomona*	---
9.	Crimson tip	*Colotisdanae*	---
10.	Common Indian crow	*Euploea core*	---
11.	Danaid Eggfly	*Hypolimnas misippus*	Schedule II
12.	Blue Tiger	*Tirumala limniace*	---
13.	Yellow Pansy	*Junonia hierta*	---
14.	Common Mime	*Papilio clytia*	Schedule II

Fig No:3.36. Distribution Of Faunal Communities in Percentage (Buffer Zone)





The study area is marked with moderate population of flora and fauna. With reference to the Wildlife Protection Amendment Act 2022 total number of wildlife tabulated in this study can be characterized as given in the Table 3.61.

Table No: 3.61. Characterization of Fauna in the Study Area (As Per W.P Amendment Act, 2022)

S.No	Schedule of Wildlife Protection Amendment Act 2022	No. of species	Remark
1.	Schedule I	0	-
2.	Schedule II	32	-
3.	Schedule III	0	-
4.	Schedule IV	0	-

Fig No: 3.61. Schedule of Wildlife Protection Amendment Act 2022

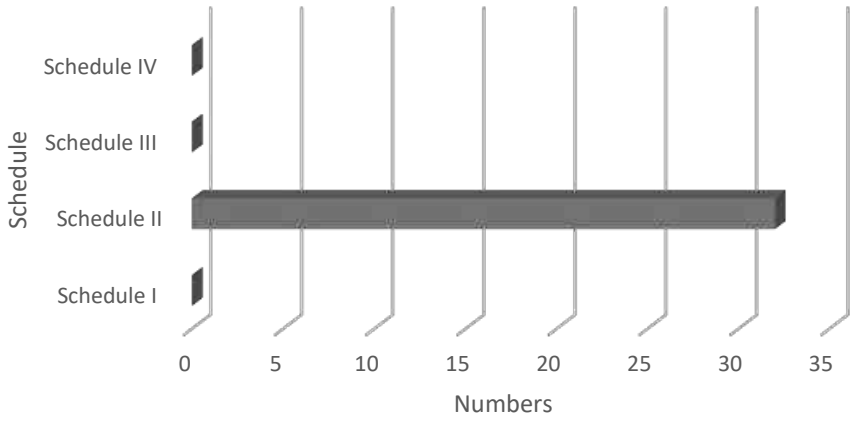


Table 3.62: Description of Flora & Fauna

S.No	Type of Species	Name	Local Name
Flora			
1.	Endangered species	None	None
2.	Threatened species	None	None
3.	Near Threatened species	None	None
4.	Vulnerable species	None	None
Fauna			
5.	Endangered species	None	None
6.	Threatened species	None	None
7.	Near Threatened species	None	None
8.	Vulnerable species	None	None
9.	Migratory Corridors & Flight Paths	No corridors & flight paths	-
10.	Breeding & Spawning grounds	None	-

A comprehensive Central Legislation namely Wild Life (Protection) Amendment Act was enforced in 2022 to provide protection to wild animals. Schedule-I of this act contains the list of rare and endangered species, which are completely protected throughout the country. The list of animals and their conservation status as per Wild Life Amendment Act (2022) presented in Table 3.62 are the species recorded/reported from the study area, out of which 32 species belongs to schedule-II of Wildlife protection Amendment Act, 2022.

Aquatic Ecology

Mining activities will not have an impact on aquatic ecosystems because no effluent discharge from the Rough stone and Gravel quarry is planned. There are no natural perennial surface water bodies, such as marshes, rivers, streams, lakes, or agricultural sites, inside the mining lease area. The study region contains a few seasonal bodies of water. There is no aquatic flora and, aquatic faun. Hence, it does not harbour any significant aquatic life. Therefore, the project is not likely to affect the aquatic ecology. Aquatic weeds are found to be growing everywhere

in 10 km radius area, in every water bog, pond, etc. Typha angustata can be found growing all along the drains of villages, small water-logged depressions, and agricultural fields lacking water but containing enough moisture to support its growth. And where water is present, Eichhornia crassipes has taken its roots and covers the entire water surface by its sprawl and invasion.

10.1.1.1 Objectives of Aquatic Studies

- ✓ Generating data through actual field collection in these locations over the study period.
- ✓ Impacts on aquatic fauna/flora
- ✓ Consulted with locals to obtain knowledge about aquatic flora and animals.

Macrophytes

The macrophytes observed within the study area are tabulated in Table 3.63

Description of Macrophytes

Sl.No	Common Name	Scientific name	Vernacular Name (Tamil)	IUCN Red List of Threatened Species
1.	Water hyacinth	*Eichornia crassipe*	Agayatamarai	NA
2.	Floating lace plant	*Aponogeton natans*	Kottikizhnagu	NA
3.	Blue water lily	*Nymphaea nouchali*	Nellambal	LC
4.	Cross Grass	*Carex cruciata*	Koraipullu	NA

Sources: Species observation in the field study

Aquatic Faunal Diversity

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

Amphibians Observed/Recorded from the Study Area

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection Amendment act 2022
1.	Indian Burrowing frog	*Sphaerotheca breviceps*	---
2.	Indian pond frog	*Phrynoderma hexadactylum*	Schedule II
3.	Asian common Toad	*Duttaphrynus melanostictus*	---
4.	Indian bull Frog	*Hoplobatrachus tigerinu*	Schedule II

3.6.3.4. Other Aquatic Fauna

3.6.3.5. Fishes

The study area has low aquatic diversity, with few types of fish living. The species of fish reported during the primary visit are Rohu, Catla, Catfish, etc. Species of fish reported in the study area are given in Table No 3.65.

Based on Actual Sighting, based on inputs from locals and Perused from Secondary Data

S.No	Common name	Scientific name	Family
1.	Ponthia	*Puntius sophore*	Cyprinidae
2.	Catla	*Catla Catla*	Cyprinidae
3.	Catfish	*Siluriformes*	-
4.	Rohu	*Labeo rohita*	Cyprinidae

3.6.5 Findings/Results

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

S.No	Ecological sensitive habitat	Direction and Distance from the project site
1.	National Parks/ Wildlife Sanctuary/ Biosphere reserves/ Elephant Reserve/ Any Other Reserve	Kodaikanal Wildlife Sanctuary – 10.5km – North West
2.	Reserved Forests	Vellaikaradu R.F. has located about 1.22km on the Northeast side Palapattykaradu R.F. located about 4.23km on the North west side, Kadavakurichi R.F. located about 5.04km on the North East side, Valayapatti R.F. is located about 5.6km on the South side, Rajadani R.F. is located about 6.25km on the South west side, Mankaradu R.F. is located about 6.7km on the North side, Vethalipatti R.F. is located about 7.68km on the South east side, Uthappanaickanur I R.F. is located about 8.38km on the South east side, Vikaramangalam R.F. is located about 8.4km on the South east side, Andipatti North R.F. is located about 8.7km on the South west side, Bodi Karadu Bit 123 R.F. is located about 8.55km on the North western side, Kannivadi Block II R.F. is located about 8.75km on the North side Usilan Karadu R.F. is located about 9.68km on the South west side,
3.	Wildlife Corridors & Routes	No notified wildlife corridors are present in 10 km vicinity.
4.	Wetlands / Water bodies	Periyar main canal – 1.1km-South Vaigai River – 1.80km -SE
5.	Ramsar Site	Nil
6.	Important Bird Habitats	Nil
7.	Breeding/nesting areas of endangered species	Not present
8.	Mangroves	None

There are no critically endangered, endangered, vulnerable and endemic species were observed. As the rainfall in the area is scanty and as no toxic wastes are produced or discharged on account of mining, the proposed mining activity is not going to have any additional and adverse impacts on these RET species. There are no ecologically sensitive areas or protected areas within the 10 Km radius. Hence no specific conservation for conservation of any RET species or Wildlife is envisaged. There are no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar sites, Tiger/Elephant Reserves/(existing as well as proposed) within 10 km of the mine lease area. There are no protected forests within the project area. Hence submission of clearance from the National Board of Wildlife does not arise.

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

3.6.7 Conclusion

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

3.7 SOCIO ECONOMIC ENVIRONMENT

There is no habitation/ village within the radius of 300m from the cluster area. Socio-economic study is an essential part of environmental study. It 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 like temples, historical monuments etc., at the baseline level. This will help in visualizing and predicting the possible impact depending upon the nature and magnitude of the project.

It is expected that the Socio Economic Status of the area will substantially improve because of this proposed project. As the proposed project will provide direct and indirect employment and improve the infrastructural facilities in that area and, thus, improve their standard of living.

3.7.1 Objectives of the Study

The objectives of the socio-economic study are as follows:

- To study the socio-economic status of the people living in the study area of the proposed mining project
- To assess the impact of the project on Quality of life of the people in the study area
- To recommend Community Development measures needs to be taken up in the study Area.

3.7.2 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

3.7.3 Administrative Setup of Dindigul District

Dindigul District was carved out of the composite Madurai District on 15th of September, 1985. Dindigul city is governed by Municipal Corporation which comes under Dindigul Metropolitan Region. As per provisional reports of Census India, population of Dindigul in 2011 is 207,327; of which male and female are 103,027 and 104,300 respectively. Although Dindigul city has population of 207,327; its urban / metropolitan population is 292,512 of which 145,703 are males and 146,809 are females.

VIRALIPATTI VILLAGE

Viralipatti is a village located in the Nilakkottai Subdivision of Dindigul district,Tamil Nadu, India. This article provides a comprehensive overview of Viralipatti, covering its demographics, population statistics, household data, administrative structure, geographical area, connectivity, educational and medical facilities, electricity supply, drinking water sources, and nearby villages.

Viralipatti has a population of 11370 as recorded in the 2011 Census. It falls under the jurisdiction of Eluvanampatti Gram Panchayat and the Batlagundu Block Panchayat in Nilakkottai District. The village has 2891 households and is identified by village code 635475. Viralipatti is located in the 624202 postal area, contributing significantly to the rural administrative structure of Nilakkottai Sub-District.

TABLE 3.27: VIRALIPATTI VILLAGE POPULATION FACTS

Village	Viralipatti
Pincode	624202
Area	3426.96 Sq. Km
Village Code	635475
Sub-District	Nilakkottai
Sub-District Code	5767
District	Dindigul
District Code	572
State/UT	Tamil Nadu
State/UT Code	33
Gram Panchayat	Eluvanampatti
Gram Panchayat Code	223515
Block Panchayat	Batlagundu
Block Panchayat Code	6458
Total Population (2011 Census)	11370
Total Households	2891

3.7.4 Study area

As of the 2011 census, Population of Viralipatti has a population of approximately 11370 people, where the male population is 5868 and the female population is 5502.

Total	11370
Male	5868
Female	5502

3.7.5 Basic Amenities

A better network of physical infrastructure facilities (well-built roads, rail links, irrigation, power and telecommunication, information technology, market-network and social infrastructure support, viz. health and

education, water and sanitation, veterinary services and co-operative) is essential for development of the rural economy.

A review of infrastructure facilities available in the area has been given on the basis of field survey. In this study the villages which fall within 5 km radius around the site has been covered. Infrastructure facilities available in the area are presented below.

TABLE 3.22: POPULATION DATA OF STUDY AREA

SI.No.	Village Name	No of House Holds	Total Population	Male	Female	Total Literate Population	Male Literate	Female Literate	Total Illiterate Population	Male Illiterate	Female Illiterate
1	Batlagundu	2991	11768	5976	5792	7651	4294	3357	4117	1682	2435
2	Bodiagoundanpatti	214	732	372	360	516	297	219	216	75	141
3	Kombaipatti	2210	8406	4223	4183	5106	2898	2208	3300	1325	1975
4	Kunnuvarankottai	1253	4887	2472	2415	3256	1808	1448	1631	664	967
5	Pannaipatti	485	2013	1057	956	1217	726	491	796	331	465
6	Sandaiyur	982	3830	1892	1938	2191	1222	969	1639	670	969
7	Sekkapatti	640	2463	1295	1168	1857	1075	782	606	220	386
8	Sivagnanapuram	434	1721	888	833	1095	635	460	626	253	373
9	Viralipatti	2891	11370	5868	5502	6833	4027	2806	4537	1841	2696
10	Viruveedu	1677	6459	3332	3127	4122	2345	1777	2337	987	1350

Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

TABLE 3.23: WORKERS PROFILE OF STUDY AREA

SI.No.	Village Name	Total Workers Population	Male Workers	Female Workers	Total Main Workers	Main Workers Male	Main Workers Female	Main Cultivation Workers	Main Agriculture Workers	Main Other Workers	Total Margin Workers	Margin Cultivation Workers	Margin House Hold Workers	Margin Other Workers	Non Worker Population
1	Batlagundu	5782	3468	2314	5080	3152	1928	195	3457	1352	702	21	11	148	5986
2	Bodiagoundanpatti	425	232	193	223	197	26	33	136	53	202	0	0	20	307
3	Kombaipatti	4684	2595	2089	3341	1999	1342	376	2283	603	1343	28	64	78	3722
4	Kunnuvarankottai	2562	1478	1084	1144	787	357	216	490	406	1418	33	7	113	2325
5	Pannaipatti	1294	683	611	1241	652	589	797	311	112	53	16	0	30	719
6	Sandaiyur	2280	1200	1080	1655	876	779	381	1123	135	625	12	5	83	1550
7	Sekkapatti	1263	680	583	631	537	94	70	364	192	632	29	2	34	1200
8	Sivagnanapuram	1023	556	467	716	394	322	68	565	78	307	3	6	13	698
9	Viralipatti	6572	3621	2951	6400	3542	2858	1098	4356	899	172	14	4	56	4798
10	Viruveedu	3691	2059	1632	3465	1946	1519	735	2251	426	226	31	29	98	2768

Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

TABLE 3.24: COMMUNICATION & TRANSPORT FACILITIES IN THE STUDY AREA

Sl	Village Name	PO	SPO	PTO	T	PCO	MP	IC / CSC	PCF	BS	PBS	RS	NH	SH	MDR	BTR	GR	NWR	FP
1	Batlagundu	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1
2	Bodiagoundanpatti	2	2	2	2	1	1	2	2	1	1	2	2	2	1	1	1	2	1
3	Kombaipatti	2	1	2	1	2	1	2	2	1	1	2	2	2	2	1	1	2	1
4	Kunnuvarankottai	2	1	1	1	1	1	2	2	1	1	2	2	1	1	1	1	2	1
5	Pannaipatti	2	2	2	1	1	1	2	2	2	1	2	2	2	2	1	1	2	1
6	Sandaiyur	2	1	2	1	2	1	2	2	1	2	2	2	2	2	1	1	2	1
7	Sekkapatti	2	2	2	1	1	1	2	2	1	1	2	2	1	1	1	1	2	1
8	Sivagnanapuram	2	2	2	1	1	1	2	2	1	1	2	2	2	1	1	1	2	1
9	Viralipatti	2	2	2	1	2	1	2	2	1	1	2	2	1	1	1	1	2	1
10	Viruveedu	1	2	1	1	1	1	2	2	1	1	2	2	2	2	1	1	2	1

Abbreviations – MP – Mobile Phone Coverage; RS – Railway Station; GR – Gravel Roads ; IC / CSC – Internet €/Common Service Centre; NH – National Highways; NWR – Navigate waterways River; PCF – Private Courier Facility; SH – State Highways; FP – Foot path; BS – Public Bus Service; MDR – Major District Road; PBS – Private Bus Service ; BTR – Black Topped (Pucca Roads)

Note – 1 – Available within the village; 2 – Not available

TABLE 3.25: WATER & DRAINAGE FACILITIES IN THE STUDY AREA

Sl	Village Name	TP	CW	UCW	HP	TW/BH	S	R/C	T/P/L	CD	OD	CT
1	Batlagundu	1	1	2	2	1	2	2	2	1	1	1
2	Bodiagoundanpatti	1	2	2	2	1	2	2	2	1	1	2
3	Kombaipatti	1	2	1	2	1	1	1	2	2	1	2
4	Kunnuvarankottai	1	2	2	1	1	2	2	2	1	1	1
5	Pannaipatti	1	2	1	2	1	1	1	2	1	1	2
6	Sandaiyur	1	1	1	2	1	2	2	2	1	1	2
7	Sekkapatti	1	1	1	1	1	2	2	2	1	1	2
8	Sivagnanapuram	1	2	1	2	1	2	2	2	2	1	2
9	Viralipatti	1	2	1	1	1	1	2	2	1	1	2
10	Viruveedu	1	1	1	1	1	2	2	2	1	1	2

Abbreviations: T – Tap Water; R / C – River / Canal; CW – Covered Well; T/P/L – Tank / Pond / Lake; UCW – Uncovered Well; CD – Covered Drainage; HP – Hand Pump; OD – Open Drainage; TW/BH – Tube / Bore Well; CT – Community Toilet Complex for General public; S – Spring

Note – 1 – Available within the village; 2 – Not available

Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

TABLE 3.26: OTHER FACILITIES IN THE STUDY AREA

Sl	Village Name	ATM	CB	COB	ACS	SHG	PDS	RM	AMS	NC	NC-AC	CC	SF	PL		NPS	APS	BDRO	PS
1	Batlagundu	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1
2	Bodiagoundanpatti	2	2	2	2	1	1	2	2	1	1	1	1	2		1	1	1	1
3	Kombaipatti	2	2	1	2	1	1	2	2	1	1	1	1	1		1	1	1	1
4	Kunnuvarankottai	2	2	1	1	1	1	2	2	1	1	1	1	1		1	1	1	1
5	Pannaipatti	2	2	2	2	1	2	2	2	1	1	2	2	2		1	1	2	1
6	Sandaiyur	2	2	2	2	1	1	2	2	1	1	2	2	2		1	1	1	1
7	Sekkapatti	2	2	2	2	1	1	2	2	1	1	2	2	2		1	1	1	1
8	Sivagnanapuram	2	2	1	1	1	1	2	2	1	1	1	1	2		1	1	1	1
9	Viralipatti	2	2	2	2	1	1	2	2	2	2	1	2	2		1	2	2	1
10	Viruveedu	2	1	1	1	1	1	2	2	1	1	1	1	1		1	1	1	1

Abbreviations: ATM – Automatic Teller Machine; PDS – Public Distribution System (Shop); CB – Commerical Bank; RM – Regular Market; COB – Co-operative Bank; AMS – Agricultural Market Society; ACS – Agricultural Credit Societies; NC – Nutritional Centres; SHG – Self Help Group; NC-AC – Nutritional Centres – Anganwadi Centre; DBRO – Birth & Death Registration Office; PS – Power Supply Note – 1 – Available within the village; 2 – Not available

Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

TABLE 3.27: EDUCATIONAL FACILITIES IN THE STUDY AREA

		PPS		PS		MS		SS		SSS		DC		EC		MC		MI		PT		VTS		SSD	
Sl	Village Name	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P
1	Batlagundu	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Bodiagoundanpatti	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Kombaipatti	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Kunnuvarankottai	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	Pannaipatti	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Sandaiyur	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	Sekkapatti	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	Sivagnanapuram	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Viralipatti	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	Viruveedu	1	2	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Abbreviations: PPS-Pre Primary School; SSS-Senior Secondary School; DC-Degree School; PT-Polytechnic; PS-Primary School; G-Government; EC-Engineering College; VTS-Vocational School /ITI; MS-Middle School; P-Private; MC-Medical College; SSD-Special School For Disabled; SS-Secondary School; MI-Management College/Institute;

Note – 1 – Available within the village; 2 – Not available Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

TABLE 3.28: MEDICAL FACILITIES IN THE STUDY AREA

Sl. No.	Village Name	CHC	PHC	PHSC	MCW	TBC	HA	HAM	D	VH	MHC	FWC	NGM-I/O
1	Batlagundu	0	2	5	2	2	0	0	2	0	0	2	a
2	Bodiagoundanpatti	0	0	0	0	0	0	0	0	0	0	0	b
3	Kombaipatti	0	0	1	0	0	0	0	0	0	0	0	b
4	Kunnuvarankottai	0	0	1	0	0	0	0	0	1	0	0	a
5	Pannaipatti	0	0	0	0	0	0	0	0	0	0	0	a
6	Sandaiyur	0	0	1	0	0	0	0	0	0	0	0	b
7	Sekkapatti	0	0	0	0	0	0	0	0	0	0	0	a
8	Sivagnanapuram	0	0	0	0	0	0	0	0	0	0	0	b
9	Viralipatti	0	1	1	1	1	0	0	1	1	0	1	b
10	Viruveedu	1	1	1	1	1	0	0	1	1	0	1	a

Abbreviations: CHC-Community Health Centre; TBC-TB Clinic; VH- Veternity Hospital; PHC-Primary Health Centre; HA-Aallopathic Hospital; FWC-Family Welfare Centre; PHSC-Primary Health Sub Centre; HAM-Alternative Medicine Hospital; MH-Mobile Health Clinic; MCW-Maternity and Child Welfare Centre; D-Dispensary; NGM-I/O-Non Government Medical Facilities In & Out Patient
Note – 1 – Available within the village; 2 – Not available a-facility available at <5kms b-facility available at>10kms
Source: www.censusindia.gov.in – Tamilnadu Census of India – 2011

3.7.6 Recommendation and Suggestion

- Awareness program should be conducted to make the population aware to get education and a better livelihood.
- Health care centre and ambulance facility can be provided to the population to get easy and accessible medical facilities.
- Vocational training programme can be organized to make the people self – employed, particularly for women and unemployed youth.
- On the basis of qualification and skills local youths may be employed.
- Long term and short term employments can be generated.
- Maternity facility should be made available at the place to avoid going too far off places for treatment which involves risks. 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.

3.7.7 Conclusion

The socio economic study of surveyed villages 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 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.

The nearby villages within 5kms radius have PHC, Anganwadi school, post office, telegram, Government and Private school, bus connectivity besides.

4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 GENERAL

Environmental impacts both direct and indirect on various environmental attributes due to proposed mining activity will be created in the surrounding environment, during the operational and post–operational phases. The occurrence of mineral deposits, being site specific, their exploitation, often, does not allow for any choice except adoption of eco-friendly operation. The methods are required to be selected in such a manner, so as to maintain environmental equilibrium ensuring sustainable development.

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.

Several scientific techniques and methodologies are available to predict impacts of physical environment. Mathematical models are the best tools to quantitatively describe the cause-and-effect relationships between sources of pollution and different components of environment. In cases where it is not possible to identify and validate a model for a particular situation, predictions have been arrived at based on logical reasoning / consultation / extrapolation.

The following parameters are of significance in the Environmental Impact Assessment and are being discussed in detail

- Land environment
- Soil environment
- Water Environment
- Air Environment
- Noise Environment
- Socio economic environment
- Biological Environment

  Based on the baseline environmental status at the project site, the environmental factors that are likely to be affected (Impacts) are identified, quantified and assessed.

4.1 LAND ENVIRONMENT:

4.1.2 Anticipated Impact

- 3.13.50 Ha of the land will be under mining since the Permanent or temporary change on land use and land cover will occur – P1
- 3.95.0 Ha of the land will be under mining since the Permanent or temporary change on land use and land cover will occur – P2
- Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations due to dust, noise and it also causes traffic hazards.
- Due to degradation of land by pitting the aesthetic environment of the core zone may be affected.
- Earthworks during the rainy season increase the potential for soil erosion and sediment laden water entering the water ways.

If no due care is taken wash off from the exposed working area may choke the water course & can also cause the siltation of water course

4.1.3 Mitigation Measures

- The 3.13.50 Ha of the land will be converted into temporary reservoir which will full fill the water scarcity in the drought season and the nearby agriculture land will have benefitted by the supply of water for P1
- The 3.95.0 Ha of the land will be converted into temporary reservoir which will full fill the water scarcity in the drought season and the nearby agriculture land will have benefitted by the supply of water for P2
- About 3750 Nos of trees will be planted in the lease area and approach road will retain the eco system
- The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigative measures like phase wise development in the production
- Construction of garland drains all around the quarry pits and construction of silt trap 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.,
- Fencing will be constructed before starting the mining operation and it will be maintained in the conceptual stage Security will be posted round the clock, to prevent inherent entry of the public and cattle.

Soil Environment

4.1.4 Impact on Soil Environment

- Removal of vegetation cover
- Soil Erosion in the project site during rainy season due to quarry operation

Mitigation Measures

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

Waste Dump Management

There is no waste anticipated in this Rough Stone and gravel quarrying operation. The entire quarried out materials will be utilized (100%).

4.2 WATER ENVIRONMENT

4.2.1 Anticipated Impact

- The major sources of water pollution normally associated due to mining and allied operations are:
    - Generation of waste water from vehicle washing.
    - Washouts from surface exposure or working areas
    - Domestic sewage
    - Disturbance to drainage course in the project area
    - Mine Pit water discharge
- Increase in sediment load during monsoon in downstream of lease area

- This being a mining project, there will be no process effluent. Waste from washing of machinery may result in discharge of Oil & grease, suspended solids.
- The sewage from soak pit may percolate to the ground water table and contaminate it.
- Surface drainage may be affected due to Mining
- Abstraction of water may lead to depletion of water table
- 3.0 KLD water will be utilized for the quarrying operation for P1
- 3.0 KLD water will be utilized for the quarrying operation for P2

Mitigation Measures

- Water for the quarrying operation such as sprinkling on haul roads, Greenbelt development will be sourced from the lower part of the mine pit which is specifically allotted to collect the rain water.
- Garland drain, settling tank will be constructed along the proposed mining lease area. The Garland drain will be connected to settling tank and sediments will be trapped in the settling traps and only clear water will be discharged out to the natural drainage
- Rainwater will be collected in sump in the mining pits and will be allowed to store and pumped out to surface setting tank of 15 m x 10m x 3m to remove suspended solids if any. This collected water will be judiciously used for dust suppression and such sites where dust likely to be generated and for developing green belt. The proponent will collect and judicially utilize the rainwater as part of rainwater harvesting system.
- Periodic (every 6 months once) analysis of quarry pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.
- Waste water discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes.
- De-silting will be carried out before and immediately after the monsoon season.

4.3 AIR ENVIRONMENT

4.3.1. Anticipated Impact

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

Modelling of Incremental Concentration from all Proposed Projects

Wind erosion of the exposed areas and the air borne particulate matter generated by quarrying operation, and transportation are mainly PM_{10} & $PM_{2.5}$ and emissions of Sulphur dioxide (SO_2) & Oxides of Nitrogen (Nox) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

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

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

AERMOD Software.

Prediction of impacts on air environment has been carried out taking into consideration cumulative production all the quarries fall in the Cluster. Air environment and net increase in emissions by Open pit source modelling in AERMOD Software AERMOD 9.61.

Emission Estimation

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

The general equation for emissions estimation is:

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

Where:
E = emissions;
A = activity rate;
EF = emission factor, and
ER =overall emission reduction efficiency, %

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

Frame work of Computation & Model details

Suspended Particulate Matter (SPM) is the major pollutant occurred during quarrying activities. The prediction included the impact of Excavation, Drilling, Blasting (Occasionally), loading and movement of vehicles during transportation and meteorological parameters such as wind speed, wind direction, temperature, rainfall, humidity and Cloud cover.

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

TABLE 4.1: ESTIMATED EMISSION RATE

PM_{10}				
Activity	**Source type**	**P1**	**P2**	**Unit**
Drilling	Point Source	0.144628475	0.162601354	g/s
Blasting	Point Source	0.015306768	0.027493830	g/s
Mineral Loading	Point Source	0.050198680	0.052133239	g/s
Haul Road	Line Source	0.002535302	0.002559724	g/s/m
Overall Mine	Area Source	0.072666105	0.086094805	g/s
SO_2				
Activity	**Source type**	**Value**		**Unit**
Overall Mine	Area Source	0.005754115	0.004859015	g/s
NO_X				

Overall Mine	Area Source	0.000640121	0.000476912	g/s

FIGURE 4.1: AERMOD TERRAIN MAP

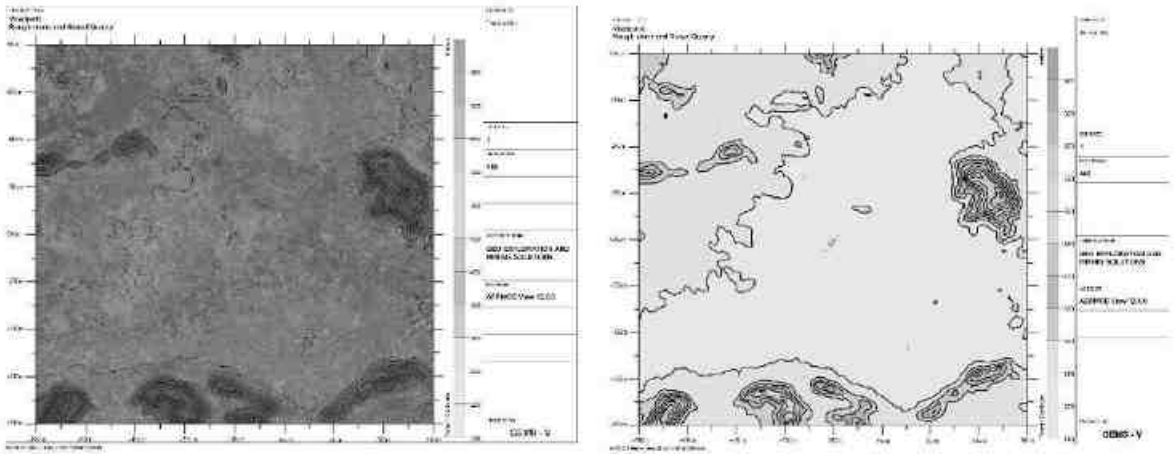


FIGURE 4.2: PREDICTED INCREMENTAL CONCENTRATION OF PM_{10}

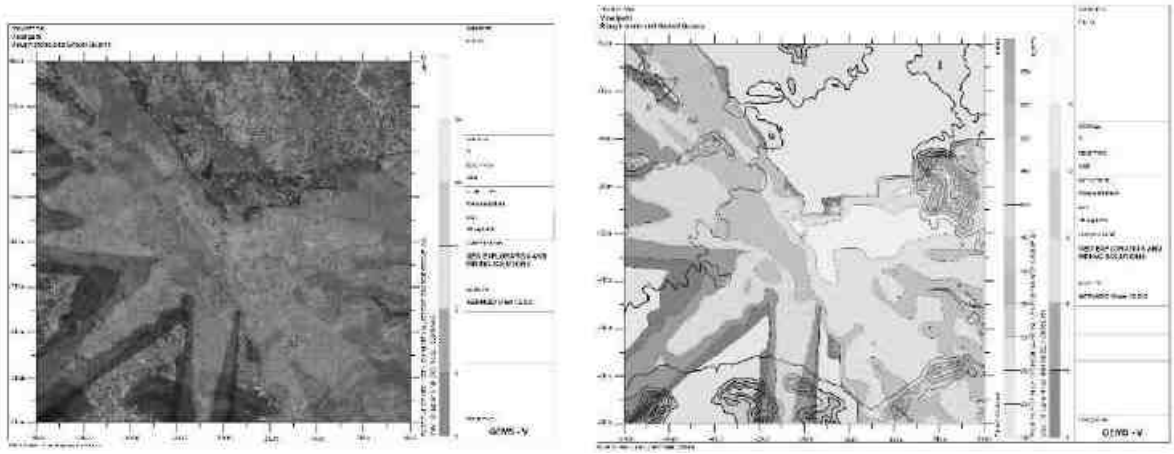


FIGURE 4.3: PREDICTED INCREMENTAL CONCENTRATION OF $PM_{2.5}$

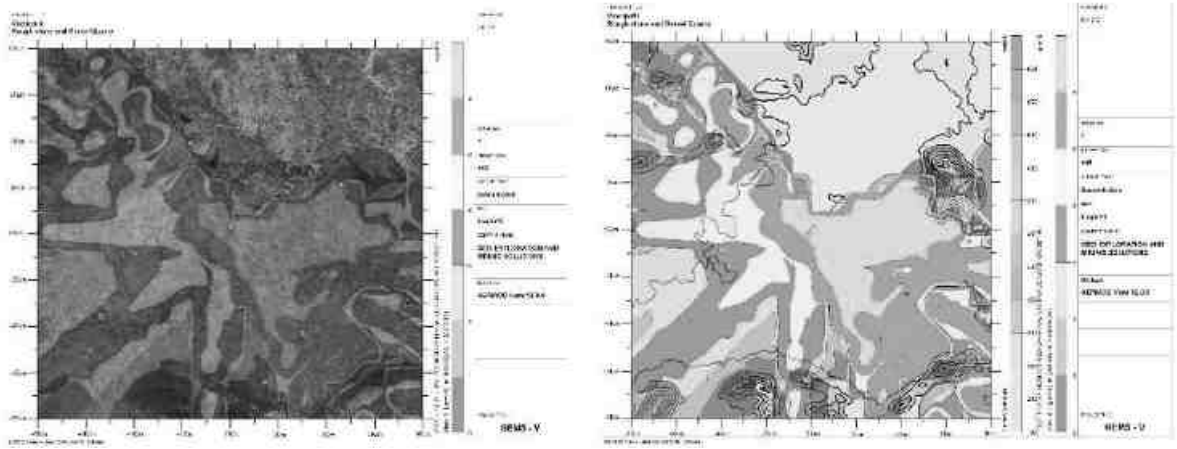


FIGURE 4.4: PREDICTED INCREMENTAL CONCENTRATION OF NO_X

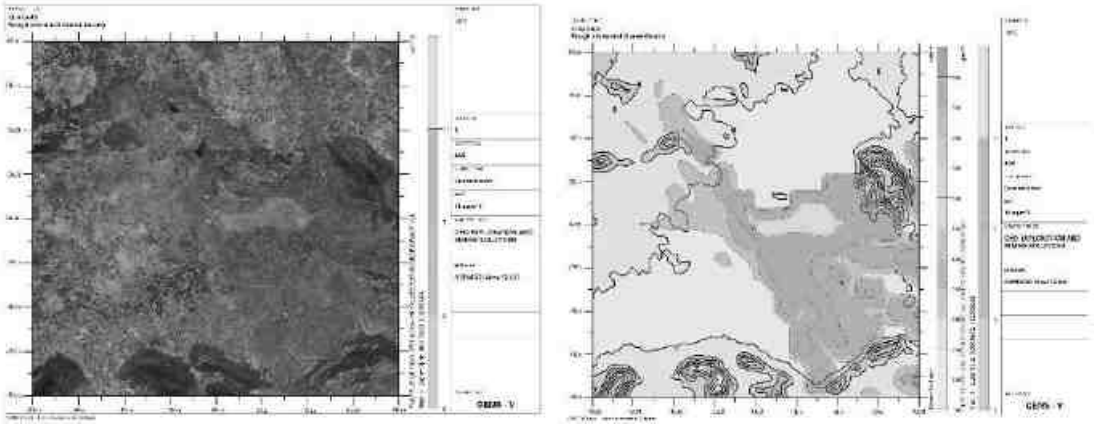


FIGURE 4.5: PREDICTED INCREMENTAL CONCENTRATION OF SO2

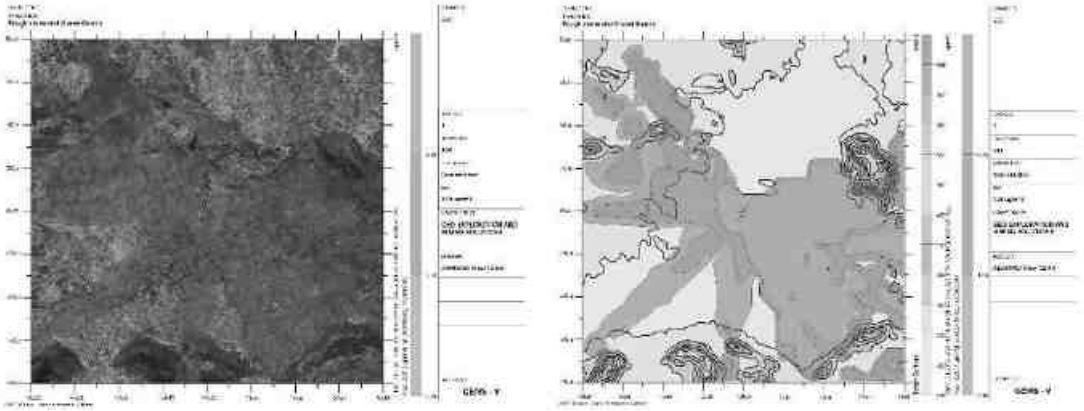
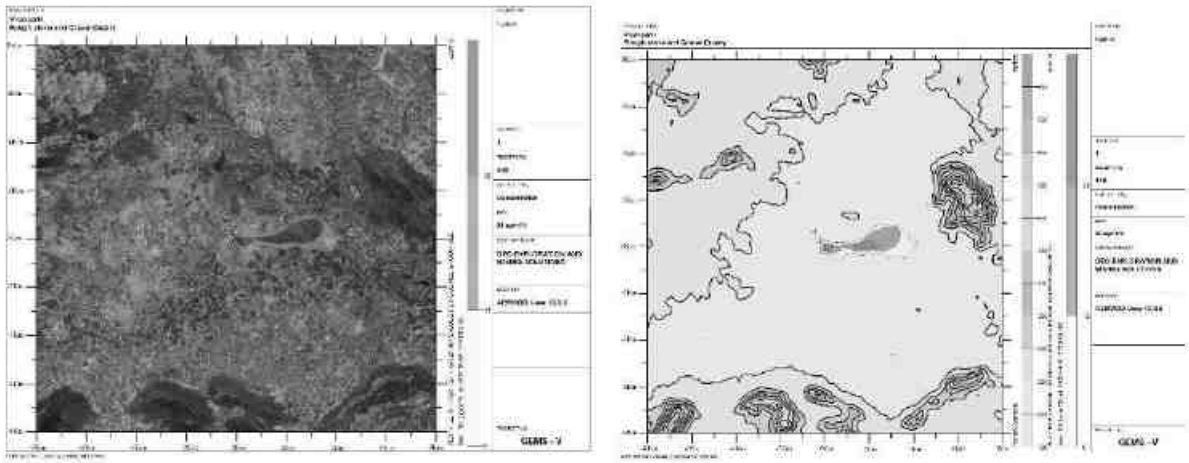


FIGURE 4.6: PREDICTED INCREMENTAL CONCENTRATION OF FUGITIVE DUST



Model Results

The post project Resultant Concentrations of PM_{10}, $PM_{2.5}$, SO_2 & NO_X (GLC) is given in Table below:

TABLE 4.2: INCREMENTAL & RESULTANT GLC OF PM_{10}

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline PM_{10} ($\mu g/m^3$)	Incremental value of PM_{10} due to mining ($\mu g/m^3$)	Total PM_{10} ($\mu g/m^3$)
AAQ1	10° 7'13.73"N 77°45'7.46"E	46	-54	42.4	15.81	58.21
AAQ2	10° 7'0.72"N 77°44'57.41"E	-264	-467	42.6	14.00	56.6
AAQ3	10° 7'36.80"N 77°44'51.73"E	-438	658	45.7	15.45	61.15
AAQ4	10° 4'43.94"N 77°46'46.30"E	3078	-4702	46.0	12.90	58.9
AAQ5	10° 8'11.42"N 77°47'38.97"E	4694	1731	46.1	15.10	61.2
AAQ6	10° 5'9.80"N 77°42'12.20"E	-5339	-3904	45.4	7.00	52.4
AAQ7	10° 9'9.77"N 77°44'14.09"E	-1594	3535	45.8	0	45.8

TABLE 4.3: INCREMENTAL & RESULTANT GLC OF $PM_{2.5}$

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline $PM_{2.5}$ ($\mu g/m^3$)	Incremental value of $PM_{2.5}$ due to mining ($\mu g/m^3$)	Total $PM_{2.5}$ ($\mu g/m^3$)
AAQ1	10° 7'13.73"N 77°45'7.46"E	46	-54	19.8	8.90	28.7
AAQ2	10° 7'0.72"N 77°44'57.41"E	-264	-467	20.4	7.72	28.12
AAQ3	10° 7'36.80"N 77°44'51.73"E	-438	658	22.3	8.50	30.8
AAQ4	10° 4'43.94"N 77°46'46.30"E	3078	-4702	22.9	7.30	30.2
AAQ5	10° 8'11.42"N 77°47'38.97"E	4694	1731	23.7	8.21	31.91
AAQ6	10° 5'9.80"N 77°42'12.20"E	-5339	-3904	23.2	3.47	26.67
AAQ7	10° 9'9.77"N 77°44'14.09"E	-1594	3535	23.6	0	23.6

TABLE 4.4: INCREMENTAL & RESULTANT GLC OF SO_2

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline SO_2 ($\mu g/m^3$)	Incremental value due to mining ($\mu g/m^3$)	Total SO_2 ($\mu g/m^3$)
AAQ1	10° 7'13.73"N 77°45'7.46"E	46	-54	3.6	2.29	5.89
AAQ2	10° 7'0.72"N 77°44'57.41"E	-264	-467	4.0	2.22	6.22
AAQ3	10° 7'36.80"N 77°44'51.73"E	-438	658	4.1	2.27	6.37
AAQ4	10° 4'43.94"N 77°46'46.30"E	3078	-4702	4.4	2.20	6.6
AAQ5	10° 8'11.42"N 77°47'38.97"E	4694	1731	4.4	2.25	6.65
AAQ6	10° 5'9.80"N 77°42'12.20"E	-5339	-3904	4.4	0.75	5.15
AAQ7	10° 9'9.77"N 77°44'14.09"E	-1594	3535	4.6	0	4.6

TABLE 4.5: INCREMENTAL & RESULTANT GLC OF NO_X

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline Nox ($\mu g/m^3$)	Incremental value due to mining ($\mu g/m^3$)	Total Nox ($\mu g/m^3$)
AAQ1	10° 7'13.73"N 77°45'7.46"E	46	-54	19.3	11.39	30.69
AAQ2	10° 7'0.72"N 77°44'57.41"E	-264	-467	19.5	6.80	26.3
AAQ3	10° 7'36.80"N 77°44'51.73"E	-438	658	19.9	11.00	30.9
AAQ4	10° 4'43.94"N 77°46'46.30"E	3078	-4702	20.5	8.12	28.62
AAQ5	10° 8'11.42"N 77°47'38.97"E	4694	1731	20.5	10.00	30.5
AAQ6	10° 5'9.80"N 77°42'12.20"E	-5339	-3904	20.2	0	20.2
AAQ7	10° 9'9.77"N 77°44'14.09"E	-1594	3535	20.0	0	20.0

From the resultant of cumulative concentration i.e., Background + Incremental Concentration of pollutant in all the receptor locations without effective mitigation measures are still within the prescribed NAAQ limits of 100, 80 & 80 µg/m3 for PM10, SO2 & NOX respectively. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be further being controlled.

Mitigation Measures

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

Advantages of Wet Drilling: -

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

Blasting –

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

Haul Road & Transportation –

- Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation
- Transportation of material will be carried out during day time and material will be covered with taurpaulin
- The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.
- Water sprinkling on haul roads & loading points will be carried out twice a day
- Main source of gaseous pollution will be from vehicle used for transportation of mineral; therefore, weekly maintenance of machines improves combustion process & makes reduction in the pollution.
- The un-metaled haul roads will be compacted weekly before being put into use.

- Over loading of tippers will be avoided to prevent spillage.
- It will be ensured that all transportation vehicles carry a valid PUC certificate
- Grading of haul roads and service roads to clear accumulation of loose materials

Green Belt –

- 1070 Nos of trees will be planted through this project in the lease area and village roads (Approach Road) to prevent the generation of dust due to movement of dumpers/trucks
- Green belt of adequate width will be developed around the project areas

Occupational Health –

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

4.4 NOISE ENVIRONMENT

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. These activities will not cause any problem to the inhabitants of this area because there is no human settlement within 300m radius from the project site. Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities.

Predictions have been carried out to compute the noise level at various distances around the working pit due to these major noise-generating sources. Noise modelling has been carried out to assess the impact on surrounding ambient noise levels.

Basic phenomenon of the model is the geometric attenuation of sound. Noise at a point generates spherical waves, which are propagated outwards from the source through the air at a speed of 1,100 ft/sec, with the first wave making an ever-increasing sphere with time. As the wave spreads the intensity of noise diminishes as the fixed amount of energy is spread over an increasing surface area of the sphere. The assumption of the model is based on point source relationship i.e., for every doubling of the distance the noise levels are decreased by 6 dB (A).

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

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

Where:

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

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

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

1.7.1 Anticipated Impact

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

- Source data
- Receptor data

- Attenuation factor

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

TABLE 4.6: ACTIVITY AND NOISE LEVEL PRODUCED BY MACHINERY

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

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

The total noise to be produced by mining machineries 95.8 dB (A). Generally, most mining operations produce noise between 100-109 dB (A). We have considered equipment and operation noise levels (max) to be 128pprox.. 109 dB (A) for nose prediction modelling.

TABLE 4.7: PREDICTED NOISE INCREMENTAL VALUES

Location ID	**N1**	**N2**	**N3**	**N4**	**N5**	**N6**	**N7**
Maximum Monitored Value (Day) dB(A)	46.0	49.0	49.9	47.9	48.2	45.4	46.1
Incremental Value dB(A)	60.1	60.1	43.0	25.3	25.9	23.9	28.5
Total Predicted Noise level dB(A)	60.3	60.4	50.7	47.9	48.2	45.4	46.2

The incremental noise level is found within the range of 60.3 dB (A) in Core Zone and 46.2 – 50.7 dB (A) in Buffer zone. The noise level at different receptors in buffer zone is lower due to the distance involved and other topographical features adding to the noise attenuation. The resultant Noise level due to monitored values and calculated values at the receptors are based on the mathematical formula considering attenuation due to Green Belt as 4.9 dB (A) the barrier effect. From the above table, it can be seen that the ambient noise levels at all the locations are within permissible limits of Industrial area (core zone) & Residential area (buffer zone) as per The Noise Pollution (Regulation And Control) Rules, 2000 (The Principal Rules were published in the Gazette of India, vide S.O. 123€, dated 14.2.2000 and subsequently amended vide S.O. 1046€, dated 22.11.2000, S.O. 1088€, dated 11.10.2002, S.O. 1569 €, dated 19.09.2006 and S.O. 50 € dated 11.01.2010 under the Environment (Protection) Act, 1986.).

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;
- Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders;
- Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained;
- 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;
- Green Belt/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

4.5 GROUND VIBRATIONS

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

Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining lease area and may cause injury to persons or damage to the structures. Nearest habitation from the proposed project areas is listed in below table. The ground vibrations due to the blasting in the quarry are calculated using the empirical equation.

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

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

Where –
V = peak particle velocity (mm/s)
K = site and rock factor constant
Q = maximum instantaneous charge (kg)
B = constant related to the rock and site (usually 1.6)
R = distance from charge (m)

TABLE 4.8: PREDICTED PPV VALUES DUE TO BLASTING

Code	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	20	620m-NW	0.187
P2	20	860m-NW	0.111

FIGURE 4.7: GROUND VIBRATION PREDICTION – P1

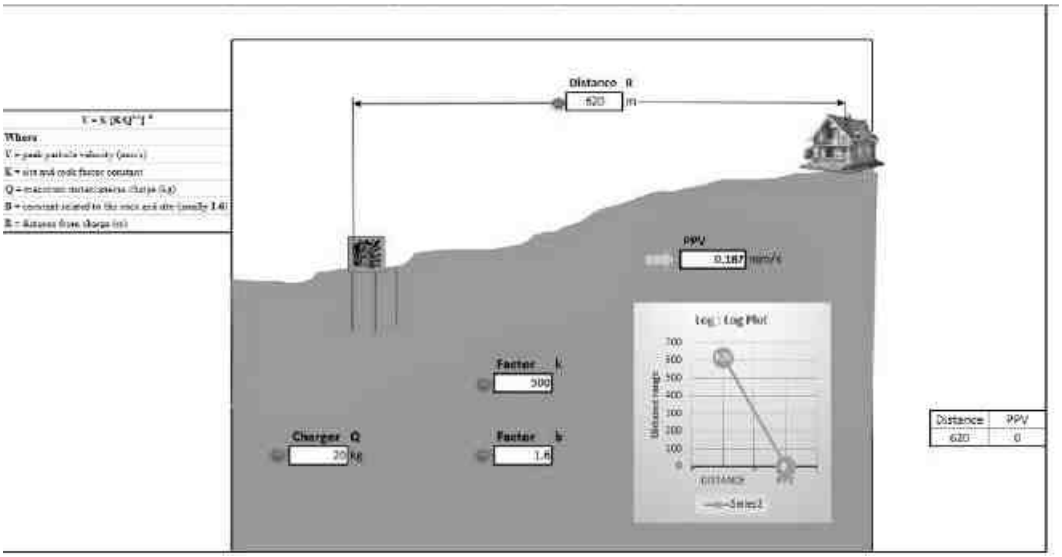
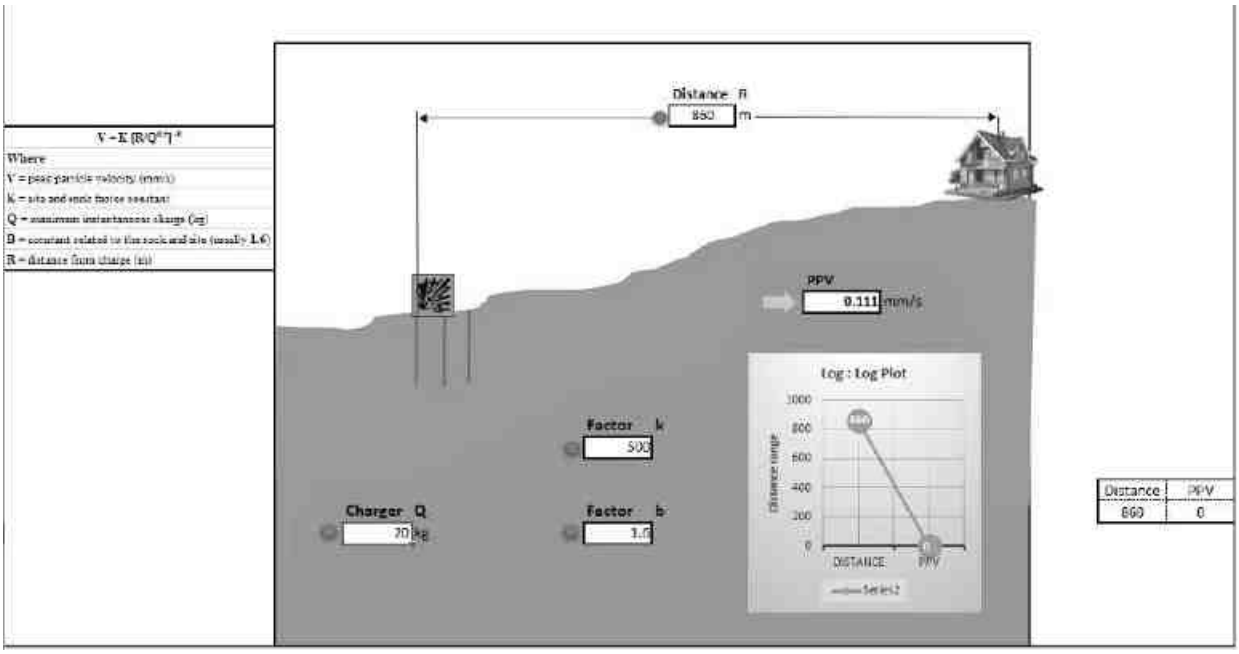


FIGURE 4.8: GROUND VIBRATION PREDICTION – P2



From the above graph, the charge per blast of 20 kg is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997. But the all the project proponents ensure that the charge per blast shall be less than 20 kg and carry out blasting twice or thrice a day based on the onsite conditions under the supervision of competent person employed. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

Mitigation Measures

- It is proposed to carry out blasting operation 20kg per round so that the vibration will be minimal
- The mining operation will be carried out without deep hole drilling, 25mm small dia cartridge will be utilized for the blasting
- The blasting operations in the project site without deep hole drilling and blasting using delay detonators, which reduces the ground vibrations;
- Proper quantity of explosive, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting;
- Adequate safe distance from blasting will be maintained as per DGMS guidelines;
- Blasting shelter will be provided as per DGMS guidelines;
- Blasting operations will be carried out only during day time;
- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts;
- During blasting, other activities in the immediate vicinity will be temporarily stopped;
- Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast;
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 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.
- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used.
- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.
- Appropriate blasting techniques shall be adopted such that the predicted peak particle velocity shall not exceed 8 mm/s.
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices

Impact on the Biological Environment

Impact Identification and Evaluation

In general, impact prediction methods argue that the foremost step in impact appraisal must consider and identify project actions that are likely to bring significant changes in the project environment. The present study determined to predict the likely impacts of the Proposed Rough stone and Gravel quarry, mining Project in the surrounding environment with a specific focus on biological attributes covering habitats/ecosystems and associated biodiversity. Likely impacts identified were categorized into different levels like direct or primary and indirect or secondary impacts based on the influence of sources of impacts.

Impact on Flora

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

Anticipated Impact of mining activity on local flora, fauna and agricultural land

1. Mining of rough stone involves clearing the flora and fauna in core zone. This can lead to habitat destruction for plant species and removal of trees from the site. However, the core zone contains widely occurring herbs, shrubs and trees. This must be compensated with suitable green belt development practices.
2. The excavation process can remove topsoil, which is crucial for plant growth. In some cases, this can lead to erosion, loss of soil fertility, and changes in soil structure, making it difficult for native plant species to thrive.

3. Mining activity can they destroy the natural habitats of various animal species. However, the proposed area is very small and the animals can migrate to buffer zone.
4. During the loading of the truck, dust generation will be likely to occur. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.

Mitigation Measures

General Guidelines for Green Belt Development

Drone survey was covered the green belt and fencing as per the terms of references. The green belt and plantation purposes in and around the proposed mine lease area native species, fruit-bearing trees, medicinal plants, and dense canopy trees should be selected. These species should be tolerant to pollution levels as per Bio- Geography zones of India.

After the operation of mining production capacity, Green belt and Plantation species should be in accordance with the Terms and Conditions of the Environmental Clearance Green belt is created not only for the purpose of protecting sensitive areas or maintaining the ecological balance but because they also act as efficient biological filters or sinks for particulate and gaseous emissions, generated by vehicular movements and various industrial and mining activities. Optimally designed green belts can be effective in reducing the impact of fugitive emissions and pollutants accidentally or otherwise released at ground levels.

Proposed Green Belt

Extensive green belt development will be started during the construction phase, which will continue till the operation of the plant. About 500 trees will be planted per hectare all around the quarry safety barrier, approach roads, and township premises. Locally available types of trees that are resistant to pollutants will be planted. In addition to the above, all open spaces available within the premises will be developed as nurseries, parks, gardens, and other forms of greenery. 5 m wide greenbelt will be developed along the plant premises, as per land available.

Guidelines & Techniques for Green Belt Development

An extensive survey of the project area was undertaken to observe the structure and composition of vegetation. Hence a combination of plants is selected depending upon the topographical suitability and species selected as per the SPCB Guideline and ToR. The soil characteristics were kept in mind. Based on this survey and environmental conditions suitable native plant species have been proposed for the green belt development plan.

Development of Green Belt

The plantation matrix adopted for the green belt development includes pit of 0.3 m x 0.3 m in size with a spacing of 2 m x 2 m. In addition, earth filling and manure may also be required for the proper nutritional balance and nourishment of the sapling. It is also recommended that the plantation has to be taken up randomly and the landscaping aspects could be taken into consideration. Multi-layered plantations comprising of medium height trees (7 m to 10 m) and shrubs (5 m height) are proposed for the green belt.

A greenbelt is a set of rows of trees planted in such a fashion, to create an effective barrier between the project and its surroundings. The greenbelt helps to capture fugitive emissions, attenuate the noise levels in the existing project, and simultaneously improve aesthetics of the surroundings.

Design of Green Belt

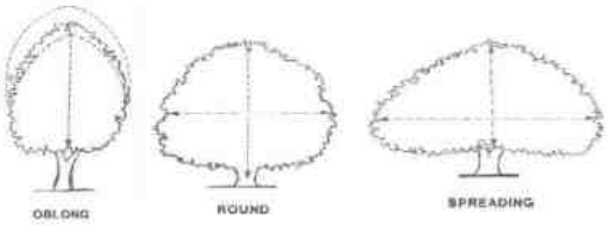
The present plan comprises the details of field investigations. Plant species for greenbelt development are selected as per CPCB guidelines. The green belt will be developed along the periphery of the Proposed Rough stone quarry. The greenbelt development plan has been formulated considering the parameters such as climate, soil types, topography, etc.

a. Characteristic features of plants to be used for Absorption of pollutant gases

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

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 was planted as given in the table No 4.1 & 4.2 in consulted with the DFO. The plant species with dense/moderate canopy of native origin was chosen are given below. Species of small/ medium/tall trees alternating with shrubs was planted.

- Plants that grow fast will be preferred.
- Preference for high canopy covers plants with local varieties.
- Perennial and evergreen plants will be preferred.
- The development of the Green Belt is an important aspect for any plant because:
  - **a.** It improves the ambient air quality by controlling Suspended Particulate Matter (SPM) in the air.
  - **b.** It helps in noise abatement for the surrounding area.
  - **c.** It helps in the settlement of new birds and insects within itself.
  - **d.** It maintains the ecological balance.
  - **e.** It increases the aesthetic value of the site.



(*Source: Guidance for Developing Green belts Manual, CPCB 2000)

List of plant species proposed for Greenbelt development

S. No	Scientific name	Tamil Name
1	*Aegle marmelos*	Vilva maram
2	*Albizia lebbeck*	Vaagai maram
3	*Cassia fistula*	Konrai tree
4	*Lannea coromandelica*	Othiyam
5	*Limonia acidissima*	Vila maram
6	*Syzygium cumini*	Naval maram
8	*Ficus hispida*	Aththi maram
9	*Borassus flabellifer*	Panai-maram
10	*Madhuca longifolia*	Illupai maram
11	*Pongamia pinnata*	Pongamaram
12	*Cassisa roxburghi*	Sengondrai

(*Source: Term of Reference-ToR)

Species suitable for abatement of noise and dust pollution

S. No	Botanical name	Common name
1	*Azadirachta indica*	Vembhu maram
2	*Ficus religiosa*	Arasan maram
3	*Ficus hispida*	Aththi maram

4	*Bombax ceiba*	Mul Elavu
5	*Syzygium cumini*	Naval maram
6	*Tamarindus indica*	Puliyamaram
7	*Mangifera indica*	Manga maram
8	*Harwickia binata*	Anjan maram
9	*Delonix regia*	Neruppu Kondrai
10	*Cassia fistula*	Sara Kondrai

(*Source: Guidance for Developing Green belts Manual, CPCB 2000)

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

These species need to be planted along the periphery of the lease area for absorb fugitive emissions and noise levels which is generated during mining activities. All the open spaces, where tree plantation may not be possible, should be covered with shrubs and grass to prevent erosion of topsoil.

Some of the important aspects to be considered are:

- ✓ Planting of trees in each row will be in staggered orientation.
- ✓ In the front row, shrubs will be grown.
- ✓ Since the trunks of the tall trees are generally devoid of foliage, it will be useful to have shrubs in front of the trees so as to give coverage to this portion.
- ✓ The spacing between the trees will be maintained slightly less than the normal spaces, so that the trees may grow vertically and slightly increase the effective height of the green belt.

Anticipated Impact on Fauna

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

Measures for protection and conservation of wildlife species

- Topsoil has a large number of seeds of native plant species in the mining area.
- Topsoil will be used for restoration and suitable surfaces for planted seedlings.
- Checks and controls the movement of vehicles in and out of the mine.
- Undertaking mitigative measures for a conducive environment to the flora and fauna in consultation with Forest Department.
- A dust suppression system will be installed within the mine and periphery of the mine.
- Plantation around the mine area will help in creating habitats for small faunal species and create a better environment for various fauna. Creating and developing awareness for nature and wildlife in the adjoining villages.

Impact on Aquatic Biodiversity

Mining activities will not disturb the aquatic ecology as there is no effluent discharge proposed Rough stone quarry. There is no natural perennial surface water body within the mine lease area, like wetlands, rivers streams, lakes, and farmer sites. There are few seasonal water bodies located in the study area. There are a few Canals and River located in the study area. There is no impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. Kindly refer the clause no 3.6.3. Aquatic biodiversity is observed in the study area.

Impacts on Bird Fauna:

The project does not involve any tree felling or removal of vegetation. Therefore, there may not be loss of nesting and roosting habitat of avian fauna.

Impacts on wildlife

There is no National Park, Biosphere Reserve, Wildlife corridors, and Tiger/Elephant Reserve found within 10 km radius of the project site.

Overall Ecological impact assessments

S.No	Attributes	Assessment
1	Impact of mining activity on agricultural land nearby the proposed project site.	Agricultural land is located away from the proposed project site. There are no impacts on the agricultural land & Horticulture. Kindly refer to the conclusion.
	Activities of the project affect the breeding/nesting sites of birds and animals	No breeding and nesting site was identified in the mining lease site. The fauna sighted mostly migrated from the buffer area.
2	Located near an area populated by rare or endangered species	No Endangered, Critically Endangered, or vulnerable species were sighted in the core mining lease area.
3	Proximity to national park/wildlife sanctuary/reserve forest /mangroves/ coastline/estuary/sea	Vellaikaradu R.F has located about 1.22km on the Northeast followed by Palapattykaradu RF located about 4.23km on the North west, Kadavakurichi RF located about 5.04km on the West side, Valayapatti R.F is located about 5.6km on the South side
4	The proposed project restricts access to waterholes for wildlife	'No '
5	Proposed mining project impact surface water quality that also provides water to wildlife	'No 'scheduled or threatened wildlife animals are sighted regularly core in the core area.
6	Proposed mining project increase siltation that would affect nearby biodiversity areas.	Surface runoff management such as drains is constructed properly so there will be no siltation effect in the nearby mining area.
7	Risk of fall/slip or cause death to wild animals due to project activities.	'No'
8	The project release effluents into a water body that also supplies water to a wildlife.	No water body near to core zone so the chances of water becoming polluted is low.
9	Mining projects affect the forest-based livelihood/ any specific forest product on which local livelihood depended.	'No'
10	The project likely to affect migration routes.	'No 'migration route was observed during the monitoring period.
11	The project is likely to affect the flora of an area, which have medicinal value	'No'
12	Forestland is to be diverted, has carbon high sequestration.	'No 'There was no forest land diverted.
13	The project is likely to affect wetlands, Fish breeding grounds, and marine ecology.	'No'. Wetland was not present in the near core Mining lease area. No breeding and nesting ground is present in the core mining area.

(*Source: EIA Guidance Manual-Mining and Minerals, 2010)

TABLE 4.9: GREENBELT DEVELOPMENT PLAN

Code	Year	No. of tress proposed to be planted	Area to be covered in m^2	Name of the species

P1	I	1500	The safety zone along the boundary barrier has been identified to be utilized for Greenbelt development and along village roads.	Vembu, Pungan, Mahakani, Naval etc.,
P2	I	1500		

4.6 SOCIO ECONOMIC

4.6.1 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.
- From above details, the quarry operations will have highly beneficial positive impact in the area

4.7 OCCUPATIONAL HEALTH AND SAFETY

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

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

4.7.1 Respiratory Hazards

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

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

4.7.2 Noise

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

- No employee will be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection
- The use of hearing protection will be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110 dB(A)
- Ear muffs provided will be capable of reducing sound levels at the ear to at least 85 dB(A)
- Periodic medical hearing checks will be performed on workers exposed to high noise levels

Physical Hazards

The following measures are proposed for control of physical hazards

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

Occupational Health Survey

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

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

Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

4.8 MINE WASTE MANAGEMENT

No waste is anticipated, the entire mined out material will be sold to needy crushers and customers.

4.9 MINE CLOSURE

The ultimate depth of the mine is 46.5 m bgl for P1 & 51.5 m Bgl for P2 and the life of the mine is 10 years, after completion of mining operation the following action will be taken in the project site as a part of Mine closure plan

- The total Mined out land would be around 3.13.50 Ha & 3.95.0 Ha this land will be converted into temporary water reservoir which will facilitate to collect the rain water
- The stagnant water will be supplied to the nearby agriculture land during drought seasons
- Fencing will be re constructed around the pit after closure, the warning/ danger display board will be placed on all the sides of the project site
- The un utilized area and haul roads will be converted as plantation area, fruit bearing trees will be planted to retain the eco system of the area
- Final Mine closure plan will be prepared and submitted to the concerned authority

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. As progressive mine closure is a continuous series of activities, it is obvious that the proposals of scientific mining have included most of the activities to be included in the closure plan. While formulating the closure objectives for the site, it is important to consider the existing or the pre-mining land use of the site; and how the operation will affect this activity.

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

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

4.9.1 Mine Closure Criteria

The criteria involved in mine closure are discussed below:

4.9.1.1 Physical Stability

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

4.9.1.2 Chemical Stability

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

4.9.1.3 Biological Stability

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

A vegetation cover over the disturbed site is usually one of the main objectives of the rehabilitation programme, as vegetation cover is the best long-term method of stabilizing the site. When the major earthwork components of the rehabilitation programme have been completed, the process of establishing a stable vegetation community begins. For 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 e.g., planning for agriculture
- Where it is desirable to get a quick growth response from the native flora during those times when moisture is not a limiting factor e.g., development of green barriers

The Mine closure plan should be as per the approved mine 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.

5. ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.0 INTRODUCTION

Consideration of alternatives to a project proposal is a requirement of EIA process. During the scoping process, alternatives to a proposal 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 surrounding areas already undergone quarrying operation, there are 3 Crushers within the radius of 1km. Most of the quarries in the regions are abandoned and lease expired quarries. Hence this quarry will feed the Rough stone material to the crushing units.

The Rough Stone and Gravel Quarry Project for excavation of Rough Stone, which is site specific. The proposed mining lease areas have 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 areas.
- 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.
- Study area falls in seismic zone – III, there is no major history of landslides, earthquake, subsidence etc., recorded in the past history.

5.2 ANALYSIS OF ALTERNATIVE SITE

No alternatives are suggested as all the mine sites are mineral specific

5.3 FACTORS BEHIND SELECTION OF PROPOSED TECHNOLOGY

The existing quarries in the area operated by Opencast Mechanised Mining operation with drilling and blasting method will be used to extract Rough Stone in the area. All the applied mining lease areas have following advantages –

- As the mineral deposition is homogeneous and batholith formation, therefore opencast method of working is preferred over underground method
- The material will be loaded with the help of excavators into dumpers / trippers and transported to the needy customers.
- Blasting and availability of drills along with controlled blasting technology gives desired fragmentation so that the mineral is handled safely and used without secondary blasting.
- Semi-skilled labours fit for quarrying operations are easily available around the nearby villages.

5.4 ANALYSIS OF ALTERNATIVE TECHNOLOGY

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

6. ENVIRONMENTAL MONITORING PROGRAMME

6.0 GENERAL

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 as well as the conditions set forth under the order issued by Tamil Nadu Pollution Control Board while granting CTO.

6.1 METHODOLOGY OF MONITORING MECHANISM

Implementation of EMP and periodic monitoring will be carried out by the project proponent. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to this 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 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 all the proposed quarries.

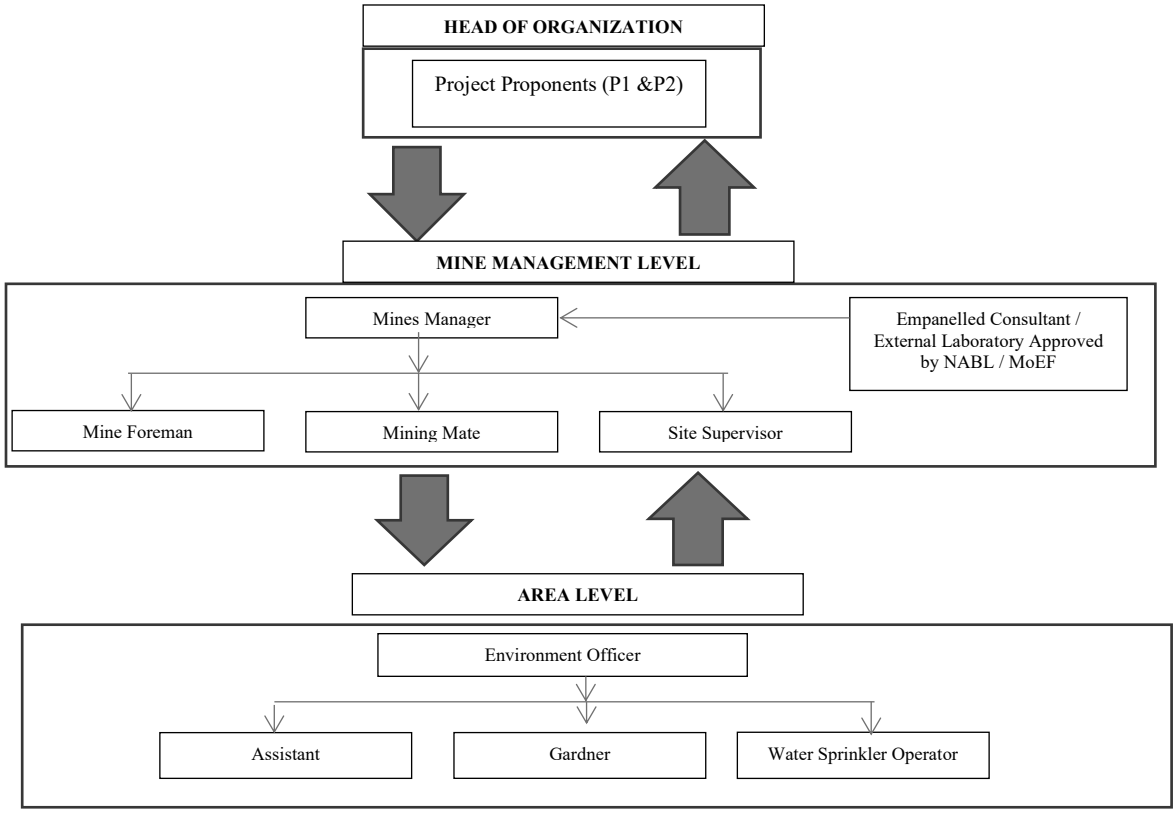
The responsibilities of this cell will be:

- 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 each proposed project proponent. The half-yearly reports are submitted to Ministry of Environment and Forest, Regional Office and SEIAA as well.

The sampling and analysis of the environmental attributes will be as per the guidelines of Central Pollution Control Board (CPCB)/Ministry of Environment, Forest and Climate Change (MoEF & CC).

FIGURE 6.1: PROPOSED ENVIRONMENTAL MONITORING CELL



6.2 IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

The mitigation measures proposed in Chapter-4 will be implemented so as to reduce the impact on the environment due to the operations of the proposed project. Implementation schedule of mitigation measures is given in Table 6.1.

TABLE 6.1 IMPLEMENTATION SCHEDULE

SI 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

The environmental monitoring will be conducted in the mine operations as follows:

- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil Quality; and
- Greenbelt Development

The details of monitoring are detailed in Table 6.2

TABLE 6.2: PROPOSED MONITORING SCHEDULE POST EC

S.No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	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 (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in bgl
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting Operation	Peak Particle Velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and Chemical Characteristics
8	Greenbelt	Within the Project Area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

6.4 BUDGETARY PROVISION FOR EMP

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 capital cost for Environmental Monitoring Programme is Rs 76,000/- and the recurring cost is Rs 76,000 per annum for each Proposed Project.

TABLE 6.3 ENVIRONMENT MONITORING PROGRAM BUDGET

S.No.	Parameter	Capital Cost	Recurring Cost per annum
1	Air Quality	Rs. 76,000/-	Rs. 76,000/-
2	Meteorology		
3	Water Quality		
4	Hydrology		
5	Soil Quality		
6	Noise Quality		
7	Vibration Study		

Total	**Rs 76,000/-**	**Rs 76,000/-**

Source: Approved Mining Plan

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.

7. ADDITIONAL STUDIES

7.0 GENERAL

The following Additional Studies were done as per items identified by project proponent and items identified by regulatory authority. And items identified by public and other stakeholders will be incorporated after Public Hearing.

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

7.1. PUBLIC CONSULTATION

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

7.2 RISK ASSESSMENT

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

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

TABLE 7.1 RISK ASSESSMENT& CONTROL MEASURES

S. No	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and heavy mining machineries	Improper handling and unsafe working practice	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.
4	Blasting	Fly rock, ground vibration, Noise and dust. Improper charging, stemming & Blasting/ fining of blast holes Vibration due to movement of vehicles	Restrict maximum charge per delay as per regulations and by optimum blast hole pattern, vibrations will be controlled within the permissible limit and blasting can be conducted safely. SOP for Charging, Stemming & Blasting/Firing of Blast Holes will be followed by blasting crew during initial stage of operation Shots are fired during daytime only. All holes charged on any one day shall be fired on the same day. The danger zone will be distinctly demarcated (by means of red flags)
5	Transportation	Potential hazards and unsafe workings contributing to accident and injuries Overloading of material While reversal & overtaking of vehicle	Before commencing work, drivers personally check the dumper/truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio-visual reversing alarm, rear view mirrors, side indicator lights etc., are in good condition. 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

		Operator of truck leaving his cabin when it is loaded.	
6	Natural calamities	Unexpected happenings	Escape Routes will be provided to prevent inundation of storm water Fire Extinguishers & Sand Buckets
7	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 height.

Source: Analysed and Proposed by FAE & EC

7.3 DISASTER MANAGEMENT PLAN

Natural disasters like Earthquake, Landslides have not been recorded in the past history as the terrain is categorized under seismic zone III. The area is far away from the sea hence the disaster due to heavy floods and tsunamis are not anticipated

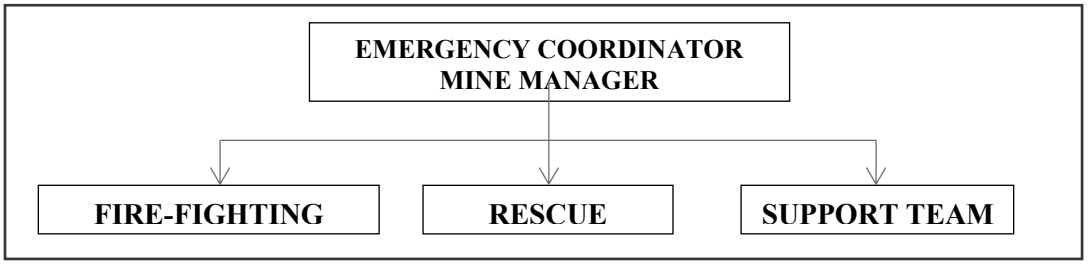
The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities.

The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- Rescue and medical treatment of casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In case a disaster takes place, despite preventive actions, disaster management will have to be done in line with the descriptions below. There is an organization proposed for dealing with the emergency situations and the coordination among key personnel and their team has been shown in Fig 7.1.

FIGURE 7.1: DISASTER MANAGEMENT TEAM LAYOUT



The emergency organization shall be headed by emergency coordinator who will be qualified competent mine manager. In his absence senior most people available at the mine shall be emergency coordinator till arrival of mine manager. There would be three teams for taking care of emergency situations – Fire-Fighting Team, Rescue Team and Support Team. The proposed composition of the teams is given in Table 7.2.

TABLE 7.2: PROPOSED TEAMS TO DEAL WITH EMERGENCY SITUATION

DESIGNATION	QUALIFICATION
FIRE-FIGHTING TEAM	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Team Member	Mines Foreman
Team Member	Mining Mate
RESCUE TEAM	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Team Member/ Incident Controller (IC)	Environment Officer
Team Member	Mining Foreman
SUPPORT TEAM	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Assistant Team Leader	Environment Officer
Team Member	Mining Mate
Security Team Leader/ Emergency Security Controller	Mines Foreman

Once the mine becomes operational, the above table along with names of personnel will be prepared and made easily available to workers. A mobile communication network and wireless shall connect Mine Emergency Control Room (MECR) to control various departments of the mine, fire station and neighbouring industrial units/mines.

Roles and responsibilities of emergency team –

(a) Emergency coordinator (EC)

The emergency coordinator shall assume absolute control of site and shall be located at MECR.

(b) Incident controller (IC)

Incident controller shall be a person who shall go to the scene of emergency and supervise the action plan to overcome or contain the emergency. Shift supervisor or Environmental Officer shall assume the charge of IC.

(c) Communication and advisory team

The advisory and communication team shall consist of heads of Mining Departments i.e., Mines Manager

(d) Roll call coordinator

The Mine Foreman shall be Roll Call Coordinator. The roll call coordinator will conduct the roll call and will evacuate the mine personnel to assembly point. His prime function shall be to account for all personnel on duty.

(e) Search and rescue team

There shall be a group of people trained and equipped to carryout rescue operation of trapped personnel. The people trained in first aid and fire-fighting shall be included in search and rescue team.

(f) Emergency security controller

Emergency Security Controller shall be senior most security person located at main gate office and directing the outside agencies e.g. fire brigade, police, doctor and media men etc.,

Emergency control procedure –

The onset of emergency, will in all probability, commence with a major fire or explosion or collapse of wall along excavation and shall be detected by various safety devices and also by members of operational staff on duty. If located by a staff member on duty, he (as per site emergency procedure of which he is adequately briefed) will go to nearest alarm call point, break glass and trigger off the alarms. He will also try his best to inform about location and nature of accident to the emergency control room. In accordance with work emergency procedure the following key activities will immediately take place to interpret and take control of emergency.

- On site fire crew led by a fireman will arrive at the site of incident with fire foam tenders and necessary equipment.
- Emergency security controller will commence his role from main gate office
- Incident controller shall rush to the site of emergency and with the help of rescue team and will start handling the emergency.
- Site main controller will arrive at MECR with members of his advisory and communication team and will assume absolute control of the site.
- He will receive information continuously from incident controller and give decisions and directions to:
    - Incident controller
    - Mine control rooms
    - Emergency security controller

Proposed fire extinguishers at different locations –

The following type of fire extinguishers has been proposed at strategic locations within the mine.

TABLE 7.3: PROPOSED FIRE EXTINGUISHERS AT DIFFERENT LOCATIONS

LOCATION	TYPE OF FIRE EXTINGUISHERS
Electrical Equipment's	CO_2 type, foam type, dry chemical powder type
Fuel Storage Area	CO_2 type, foam type, dry chemical powder type, Sand bucket
Office Area	Dry chemical type, foam type

Alarm system to be followed during disaster –

On receiving the message of disaster from Site Controller, fire-fighting team, the mine control room attendant will sound siren wailing for 5 minutes. Incident controller will arrange to broadcast disaster message through public address system. On receiving the message of "Emergency Over" from Incident Controller the emergency control room attendant will give "All Clear Signal", by sounding alarm straight for 2 minutes.

7.4 CUMULATIVE IMPACT STUDY

For easy representation of Proposed and Existing Quarries in the Cluster are given unique codes and identifies and studied in this EIA /EMP Report.

TABLE 7.4: LIST OF QUARRIES WITHIN 500 METER RADIUS

PROPOSED QUARRIES					
CODE	**Name of the Owner**	**Village**	**S.F. Nos**	**Extent in Ha**	**Status**
P1	Tvl. Adayar Granites	Viralipatty	S.F.No. 2/1 and 1269/3	3.13.5	File No.11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025
P2	Tvl. Adayar Granites	Viralipatty	S.F.No. 4/2, 1274/1 and 1274/2	3.95.0	File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025
	TOTAL EXTENT			**7.08.5 ha**	
EXISTING QUARRIES					
CODE	**Name of the Owner**	**Village**	**S.F. Nos**	**Extent in Ha**	**Status**
E-1	Tvl. Adayar Granites	Viralipatty	S.F.No 3/1, 3/2 and 4/1	4.52.0	25.07.2023 to 24.07.2033
	TOTAL EXTENT			**4.52.0 ha**	
	TOTAL CLUSTER EXTENT			**11.60.5 Ha**	

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

TABLE 7.5: SALIENT FEATURES OF PROPOSAL "P1"

Name of the Project	M/s. Adayar Granites Rough Stone and Gravel Quarry Project		
S.F. No.	2/1 and 1269/3		
Extent	3.13.5 Ha		
Village,Taluk and District	Viralipatti Village, Nilakottai Taluk, Dindigul District.		
Land Type	It is Patta land, registered in the name of M/s. Mirones Builders and Developers Private limited Vide Patta No. 5265. The Company has obtained Lease Deed Registered from the Pattadhar for the period of fifteen years from the date 11.03.2021 to 10.03.2036 and duly registred in Sub register office, Batlagundu vide Document No. 1028/2021, Dated: 11.03.2021.		
Toposheet No	58 F/12 & 58F/16		
Latitude between	10°07'08.63"N to 10°07'18.16"N		
Longitude between	77°44'59.03"E to 77°45'09.06"E		
Elevation of the area	243m AMSL		
Lease period	10 Years		
Mining Plan period	10 years (After completion of Five years the Review of Mining plan will be submitted)		
Proposed Depth of Mining	46.5m bgl (1.5m Gravel + 5m Weathered rock + 40m Rough stone)		
Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (40m thickness)
	47,025	1,56,750	14,10,750
Mineable Reserves	35,660	1,07,060	3,06,760
Year wise Production for five years 1st to Vth Year	35,660	1,07,060	1,83,800
Year wise Production for five years VIth to Xth Year	Nil	Nil	1,22,960
Peak Production	12,012	37,310	55,650
Quantity after amalgamation with adjacent proposal			
Mineable Reserves	37,443	1,16,060	4,45,600
Ultimate Pit dimension	Leaving safety and benches	XY – AB – 121m (L) X 88m (W) X 36.5m (D) X1Y1 – CD – 125m (L) X 105m (W) X 46.5m (D)	
Water Level in the region	68-73m bgl		
Method of Mining	Opencast Mechanized Mining Method involving drilling and Controlled blasting using Slurry Explosives		
Topography	The lease applied area is plain terrain. The area has gentle sloping towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel followed by Weathered rock 5m thickness and Rough stone formation is estimated for 40m thickness. The lithological variations observed from the nearby existing quarry pit.		
Machinery proposed	Hand Jack Hammer	8 Nos	
	Compressor	2 Nos	
	Excavator with Bucket and Rock Breaker	3 Nos	
	Water sprinklers	1 No	
	Tippers	6 Nos	
Blasting Method	Controlled Blasting Method by shot hole drilling and small dia of 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling is proposed.		
Proposed Manpower Deployment	45 Nos		
Project Cost	Rs. 91,36,000/-		
EMP Cost	Rs. 3,80,000/-		
CER Cost	Rs. 3,00,000/-		
Nearby Water Bodies	Odai	600m SW	

	Canal	1km SE
	Vaigai River	1.7km SE
	Tank	1.8km East
	Veerakudumban Lake	2.5km North
Greenbelt Development Plan	Proposed to plant 1500 Nos of trees. The plantation will be developed around the project site and nearby village roads	
Proposed Water Requirement	3.0 KLD	
Nearest Habitation	620m – North west	
Nearest Reserve Forest	Vellaikaradu RF – 1.22km – North East (Source - TNGIS) Palapattykaradu R.F – 4.23km – North West	
Nearest Wild Life Sanctuary	Kodaikanal Wildlife Sanctuary – 10.5km – North West	

Source: Approved Mining, PFR & Form – I.

TABLE 7.5A: SALIENT FEATURES OF PROPOSAL "P2"

Name of the Project	M/s. Adayar Granites Rough Stone and Gravel Quarry Project		
S.F. No.	4/2, 1274/1 and 1274/2		
Extent	3.95.0 Ha		
Village,Taluk and District	Viralipatti Village, Nilakottai Taluk, Dindigul District.		
Land Type	It is Patta land, registered in the name of M/s. Mirones Builders and Developers Private limited Vide Patta No. 5265. The Company has obtained Lease Deed Registered from the Pattadhar for the period of fifteen years from the date 11.03.2021 to 10.03.2036 and duly registred in Sub register office, Vattalagundu vide Document No. 1028/2021, Dated: 11.03.2021		
Toposheet No	58 F/12 & 58F/16		
Latitude between	10°06'57.4958"N to 10°07'08.2157"N		
Longitude between	77°44'56.3163"E to 77°45'05.4135"E		
Elevation of the area	243m AMSL		
Lease period	10 Years		
Mining Plan period	10 years (After completion of Five years the Review of Mining plan will be submitted)		
Proposed Depth of Mining	51.5m bgl (1.5m Gravel + 5m Weathered rock + 45m Rough stone)		
Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (5m thickness)	Rough stone in m^3 (50m thickness)
	59,250	1,97,500	17,77,500
Mineable Reserves	46,505	1,43,190	4,53,280
Year wise Production for five years 1st to Vth Year	46,505	1,09,275	2,76,295
Year wise Production for five years VIth to Xth Year	Nil	33,915	1,76,985
Peak Production	19,902	55,475	91,325
Quantity after amalgamation with adjacent proposal			
Mineable Reserves	49,913	1,57,805	6,89,610
Ultimate Pit dimension	Leaving safety and benches	XY – AB – 108m (L) X 65m (W) X 21.5m (D) X1Y1 – CD – 170m (L) X 124m (W) X 51.5m (D) X2Y2-EF - 75m (L) X 69m (W) X 26.5m (D	
Water Level in the region	68-73m bgl		
Method of Mining	Opencast Mechanized Mining Method involving drilling and Controlled blasting using Slurry Explosives		
Topography	The lease applied area is plain terrain. The area has gentle sloping towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel followed by Weathered rock 5m thickness and Rough stone formation is estimated for 50m thickness. The lithological variations observed from the nearby existing quarry pit.		

Machinery proposed	Hand Jack Hammer	4 Nos
	Wagon drill machine	1 Nos (will be used only after obtaining permission for the deep hole drilling)
	Compressor	1 Nos
	Excavator with Bucket and Rock Breaker	2 Nos
	Water sprinklers	1 No
	Truck	4 Nos
Blasting Method	Controlled Blasting Method by shot hole drilling and small dia of 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling is proposed.	
Proposed Manpower Deployment	34 Nos	
Project Cost	Rs. 3,80,03,000/-	
EMP Cost	Rs. 3,80,000/-	
CER Cost	Rs. 3,00,000/-	
Nearby Water Bodies	Odai	350m SW
	Canal	720m SE
	Vaigai River	1.5km SE
	Tank	1.8km East
	Veerakudumban Lake	2.8km North
Greenbelt Development Plan	Proposed to plant 1500 Nos of trees. The plantation will be developed around the project site and nearby village roads	
Proposed Water Requirement	3.0 KLD	
Nearest Habitation	860m – North west	
Nearest Reserve Forest	Vellaikaradu RF – 1.62 km – North East (Source – TNGIS) Palapattykaradu R.F – 4.37 km – North West	
Nearest Wild Life Sanctuary	Kodaikanal Wildlife Sanctuary – 10.7 km – North West	

TABLE 7.5B: SALIENT FEATURES OF PROPOSAL "E1"

Name of the Project	M/s. Adayar Granites Rough Stone and Gravel Quarry Project		
S.F. No.	3/1, 3/2 & 4/1		
Extent	4.52.0 Ha		
Village,Taluk and District	Viralipatti Village, Nilakottai Taluk, Dindigul District.		
Land Type	It is Patta land		
Toposheet No	58 F/12 & 58F/16		
Latitude between	10°07'02.42"N to 10°07'13.50"N		
Longitude between	77°45'00.91"E to 77°45'08.34"E		
Elevation of the area	243m AMSL		
Lease period	10 Years		
Mining Plan period	10 years (After completion of Five years the Review of Mining plan will be submitted)		
Proposed Depth of Mining	47.5 m bgl (1.5m Gravel + 1m Weathered rock + 45m Rough stone)		
Geological Resources	Gravel in m^3 (1.5m thickness)	Weathered rock in m^3 (1m thickness)	Rough stone in m^3 (45m thickness)
	67,800	45,200	20,34,000
Mineable Reserves	50,763	31,995	7,58,190
Year wise Production for five years 1st to Vth Year	50,763	31,995	3,75,870
Year wise Production for five years VIth to Xth Year	-	-	3,82,320
Peak Production	17,851.5	11,415	86,610

Ultimate Pit dimension	Leaving safety and benches	108m (L) X 65m (W) X 21.5m (D) X1Y1 – CD – 170m (L) X 124m (W) X 51.5m (D) X2Y2-EF - 75m (L) X 69m (W) X 26.5m (D
Water Level in the region	61 - 66 m bgl	
Method of Mining	Opencast Mechanized Mining Method involving drilling and Controlled blasting using Slurry Explosives	
Topography	The lease applied area is plain terrain. The area has gentle sloping towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel followed by Weathered rock 1m thickness and Rough stone formation	
Machinery proposed	Hand Jack Hammer	9 Nos
	Compressor	3 Nos
	Excavator with Bucket and Rock Breaker	2 Nos
	Truck	5 Nos
Blasting Method	Controlled Blasting Method by shot hole drilling and small dia of 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling is proposed.	
Proposed Manpower Deployment	38 Nos	
Project Cost	Rs. 1,17,53,000/-	
EMP Cost	Rs. 3,80,000/-	
CER Cost	Rs. 5,00,000/-	

Source: Approved Mining Plan

The Cumulative Impact is mainly anticipated due to drilling & blasting and excavation and transportation activities in all the quarries (proposed and existing) within the cluster and major impact anticipated is on Air & Noise Environment and Ground Vibrations due to blasting.

Air Environment –

Calculating the Cumulative Load of Mining within the cluster is as shown in table 7.16 & 7.17.

TABLE 7.6: CUMULATIVE PRODUCTION LOAD OF ROUGH STONE

Quarry	Production for five-year plan period	Per Year Production in m^3	Per Day Production in m^3	Number of Lorry Load Per Day
P1	3,06,760	30,676	102	8
P2	2,76,295	27,629	92	7
E1	7,58,190	75,819	252	21
Total	**13,41,245**	**1,34,124**	**446**	**36**

TABLE 7.7: CUMULATIVE PRODUCTION LOAD OF WEATHERED ROCK

Quarry	Production for five-year plan period	Per Year Production in m^3	Per Day Production in m^3	Number of Lorry Load Per Day
P1	1,07,060	35,686	118	10
P2	1,09,275	36,425	121	10
E1	31,995	10,665	35	3
Total	**2,48,330**	**82,776**	**274**	**23**

TABLE 7.8: CUMULATIVE PRODUCTION LOAD OF GRAVEL

Quarry	Production for five-year plan period	Per Year Production in m^3	Per Day Production in m^3	Number of Lorry Load Per Day

P1	35,660	11,886	39	3
P2	46,505	15,501	51	4
E1	50,763	16,921	56	4
Total	**1,32,928**	**44,308**	**146**	**11**

On a cumulative basis considering the proposed quarries, it can be seen that the overall production of Rough Stone is 446 m^3 per day and overall production of Gravel is 146 m^3 per day with a capacity of 36trips of Rough Stone per day and 11 Trips per day of Gravel from the cluster.

Note: Per day production of Rough Stone is calculated for 10 Years Lease Period and for Gravel production with 3 years' production period. And the load of existing quarries is covered under existing environment of the cluster.

Based on the above production quantities the emissions due to various activities in all the 3 mines includes various activities like ground preparation, excavation, handling and transport of ore. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 7.18.

TABLE 7.9: EMISSION ESTIMATION FROM QUARRIES WITHIN 500 METER RADIUS

EMISSION ESTIMATION FOR QUARRY "P1"				
Estimated Emission Rate for PM_{10}	**Activity**	**Source type**	**Value**	**Unit**
	Drilling	Point Source	0.144628475	g/s
	Blasting	Point Source	0.015306768	g/s
	Mineral Loading	Point Source	0.050198680	g/s
	Haul Road	Line Source	0.002535302	g/s/m
	Overall Mine	Area Source	0.072666105	g/s
Estimated Emission Rate for SO_2	Overall Mine	Area Source	0.005754115	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000640121	g/s
EMISSION ESTIMATION FOR QUARRY "P2"				
Estimated Emission Rate for PM_{10}	**Activity**	**Source type**	**Value**	**Unit**
	Drilling	Point Source	0.162601354	g/s
	Blasting	Point Source	0.027493830	g/s
	Mineral Loading	Point Source	0.052133239	g/s
	Haul Road	Line Source	0.002559724	g/s/m
	Overall Mine	Area Source	0.086094805	g/s
Estimated Emission Rate for SO_2	Overall Mine	Area Source	0.004859015	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000476912	g/s
EMISSION ESTIMATION FOR QUARRY "E1"				
Estimated Emission Rate for PM_{10}	**Activity**	**Source type**	**Value**	**Unit**
	Drilling	Point Source	0.189735067	g/s
	Blasting	Point Source	0.059477470	g/s
	Mineral Loading	Point Source	0.054705213	g/s
	Haul Road	Line Source	0.002607706	g/s/m
	Overall Mine	Area Source	0.104265528	g/s
Estimated Emission Rate for SO_2	Overall Mine	Area Source	0.007265395	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000888778	g/s

Source: Emission Calculation

TABLE 7.10: INCREMENTAL & RESULTANT GLC WITHIN CLUSTER

PM_{10} in µg/m^3	
Background	44.7
Incremental	14.82
Resultant	59.52
NAAQ Norms	**100 µg/m^3**
$PM_{2.5}$ in µg/m^3	
Background	20.5
Incremental	6.90
Resultant	27.4
NAAQ Norms	**60 µg/ m^3**
So2 in µg/m^3	
Background	6.3
Incremental	1.79
Resultant	8.09
NAAQ Norms	**80 µg/ m^3**
No2 in µg/m^3	
Background	21.3
Incremental	9.85
Resultant	31.15
NAAQ Norms	**80 µg/ m^3**

Noise Environment –

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities. Predictions have been carried out to compute the noise level at various distances around the different quarries within the 500 m radius.

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

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

Where:

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

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

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

Source data has been computed taking into account of all the machinery and activities used in the mining process.

TABLE 7.10A: PREDICTED NOISE INCREMENTAL VALUES FROM CLUSTER

Location ID	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	48.2	46.5	46.3	55
Habitation Near P2	36.5	48.0	48.4	
Habitation Near E1	36.5	48.1	48.4	

Source: Lab Monitoring Data

The incremental noise level is found within the range of 48.2 – 47.3 dB (A) in Buffer zone. The noise level at different receptors in buffer zone is lower due to the distance involved and other topographical features adding to the noise attenuation. The resultant Noise level due to monitored values and calculated values at the receptors are based on the mathematical formula considering attenuation due to Green Belt as 4.9 dB (A)the barrier effect. From

the above table, it can be seen that the ambient noise levels at all the locations near habitations are within permissible limits of Residential Area (buffer zone) as per The Noise Pollution (Regulation And Control) Rules, 2000(The Principal Rules were published in the Gazette of India, vide S.O.123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E),dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment(Protection) Act, 1986).

Ground Vibrations

Ground vibrations due to mining activities in the all the 4 Mines within cluster are anticipated due to operation of Mining Machines like Excavators, drilling and blasting, transportation vehicles, etc. However, the major source of ground vibration from the all the 4 mines is blasting. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kuchha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements nearby the mining areas and may cause injury to persons or damage to the structures. Nearest Habitations from 4 mines respectively are as in below Table 7.21.

TABLE 7.11: NEAREST HABITATION FROM EACH MINE

Location ID	Distance & Direction
Habitation Near P1	620m – North west
Habitation Near P2	860m – North East
Habitation Near E1	620m – North west

The ground vibrations due to the blasting in all the mines are calculated using the empirical equation for assessment of peak particle velocity (PPV) is:

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

Where –
V = peak particle velocity (mm/s)
K = site and rock factor constant
Q = maximum instantaneous charge (kg)
B = constant related to the rock and site (usually 1.6)
R = distance from charge (m)

TABLE 7.12: GROUND VIBRATIONS AT 3 MINES

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	20	620m – North west	0.187
P2	20	860m – North East	0.111
E1	20	620m – North west	0.187

Source: Blasting Calculations

From the above table, the charge per blast is considered as maximum in each mine and the resultant PPV is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

Socio Economic Environment –

The 6 mines shall contribute towards CER and the community shall develop.

TABLE 7.13: SOCIO ECONOMIC BENEFITS FROM 3 MINES

Location ID	Project Cost	CER
P1	Rs. 91,36,000/-	Rs.3,00,000/-
P2	Rs. 3,80,03,000/-	Rs.3,00,000/-
E1	Rs. 1,17,53,000/-	Rs.5,00,000/-
Total	**Rs. 5,88,92,000/-**	**Rs.11,00,000/-**

As per para 6 (II) of the office memorandum, all the mines being a green field project & Capital Investment is ≤ 100 crores, they shall contribute 2% of Capital Investment towards CER as per directions of EAC/SEAC.

- Proposed Projects shall fund towards CER – **Rs 10,00,000/-**

TABLE 7.14: EMPLOYMENT BENEFITS FROM 3 MINES

Description	Employment
P1	45
P2	34
E1	38
Total	**117**

A total of 79 people will get employment due to 1 proposed mines in cluster and 38 people are already employed at existing mines.

TABLE 7.15: GREENBELT DEVELOPMENT BENEFITS FROM 3 MINES

CODE	No of Trees proposed to be planted	Area Covered Sq.m	Name of the Species
P1	1500	The safety zone along the boundary barrier has been identified to be utilized for Greenbelt development	Pungan, Naval, Mahagony, Vembu etc.,
P2	1500		
Total	**3000**		
E1	2250		
Total	**2250**		
G.Total	**5250**		

Based on the Proposed Mining Plans it's anticipated that there shall growth of native species of Pungan, Naval, Mahagony, Vembu etc. in the Cluster at a rate of 5250 Trees Planted over a period of 5 Years with Survival Rate of 80% by proposed quarry.

7.5 PLASTIC WASTE MANAGEMENT PLAN

The project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (EC.2) Department Dated: 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986.

Objective –

- To investigate the actual supply chain network of plastic waste.
- To identify and propose a sustainable plastic waste management by installing bins for collection of recyclables with all the plastic waste
- Preparation of a system design layout, and necessary modalities for implementation and monitoring.

TABLE 7.16: ACTION PLAN TO MANAGE PLASTIC WASTE

Sl.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 FAE's and EC

8.PROJECT BENEFITS

8.0 GENERAL

The Proposed Project for Quarrying Rough Stone and Gravel at Viralipatti Village aims to produce 13,41,245 m^3 Rough Stone over a period of 10 years. Gravel 1,32,928 m^3 for period of 3 years, weathered Rock 2,48,330 m^3 and 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 117 persons for carrying out mining operations and give preference to the local people in providing employment in the three proposed quarries in the cluster. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. the economic status of the local people will be enhanced due to mining project.

8.2 SOCIO-ECONOMIC WELFARE MEASURES PROPOSED

The impact of mining activity in the area will be more positive 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 quarries are located in Viralipatti Village, Nilakkottai Taluk and Dindigul District of Tamil Nadu and the area have communications, roads and other facilities already well established. The following physical infrastructure facilities will further improve due to proposed mine.

- 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.,

CORPORATE SOCIAL RESPONSIBILITY

The Project Proponent 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.

CSR Cost Estimation

- CSR activities will be taken up in the Viralipatti village mainly contributing to education, health, training of women self-help groups and contribution to infrastructure etc., CSR budget is allocated as 2.5% of the profit.

CORPORATE ENVIRONMENT RESPONSIBILITY

For the existing quarries 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.

Proponent intends to spent Rs 3,00,000/- towards CER for the Government School near the project site the details are given below:

TABLE 8.1 CER – ACTION PLAN

Activity	P1	P2
• Renovation/ Construction of Existing Toilet • Providing Environmental Related books to the school Library • Carrying out plantation and maintenance in the school Ground • Any other requirements in consultation with the school Head master	Rs 3,00,000/-	Rs 3,00,000/-

9. ENVIRONMENTAL COST BENEFIT ANALYSIS

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

10. ENVIRONMENTAL MANAGEMENT PLAN –P1

10.0. GENERAL

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

10.1. ENVIRONMENTAL POLICY

The Project Proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent Tvl. Adayar Granites (3.13.5 Ha) 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 programmes to provide early warning of any deficiency or unanticipated performance in environmental safeguards.
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement.

Description of the Administration and Technical Setup –

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages
- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme

- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

10.2. LAND ENVIRONMENT MANAGEMENT –

Landscape of the area will be changed due to the quarrying operation, restoration of the land by converting the quarry pit into temporary reservoir and the remaining part of the area (un utilized areas, infrastructure, haul Roads) will be utilized for greenbelt development. There is no major vegetation in the project area during the course of quarrying operation and after completion of the quarrying operation thick plantation will be developed under greenbelt development programme.

TABLE 10.1. PROPOSED CONTROLS FOR LAND ENVIRONMENT

CONTROL	RESPONSIBILITY
Design vehicle wash-down areas so that all runoff water is captured and passed through oil water separators and sediment catchment devices.	Mines Manager
Refueling to be undertaken in a safe location, away from vehicle movement pathways&100 m away of any watercourse Refueling activity to be under visual observation at all times. Drainage of refueling areas to sumps with oil/water separation	Mine Foreman & Mining Mate
Soil and groundwater testing as required following up a particular incident of contamination.	Mines Manager
At conceptual stage, the mining pits will be converted into Rain Water Harvesting. Remaining area will be converted into greenbelt area	Mines Manager
No external dumping i.e., outside the project area	Mine Foreman
Garland drains with catch pits / settlement traps to be provided all around the project area to prevent run off affecting the surrounding lands.	Mines Manager
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.3. SOIL MANAGEMENT

There overburden in the form of Gravel which will directly loaded into tippers for the filling and levelling of low-lying areas.

TABLE 10.2. PROPOSED CONTROLS FOR SOIL MANAGEMENT

CONTROL	RESPONSIBILITY
Surface run-off from the project boundary via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Mines Manager
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Mines Manager
Test soils for pH, EC, chloride, size & water holding capacity	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

10.4. WATER MANAGEMENT

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mines office. The quarrying operation is proposed upto a depth of 46.5 m BGL, the water table in the area is 68 - 73 m below ground level, hence the proposed project will not intersect the Ground water table during entire quarry period.

TABLE 10.3. PROPOSED CONTROLS FOR WATER ENVIRONMENT

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Mines Manager
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations	Mines Manager
Ensure there is no process effluent generation or discharge from the project area into water bodies	Mines Foreman
Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Foreman
Monthly or after rainfall, inspection for performance of water management structures and systems	Mines Manager
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

10.5. AIR QUALITY MANAGEMENT

The proposed quarrying activity would result in the increase of particulate matter concentrations due to fugitive dust. Daily water sprinkling on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements

TABLE 10.4. PROPOSED CONTROLS FOR AIR ENVIRONMENT

CONTROL	RESPONSIBILITY
Generation of dust during excavation is minimized by daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.6. NOISE POLLUTION CONTROL

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and cutting activities. No mining activities are planned during night time.

TABLE 10.5.: PROPOSED CONTROLS FOR NOISE ENVIRONMENT

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring are carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.7. GROUND VIBRATION AND FLY ROCK CONTROL

The Rough stone quarry operation creates vibration due to the blasting and movement of Heavy Earth moving machineries, fly rocks due to the blasting.

TABLE 10.6.: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

10.8. BIOLOGICAL ENVIRONMENT MANAGEMENT

The proponent will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area

- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will be recorded and monitored
    - Based on the area of plantation.
    - Period of plantation
    - Type of plantation
    - Spacing between the plants
    - Type of manuring and fertilizers and its periods
    - Lopping period, interval of watering
    - Survival rate
    - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

10.8.1. Green Belt Development Plan

About 1500 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

TABLE 10.7: PROPOSED GREENBELT ACTIVITIES

Year	No. of tress proposed to be planted	Area to be covered	Name of the species
I	1500	The plantation is along the safety distance, village road etc..	Vembu, Pungan, Mahakani, Naval etc.,

Source: Approved Mining plan

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

10.8.2. Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.
- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

TABLE 10.8. RECOMMENDED SPECIES FOR THE PLANTSAITON

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

10.9. OCCUPATIONAL SAFETY & HEALTH MANAGEMENT

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health impact in quarries are fugitive dust and noise. Safety of employees during quarrying operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

10.9.1. Medical Surveillance and Examinations –

The health status of workers in the mine will be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detailed medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test
- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The below tests keep upgrading the database of medical history of the employees.

TABLE 10.9. MEDICAL EXAMINATION SCHEDULE

Sl.No	Activities	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
B	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
B	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					

10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.

- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.

FIGURE 10.1.: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS

10.9.3: Health and Safety Training Programme

The Proponent will provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State and engage Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner as per Metalliferous Mines Regulation, 1961.

10.9.4.: Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

TABLE 10.10: EMP BUDGET FOR PROPOSED PROJECT

Activities	Mitigation Measure	Provision for Implementation	Capital	Recurring per annum
Air Environment	Haul road maintenance & Water sprinkling	Lump sum fund allocation for daily maintenance of haul roads and thrice a day water sprinkling by fixed sprinklers or water tankers	0	50000
	Muffle blasting – To control fly rocks during blasting	Lump sum fund allocation Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure	Lump sum fund allocation for ensuring wet drilling by covering drill holes with wet gunny bags and spraying water while drilling	0	10000
	No overloading of trucks/tippers/tractors	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Enforcing speed limits of 20 km/hr within ML area	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Regular monitoring of exhaust fumes as per RTO norms	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	5000

Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Competent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	0
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
		Installation of dust bins	5000	2000

	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Mine Closure	1. Progressive Closure Activity - Surface Runoff management	Provision for garland drain @ Rs. 10,000/- per Hectare	5000	1000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Provision made in Operating Cost	0	0
	3. Greenbelt development under safety zone during the mining plan period	Provision made in Operating Cost	0	0
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 mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	100000
	Workers will be provided with Personal Protective Equipment's	Lumpsum fund allocation	50000	15000
	Health checkup for workers will be provisioned	IME & PME Health checkup for all the employees will be covered batch wise.	0	50000
	First aid facility will be provided	Lumpsum fund allocation	0	5000
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Lumpsum fund allocation	50000	10000

	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Appointment of Competent person for ensuring the safety operation	Provision made in operational cost	0	0
CER	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Lumpsum fund allocation	300000	0
TOTAL			**565,000**	**303,000**

In order to implement the environmental protection measures, an amount of Rs.5.65 lakhs as capital cost and recurring cost as Rs.3.03 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

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.

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10. ENVIRONMENTAL MANAGEMENT PLAN –P2

10.0. GENERAL

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

10.1. ENVIRONMENTAL POLICY

The Project Proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent Tvl. Adayar Granites (3.95.0 Ha) 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 programmes to provide early warning of any deficiency or unanticipated performance in environmental safeguards.
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement.

Description of the Administration and Technical Setup –

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages
- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme

- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

10.2. LAND ENVIRONMENT MANAGEMENT –

Landscape of the area will be changed due to the quarrying operation, restoration of the land by converting the quarry pit into temporary reservoir and the remaining part of the area (un utilized areas, infrastructure, haul Roads) will be utilized for greenbelt development. There is no major vegetation in the project area during the course of quarrying operation and after completion of the quarrying operation thick plantation will be developed under greenbelt development programme.

TABLE 10.1. PROPOSED CONTROLS FOR LAND ENVIRONMENT

CONTROL	RESPONSIBILITY
Design vehicle wash-down areas so that all runoff water is captured and passed through oil water separators and sediment catchment devices.	Mines Manager
Refueling to be undertaken in a safe location, away from vehicle movement pathways&100 m away of any watercourse Refueling activity to be under visual observation at all times. Drainage of refueling areas to sumps with oil/water separation	Mine Foreman & Mining Mate
Soil and groundwater testing as required following up a particular incident of contamination.	Mines Manager
At conceptual stage, the mining pits will be converted into Rain Water Harvesting. Remaining area will be converted into greenbelt area	Mines Manager
No external dumping i.e., outside the project area	Mine Foreman
Garland drains with catch pits / settlement traps to be provided all around the project area to prevent run off affecting the surrounding lands.	Mines Manager
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.3. SOIL MANAGEMENT

There overburden in the form of Gravel which will directly loaded into tippers for the filling and levelling of low-lying areas.

TABLE 10.2. PROPOSED CONTROLS FOR SOIL MANAGEMENT

CONTROL	RESPONSIBILITY
Surface run-off from the project boundary via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Mines Manager
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Mines Manager
Test soils for pH, EC, chloride, size & water holding capacity	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

10.4. WATER MANAGEMENT

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mines office. The quarrying operation is proposed upto a depth of 51.5 m BGL, the water table in the area is 68 - 73m below ground level, hence the proposed project will not intersect the Ground water table during entire quarry period.

TABLE 10.3. PROPOSED CONTROLS FOR WATER ENVIRONMENT

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Mines Manager
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations	Mines Manager
Ensure there is no process effluent generation or discharge from the project area into water bodies	Mines Foreman
Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Foreman
Monthly or after rainfall, inspection for performance of water management structures and systems	Mines Manager
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

10.5. AIR QUALITY MANAGEMENT

The proposed quarrying activity would result in the increase of particulate matter concentrations due to fugitive dust. Daily water sprinkling on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements

TABLE 10.4. PROPOSED CONTROLS FOR AIR ENVIRONMENT

CONTROL	RESPONSIBILITY
Generation of dust during excavation is minimized by daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.6. NOISE POLLUTION CONTROL

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and cutting activities. No mining activities are planned during night time.

TABLE 10.5.: PROPOSED CONTROLS FOR NOISE ENVIRONMENT

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring are carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.7. GROUND VIBRATION AND FLY ROCK CONTROL

The Rough stone quarry operation creates vibration due to the blasting and movement of Heavy Earth moving machineries, fly rocks due to the blasting.

TABLE 10.6.: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

10.8. BIOLOGICAL ENVIRONMENT MANAGEMENT

The proponent will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area

- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will be recorded and monitored
    - Based on the area of plantation.
    - Period of plantation
    - Type of plantation
    - Spacing between the plants
    - Type of manuring and fertilizers and its periods
    - Lopping period, interval of watering
    - Survival rate
    - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

10.8.1. Green Belt Development Plan

About 1500 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

TABLE 10.7: PROPOSED GREENBELT ACTIVITIES

Year	No. of tress proposed to be planted	Area to be covered	Name of the species
I	1500	The plantation is along the safety distance, village road etc..	Vembu, Pungan, Mahakani, Naval etc.,

Source: Approved Mining plan

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

10.8.2. Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.
- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

TABLE 10.8. RECOMMENDED SPECIES FOR THE PLANTSAITON

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

10.9. OCCUPATIONAL SAFETY & HEALTH MANAGEMENT

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health impact in quarries are fugitive dust and noise. Safety of employees during quarrying operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

10.9.1. Medical Surveillance and Examinations –

The health status of workers in the mine will be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detailed medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test
- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The below tests keep upgrading the database of medical history of the employees.

TABLE 10.9. MEDICAL EXAMINATION SCHEDULE

Sl.No	Activities	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
B	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
B	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					

10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.

- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.

FIGURE 10.1.: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS

10.9.3: Health and Safety Training Programme

The Proponent will provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State and engage Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner as per Metalliferous Mines Regulation, 1961.

10.9.4.: Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

TABLE 10.10: EMP BUDGET FOR PROPOSED PROJECT

Activities	Mitigation Measure	Provision for Implementation	Capital	Recurring per annum
Air Environment	Haul road maintenance & Water sprinkling	Lump sum fund allocation for daily maintenance of haul roads and thrice a day water sprinkling by fixed sprinklers or water tankers	0	50000
	Muffle blasting – To control fly rocks during blasting	Lump sum fund allocation Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure	Lump sum fund allocation for ensuring wet drilling by covering drill holes with wet gunny bags and spraying water while drilling	0	10000
	No overloading of trucks/tippers/tractors	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Enforcing speed limits of 20 km/hr within ML area	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Regular monitoring of exhaust fumes as per RTO norms	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	5000

Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Competent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	0
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000

		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Mine Closure	1. Progressive Closure Activity - Surface Runoff management	Provision for garland drain @ Rs. 10,000/- per Hectare	5000	1000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Provision made in Operating Cost	0	0
	3. Greenbelt development under safety zone during the mining plan period	Provision made in Operating Cost	0	0
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 mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	100000
	Workers will be provided with Personal Protective Equipment's	Lumpsum fund allocation	50000	15000
	Health checkup for workers will be provisioned	IME & PME Health checkup for all the employees will be covered batch wise.	0	50000
	First aid facility will be provided	Lumpsum fund allocation	0	5000
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000

	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Lumpsum fund allocation	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Appointment of Competent person for ensuring the safety operation	Provision made in operational cost	0	0
CER	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Lumpsum fund allocation	300000	0
TOTAL			**565,000**	**303,000**

In order to implement the environmental protection measures, an amount of Rs.5.65 lakhs as capital cost and recurring cost as Rs.3.03 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

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.

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11. SUMMARY AND CONCLUSION

This EIA & EMP report prepared for the proposed Viralipatti Rough Stone and Gravel Cluster Quarries projects located in Viralipatti Village, Nilakkottai Taluk and Dindigul District belongs Tvl. Adayar Granites - Thiru. Saju M.C., (Managing Partner & Authorized Signatory)

The Project falls in the Cluster category consist of 2 Proposed, 1 Existing Quarries falls under “B” category as per MoEF & CC Notification S.O. 3977 (E).

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

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

Environmental monitoring and audit mechanism have been recommended before and after commencement of the project, where necessary, to verify the accuracy of the EIA predictions and the effectiveness of recommended mitigation measures.

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures for each individual leases. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during the months March – May 2025 for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suitable mitigation measures for likely adverse impacts due to the proposed project is suggested individually for the respective proposed project under Chapter 10.

The project proponent ensures to obtain necessary clearances and quarrying will be carried out as per rules and regulations. The Mining Activity will be carried out in a phased manner as per the approved mining plan after obtaining EC, CTO from TNPCB, execution of lease deed and obtaining DGMS Permission and working will be carried out under the supervision of Competent Persons employed. Overall, the EIA report has predicted that the project will comply with all environment standards and legislation after commencement of the project and operational stage mitigation measures are implemented.

Mining operations has positive impact on environment and socio economy such as landscape improvement, water as by-product, economy development and better public services, providing and supply of Rough Stone as per market demand. Sustainable and modern mining leads us to see positive impact of mining operation and providing consistent employment for nearly 79 people directly in the proposed projects and indirectly around 100 people.

As discussed, it is safe to say that the proposed quarries are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigate

technique, as well as to serve as biological indicators for the pollutants released from the Viralipatti Rough Stone and Gravel Cluster Quarries (Extent – 11.60.5 ha).

12. DISCLOSURE OF CONSULTANT

1. **M/S. ADAYAR GRANITES - Extent – 3.13.5 Ha**
2. **M/S. ADAYAR GRANITES – Extent – 3.95.0 Ha**

have engaged with M/s Geo Exploration and Mining Solutions, an Accredited Organization under Quality Council of India – National Accreditation Board for Education & Training, New Delhi, for carrying out the EIA Study as per the ToR Issued for the proposed project.

Name and address of the consultancy:

GEO EXPLORATION AND MINING SOLUTIONS
No 17, Advaitha Ashram Road,
Alagapuram, Salem – 636 004
Tamil Nadu, India
Email:infogeoexploration@gmail.com
Web: www.gemssalem.com
Phone: 0427 2431989.

The Accredited Experts and associated members who were engaged for this EIA study as given below –

Sl.No.	Name of the expert	In house/ Empanelled	EIA Coordinator		FAE	
			Sector	Category	Sector	Category
1	Dr.Thangaraju.P	In-house	**1**	**A**	HG GEO	A A
2	Dr. M. Ifthikhar Ahmed	In-house	**1** **38**	**A** **B**	SC	A
3	Mr. Devanathan.D	In-house	-	-	AP EB	B A
4	Mrs. Jisha parameswaran	In-house	-	-	SHW	B
5	Mr. Govindasamy.P	In-house	-	-	WP	B
6	Mr.Viswanathan.P	In-house	-	-	LU	B
7	Mr.Senthilkumar.N	Empanelled			AQ	B
8	Mrs. Sasikala.T	Empanelled	-	-	SE	B
9	Mr.Vikram Krishna J.R	Empanelled	-	-	NV RH	A A

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

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA/EMP

This EIA/EMP for Viralipatti Rough Stone & Gravel Cluster Quarries over an Extent of 11.60.5 ha in Viralipatti Village of Nilakkottai Taluk, Dindigul District of Tamil Nadu is prepared as per the Generic Structure of EIA Guidelines manual. It is also certified that information furnished in the above EIA study are true and correct to the best of our knowledge.

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

Name**:** **Mr. S. Nagamani**

Designation**:** **EIA Coordinator**

Date & Signature:

Period of Involvement: **Aug 2024 to till date**

Associated Team Member with EIA Coordinator:

1. **Mr. Shaik Nawas**
2. **Ms.S.Sugashini**

FUNCTIONAL AREA EXPERTS ENGAGED IN THE PROJECT

Sl. No.	Functional Area	Involvement	Name of the Expert/s	Signature
1	AP	▪ Identification of different sources of air pollution due to the proposed mine activity ▪ Prediction of air pollution and propose mitigation measures / control measures	Mr. A.Jagannathan	
2	WP	▪ Suggesting water treatment systems, drainage facilities ▪ Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.	Mr.P.Govindasamy	
3	HG	▪ Interpretation of ground water table and predict impact and propose mitigation measures. ▪ Analysis and description of aquifer Characteristics	Mr.E.Vadivel	E.Vadivel
4	GEO	▪ Field Survey for assessing the regional and local geology of the area. ▪ Preparation of mineral and geological maps. ▪ Geology and Geo morphological analysis/description and Stratigraphy/Lithology.	Mr.S. Nagamani	
5	SE	▪ Revision in secondary data as per Census of India, 2011. ▪ Impact Assessment & Preventive Management Plan ▪ Corporate Environment Responsibility.	Mr.A.Allimuthu	

6	EB	▪ Collection of Baseline data of Flora and Fauna. ▪ Identification of species labelled as Rare, Endangered and threatened as per IUCN list. ▪ Impact of the project on flora and fauna. ▪ Suggesting species for greenbelt development.	Mr.P.Panneer Selvam	
7	RH	▪ Identification of hazards and hazardous substances ▪ Risks and consequences analysis ▪ Vulnerability assessment ▪ Preparation of Emergency Preparedness Plan ▪ Management plan for safety.	Mr. J. R. Vikram Krishna	
8	LU	▪ Construction of Land use Map ▪ Impact of project on surrounding land use ▪ Suggesting post closure sustainable land use and mitigative measures.	Mr.S.Ilavarasan	
9	NV	▪ Identify impacts due to noise and vibrations ▪ Suggesting appropriate mitigation measures for EMP.	Mr. J. R. Vikram Krishna	
10	AQ	▪ Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. ▪ Recommending mitigations measures for EMP	Mr. N.Senthilkumar – FAE	
11	SC	▪ Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. M. Ifthikhar Ahmed	
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.	Mr. J. R. Vikram Krishna	

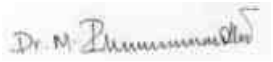
LIST OF TEAM MEMBERS ENGAGED IN THIS PROJECT

Sl.No.	Name	Functional Area Proposed	FAE /Mentor	Involvement	Signature
1	Mr. Shaik Nawas	AQ	Mr. N. Senthilkumar	▪ Site Visit with FAE ▪ Provide inputs & Assisting FAE with sources of Air Pollution, its impact and suggest control measures	
2	Ms.S.Sugashini	SC	Dr. M. Ifthikhar Ahmed	▪ Site Visit with FAE ▪ Assisting FAE in preparation of land use maps	

DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION

I, Dr. M. Ifthikhar Ahmed, Managing Partner, Geo Exploration and Mining Solutions, hereby, confirm that the above-mentioned Functional Area Experts and Team Members prepared the EIA/EMP for Viralipatti Rough Stone & Gravel Cluster Quarries over an Extent of 11.60.5 ha in Viralipatti Village of Nilakkottai Taluk, Dindigul District of Tamil Nadu. It is also certified that information furnished in the EIA study are true and correct to the best of our knowledge.

Signature& Date:



Name:	**Dr. M. Ifthikhar Ahmed**
Designation:	**Managing Partner**
Name of the EIA Consultant Organization:	**M/s. Geo Exploration and Mining Solutions**
NABET Certificate No & Issue Date:	**NABET/EIA/2225/RA 0276 Dated: 20-2-2023**
Validity:	**Valid till 06.08.2025**

ANNEXURE

VIRALIPATTI ROUGH STONE AND GRAVEL QUARRIES

Viralipatti Village, Nilakottai Taluk,

Dindigul District.

CLUSTER EXTENT: 11.60.5 Ha

ToR obtained

File No. 11873 TOR Identification No. TO25B0108TN5571923N Dated:07.04.2025 – P1

File No. 11767 TOR Identification No. TO25B0108TN5628642N Dated:07.04.2025 – P2

PROPONENT	
M/S. ADAYAR GRANITES, Thiru. M.C. Saju, Managing Partner, No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District, Kerala State – 686 102.	
PROJECT DETAIL P1	**PROJECT DETAIL P2**
Location Details S.F.Nos. 2/1 and 1269/3 Extent 3.13.5 Ha, Viralipatti Village, Nilakottai Taluk, Dindigul District.	**Location Details** S.F.Nos. 4/2, 1274/1 and 1274/2 Extent 3.95.0 Ha, Viralipatti Village, Nilakottai Taluk, Dindigul District.

LIST OF ANNEXURES

ANNEXURES	DESCRIPTION	PAGE NOS
P1- M/S. ADAYAR GRANITES, - 3.13.5 Ha	COPY OF TERMS OF REFERENCE	1A-23A
	COPY OF MINING PLAN APPROVED LETTER	24A-27A
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	28A-29A
	COPY OF APPROVED MINING PLAN WITH PLATES	30A-160A
	COPY OF 300m & VAO ATTESTATION LETTER	161A-162A
	COPY OF EXPLOSIVE LETTER	163A-164A
P1- M/S. ADAYAR GRANITES, - 3.95.0 Ha	COPY OF TERMS OF REFERENCE	165A-187A
	COPY OF MINING PLAN APPROVED LETTER	188A-191A
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	192A- 193A
	COPY OF APPROVED MINING PLAN WITH PLATES	194A-330A
	COPY 300m AND VAO ATTESTATION LETTER	331A-332A
	COPY OF EXPLOSIVE LETTER	333A-334A
E1 M/S. ADAYAR GRANITES – 4.52.0 Ha	COPY OF APPROVED MINING PLAN	335A-419A
	COPY OF BASE LINE MONITORING DATA	420A-500A
	COPY OF CONSULTANT ACCREDITATION CERTIFICATE	501A

File No: 11873
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), TAMIL NADU)
***

Dated **07/04/2025**

To,

M/s. Adayar Granites
Viralipatti Nilakkottai, Changanacherry, KOTTAYAM, KERALA, , 624202
arockiasamys1981@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006 -as amended regarding.

Sir/Madam,

Sub: SEIAA, Tamil Nadu – Proposed Rough Stone and Gravel Quarry lease over an extent 3.13.5 Ha at S.F.Nos. 2/1 and 1269/3 in Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu by M/s. Adayar Granites - under project category – "B1" and Schedule S.No.1(a) "Mining of Minerals Projects" of EIA Notification, 2006, as amended – ToR issued along with Public Hearing - preparation of EIA report – Regarding.
Ref: 1. Online proposal No. SIA/TN/MIN/521185/2025, Dated: 31/01/2025.
2. Your application submitted for Terms of Reference dated: 21.02.2025.
3. Minutes of the 538th meeting of SEAC held on 01.03.2025.
4. Minutes of the 804th Authority meeting held on 01.04.2025.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO25B0108TN5571923N
(ii) File No.	11873
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Tvl. Adayar Granite, Rough Stone and Gravel Quarry, Extent: 3.13.50ha, S.F. No: 2/1 and 1269/3, Viralipatti Village, Nilakkottai Taluk, Dindigul District.
(viii) Name of Company/Organization	TVL.ADYAR GRANITES
(ix) Location of Project (District, State)	DINDIGUL, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no

(xiii) Applicability of Specific Conditions no

1.In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2.The above-mentioned proposal has been considered by SEIAA in the meeting held on 01.04.2025. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3.The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4.The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of **M/s.Adayar Granites** under the provisions of EIA Notification, 2006 and as amended thereof.
5.The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6.The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7.This issues with the approval of the Competent Authority.
8.The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OM No. J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment, Climate Change and Forests Department, Tamil Nadu.
3. The Additional Chief Secretary to Government, Natural Resources Department, Tamil Nadu.
4. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
5. The Chairperson, TNPC Board,76, Mount Salai, Guindy, Chennai-32
6. The District Collector, Dindigul District.
7. The Commissioner of Geology and Mines, Guindy, Chennai-32
8. Assistant Director, Department of Geology & Mining, Dindigul District.
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Integrated Regional office of MoEF&CC, Sasthri Bhawan, Nungambakkam, Chennai.
11. File Copy.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seac Conditions - Site Specific

S. No	Terms of Reference
1.1	1. The PP shall furnish the details on no. of trees to be removed for the proposed quarrying activity and the compensatory planting proposed for the same in the EIA Report. 2. **A Cluster Management Committee (CMC) shall be constituted including all the mines in**

S. No	Terms of Reference
	the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: **(i) Copy of the agreement forming CMC.** **(ii) The Organisation chart of the Committee with defining the role of the members** **(iii)The 'Standard Operating Procedures' (SoP) executing the planned activities**. 3. The PP shall erect DGPS reference pillars as per MCDR Rules, 1988 and furnish photographic evidences of the same at the time of EIA appraisal. 4. As this is an existing quarry, the PP shall ensure that the CCTV Cameras are installed inside the mine premises and the photographs of the same shall be submitted at the time of EIA appraisal. 5. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 6. The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report. 7. The PP shall prepare the EMP for the entire project life of mine, and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine. 8. The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures.

2. Seac Standard Conditions

S. No	Terms of Reference
2.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall

S. No	Terms of Reference
	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. · 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.

S. No	Terms of Reference
	20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind. 23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted. 24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. 25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided. 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered. 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. 28. Impact on local transport infrastructure due to the Project should be indicated. 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible. 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

S. No	Terms of Reference
	34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. 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.

3. Seiaa Standard Conditions:

S. No	Terms of Reference
3.1	**<u>Cluster Management Committee</u>** 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. 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 & emergency management plan, fire safety & evacuation plan and sustainable development goals 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 in the EIA Report.

S. No	Terms of Reference
	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 deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. **Agriculture & Agro-Biodiversity** 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. **Forests** 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. **Water Environment** 19. 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. 20. Erosion Control measures. 21. 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. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. 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. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress. c) Sediment geochemistry in the surface streams. **Energy**

S. No	Terms of Reference
	28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. **Climate Change** 29. 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. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. **Mine Closure Plan** 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. **EMP** 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. 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** 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. **Disaster Management Plan** 36. 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** 37. 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. 38. 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. 39. 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.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	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

S. No	Terms of Reference
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould 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)
1.5	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
1.6	Details about the land proposed for mining activities should be givenwith 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
1.7	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
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study rea 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
1.10	Land use of the study rea 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
1.11	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
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it

S. No	Terms of Reference
	would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees
1.13	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
1.14	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
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.16	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
1.17	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 Wildlifeand copy furnished
1.18	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 alongwith 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
1.19	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 Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	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)
1.21	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

S. No	Terms of Reference
	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
1.22	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
1.23	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
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	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
1.27	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
1.28	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 State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	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
1.30	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
1.31	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

S. No	Terms of Reference
	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
1.32	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
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.34	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
1.35	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
1.36	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
1.37	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
1.38	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
1.39	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
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	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

S. No	Terms of Reference
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) 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. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF 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. g) 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. h) 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. i) 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

SEIAA SPECIFIC CONDITIONS:

The authority noted that the subject was placed in the 538th SEAC meeting held on 01.03.2025.

After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing for the quantity of 3,06,760 m^3 of rough stone & 35,660 m^3 of Gravel upto the depth of 46.5m BGL** as per the approved mining plan, 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 & the conditions mentioned in this minutes.

A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
7) It should be clearly stated whether the proponent Company has a well laid down

Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
15) The vegetation in the RF / PF areas in the study area, with necessary details, should be

given.

16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should

be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case

the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the

mining area may be detailed.

36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides the above, the below mentioned general points are also to be followed:-

    a) Executive Summary of the EIA/EMP Report
    b) All documents to be properly referenced with index and continuous page numbering.
    c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
    d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
    e) Where the documents provided are in a language other than English, an English translation should be provided.
    f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

In addition to the above, the following shall be furnished:-

The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, “A” register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be 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
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions

during the operations of the mines.

29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

Besides the above, the below mentioned general points should also be followed:-

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
b. All documents may be properly referenced with index, page numbers and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -l1013/77/2004-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.

Signature Not Verified
Digitally Signed by : A R Rahul Nadh IAS
Member Secretary, SEIAA
Date: 07/04/2025

From

Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Dindigul.

To

Tvl.Adayar Granites.,
Managing Partner,
Thiru.Saju M.C.,
No:15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Roc.No:260/Mines/2024, Dated: 22.01.2025.

Sir,

Sub: Mines and Minerals - Minor Mineral – Rough Stone - Dindigul District – Nilakottai Taluk – Viralipatty Village – Patta Land - S.F.Nos: 2/1 & 1269/3 Extent 3.13.50 Hectares – Quarry lease application preferred by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel - Approval of Mining Plan - Regarding.

Ref:
1. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State dated: 16.09.2024.
2. The Assistant Director, Geology and Mining, Dindigul Rc.No.260/Mines/2024, Dated: 11.01.2025.
3. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State letter Dated: 21.01.2025 along with Mining Plans.

******

Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 3.13.50 Hectares of Patta Land in S.F.Nos: 2/1 & 1269/3 of Viralipatty Village, Nilakottai Taluk in Dindigul District for a period of 10 Years Under Rule 19 (1), 20 of Tamil Nadu Minor Mineral Concession Rules 1959.

2) The application was examined and consented to grant lease to quarrying Rough Stone and Gravel over an extent of 3.13.50 Hectares of Patta Land in S.F.Nos: 2/1 & 1269/3 for a period of 10 years subject to produce Mining Plan for approval and to obtain Environment Clearance from SEIAA in the reference 2nd cited.

3) The applicant has submitted the Mining Plan, prepared as per guidelines issued by the Commissioner of Geology and Mining and as per Rules and Acts inforce. The Geological and Mineable reserves are discussed in Table 3, 4 and 4-A (Plate No:III, III-A, IV and IV-A) of the Mining Plan. The same as been examined in accordance with Act and Rules inforce and found correct.

4) As per Mining Plan year wise production proposed for each five year is given below.

Year wise production including common boundary for the first five years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
1st year	46730	47305
2nd year	95340	51468
3rd year	32190	54731
4th year	32090	-
5th year	34170	-
Grand Total	**240520**	**153504**

Year wise production including common boundary for the Second five years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
6th year	40850	-
7th year	41940	-
8th year	40795	-
9th year	41565	-
10th year	39930	-
Grand Total	**205080**	**-**

Year wise production excluding common boundary for the First Five Years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
1st year	36500	46813
2nd year	55650	46585
3rd year	30650	49322
4th year	30700	-
5th year	30300	-
Grand Total	**183800**	**142720**

Year wise production excluding common boundary for the Second Five Years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
6th year	24250	-
7th year	24250	-
8th year	24740	-
9th year	24390	-
10th year	25330	-
Grand Total	**122960**	**-**

5) In view of the above, in exercise of the powers delegated under Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959, I hereby approve the Mining Plan submitted by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel over an extent of 3.13.50 Hectares of Patta Land in S.F.Nos: 2/1 & 1269/3 of Viralipatty Village, Nilakottai Taluk & Dindigul District for a period of 10 years to obtain Environment Clearance from SEIAA, Chennai subject to the following conditions:

1. The Mining Plan is approved without prejudice to any other law applicable to the quarry permission from time to time where such Laws are made by the State Government or any other authority.

2. This approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Tamil Nadu Minor Mineral Concession Rules, 1959.
3. The Mining Plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
4. The approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Amendment Act, 2015 or any other connected Laws including, Environment Protection Act, 1986, and the Rules made there under in Tamil Nadu Minor Mineral Concession Rules, 1959.

Special Condition

- Only after obtaining appropriate permission for common boundary from the Directorate General of Mines Safety under Regulation 111 (3) of the Metalliferous Mines Regulations, 1961 the lessee shall work in the areas of common boundary between the rough stone and Gravel quarry over an extent of 4.52.00 Hects. of Patta lands in S.F.Nos: 3/1, 3/2 and 4/1 of Viralipatty Village situated on the northeastern side of this lease applied area belong to the applicant Tvl.Adayar Granites. No quarry works shall be extended into the common boundary unless permission for this effect is obtained from the Directorate General of Mines Safety and submitted the same to the Assistant Director, Department of Geology and Mining, Dindigul.

Encl: Two copies of Mining Plan.

Assistant Director,
Geology and Mining,
Dindigul.

Copy to:
The Member Secretary,
State Level Environmental Impact
Assessment Authority, PanagalMaligai,
No. I Jeenis Road, Saidapet, Chennai-15.

From

Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Dindigul.

To

Tvl.Adayar Granites.,
Managing Partner,
Thiru.Saju M.C.,
No:15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Roc.No:260/Mines/2024, Dated: 22.01.2025.

Sir,

Sub: Mines and Minerals - Minor Mineral – Rough Stone - Dindigul District – Nilakottai Taluk – Viralipatty Village – Patta Land - S.F.Nos: 2/1 & 1269/3 Extent 3.13.50 Hectares – Quarry lease application preferred by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel - Details of quarries in 500 meter radius – Regarding.

Ref:
1. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State dated: 16.09.2024.
2. The Assistant Director, Geology and Mining, Dindigul Rc.No.260/Mines/2024, Dated: 11.01.2025.
3. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State letter Dated: 21.01.2025 along with Mining Plans.

******

Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 3.13.50 Hectares of Patta Land in S.F.Nos: 2/1 & 1269/3 of Viralipatty Village, Nilakottai Taluk in Dindigul District for a period of 10 Years Under Rule 19 (1), 20 of Tamil Nadu Minor Mineral Concession Rules 1959.

2) Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C in the reference 3rd cited has requested to furnish details of quarries situated within 500 m radial distance from the applied area.

3) As per his request the details of quarry situated within 500m radius from the proposed area is furnished below for obtaining Environment Clearance.

Details of quarries situated within 500 m radial distance from the area applied for lease

S. No	Quarry detail	Village	S.F. No.& Extent (Hect)	Proceedings No. & Lease Period
I	**Existing Quarries:**			
	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State – 686 102	Viralipatty	S.F.Nos: 3/1, 3/2 and 4/1 **(4.52.00)**	Rc.No.169/2021 (Mines) Dated: 25.07.2023 10 Years (25.07.2023 to 24.07.2033)
II	**Abandoned Quarry: Nil**			
III	**Present Proposed Quarry:**			
1.	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam,Kerala State – 686 102	Viralipatty	S.F.Nos: 2/1 and 1269/3 **(3.13.50)**	Memo in Rc.No:260/2024/Mines Dated:11.01.2025
2.	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State – 686 102	Viralipatty	S.F.Nos: 4/2, 1274/1 & 1274/2 **(3.95.00)**	Memo in Rc.No:259/2024/Mines Dated:11.01.2025

Assistant Director,
Geology and Mining,
Dindigul.

Copy to:
The Member Secretary,
State Level Environmental Impact Assessment Authority,
PanagalMaligai, No. I Jeenis Road,
Saidapet, Chennai-15.

MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

Patta Land / Lease Period = Ten Years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT	:	3.13.50 Ha
S.F.NOS.	:	2/1 and 1269/3
VILLAGE	:	VIRALIPATTI
TALUK	:	NILAKKOTTAI
DISTRICT	:	DINDIGUL
STATE	:	TAMIL NADU

FOR

Applicant

M/s. Adayar Granites,

Thiru. M.C. Saju, Managing Partner,

No. 15/113-2, KPC Complex,

Perunai Post, Changanacherry,

Kottayam District,

Kerala State – 686 102.

Prepared By

P. Viswanathan, M.Sc.,

Qualified Person

(As per Rule 15(1)(a) and (1)(b) of MCR, 2016)

No. 4/366-D, Selva Nagar,

Kamaraj Nagar Colony, Near Omega Church,

Salem District – 636 014.

Mobile No.: +91 97916 09929

E-mail ID: viswa2727@gmail.com.

O/o Assistant Director, Dept. of Geology and Mining, Collectorate Dindigul - 624 002

ABBREVIATIONS

- EIA - Environment Impact Assessment.
- EMP - Environment Management Plan.
- SEIAA - State Level Environment Impact Assessment Authority.
- SEAC - State Expert Appraisal Committee
- MoEF&CC - Ministry of Environment, Forest and Climate changes.
- CPCB - Central Pollution control board.
- TNPCB - Tamil Nadu Pollution control board.
- DMS - Director of Mines Safety.
- DGMS - Director of General Mines Safety.
- CRZ - Coastal Regulatory Zone.
- HACA - Hill Area Conservation Authority.
- S.F.No. - Survey Field Number.
- MMR - Metalliferous Mines Regulations.
- MCR - Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules.
- TNMMCR - Tamil Nadu Minor Mineral Concession Rules.
- PPV - Peak Particle Velocity.
- DGPS - Differential Global Positioning System.
- QP - Qualified Person.
- MSL - Mean Sea Level
- AGL - Above Ground Level
- BGL - Below Ground Level

M/s. Adayar Granites,
Thiru. M.C. Saju, Managing Partner,
No. 15/113-2, KPC Complex,
Perunai Post, Changanacherry,
Kottayam District,
Kerala State – 686 102.

CONSENT LETTER FROM THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared by

P. Viswanathan, M.Sc.,
Qualified Person

I have entrusted the works to prepare the Mining plan based upon the production requirements to me as per the Mines Acts, Rules, Regulations and Amendments as on date. I request to the Assistant Director, Department of Geology and Mining, Dindigul District, Tamil Nadu State to make further correspondence regarding the modification of the Mining plan with the said Qualified Person at his following address.

P. Viswanathan, M.Sc.,
No. 4/366-D, Selva Nagar,
Kamaraj Nagar Colony, Near Omega Church,
Salem District – 636 014.
Mobile No.: +91 97916 09929.

I hereby undertake that all the responsibilities of contents in the Mining plan and if any corrections made in the Mining plan by the Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects. If there is any substantial change during operation. I will carried out a Modified Mining plan and seek its approval from concerned Authorities.

Signature of the Applicant
For M/s. Adayar Granites,

(M.C. Saju)
(Managing Partner)

Place: Dindigul
Date: 11.01.2025

M/s. Adayar Granites,
Thiru. M.C. Saju, Managing Partner,
No. 15/113-2, KPC Complex,
Perunai Post, Changanacherry,
Kottayam District,
Kerala State – 686 102.

DECLARATION OF THE APPLICANT

The Mining plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared in full consultation with me by.

P. Viswanathan, M.Sc.,
Qualified Person

I have understood its contents and agree to implement the same in accordance with Laws applicable to Mines and I will take all the responsibility for working the quarry in a manure under Rule 23 of Tamil Nadu Minor Mineral Concession Rules, 1959.

Signature of the Applicant
For M/s. Adayar Granites,

(M.C. Saju)
(Managing Partner)

Place: Dindigul
Date: 13.01.2025

Mining plan Approved

ASSISTANT DIRECTOR
GEOLOGY AND MINING
DINDIGUL

This Mining is approved based on guidelines / Instructions Issued in the CGM, Letter No: 3888/LC/2012 dated 19-11-2012 and Incorporation of the particulars specified in the letter Roc.No 260/Mines/Lease Dated 22/1/2025 of the Assistant Director of Geology and Mining, Dindigul and subject to further Fulfillment of the conditions laid down under rule 41,42 of Tamil Nadu Minor Mineral Concession Rules 1959

Assistant Director of Geology & Mining
Dindigul

CERTIFICATE

Certified that I am, **P. Viswanathan, M.Sc.,** residing at No. 4/366-D, Selva Nagar, Kamaraj Nagar Colony, Near Omega Church, Salem District – 636 014, holding a Master Degree in M.Sc., (Applied Geology) from Periyar University, Salem and I worked in the field of Mining in a role of Geologist.

Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 stipulates the eligibility for preparing Mining plans as "(I)(a) a post graduate degree in Geology granted by a university established" and (I)(b) "Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree". Since my qualification and experience are satisfied the Rule (I)(a) and (I)(b) of 15 of the said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly, I prepared this Mining plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State for **M/s. Adayar Granites,** Thiru. M.C. Saju, Managing Partner, having an office No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District, Kerala State – 686 102. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

P Viswanathan

(P. Viswanathan, M.Sc.,)

Place: Salem

Date: 13.01.2025

P. Viswanathan, M.Sc.,
No. 4/366-D, Selva Nagar,
Kamaraj Nagar Colony, Near Omega Church,
Salem District – 636 014.

CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of Prepared under Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959. The preparation of Mining plan and Progressive Quarry Closure Plan for Viralipatti Rough Stone and Gravel Quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

M/s. Adayar Granites,
Thiru. M.C. Saju, Managing Partner,
No. 15/113-2, KPC Complex,
Perunai Post, Changanacherry,
Kottayam District,
Kerala State – 686 102.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director, Department of Geology and Mining, Dindigul District, Tamil Nadu for such permissions/ exemptions/ relaxations and approvals.

It is also certified that information furnished in the above Mining plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

P Viswanathan

(P. Viswanathan, M.Sc.,)

Place: Salem
Date: 13.01.2025

P. Viswanathan, M.Sc.,
No. 4/366-D, Selva Nagar,
Kamaraj Nagar Colony, Near Omega Church,
Salem District – 636 014.

O/o Assistant Director Geology and Mining Collectorate Dindigul - 624 001

CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations or Orders made there under have been observed in the preparation of Mining plan and Progressive Quarry Closure Plan for Viralipatti Rough Stone and Gravel Quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

M/s. Adayar Granites,
Thiru. M.C. Saju, Managing Partner,
No. 15/113-2, KPC Complex,
Perunai Post, Changanacherry,
Kottayam District,
Kerala State – 686 102.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director of Mines Safety (DMS), No.5, II Street, Block–AA, Anna Nagar, Chennai-40, Tamil Nadu for such permissions / exemptions / relaxations and approvals.

It is also certified that information furnished in the Mining plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

(P. Viswanathan, M.Sc.,)

Place: Salem
Date: 13.01.2025

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13.	Conceptual Plan & Sections - As per Common Mine Boundary	V
14.	Conceptual Plan & Sections – After leaving safety distance and Benches	V-A

MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY.

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

INTRODUCTION AND EXECUTIVE SUMMARY

The applicant **M/s. Adayar Granites,** Thiru. M.C. Saju, Managing Partner, having an office No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District, Kerala State – 686 102 has entrust and given consent to preparation of Mining plan and Progressive Mine Closure Plan as per the provisions of Mines Act, Rules, Regulations and as amended till date.

The applicant (**M/s. Adayar Granites**) has applied for quarrying Rough stone and Gravel over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Dindigul District for the period of Ten years under rule 19 and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was examined, Scrutinized, Inspected and processed by the Assistant Director, Department of Geology and Mining, Dindigul District and passed a precise area communication letter vide **Rc. No. 260/Mines/2024, Dated: 11.01.2025** under rule 19 and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959 for submission of draft Mining plan under Rules 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 to obtain approval and obtain Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu to quarrying Rough stone and Gravel for the period of Ten years with following conditions (Refer Annexure No. I):

General Condition:

1. A safety distance of 7.5 meters should be provided to the adjacent patta lands.
2. The blasting should be carried out with low intense explosives by the competent qualified personnel and no hindrance shall be caused to the adjacent agriculture lands and Public.
3. Mining Plan and Environmental Clearance should be submitted before grant of the quarry lease.
4. The applicant firm should ensure that all the quarry workers working under its control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.
5. Child labourers should not be engaged in the quarry works.
6. The quarried out minerals should be transported by covered with tarpaulin during transportation to prevent impact of public.

Special Conditions:

1. A safety distance of 10 meters should be provided to the Government Poramboke land in S.F.No. 1269/2 and 3/3 situated on the South and Western side of the applied area.

This Mining Plan along with Progressive quarry closure Plan is prepared in full consultation with **M/s. Adayar Granites,** Thiru. M.C. Saju, Managing Partner, having an office No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District, Kerala State – 686 102 for his proposed Rough stone and Gravel quarry over an extent 3.13.50 Hectares of patta lands in S.F.Nos. 2/1 and 1269/3 of Viralipatti Village, Nilakkottai Taluk, Villupuram District, Tamil Nadu State under amended Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959 with obtained full consent as per the application and Production schedule in preparation of Mining plan as per the provisions of Mines Act, Rules, Regulations as on date.

The Mining plan has been prepared after carrying the field survey, collection of Primary & secondary data, environmental setting, geological features and tentatively estimated the Resources & Reserves, depth of mining as identified in the field with best our knowledge and experience. This present mining plan is prepared by considering the Rule 41 & 42 as amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent amendments.

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal is require prior environmental clearance. As per amendment in EIA Notification 2006 vide S.O. 1886(E), Dated:20.04.2022 "All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal" would be treated as category B and will be considered by the state notified by Ministry of Environment, Forest and Climate Change as prescribed procedure under EIA notification 2006.

The field investigation was carried out by the Qualified Person and his Team as on 12.01.2025.

Short Notes of Mining plan:

a. Village Panchayat - Viralipatti

b. Panchayat Union - Nilakkottai

c. Total extent of the lease applied area is 3.13.50Ha.

d. Topography of the area - Flat topography.

e. The Estimated Reserves and Resources are given table below :

The Company intends to apply and obtain permission from Director of Mines Safety, Chennai for **Amalgamating the mine boundary with adjacent existing Rough stone quarry lease over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village situated on the Northeastern side of this lease applied area belongs to Tvl. Adyar Granites,** Kerala. This relaxation for amalgamating mine boundaries will be applied only after grant

of this lease by the provisions under Regulation 111 of Metalliferous Mines Regulations, 1961 (Refer Plate No. III to III-C). The mineral reserves locked up under safety distance and benches will be removed only after obtained permission and approval from the competent authority.

Hence, the reserves are estimated with two categories, one is proposed annexing mine boundary on the Eastern side as requested by the applicant (Refer Plate No. III and III-B) and another category is leaving the safety distance and Benches on all sides (Refer Plate No. III-A and III-C). The Estimated Reserves and Resources are given table below:

Table – 1

Description			Rough stone (m^3)	Weathered Rock (m^3)	Gravel (m^3)
Estimated Geological Resources			1410750	156750	47025
Tentative Mineable Reserves	As per proposed amalgamating mine boundary on the North, East and South side		445600	116060	37443
	After leaving safety distance and Bench loss		306760	107060	35660
Proposed production for Ten years lease period	As per Annexing mine Boundary	Proposal for 1st Five years	240520	116060	37443
		Proposal for 2nd Five years	205080	-	-
		Peak Production	95340	42315	12515
	After leaving safety distance and Benches	Proposal for 1st Five years	183800	107060	35659.5
		Proposal for 2nd Five years	122960	-	-
		Peak Production	55650	37310	12012

The EIA and EMP will be prepared for maximum reserves and the Impact will be accounting an annual peak production value.

f. Proposed Depth of mining = 51.5m (max) – BGL (R.L. 243m – R.L. 191.5m).

g. Lease Period = Ten Years

h. Mining Plan period = Five Years

i. It is a fresh lease applied area, at present the area is virgin. Hence no existing pit.

j. Method of mining / level of mechanization.

Opencast mechanized method, the quarry operation involves Hand Jack hammer is proposed to drilling and slurry blasting with NONEL initiation,

k. Type of machineries proposed in the quarrying operation is given below.

Excavators attached with 0.90m^3 Bucket and rock breaker.

Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity)

Tippers.

l. No trees will be uprooted due to this quarry operation.

m. The approach road from the main road to quarry is available; the same will be maintained in good condition for the haulage of quarry materials and machineries.

n. There is No Export of this Rough stone and Gravel.

o. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance and places of worships is marked and enclosed as Plate Nos. IA & IC.

p. The lease applied area is about 3.13.50Ha bounded by Seven corners; the corners are designated as 1 – 7 clock-wise from the Southern side and Co-ordinates for all the corners are clearly marked in the Quarry Lease Plan and Surface Plan enclosed as Plate No. II.

q. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III - III-C and IV.

r. General conditions will not applicable for the proposed area. The area applied for lease is 10Km away from the,

   i) *Protected area under wild life protection ACT 1972,*
   ii) *Critically polluted areas as identified by CPCB,*
   iii) *Notified Eco sensitive areas,*
   iv) *Interstate Boundary.*

s. There is no waste anticipated during this quarry operation. Hence, waste dump is not proposed in the lease applied area.

t. Around 45 employees are proposed to deploying the quarrying operation.

u. Total Cost of the project is about **Rs. 91,36,000/-.**

1.0 GENERAL INFORMATION

1.1 Name of the Applicant with Address:

Name	:	**M/s. Adayar Granites,** Thiru. M.C. Saju, Managing Partner,
Address	:	No. 15/113-2, KPC Complex, Perunai Post, Changanacherry, Kottayam District.
State with PIN Code	:	Kerala – 686 102.
Mobile No	:	+91 98421 88331 and 88833 99994.
Aadhaar No	:	9699 3310 1800
E-mail	:	adayargranites@gmail.com

1.2 Status of the Applicant (Individual / Company / Firm):

The applicant is a Partnership firm and the partnership deed executed on 26.12.2023 with five partners under the Indian Partnership act, 1932. Thiru. Saju M.C. is the managing partner and he is an Authorized person for signing the documents on behalf of the firm (Refer Annexure No. VIII).

1.3 Mineral which the Applicant intends to mine:

The Applicant intends to quarry Rough stone and Gravel.

1.4 Period of permission / lease to be granted:

Ten Years as mentioned in Precise area Communication letter.

1.5 Name and address of the Qualified Person who preparing the Mining Plan:

Name	:	**P. Viswanathan, M.Sc.,** Qualified Person (As per Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	No. 4/366-D, Selva Nagar, Kamaraj Nagar Colony, Near Omega Church, Salem District,
State with PIN Code	:	Tamil Nadu – 636 014.
Mobile	:	+91 97916 09929
Email	:	viswa2727@gmail.com

1.6 Name and Address of the Prospecting Agency:

State Geology and Mining Department, Government of Tamil Nadu, has carried out the regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed regional exploration studies and geological mapping in Tamil Nadu. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area and the Rough stone is clearly inferred from the outcrops and adjacent existing quarry pit situated on the Eastern side. No detailed Exploration has carried out.

1.7 Reference no. Date of grant/ Precise Area Communication received form the State Government:

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Dindigul District vide **Rc. No. 260/Mines/2024, Dated:11.01.2025** (Refer Annexure No. I) and was given to us for the preparation of mining plan to meet out the applicant's production schedule.

2.0 LOCATION AND ACCESSIBILITY:

2.1. Details of the area with location map:

The lease applied area is located about 36m Southwest side of Dindigul town, 12km Southwest side of Nilakkottai town and 3km Northeast side of Viralipatti Village.

Dindigul —26km, Southwest→ Nilakkottai —15km, Southwest→ Viralipatti —3km, Northeast→ Lease applied area

Location Map of the Lease Applied area

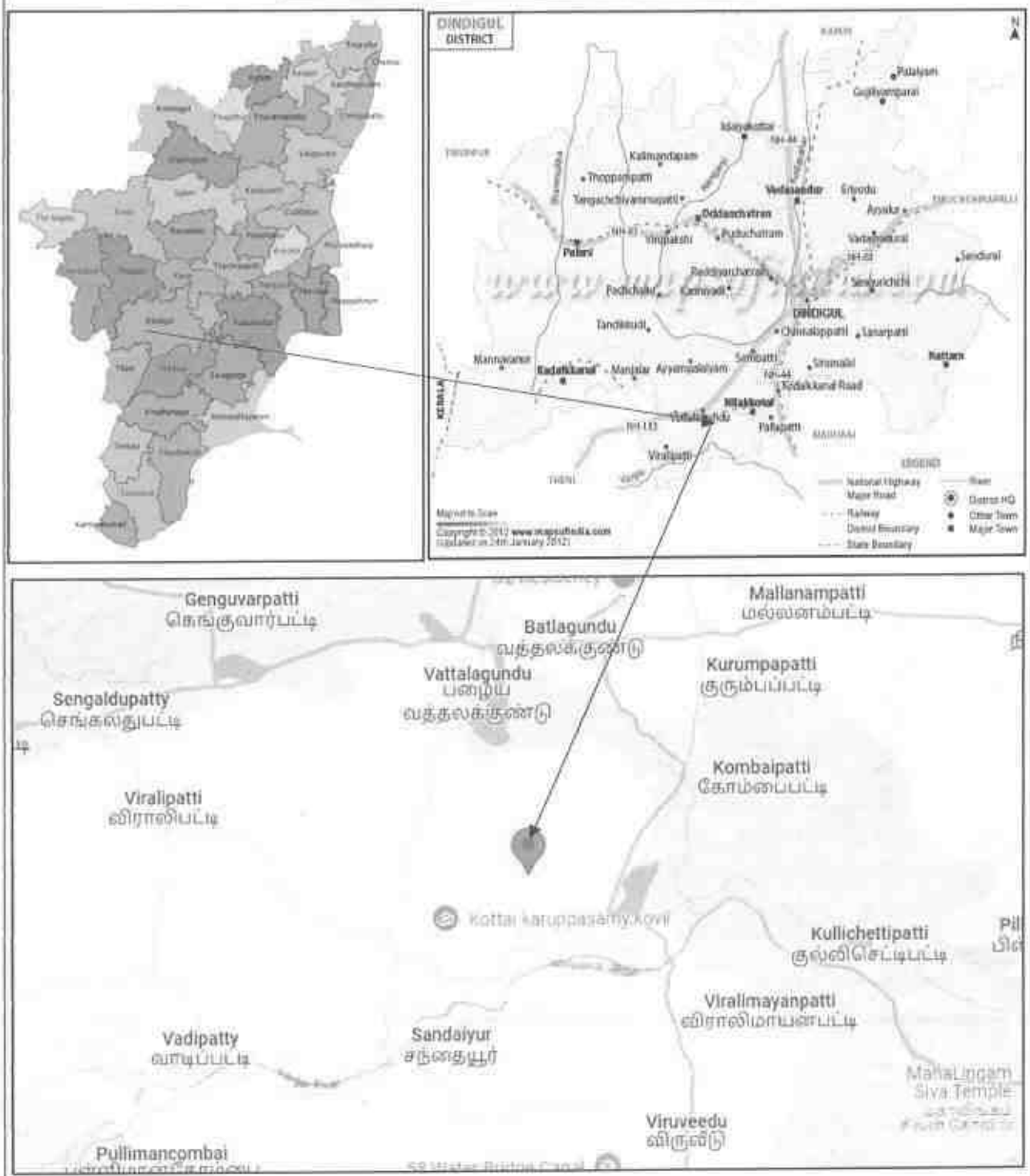


Table – 2

District	Taluk	Village	S.F. No.	Area (Ha.)	Patta no.
Dindigul	Nilakkottai	Viralipatti	2/1	1.76.50	5265
			1269/3	1.37.00	
			Total	**3.13.50**	

Source: As per the FMB and 'A' register record furnished by the applicant.

2.2. Classification of the area (Ryotwari/ Poramboke / others):

It is a patta lands (classified as punsei) which is not fit for vegetation/ Cultivation.

2.3. Ownership / Occupancy of the applied area (surface right):

It is patta lands, registered in the name of M/s. Mirones Builders and Developers Private limited vide Patta No. 5265 (Refer Annexure No. IV to VI). The company has obtained consent from the Pattadar for the period of fifteen years from the date of 11.03.2021 to 10.03.2036 and duly registered in Sub registrar office, Vattalagundu vide document No. 1028/2021, Dated:11.03.2021 (Refer Annexure No. VII).

2.4. Existence of public road / Railway line, if any nearby and approximate distance:

The approach road is situated on the Eastern side, which is connects to the village road at a distance 200m on the Northeastern side of the lease applied area.

Road access is available from the quarry to National Highway, no towns are enrooted hence the traffic density is not much more due to the transportation of Rough stone and Gravel.

The approach road from the quarry will be constructed and the same has been utilized for haulage and maintained during the entire lease period.

The Nearest Railway line is Theni - Madurai which is about 14.8km on the Southwestern side of the area as per the GSI Toposheet and Google Map.

2.5. Toposheet No. with latitude and longitude:

The lease applied area falls in the Toposheet No: **58 F/16 and 58 F/12** Latitude between: **10°07'08.63"N to 10°07'18.16"N** and Longitude between: **77°44'59.03"E to 77°45'09.06"E** on WGS datum-1984 as per the GSI Toposheet (Refer Plate Nos. I to II).

PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

3.1 Brief description of the Topography and general Geology of the area (with plans):

The lease applied area is situated in flat terrain. The gradient of the area is gentle towards Southern side and altitude of the area is 243m above from MSL. The area is covered by quaternary formation of gravel having an average thickness of 2m, 5m Weathered rock and followed by Massive Charnockite which is clearly inferred from the adjacent existing quarry pit.

The Water level in the surrounding area is 68m - 73m below from general ground profile which is observed from the nearby bore wells. Normal rainfall is about 930.7mm.

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with accumulation of recent quaternary formation. On regional scale of the Charnockite body is N45°E – S45°W with dipping towards SE65°.

The general geological sequences of the rocks in this area are given below:

AGE		FORMATION
Recent	-	Quaternary formation (Gravel)
---------Unconformity----------		
Archaean	-	Charnockite
		Peninsular Gneissic complex

3.2 Details of exploration already carried out if any:

State Geology and Mining Department, Govt. of Tamil Nadu, has carried out the regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Dindigul District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area without geological exploration. The Rough stone is clearly inferred from the adjacent existing quarry pit.

3.3 Estimation of Reserves:

a) Geological Resources with geological sections on a scale of 1:1000 / 1:2000

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally four sections have been drawn, two cross sections drawn length wise as (X-Y and X1-Y1) and another two cross sections are drawn as Width wise (A-B and C-D) to cover the maximum area considered for lease upto 51.5m depth below from the ground level.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone and Gravel deposit has been prepared in the scale of 1:1000 (please refer the Geological plan and sections Plate No. III). As the sale of Rough stone and Gravel are in terms of cubic metres (Volume) only and not in terms of tonnage. No Exploration has been carried out.

Estimation of Geological Resources (Plate No. III):

The Geological Resources of Rough Stone and Gravel are estimated upto a depth of 52m [2m Gravel + 50m Rough stone]. The total **Geological Resources are estimated by area method**. The total geological resources are given table below:

TABLE – 3

GEOLOGICAL RESERVES				
Area in m^2	**Depth in (m)**	**Geological Resources of Rough stone in (m^3) 100%**	**Weathered Rock in (m^3)**	**Gravel (m^3)**
31350	1.5	-	-	47025
31350	5	-	156750	-
31350	45	1410750	-	-
Total		**1410750**	**156750**	**47025**

The Geological Resources of Rough Stone : **14,10,750m^3**

The Geological Resources of Weathered Rock: **1,56,750m^3**

The Geological Resources of Gravel : **47,025m^3**

Geological Resources has been estimated based on the physical investigation and filed survey data.

Tentative Mineable Reserves:

The Company intends to apply and obtain permission from Director of Mines Safety, Chennai for **Amalgamating the mine boundary with adjacent existing Rough stone quarry lease over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village situated on the Northeastern side of this lease applied area belongs to Tvl. Adyar Granites,** Kerala. This relaxation for amalgamating mine boundaries will be applied only after grant of this lease by the provisions under Regulation 111 of Metalliferous Mines Regulations, 1961 (Refer Plate No. III to III-C). The mineral reserves locked up under safety distance and benches will be removed only after obtained permission and approval from the competent authority.

Hence, the reserves are estimated with two categories, one is proposed annexing mine boundary on the Eastern side as requested by the applicant (Refer Plate No. III and III-B) and another category is leaving the safety distance and Benches on all sides (Refer Plate No. III-A and III-C). The Estimated Reserves and Resources are given table below.

TABLE – 4

MINEABLE RESERVE - AFTER LEAVING SAFETY DISTANCE AND BENCHES							
Section	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Mineable Reserves of Rough stone in (m^3) 100%**	**Weathered Rock in (m^3)**	**Gravel (m^3)**
XY-AB	i	121	88	1.5	-	-	15972
	ii	116	82	5	-	47560	-
	iii	106	72	5	38160	-	-
	iv	96	62	5	29760	-	-
	v	86	52	5	22360	-	-
	vi	76	42	5	15960	-	-

Deputy Director Geology and Mining Collectorate Dindigul - 624 004

	vii	66	32	5	10560		-
	viii	56	22	5	6160		-
	Total				**122960**	**47560**	**15972**
X1Y1-CD	i	125	105	1.5	-	-	19688
	ii	119	100	5	-	59500	-
	iii	109	90	5	49050	-	-
	iv	99	80	5	39600	-	-
	v	89	70	5	31150	-	-
	vi	79	60	5	23700	-	-
	vii	69	50	5	17250	-	-
	viii	59	40	5	11800	-	-
	ix	49	30	5	7350	-	-
	x	39	20	5	3900	-	-
	Total				**183800**	**59500**	**19688**
Grand Total					**306760**	**107060**	**35660**

The Tentative mineable reserves have been estimated as **3,06,760m³** of Rough stone at the rate of 100% recovery, **1,07,060m³** of Weathered Rock and **35,660m³** of Gravel as per after leaving safety distance and benches on all sides for a period of Ten years upto a depth of 46.5m (1.5m Gravel + 5m Weathered Rock + 40m Rough stone) (Refer Plate No. III-A).

Table – 5

MINEABLE RESERVE - AS PER COMMON MINE BOUNDARY ON THE EASTERN SIDE

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Mineable Reserves of Rough stone in (m^3) 100%	Weathered Rock in (m^3)	Gravel (m^3)
XY-AB	i	120	93	1.5	-	-	16740
	ii	114	91	5	-	51870	-
	iii	104	86	5	44720	-	-
	iv	94	81	5	38070	-	-
	v	84	76	5	31920	-	-
	vi	74	71	5	26270	-	-
	vii	64	66	5	21120	-	-
	viii	54	61	5	16470	-	-
	ix	44	56	5	12320	-	-
	x	34	51	5	8670	-	-
	xi	24	46	5	5520	-	-
	Total				**205080**	**51870**	**16740**
X1Y1-CD	i	134	103	1.5	-	-	20703
	ii	131	98	5	-	64190	-
	iii	126	88	5	55440	-	-
	iv	121	78	5	47190	-	-
	v	116	68	5	39440	-	-
	vi	111	58	5	32190	-	-
	vii	106	48	5	25440	-	-
	viii	101	38	5	19190	-	-
	ix	96	28	5	13440	-	-
	x	91	18	5	8190	-	-
	Total				**240520**	**64190**	**20703**
Grand Total					**445600**	**116060**	**37443**

The tentative Mineable Reserves of Gravel : **37,443m³**

The tentative Mineable Reserves of Weathered Rock : **1,16,060m³**

The tentative Mineable Reserves of Rough stone @ 100% : **4,45,600m³**

The EIA and EMP will be prepared for the maximum reserves. Hence, the tentative mineable reserves have been estimated as **4,45,600m³** of Rough stone at the rate of 100% recovery, **1,16,060m³** of Weathered Rock and **37,443m³** of Gravel as per proposed amalgamating mine boundaries on the Eastern side for a period of Ten years upto a depth of 51.5m (3m Gravel + 5m Weathered Rock + 45m Rough stone) (Refer Plate No. III).

Summary of Reserves and Resources:

Table – 6

Description	Rough stone (m^3)	Weathered Rock in (m^3)	Gravel (m^3)
Geological Resources	14,10,750	1,56,750	47,025
Mineable Reserve - as per amalgamating the mine Boundary	4,45,600	1,16,060	37,443
Mineable Reserves After leaving safety and Benches	3,06,760	1,07,060	35,660

4.0 MINING:

4.1 Method of mining (opencast / underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961.

The company intends to apply and obtain permission from Director of Mines Safety, Chennai for amalgamating the mine boundaries with adjacent existing and proposed quarry lease under Regulation 111(1) of Metalliferous Mines Regulations, 1961. The relaxation will be applied and obtained after execution of lease deed/ commencement of quarry operation. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission.

4.2 Mode of working (mechanized/ manual):

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves Drilling, Blasting, Rock breaking, Excavation, Loading and Transportation of Rough Stone to the needy crusher.

The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass by considerable volume from the parent rock mass by drilling with Hand Jack Hammer and blasting, the liberated Rough stone will be loaded into the Trucks by hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Hydraulic excavators are attached with rock breakers for fragmentation of large boulders to avoid secondary blasting and easy handling of material. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

4.3 Proposed Bench Height and Width:

The bench height is proposed 5.0meter vertical bench the width of the bench is not less than the Height. After obtaining relaxation as per 106 2(b) and 111(3) of Metalliferous Mines Regulations, 1961 from the DMS, the realignment of benches will be carried out.

4.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):

The yearwise proposed production are arrived with two categories based on the company's requirement, one is Amalgamating the mine boundaries on the Eastern side as requested by the company (Refer Plate No. III and III-B) and another category is leaving the safety distance and Benches on all sides (Refer Plate No. III-A and III-C).

The overburden in the form of gravel and Weathered rock, the same will be directly loaded into the Trucks for filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into Tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the pit lay out and green belt development are shown in Plate No. III to III-C.

Year wise Development and Production after leaving safety distance and benches

TABLE – 7

YEARWISE DEVELOPMENT AND PRODUCTION FOR FIRST FIVE YEARS								
Year	**Section**	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Recoverable Reserve of Rough stone in (m^3) 100%**	**Weathered Rock in (m^3)**	**Gravel (m^3)**
I	X1Y1-CD	i	75	105	1.5	-	-	11813
		ii	70	100	5		35000	-
		iii	50	90	5	22500	-	-
		iv	35	80	5	14000	-	-
	Total					**36500**	**35000**	**11813**
II	X1Y1-CD	i	50	105	1.5	-	-	7875
		ii	49	100	5	-	24500	-
		iii	59	90	5	26550	-	-
		iv	64	80	5	25600	-	-
		v	10	70	5	3500	-	-
	XY-AB	i	30	88	1.5		-	3960
		ii	25	82	5		10250	-
	Total					**55650**	**34750**	**11835**
III	XY-AB	i	91	88	1.5	-	-	12012
		ii	91	82	5	-	37310	-
	X1Y1-CD	v	79	70	5	27650	-	-
		vi	10	60	5	3000	-	-
	Total					**30650**	**37310**	**12012**
IV	X1Y1-CD	vi	69	60	5	20700	-	-
		vii	40	50	5	10000	-	-
	Total					**30700**	-	-
V	X1Y1-CD	vii	29	50	5	7250	-	-
		viii	59	40	5	11800	-	-
		ix	49	30	5	7350	-	-
		x	39	20	5	3900	-	-
	Total					**30300**	-	-
Grand Total						**183800**	**107060**	**35660**

The Recoverable reserves have been estimated as **1,83,800m³** of Rough stone at 100% recovery for first five years, **1,07,060m³** of Weathered Rock and **35,660m³** of Gravel for first three years upto a depth of 46.5m (1.5m Gravel + 5m Weathered Rock + 40m Rough stone) below from the ground level (Refer Plate No. III-A). The peak production capacity in the quarry is 55,650m³ of Rough stone and the proposed production schedule is arrived as per company's requirement.

Table – 8

YEARWISE PRODUCTION FOR REMAINING FIVE YEARS						
Year	**Section**	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Recoverable Reserve of Rough stone in (m^3) 100%**
VI	XY-AB	iii	35	72	5	12600
		iv	25	62	5	7750
		v	15	52	5	3900
	Total					**24250**
VII	XY-AB	iii	35	72	5	12600
		iv	25	62	5	7750
		v	15	52	5	3900
	Total					**24250**
VIII	XY-AB	iii	36	72	5	12960
		iv	38	62	5	11780
	Total					**24740**
IX	XY-AB	iv	8	62	5	2480
		v	56	52	5	14560
		vi	35	42	5	7350
	Total					**24390**
X	XY-AB	vi	41	42	5	8610
		vii	66	32	5	10560
		viii	56	22	5	6160
	Total					**25330**
Grand Total						**122960**

The Recoverable reserves have been estimated as **1,22,960m^3** of Rough stone only at 100% recovery to a depth of 46.5m (1.5m Gravel + 5m Weathered Rock + 40m Rough stone) below from the ground level for remaining five years of the lease period (Refer Plate No. III-C).

The Recoverable reserves have been estimated as **3,06,760m^3** of Rough stone at the rate of 100% recovery, **1,07,060m^3** of Weathered Rock and **35,660m^3** of Gravel as per after leaving safety distance and benches on all sides for a period of Ten years upto a depth of **46.5m (1.5m Gravel + 5m Weathered Rock + 40m Rough stone) below from the ground level.**

Year wise Development and Production as per Amalgamating the mine boundaries on the Eastern side

Table – 9

YEARWISE DEVELOPMENT AND PRODUCTION FOR FIRST FIVE YEARS								
Year	**Section**	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Recoverable Reserve of Rough stone in (m^3) 100%**	**Weathered Rock in (m^3)**	**Gravel (m^3)**
I	X1Y1-CD	i	81	103	1.5	-	-	12515
		ii	71	98	5	-	34790	-
		iii	61	88	5	26840	-	-
		iv	51	78	5	19890	-	-
	Total					**46730**	**34790**	**12515**
II	X1Y1-CD	i	53	103	1.5	-	-	8189
		ii	60	98	5	-	29400	-
		iii	65	88	5	28600	-	-
		iv	70	78	5	27300	-	-
		v	116	68	5	39440	-	-
	XY-AB	i	31	93	1.5	-	-	4325
		ii	21	91	5	-	9555	-
	Total					**95340**	**38955**	**12513**
III	XY-AB	i	89	93	1.5	-	-	12416
		ii	93	91	5	-	42315	-
	X1Y1-CD	vi	111	58	5	32190	-	-
	Total					**32190**	**42315**	**12416**
IV	X1Y1-CD	vii	106	48	5	25440	-	-
		viii	35	38	5	6650	-	-
	Total					**32090**	-	-
V	X1Y1-CD	viii	66	38	5	12540	-	-
		ix	96	28	5	13440	-	-
		x	91	18	5	8190	-	-
	Total					**34170**	-	-
Grand Total						**240520**	**116060**	**37443**

The Recoverable reserves have been estimated as **2,40,520m^3** of Rough stone at 100% recovery for first five years, **1,16,060m^3** of Weathered Rock and **37,443m^3** of Gravel for first three years upto a depth of 46.5m below from the ground level (Refer Plate No. III). The peak production capacity in the quarry is 95,340m^3 of Rough stone and the proposed production schedule is arrived as per company's requirement.

TABLE – 10

YEARWISE PRODUCTION FOR REMAINING FIVE YEARS						
Year	**Section**	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Recoverable Reserve of Rough stone in (m3) 100%**
VI	XY-AB	iii	95	86	5	40850
	Total					**40850**
VII	XY-AB	iii	9	86	5	3870
		iv	94	81	5	38070
	Total					**41940**
VIII	XY-AB	v	84	76	5	31920
		vi	25	71	5	8875
	Total					**40795**
IX	XY-AB	vi	49	71	5	17395
		vii	64	66	5	21120
		viii	10	61	5	3050
	Total					**41565**
X	XY-AB	viii	44	61	5	13420
		ix	44	56	5	12320
		x	34	51	5	8670
		xi	24	46	5	5520
	Total					**39930**
Grand Total						**205080**

The Recoverable reserves have been estimated as **2,05,080m³** of Rough stone only at 100% recovery to a depth of 51.5m below from the ground level for remaining five years of the lease period (Refer Plate No. III-B).

The EIA and EMP will be prepared for the maximum reserves. Hence, the Recoverable reserves have been estimated as **4,45,600m³** of Rough stone at the rate of 100% recovery, **1,16,060m³** of Weathered Rock and **37,443m³** of Gravel as per proposed amalgamating mine boundaries on the Eastern side for a period of Ten years upto a depth of **51.5m below from the ground level.**

The Annual peak production capacity in the quarry is 95,340m³ of Rough stone and the proposed production schedule is arrived as per company's requirement and the EIA & EMP will be prepared an annual peak production.

The company ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the rough stone locked up in benches will be exploited after obtaining necessary permission from the office of Director of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

One lorry load	=	6m³ (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed during the ten years lease period	=	4,45,600m³
Peak production capacity during	=	95,340m³
Hence total Lorry loads per day	=	95,340m³/6m³
	=	15,890 Lorry loads
	=	15,890/300 days
Rough Stone (Maximum)	=	**53 Lorry loads per day**
One lorry load	=	6m³ (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed during the ten years lease period	=	1,16,060m³
Peak production capacity during	=	42,315m³
Hence total Lorry loads per day	=	42,315m³/6m³
	=	7,053 Lorry loads
	=	7,053/300 days
Weathered Rock (Maximum)	=	**23 Lorry loads per day**
Total Gravel to be removed during the first three years	=	37,443m³
Peak production capacity during	=	12,515m³
Hence total Lorry loads per day	=	12,515m³/6m³
	=	2,086 Lorry loads
	=	2,086/300 days
Gravel (Maximum)	=	**7 Lorry loads per day**

Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 P.M. lunch break).

4.5 Machineries to be used:

For Mining:

The following machineries are utilized for the development and production work at this quarry.

TABLE – 11

I. DRILLING MACHINE:

S. No.	Type	Nos.	Dia Hole mm	Size Capacity	Motive power
1	Hand Jackhammer	8	32	1.2m to 2.0m	Air Compression
2	Compressor	2	-	400 psi	Diesel Drive

II. EXCAVATION & LOADING EQUIPMENT:

S. No.	Type	Nos.	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	3	300	Diesel Drive

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S. No.	Type	Nos.	Capacity	Motive Power
1	Tipper	6	30 tonnes	Diesel Drive
2	Water Sprinkling Tanker	1	6,000 litres	Diesel Drive

4.6 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:

Conceptual mining plan is prepared with an object of long-term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

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

As the company has applied quarry lease for Ten years, the ultimate pit limit (dimension) at the end of this mining plan period is given below (Refer Plate No. VI-A):

Table – 12

Section	Length (Max) (m)	Width (Max) (m)	Depth (Max) (m)
XY-AB	121	88	36.5m
X1Y1-CD	125	105	46.5

After obtained permission from the Director of Mines safety, Chennai for working under Common mine boundary, the ultimate pit dimensions are modified as given table below (Refer Plate No. VI):

Table – 13

Section	Length (Max) (m)	Width (Max) (m)	Depth (Max) (m)
XY-AB	120	93	51.5m
X1Y1-CD	134	103	46.5m

All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF & CC Norms. Please refer Plate Nos. IV to IV-C & V. As per the NGT orders the applicant is directed to plant 500 trees per hectares along the quarry site and in the haul road either at the regular or the phased manner by planting native species.

There is no waste anticipated during the entire life of quarry. Hence, there is no proposal for backfilling. After completion of quarry operations, the quarry pit will be allowed to collect the seepage and rain water, the water storage will be kept as temporary reservoir to charging the nearby wells and will be utilized for greenbelt development. When the quarry reaches its ultimate pit limit or at the end of life of quarry, greenbelt development will be carried out over the quarried out top bench. The Conceptual Mining is based upon the entire ROM proposed for the life of the Mine.

The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle (Refer Plate No. V and VI).

5.0 BLASTING:

5.1 Blasting pattern:

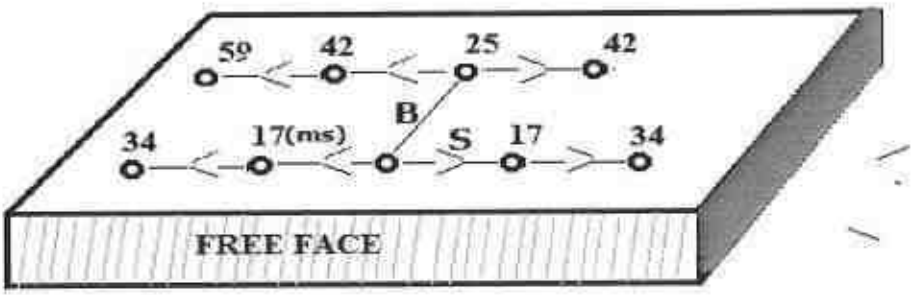
Selection of drilling pattern for blasting varies with the type and size of the drills used, depth of hole, kind of rock, quantity, rapidity of the explosives and amount of steaming. The quarrying operation is proposed to carried out with conventional method of mining using shallow Jack hammer drilling and mild blasting with NONEL initiation of shattering effect for loosen the Rough stone. NONEL initiation provides reasonably good solution to fly rock problem. The main objectives of NONEL Blasting are to reduce the ground vibration, noise, fly rocks generated due to blasting operations. The overall cost of blasting in NONEL is very less compared to electrical blasting and hence it optimizes the cost of blasting.

Drilling and blasting parameters are as follows:

Depth of Each hole	:	1.5m
Spacing between holes	:	1.0m
Burden for hole	:	0.75m
Diameter of hole	:	32-35mm
Pattern of hole	:	Staggered pattern
Inclination of holes	:	80°from horizontal
Use of delay detonators	:	NONEL
Hole to Hole	:	17 milli second delay (ms)
Row to Row	:	25 milli second delay (ms)

Staggered Pattern of Blasting Design

NONEL DELAY PATTERN



Spacing (S)	=	**1.0m**
Burden (B)	=	**0.75m**
Depth of the hole	=	**1.5m**
No. of holes proposed per day (Peak Production)	=	**274 Holes**

5.2 Type of explosives to be used:

25mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No deep hole drilling or secondary blasting is proposed. NONEL blasting and muffle blasting may be adopted after permission from DGMS.

Assistant Director of Geology and Mining Collectorate Dindigul - 624 004

5.3 Measures proposed to minimize ground vibration due to blasting:

The quarry is situated more than 300m away from the nearby villages. Controlled blasting measures by NONEL initiation is being adopt for minimizing ground vibration and fly-rock.

Shallow depths jackhammer drilling with blasting is proposed to be carried out with minimum use of explosive mainly to give heaving effect in Rough stone for easy excavation and to control fly rock.

NONEL Delay detonators:

NONEL blasting permits for bottom initiation and lesser charge per delay.

The major advantages of NONEL blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

Blasting program for the production per day (As per Peak production capacity):

The Hydraulic excavators are attached with rock breakers for breaking the rock mass to reduce the blasting and explosive usage also to avoid secondary blasting. Anyhow, as per day's production schedule the maximum blasting program proposed as given below.

Peak production	= 95,340m^3 x 2.6 (Bulk Density) = 2,47,884 Tons
No of Holes	= 274 Holes
Yield	= 822 Tons
Powder factor	= 6 Tons/ Kg of explosives
Maximum explosive required	= 137 Kg-Slurry explosives
Charge/ hole	= 0.5 Kg
Blasting at day time only	= 12.00 – 12.30 P.M. (whenever required)

Anticipated theoretical calculation of PPV

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

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

Where –

V = peak particle velocity (mm/s)

K = site and rock factor constant

Q = maximum instantaneous charge (kg)

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

R = distance from charge (m)

PREDICTED PPV VALUES DUE TO BLASTING

Table – 14

Maximum Charge per day (kg)	Number of Round Blast per day	Maximum Charge per Round (kg)	Number of holes blasted per round	Number of holes blasted per day	Maximum Charge blast at a time by NONEL (kg)	Nearest Infrastructure (m)	PPV (mm/s)
137	2	68.5	137	274	1 (2 Holes)	640	0.476

From the above table, the charge per blast of 137kg is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997. Anyhow, the applicant ensures that carry out the blasting based on the site condition under the supervision of competent qualified statutory personnel employed. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

5.4 Storage and safety measures to be taken while blasting:

The applicant will engage an authorized explosive agency as approved by Petroleum and Explosives safety Organization (PESO) to carry out the blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be having the valid Blaster certificate. He will blast holes in the quarry site. After completion of Blasting the explosive Agency will take it out back the remaining quantity of Explosives. The blasting and quarrying operation is advised to handle by competent qualified statutory personnel approved by the DGMS and competent authorities and he will maintain the records of Explosives as per the Indian Explosives Act, Mines Act and EP Act.

6.0 MINE DRAINAGE:

6.1 Depth of water table (based on nearby wells and water bodies):

The lease applied area consist dendritic drainage pattern. The water table in the area is about 68m - 73m which is observed from the existing private boreholes. The lease applied area is fully covered by Massive Charnockite. The quarry operation confined to well above the water table hence, the Ground Water problem will not arise. Anyhow, Garland drain will be constructed along the boundary to prevent surface run-off water entering into the quarry.

TABLE – 15

Type	Distance & Direction	Location
Bore Well	270m Southeastern side	10°07'00.3402"N 77°45'05.5607"E

6.2 Arrangements and places where the mine water is finally proposed to be discharged:

The quarry operations are confined to well above the water table during the entire lease period. If water is encountered at quarry due to rain water and seepage, the same will be pumped out by 5HP water pump and discharge to the Greenbelt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

7.0 STACKING OF MINERAL WASTE AND DISPOSAL OF WASTE:

There is no waste anticipated during entire life of the quarry hence, disposal/stacking of waste does not arise.

8.0 USE OF THE MINERAL:

The excavated rough stone (100%) will be directly loaded into Tippers as raw form to the needy nearby crushing unit to making Road metals and construction materials. The quarried out gravel and weathered rock will be directly loaded into Tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fee to the Government.

9.0 OTHERS:

9.1 Other Permanent Structure (also shown in the map)

TABLE – 16

S.No.	Description-Nearest	Particulars	Aerial Distance & Direction
1	National Highway	(NH-183) Dindigul – Theni	5km – NW
2	State Highways	(SH-154) Vattalagundu - Usilampatti	1.7km – SE
3	Railway station	Usilampatti	17.3 km – SE
4	Airport	Madurai	48.9km – SE
5	Town	Vattalagundu	4.7km – North
6	Government School	Viralipatti - Govt. School	3 km – SW
7	Government Hospital	Vattalagundu	4.7km – North
8	Habitation	640m – NW	
9	Reserved Forest	No Reserve Forest within 60m Radius	
10	Defence Installation/ Historical Monuments/ Archaeological	Nil within 500m radius.	
11	Nearby Water Bodies	Nil within 50m radius.	
12	Interstate Boundary	Around 51km – NW (Kerala Interstate border)	
13	Critically Polluted areas identified by the CPCB	Nil within 10km radius	
14	Protected areas Notified under wildlife (Protection) Act, 1972.	12.3km – NW (Kodaikanal Wildlife Sanctuary)	
15	Applicability of CRZ, Notification 2011 as amended.	Not Applicable	
16	Applicability of Hill Area Conservation Authority (HACA) Clearance.	Not Applicable	
17	Housing area, EB line (HT & LT Line)	There is no EB-LT/HT line or Housing area located within 50m radius from the lease applied area.	
18	Boundaries of the permitted area.	The boundaries of the permitted areas are as follows (Refer Plate No. II):	

		North - S.F.Nos. 1263 and 1266 East - S.F.No. 2/2 South - S.F.No. 3 and 1269/2 West - S.F.Nos. 1269/1 and 1267.
19	Adjacent Patta lands / Govt. Land	(Refer Plate No. II):

Direction	Classification	Safety Distance
North	Patta land	7.5m
East	Patta land	7.5m
South	Govt., Land	10m
West	Patta land	7.5m

TABLE – 17

STRUCTURE WITHIN **50 - 100m** Number of Structures – Nil.					
Number of Structure	**Type of Structure**	**Usage Purpose**	**Commercial / industry/ residential/ farm house/ Govt. building**	**Occupants of Building/ Structure**	**Remarks**
Nil					
STRUCTURE WITHIN **100 - 200m** Number of Structures – Nil.					
Nil					
STRUCTURE WITHIN **200 - 300m** Number of Structures – 3Nos					
3	Shed	Poultry farm	Commercial	No resident	Private

9.2 Employment potential (skilled, semi-skilled, un skilled):

TABLE – 18

Designation	Present Employment position	Employees Requirement	Total
a) Supervisory category			
Mine manager	-	1	1
Geologist	-	1	1
b) Skilled labour			
Mine Foreman	-	1	1
Blaster/Mate	-	1	1
Excavator – Operator	-	3	3
Tipper Driver	-	6	6
Water sprinkler Driver	-	1	1
Jack-Hammer Drillers	-	16	16
c) Unskilled			
Security	-	1	1
Labour & Helper	-	4	4
Co-operator and Cleaner	-	10	10
Total	-	**45**	**45**

The proposed output per man shift:

TABLE – 19

Peak Production		95,340m^3
No. of days likely to be worked		300 days
Average production per day		318m^3
OMS =	Average Production per day / Average employment per day	318m^3 / 45 = 7m^3

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

9.3 Welfare Measures:

a) Drinking Water:

Packaged drinking water is available from the nearby water vendors in Vattalagundu village which is located about 4.7km on the Northern side of the lease applied area.

b) Sanitary Facilities:

Hygienic modern Sanitary Facilities will be constructed as semi-permanent structure within the applied area and it will be maintained periodically.

c) First aid facility:

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle. Hospital is available in Vattalagundu located at 4.7km on the Northern side of the area.

d) Labour Health:

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

e) Precautionary safety measures to the labourers:

- Helmets,
- Reflector Jackets,
- Dust mask
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Safety Shoes,

All personnel protective equipment as per the DGMS standard will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

10.0 MINERAL PROCESSING:

No mineral processing/beneficiation involved.

PART – B

11.0 ENVIRONMENT MANAGEMENT PLAN

The EMP is prepared based on the Mines act, Rules & amendment from by state & central government. If the SEIAA/SEAC instructed the modification and alter the EMP the outcome of their recon would be final and the applicant is instructed to follow the EIA / EMP for its compliance as per the CPCB / TNPCB Norms.

Environment	Anticipated impact	Mitigation measure
Land Environment	i. Topography of the area will change due to mining activity.	i. Backfilling is the only source for mitigation measure for topographical changes, but no waste will be anticipated during entire life of the Rough stone and Gravel quarrying operation hence, backfilling is not proposed. ii. The Mining benches will not exceed beyond the approved height and width. iii. At the end of life of mine, the pit will be allowed to collect the seepage and rain water and the water storage will be kept as temporary reservoir for charging the nearby wells also the water utilized for greenbelt development purpose.
	ii. Soil quality and agriculture land on surrounding land environment will impact due to; a) Dust propagation during quarry operation like drilling, blasting, loading, unloading and movement of men, Vehicle and machineries. b) Vehicular and machineries emissions and spillage of oil and grease.	i. Regular water sprinkling on dust prone area like haul road and other active area to arrest the dust generation. ii. The applicant is carried out the greenbelt along the safety zone, the same will be maintain also additional greenbelt will be developed with thick long leave plants to arrest the fugitive dust and vehicular emissions propagation. iii. Wet drilling/dust extractor unit by proper drilling pattern and controlled blasting with NONEL initiation will be carried out to minimize the dust generation. iv. Excavated benches shall be developed by planting with grasses, herbs and shrubs of local species to prevent soil erosion and landslide.

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	c) Propagation of foreign material like polythene bag, Plastic water and cool drink containers and undecomposed waste materials dumping.	v. PUC (Pollution under control) certified vehicles will be used for transportation and all vehicles and their exhausts would be well maintained and regularly tested for pollutant concentrations. vi. Oiling and greasing will be managed in respective places at vehicle maintenance shed and oil tray will be use to collect the spillage during maintenance and the same will be disposed in manner. vii. Non-degradable materials like polythene bag, useless articles, plastic water and cool drink containers will not be allowed within quarry premises.
Water Environment	Surface Mining can have direct impact on physico-chemical characteristics of the local drainage and groundwater resources. The detrimental effects, if any, to water resources resulting from surface mining are caused by following: i. Flow direction of Surface run off water will interrupting during rainy season due to modification of topography. ii. Surface water course will be contaminated due to dust propagation and vehicle emission.	i. Garland drain with check dam will be constructed all along the boundary barrier to prevent surface run off rain water entering into the pit. ii. The pit water due to rain and seepage will be utilized for water sprinkling on haul Roads and plantations. iii. Greenbelt will be developed in the safety zone with thick long leaves plants and water sprinkling on dust prone area to arrest the fugitive dust and vehicular emissions. iv. Further mining will be completely stopped during the monsoon for free flow of surface run off and allowing natural recharge of groundwater. v. No wastewater will be generated from the quarry activity. Proper drainage will be Maintained to eliminate inundation of working pit during rain from run-off water. vi. Septic tanks and soak pits will be provided for the disposal of domestic/washroom effluents, the same will be disposed in proper manner.

Air Environment	In surface mining operations, the source of air pollution may cause deterioration of air quality due to; a) The fugitive dust emissions from drilling/blasting, scooping, loading-unloading operation of extracted mineral and its transportation. Drilling/blasting and loading of quarry material would be associated with the fugitive dust emission in the active area whereas fugitive emission during transportation would affect the areas/villages situated adjacent to the road side. Another source of air pollution would be emission from the drilling machinery and excavators/tippers vehicles to be used for loading.	i. Regular water sprinkling on haul road and dust prone area to arrest the dust generation. ii. Additional greenbelt will be developed in the safety zone and Haul road with thick long leaves plants to arrest the fugitive dust and vehicular emissions. iii. Wet drilling/dust extractor unit by proper drilling pattern and controlled blasting with NONEL initiation will be carried out to minimize the dust generation. iv. Quarry material will be handled under wet condition during scooping, loading and unloading to minimize the dust propagation, besides loaded materials are covered by Tarpaulin until to reaches its destination. v. Provision of dust filters/ Nose mask to workers working at dust prone areas. vi. Vehicular emission as a result of combustion of diesel generates particulate matter (PM_{10} & $PM_{2.5}$), Nitrogen oxides and Sulphur dioxide (NO_2 & SO_2). High quality diesel will be used in the motor vehicles to control these pollutants. vii. PUC (Pollution under control) certified vehicles will be used for transportation and all vehicles and their exhausts would be well maintained and regularly tested the pollutant concentrations. viii. CPCB Prescribed emission standards for the vehicles would be followed.
Noise Environment	In the present mining activity for building material, noise will be generated from drilling machinery, blasting and vehicular movement. Noise level in the working environment is compared with the standards prescribed by Central Pollution Control Board as adopted and enforced by the Govt. of India through Noise Pollution (Regulation and Control) Rules, 2000.	i. Selection of innovative low – noise equipment for the quarry operation. ii. The noise levels shall be maintained within the permissible levels by involving all the noise regulating measures in vehicles and drilling/blasting operations. iii. To ensure minimum vibrations and noise due to blasting, NONEL in continuous sequence is proposed. iv. Personnel Protective Equipment (PPE) like earmuffs and earplugs shall be provided to the employees whose in critical operation like drilling, blasting and excavation as occupational safety measures. v. Proper maintenance done with regular interval by the Oiling and greasing for the

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		machineries and vehicles to control the Source of noise during operation and transportation. vi. Regular and proper maintenance of machinery and transportation vehicles shall be ensured. vii. Transporting vehicles are enforcing the speed limits of 20km/hour within quarry area and not exceed 40km per hour from quarry to destination to reduce Noise and vibration. viii. There would be restrictions on mining activity and vehicular movement during night hours.
Biological Environment	The area having main floras are Neem, Manchanathi, Mango, Cocos nucifera, Amla, Prosopis juliflora, Acacia nilotica, Cactus and shrubs. No plants of botanical interest or animals of zoological interest recorded within 500m radius. The anticipated impacts on biological environment as follows: i. Cattles may die by entering the pit. ii. Diversity of living insects and faunas due to vibration. iii. Natural habitats of the existing faunas and its breeding will change due to the noise and vibration during operation. iv. The mining activities can also disrupt the ecological diversity. v. Deposition of dust on the plant and crop leaves is affecting the photosynthesis, Pollination, growth ratio and agriculture productivity.	i. The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. ii. The natural habitats of the existing flora and fauna will not be disturbed. iii. No mining will be carried out during the monsoon season to minimize impact on aquatic life for many species. iv. Fruit bearing trees will be planted to survive the existing faunas. v. No clearance of vegetation will be done during the entire mining operations. vi. Regular Water sprinkling on haul roads would be reduces the dust propagation, thus avoiding damage to the crops and plants.

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Socio – Economic Environment	Any activity during mining will have adverse impact on Environment, careful mitigation measures are proposed to balance the impact on the existing environment and the applicant is always instruct to carry out safe, sustainable, eco-friendly mining operations at all times. The following positive impact on the society due to this mining activity. i. It is proposed to provide employment to about 45 persons for carrying out mining operations and give preference to the local people in providing employment in this cluster. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. the economic status of the local people will be enhanced due to mining project. ii. 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. iii. Improvement of Physical structure like 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. iv. The continuation of opportunity for the employments, the nearby villages, living peoples and their life style would be improved. v. The applicant is advised to invest the CER cost (@ 2% from the total Project Cost) to develop the local Panchayat.	i) Preference employment will be given to the local community. This quarrying activity will also indirectly provide employment to the local community by the way of petty shops, hotels, etc ii) The CER activity proposed by the company will enhance the requirement of the local community. iii) The improvement of physical structure like road transport facilities, medical, social benefits will get enhanced. iv) There will be a positive enhancement of lifestyle of the nearby village.

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11.1 Environmental impact assessment statement describing impact of mining on the next Ten years:

In the mining plan proposed for a small production of Rough stone and gravel does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF& CC. It is B Category mine. The compliance monitoring will be carried out for every six months as prescribed by the MOEF&CC and with state concerned authorities.

11.2 Proposal for waste management:

There is no waste anticipated in this Rough stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%). The maintenance of machineries & fuelling will be carried out as per the TNPCB Norms and the waste will be disposed in the Norms.

11.3 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):

In the mining plan only to a maximum depth of 51.5m below from the ground level has been envisaged as workable depth for safe & economic quarrying operation during entire life of quarry. There is no waste anticipated during entire life of the quarry hence, backfilling is not proposed. After completion of quarry operations, the quarry pit will be allowed to collect the seepage and rain water, the water storage will be kept as temporary reservoir to charging the nearby wells and will be utilized for greenbelt development. When the quarry reaches its ultimate pit limit or at the end of life of quarry, greenbelt development will be carried out over the quarried out top bench. The quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle.

11.4 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):

The applicant has proposed the greenbelt development along the safety barrier by planting 1,200 tree saplings also the applicant proposed to plant 300 tree saplings in the quarried out top benches and 500 saplings on haul road during this Plan period and maintain at least 1,600 plants at the end of the lease period at a survival rate of 80%. Manuring and tree guards will be provided by the applicant to safeguard and maintain the plants. The plantation will be carried out as recommended by the SEIAA based on the output Environmental Clearance and the recommended species will be planted in a phased manner as described below (Refer Plate No. III).

Table – 20

Year	No. of tress proposed to be planted	Survival (%)	Name of the species	No. of trees expected to be grown
I	120	80%	Neem, Pongamia Pinnata, Cordia dichotoma, Mango, Senkondrai, Mookusali maram, Mantharai, etc.,	96
II	120	80%		96
III	120	80%		96
IV	120	80%		96
V	120	80%		96
VI	120	80%		96
VII	120	80%		96
VIII	120	80%		96
IX	120	80%		96
X	120	80%		96

11.5 Proposed financial estimate / budget for the project:

Budget Provision for the Mining Plan period:

TABLE – 21

A. Operational Cost / Project Cost / Investment:		Cost (Rs.)
i) Land cost	The Land value as per the Government Guideline land cost is about, Extent (Ha.) 3.13.50 | Cost / Ha (Rs.) 494500 | Cost of the area (Rs) 15,50,257.5 i.e., Rs.15,51,000/-. (Source: https://tnreginet.gov.in/portal/).	15,51,000
ii) Machinery cost	The following machineries are proposed to meet out the productions. Excavator attached with rock breaker Tipper, Tractor mounted compressor with jack Hammer and loose tools (Rental Basis).	45,00,000
iii) Labourers shed	Labour shed will be constructed as semi-permanent structure. The cost is around	5,00,000
iv) Sanitary facility	Adequate latrine and urinal accommodation has provided at conveniently accessible places the cost would be around.	80,000
v) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around.	2,00,000
vi) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around.	1,50,000
vii) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around.	80,000
viii) CCTV Arrangements	Installation of CCTV cameras in the quarry area.	80,000
Total Cost		**71,41,000**

B. EMP Cost:		Cost (Rs.)
1.	Environmental Monitoring Program (Air Quality, Water Quality Sampling, Noise and Ground vibration test) Rs. 50,000/ year.	2,50,000
2.	Water will be sprinkled in the haul roads by own water sprinklers for dust suppression (1 No.). The cost would be around.	3,00,000
3.	Construction of Garland drain with check dam to prevent surface run-off rain water entering to the quarry pit, the construction cost is around (Total Peripheral length 920m x Rs. 300/meter).	2,76,000
4.	Fencing constructed around the quarry area to prevent the inadvertent entry of public and cattle cost would be around (Total Peripheral length 1030m x Rs. 300/meter).	3,09,000
5.	First aid room & accessories	80,000
6.	Dust extractor unit for Jackhammer (8 Nos.)	2,00,000
7. Greenbelt development for dust suppression & Noise control measures	Greenbelt development will be carried out along the safety barrier; the cost would be around (1200 saplings x Rs. 200/sapling).	2,40,000
	Greenbelt development will be carried out along the quarried out top benches; the cost would be around (300 saplings x Rs. 200/sapling).	60,000
	Greenbelt development will be carried out on haul road; the cost would be around (500 saplings x Rs. 200/sapling).	1,00,000
	Total EMP Cost	**18,15,000/-**

Description	Cost (Rs.)
A. Operational Cost	**71,41,000/-**
B. EMP Cost	**18,15,000/-**
Total Project Cost (A+ B)	**89,56,000/-**
C. The applicant Indents to involve corporate environment responsibilities (CER) activity like Water Purifier, Plantation, Books to Library, sanitary facility, Smart class Board, class room painting and as per requirement to the nearby Government School at 2.0% from the total project cost. The Cost would be around **Rs. 1,80,000/.** If the concerned authority is directed to modify the CER cost and mode of utilization of the cost, the same will be implement by the applicant.	**1,80,000/-**
Total Cost (A+B+C)	**91,36,000/-**
The total cost would be around ninety one lakhs and thirty six thousands only.	

12.0 PROGRESSIVE QUARRY CLOSURE PLAN

12.1 Introduction:

As per guidelines for preparation of mining plan prescribed under Minor Mineral Conservation and Development Rules, 2010 also the entire area is proposed for a short period of Ten years only hence, the progressive quarry closure plan may not be applicable to this quarry. Anyhow, during temporary discontinuance of quarry the following measures will be taken.

a. Barbed wire fencing will be constructed around the quarry.
b. Benches will be smoothening.
c. Quarry will be closed & sentries will be posted round the clock.
d. Green belt development will be maintained.
e. Machineries will be removed from pit and engaged in another site.

12.2 Present and Post Land use pattern:

TABLE – 22

Description	Proposed Amalgamation		Leaving safety and Benches	
	Area to be required at the present mining plan period (Ha)	Area at the end of lease period (Ha)	Area to be required at the present mining plan period (Ha)	Area at the end of lease period (Ha)
Area Under Quarry	2.33.16	2.33.16	2.54.88	2.54.88
Site Services	0.02.00	0.02.00	0.02.00	0.02.00
Roads	0.02.00	0.02.00	0.02.00	0.02.00
Green Belt	0.34.74	0.76.34	0.26.28	0.54.62
Unutilized Area	0.41.60	Nil	0.28.34	Nil
Grand Total	**3.13.50**	**3.13.50**	**3.13.50**	**3.13.50**

Note: * Present Area is Virgin.

12.3 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations as per the DGMS, Department of Geology and Mines, Labour Enforcement officer, controller of Explosives etc., circulars, Norms, Rules, Regulations and Act.

12.4 Progressive quarry closure plan preparation:

Name and address of the Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the Preparation of progressive quarry closure plan.

Name	:	**P. Viswanathan, M.Sc.,**
		Qualified Person (As per Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	No. 4/366-D, Selva Nagar,
		Kamaraj Nagar Colony, Near Omega Church,
		Salem District,
State with PIN Code	:	Tamil Nadu – 636 014.
Mobile	:	+91 97916 09929
Email	:	viswa2727@gmail.com

The applicant will himself implement the closure plan; no outside agency will be involved.

(i) Safety & Security:

Safety measures will be implemented to prevent access in the excavation area an un-authorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of machineries and vehicles.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipment shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be given to the public before blasting to prevent accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.
- Installation of CCTV cameras in the quarry and entrance of the quarry.
- Monitoring of Quarrying operation by external agency as directed by authorities.

(ii) Disaster Management and Risk Assessment:

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The Greenbelt Development will be formed in around the quarried out top benches and panchayat road of the lease applied area.

Environmental Monitoring Cell:

A dedicated team nominated by the mine manager or Agent will monitor and maintain the environmental compliances of the quarry as per the approved Environment Management Plan and report the Compliance to the Mine Manager half yearly.

Disaster Management Cell:

The Competent Qualified Statutory managers appointed by the applicant as per the Director of Mines Safety will be responsible for Disaster Management. It care any eventualities his mobile number will be displayed and he will take all the precautions and safety measures as per Mines and Minerals (Development and Regulations) Act, 1957.

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(iii) Disposal of mining machinery

All the Machineries will be engaged on rental basis, the same has been maintained in good condition during entire life of quarry. After completion of quarry operation all machineries will be engaged at another quarry area. Hence, disposal or decommissioning of mining machinery does not arise.

(iv) Care and Maintenance during Temporary Discontinuance:

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

  Quarry roads and approach roads,

  Fencing on approach roads,

  Checking and maintenance of machines and equipment,

  Drinking water arrangements,

  Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

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(v) Economic Repercussion of Closure of Quarry and manpower Retrenchments:

The quarry lease is granted for a period of Ten years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

(vi) Abandonment Cost:

As at present mining is not going to be closed so abandonment cost could not be assessed. However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below at present scenario:

TABLE – 23

ACTIVITY		YEARS										RATE	COST (Rs.)
		I	II	III	IV	V	VI	VII	VIII	IX	X		
Plantation under safety zone	Nos	120	120	120	120	120	120	120	120	120	120	Rs.200 Per sapling	2,40,000
	Cost	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000		
Plantation in quarried out top bench and Haul road	Nos	Haul Road			Quarried out top bench								1,60,000
		200	200	100	-	-	-		100	100	100		
	Cost	40000	40000	20000	-	-	-		20000	20000	20000		
Barbed Wire Fencing (1030 Mtrs)		3,09,000	-	-	-	-	-	-	-	-	-	Rs300 Per Meter	3,09,000
Garland Drain (920 Mtrs)		2,76,000	-	-	-	-	-	-	-	-	-	Rs300 Per Meter	2,76,000
Total													**9,85,000**

13.0 STATUTORY COMPLIANCE TO BE FOLLOWED DURING THE COURSE & CLOSURE OF QUARRY LEASE:

The Applicant after execution of lease deed should ensure to carry out that the quarry operation in accordance to the Approved Mining plan and as per TNMMCR, 1959, Mines Act 1952 & MMR 1961.

The conditions in the nutshell as follows:

1. The quarry operation should be fenced with the barbed wire and three tier Greenbelt has to be carried out all along the boundary barriers and should be maintained till the end of the life of the mine.
2. The quarry operation should be carried out as per the regulation 3,4,5 of MMR 1961 as prescribed in the form I, II, III, IVA, IVB, IVC, V, VI.
3. Statutory competent qualified person as per regulation 39, 40, 41, 42, 43, 44, 47, 48 of MMR 1961 should be appointed to carryout day today quarrying operation in scientific & systematic manner.
4. Blasting has to be carried out during the designated timing as per the approved mining plan with sufficient warning all around the mines by only the Qualified blaster as indicated in the regulations 153, 154, 156, 160, 166, 167, 169 of MMR 1961.
5. During the Quarrying operations the benches has to be maintained and haul roads should be maintained as per the regulations 60, 61, 62, 65, 66, 95, 96, 105, 106, 110, 115, 118 of MMR 1961. When the quarry attains 30mts depth from the general ground profile a slope stability study should be carried out with competent authorized agencies only.
6. All PPE should be provided to the employees and periodic Medical Examination has to be carried out as per the regulation 124, 127, 177, 178, 181, 183, 185, 188, 190, 191A of MMR 1961.
7. The Applicant should submit the quarterly, half yearly & Annual returns to the concerned Authorities as per regulation 3, 4, 5, 9 &10 MMR 1961 on time and HYCR self-compliance reports should be submitted to the State Pollution control Board.
8. Periodical Hydrology & Hydrogeological Studies has to be carried out during the course of quarrying operation. if any significant seepages is inferred, the applicant should carry out a comprehensive Hydrogeological studies to ensure the impact of agricultural activities in and around the mine (Open well & Tube well). If the impact is noticed considerably the quarry had to be continued only after obtaining permission clearances and approval from the competent regulatory authorities.
9. The lessee should utilize green energy / Solar energy as far as possible for operation of machineries, equipment and illumination in the mine's office, quarry boundaries and avenue roads.
10. The lessee should ensure all the skilled and semi-skilled workers should be provided trainings in nearby Vocational Training centre as per the MVTR 1966 and should be registered in Shram Suvidha portal as directed by the Ministry of labour.
11. The lessee should carry out the quarrying operation keeping the view of mineral conservation, development and sustainable mining.
12. If the lessee intends to deviate from the approved mining plan, a modified mining plan has to be prepared submitted and approved from the concerned authority before making any significant changes in the mining operations.
13. The lessee should carry out the mining operation in Eco friendly environment with good hygienic conditions to the employees deployed and maintain good harmony with local communities in the impact zone.
14. The conditions stipulated in the lease deed and Environmental clearance especially the mitigation measures as proposed in EMP to the SEIAA has to be followed during the course of quarrying operation and also to as per the rules of TNMCR 1959, Mine act 1952, MMR 1961, Mine Rule 1955, Environment Protection Act 1986 and Indian Explosive act 1884 and Indian Explosive Rules 2008 and all the amendments issued by the concern State and Central Government authorities from time to time.

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This Mining plan for Rough stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified and modified after scrutiny comments as per the guidelines of the Concerned Department and Authorities.

This Mining Plan and mine design is prepared based on the requirement instructed by the applicant to me. If there is any change in the production schedule, change of technology, change in product mix during the course of operations, the applicant is advice to prepare a modified mining plan and get approval by the concerned authority for subsequent clearance and approval. The same will be monitored by the inspecting authority of Department of Geology and mining and other Concerned Departments under Rule 25 and sub rule (5)(d) in Rule 36 of Tamil Nadu Minor Mineral Concession Rules, 1959.

I hereby ensure that the information provided is correct to best of my knowledge and experience, some of the information contained in this report has been provided by external sources and by the applicant and is presented as the form as submitted by the applicant. The information is not intended to serve as legal advice related to the individual situation. I do not owe and specifically disclaim any liability resulting from the use during the course of quarrying operations after the grant of lease. The document may be scrutinized by the competent authority before approval.

Prepared by

P. Viswanathan, M.Sc.,
Qualified Person

Place: Salem
Date: 13.01.2025

This Mining is approved based on guidelines / Instructions issued in the CGM, Letter No. 3888/LC/2012 dated 19-11-2012 and incorporation of the particulars specified in the letter Roc.No. 260/Mines/2024 Dated 21/1/2025 of the Assistant Director of Geology and Mining, Dindigul and subject to further Fulfillment of the conditions laid down under rule 41,42 of Tamil Nadu Minor Mineral Concession Rules 1959

Assistant Director of Geology & Mining
Dindigul

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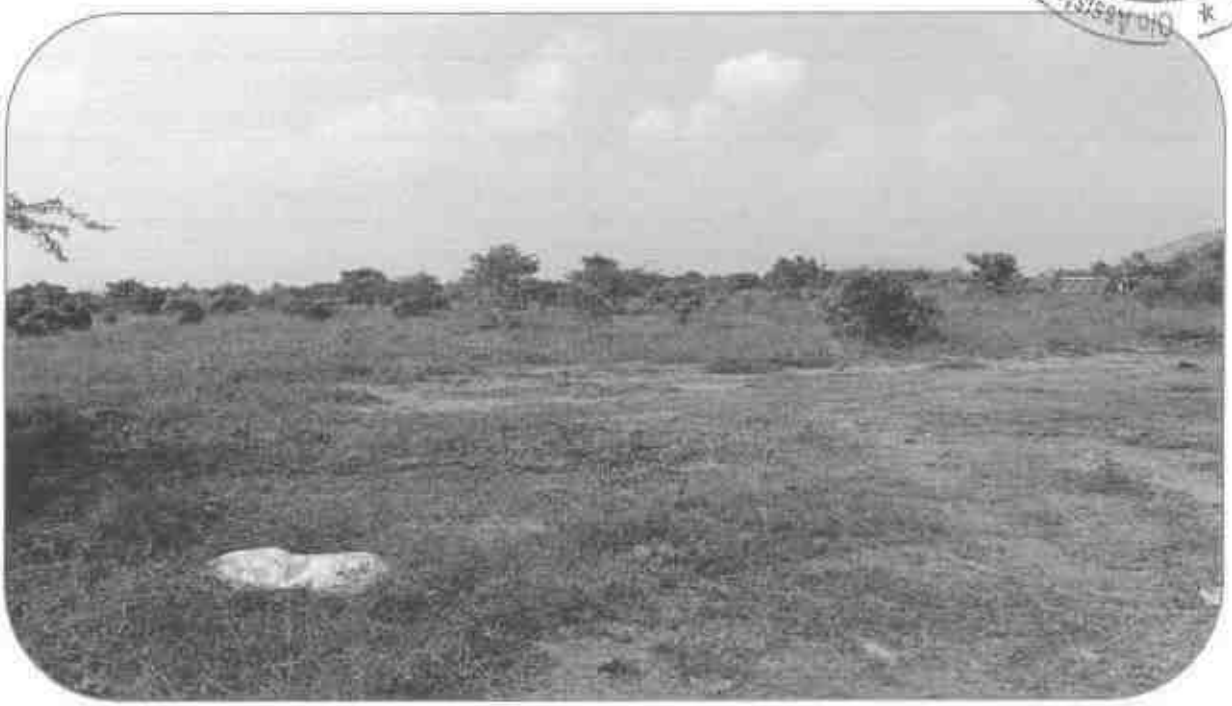
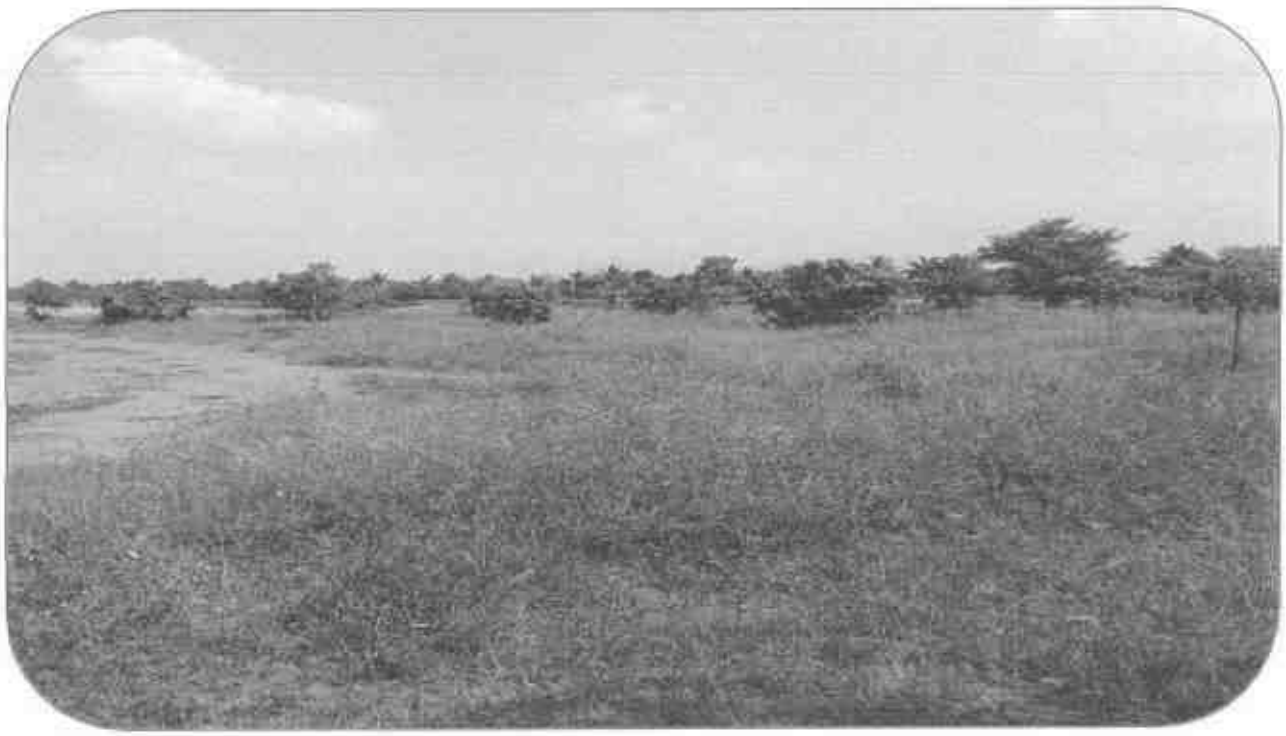
PHOTOGRAPHS OF THE VIRALIPATTI

ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA





ANNEXURE -I

புவியியல் மற்றும் சுரங்கத்துறை

ந.க.எண்: 260/கனிமம்/2024

உதவி இயக்குநர் அலுவலகம்,
மாவட்ட ஆட்சியர் அலுவலக வளாகம்,
திண்டுக்கல்.

நாள்: 11.01.2025.

குறிப்பாணை

பொருள்: கனிமங்களும் சுரங்கங்களும் - திண்டுக்கல் மாவட்டம் - நிலக்கோட்டை வட்டம் - விராலிப்பட்டி கிராமம் - புல எண்கள்: 2/1 (1.76.50 ஹெக்) மற்றும் 1269/3 (1.37.00 ஹெக்) மொத்த பரப்பு 3.13.50 ஹெக்டேர்ஸ் - 10 வருடங்களுக்கு சாதாரண கல் மற்றும் கிராவல் குவாரி உரிமம் வழங்கல் - உகந்த பரப்பு (Precise Area) தேர்வு செய்யப்பட்டது - சுரங்கத்திட்டம் மற்றும் மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை:

1. தி/ள்.அடையார் கிராணைட்ஸ் நிறுவனம், கேபிசி காம்ப்ளக்ஸ், கேரளா விண்ணப்பம் நாள்:இல்லை இவ்வலுவலகத்தில் பெறப்பட்ட நாள்: 16.09.2024.
2. இவ்வலுவலக கடிதம் ந.க. எண்:260/கனிமம்/2024 நாள்:03.10.2024 திண்டுக்கல், வருவாய் கோட்டாட்சியருக்கு முகவரியிட்டது.
3. திண்டுக்கல், வருவாய் கோட்டாட்சியர் கடிதம் எண்: 7681/2024/அ1, நாள்: 30.12.2024.
4. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 07.01.2025.
5. 1959 -ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 41 மற்றும் 42.
6. அரசாணை எண்.169 தொழில் (எம்.எம்.சி.1) துறை, நாள்: 04.08.2020.
7. அரசாணை எண்.208, தொழில் (எம்.எம்.சி.1) துறை, நாள்: 21.09.2020.
8. தொடர்புடைய ஆவணங்கள்.

*****

திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம், புல எண்கள்: 2/1 (1.76.50 ஹெக்) மற்றும் 1269/3 (1.37.00 ஹெக்) மொத்த பரப்பு 3.13.50 ஹெக்டேர் பரப்பில் சாதாரண கல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வழங்கக்கோரி கேரளா மாநிலம், கோட்டயம் வட்டம், சங்கனாச்சேரி, பெருநை

அஞ்சல், கேபிசி காம்ப்ளக்ஸ், எண்:15/113-2 என்ற முகவரியில் இயங்கி வரும் தி/ள்.அடையார் கிரானைட்ஸ் நிர்வாக பங்குதாரர் திரு.M.C.சஜீ என்பவர் பார்வை 1-ல் காணும் விண்ணப்பத்தினை சமர்பித்துள்ளார்.

திண்டுக்கல், வருவாய் கோட்டாட்சியர் மற்றும் புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோரின் அறிக்கையில் விண்ணப்பிக்கப்பட்ட புல எண்கள்: 2/1 (1.76.50 ஹெக்) மற்றும் 1269/3 (1.37.00 ஹெக்) பட்டா எண்: 5265-ன் படி மிரோனஸ் பில்டர்ஸ் அன்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட் என்ற பெயரில் விராலிப்பட்டி கிராம கணக்கில் தாக்கலாகியுள்ளது. மேற்படி, நிறுவனம் விண்ணப்பதாரர் நிறுவனமான தி/ள்.அடையார் கிரானைட்ஸ் பங்குதாரர்களுடன் குத்தகை ஒப்பந்தம் மேற்கொண்டு மேற்படி, ஒப்பந்தம் வத்தலகுண்டு, சார்பதிவாளர் அலுவலக ஆவண எண்:1028/2021-ன்படி பதிவு செய்யப்பட்டுள்ளது. அதனடிப்படையில் தி/ள்.அடையார் கிரானைட்ஸ் நிறுவனம் மேற்கண்ட புலங்களில் கற்குவாரி குத்தகை உரிமம் வழங்க கேட்டு விண்ணப்பம் அளித்துள்ளனர். இவ்வாறாக மேற்கண்ட புலங்களுக்கு விண்ணப்பதாரர் முழு உரிமையுடையவராகிறார்.

விண்ணப்பிக்கப்பட்ட புலங்கள் புஞ்சை வகைப்பாடுடைய தரிசு நிலங்களாகும். புலங்களில் விவசாய பணிகள் ஏதுமின்றி தரிசாக உள்ளது. புலங்களின் மேற்பரப்பு செம்மண் நிறைந்தும் (சுமார் 1.5மீ ஆழம்), விலை உயர்ந்த மரங்கள் இன்றிவும் உள்ளது. அதன் தொடர்ச்சியாக சிதைந்த பாறைகள் (Weathered Rock), சார்னகைட் (Charnockite) எனப்படும் கடின பாறைகள் (Hard Rock) உள்ளது அருகில் உள்ள குவாரிகளை ஆய்வு செய்ததில் அரிய வருகிறது. கடின பாறைகளில் காணப்படும் வேறுபட்ட நிறங்கள் (Different in colours), இணைப்புகள் (Joints), பிளவுகள் (Fractures) கீரல்கள் (Cracks) வெடிப்புகள் மற்றும் மாறுபட்ட அளவு கொண்ட கனிமங்கள் காரணமாக இப்பாறைகளில் மெருகேற்ற கூடிய வண்ண கற்களை (Polished Granite / Blocks) உற்பத்தி செய்ய இயலாது. இவ்வகை பாறைகளில் இருந்து கட்டிடப்பணிகள் மற்றும் சாலை / இரயில்வே பணிகளுக்கு தேவைப்படும் உடைற்கள், ஜல்லிகள் ஆகியவற்றை உற்பத்தி செய்ய இயலும். புலங்கள் அனைத்தும் ஒன்றுடன் ஒன்று தொடர்ச்சியாக உள்ளது.

மேலும், 300 மீட்டர் சுற்றளவில் குடியிருப்புகள், 50 மீட்டர் சுற்றளவில் ஓடைகள், ஆறுகள், உயர் அழுத்த மின்கம்பங்கள், உயர் வகை மரங்கள் ஆகியவை இல்லை என தெரிவித்துள்ளார். வனத்துறையால் பாதுகாக்கப்பட்ட பகுதியாக அறிவிக்கப்பட்ட சரணாலையங்கள், தேசிய பூங்காக்கள் சுற்றுச்சுழல் உணர் திறன் மிக்க பகுதிகள் (ECO-SENSITIVE ZONE), 1 கி.மீட்டர் சுற்றளவில்

காப்புக்காடுகள், 500 மீட்டர் சுற்றளவில் அருங்காட்சியக துறையின் மூலம் பாதுகாக்கப்பட்ட பகுதிகளாக அறிவிக்கப்பட்ட இடங்கள் மற்றும் வரலாற்று சின்னங்கள் எதும் இல்லை எனவும், புலங்களில் முதல் முறையாக குவாரி உரிமம் கோரப்பட்டுள்ளது என தெரிவித்து 10 ஆண்டுகளுக்கு கீழ்காணும் நிபந்தனைகளுக்குட்பட்டு மேற்கண்ட புலங்களில் உடைகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்துள்ளனர்.

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
2) அரசு புறம்போக்கு புல எண்கள்:1269/2 மற்றும் 3/3 ஆகியவற்றிற்கு 10 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
3) பொதுமக்கள் / விவசாய நிலங்களுக்கு பாதிப்பு ஏற்படாத வகையில் தகுதி வாய்ந்த அங்கீகரிக்கப்பட்ட நபர்கள் மூலம் வெடிமருந்துகனை கையாண்டு சேமிக்கப்பட்டு குவாரியில் வெடித்தல் வேண்டும். குவாரியில் குறைந்த சக்தி கொண்ட வெடி மருந்துகளை பயன்படுத்தல் வேண்டும்.
4) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.
5) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் தொழிலாளர் நலவாரியம் மற்றும் காப்பீடு திட்டத்தில் பதிவு செய்து தொழிலாளர் நலன் பேணபட வேண்டும்.
6) குழந்தை தொழிலாளர்களை குவாரி பணியில் அமர்த்தக் கூடாது.
7) கனிமங்களை வாகனங்களில் கொண்டு செல்லும் போது பாதசாரிகள், பொது மக்கள் மற்றும் பிற வாகனங்கள் பாதிக்காதவண்ணம் தார்பாய்கள் கொண்டு மூடி எடுத்துச் செல்ல வேண்டும்.

எனவே, துறை அலுவலர்களின் பரிந்துரையினை ஏற்றும் நிபந்தனைகளுக்கு உட்பட்டும், திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம், புல எண்கள்: 2/1 (1.76.50 ஹெக்) மற்றும் 1269/3 (1.37.00 ஹெக்) மொத்த பரப்பு 3.13.50 ஹெக்டேர் நிலம் பத்து வருடகாலத்திற்கு சாதாரண கல் மற்றும் கிராவல் குவாரி உரிமம் வழங்க தகுதி வாய்ந்த நிலப்பரப்பாக (Precise Area) கருதப்படுகிறது.

தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண்: 41 -ன்படி குவாரி பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்கத் திட்டத்தினை (Mining Plan) 90 தினங்களுக்குள் சமர்ப்பிக்குமாறும், விதி எண்: 42-ன்படி மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (State Level Environmental

Impact Assessment Authority) இசைவினைப் பெற்று சமர்ப்பிக்குமாறும் மனுதாரர் தி/ள்.அடையார் கிராணைட்ஸ் நிர்வாக பங்குதாரர் திரு.M.C.சஜீ என்பவர் கேட்டுக்கொள்ளப்படுகிறார்.

11/11/2025

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
திண்டுக்கல்.

பெறுநர்
தி/ள்.அடையார் கிராணைட்ஸ்,
நிர்வாக பங்குதாரர் திரு.M.C.சஜீ,
எண்:15/113-2, கேபிசி காம்ப்ளக்ஸ்,
பெருநை அஞ்சல், சங்கனாச்சேரி,
கோட்டயம்,
கேரளா.

நகல்
உறுப்பினர் செயலர்,
மாநில சுற்றுசூழல் தாக்க மதிப்பீட்டு ஆணையம் (SEIAA),
சென்னை.

ANNEXURE -II

ட்டம் : திண்டுக்கல்

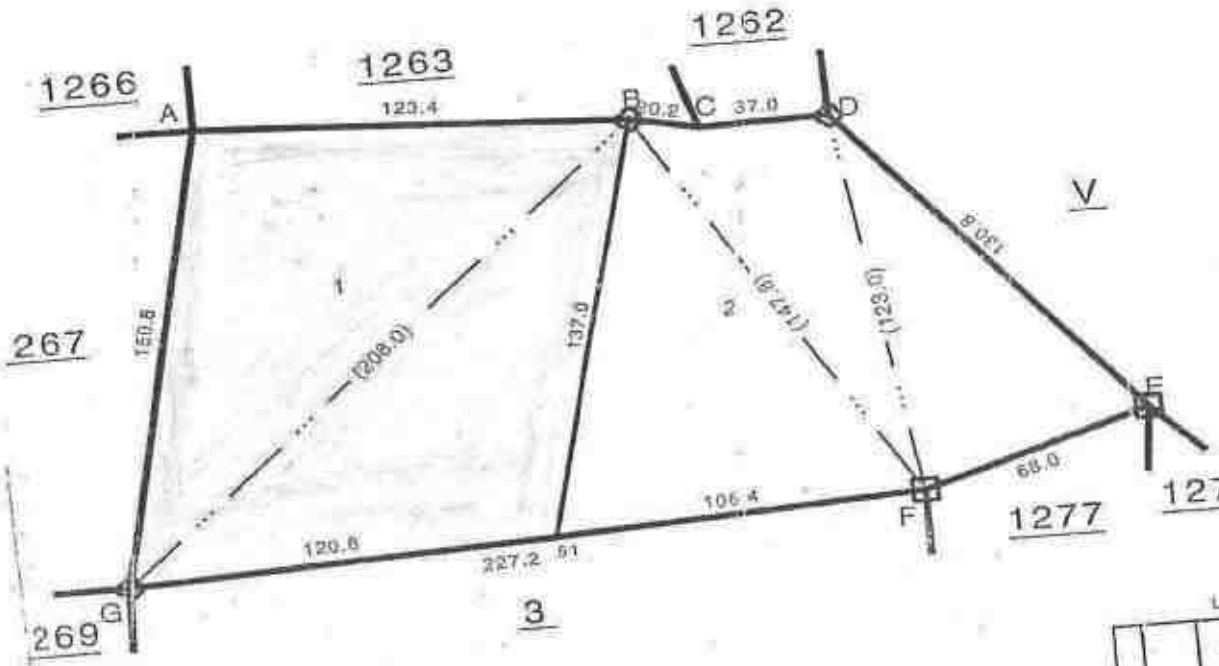
ம் : நிலக்கோட்டை [12]

ம் : விராலிபட்டி [6]

புல எண் : 2

பரப்பளவு : எக்டர் 03 ஏர் 17.76

அளவு : 1 : 2000



Ladder

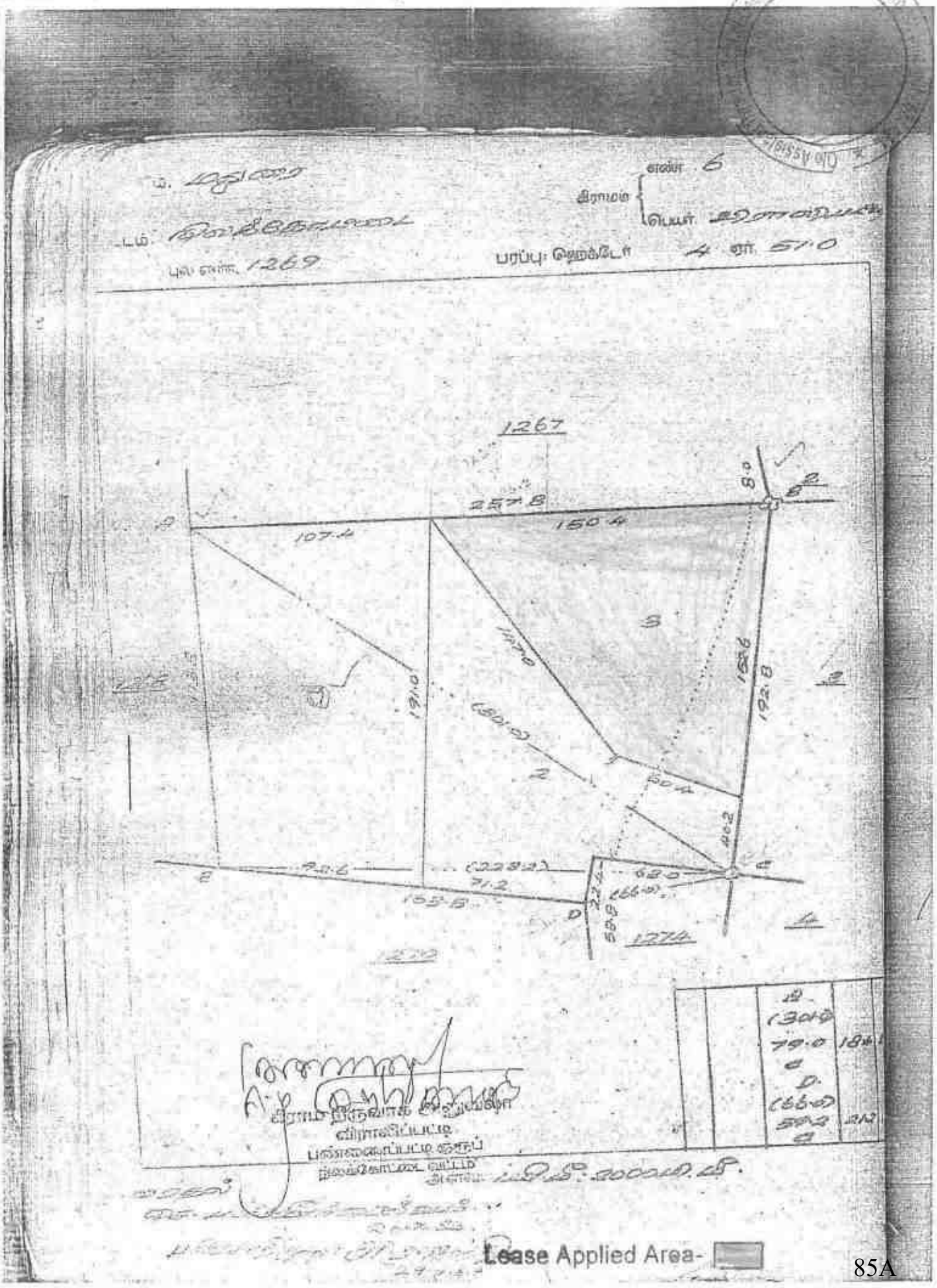
		A
		123.4
		B
		208.0
		G
		150.8
		A
		G
		227.2
		F
		147.5
		13.6
C	15.0	32.0
D	47.0	B
		D
		123.0
		F
		68.0
		E
		130.8
		D
		C
		20.2
		B
		C
		37.0
		D

கிராம நிருவாக அலுவலர்
விராலிப்பட்டி
பன்னைகாப்பட்டி சர்கிள்
நிலக்கோட்டை தாலுகா

Lease Applied Area-

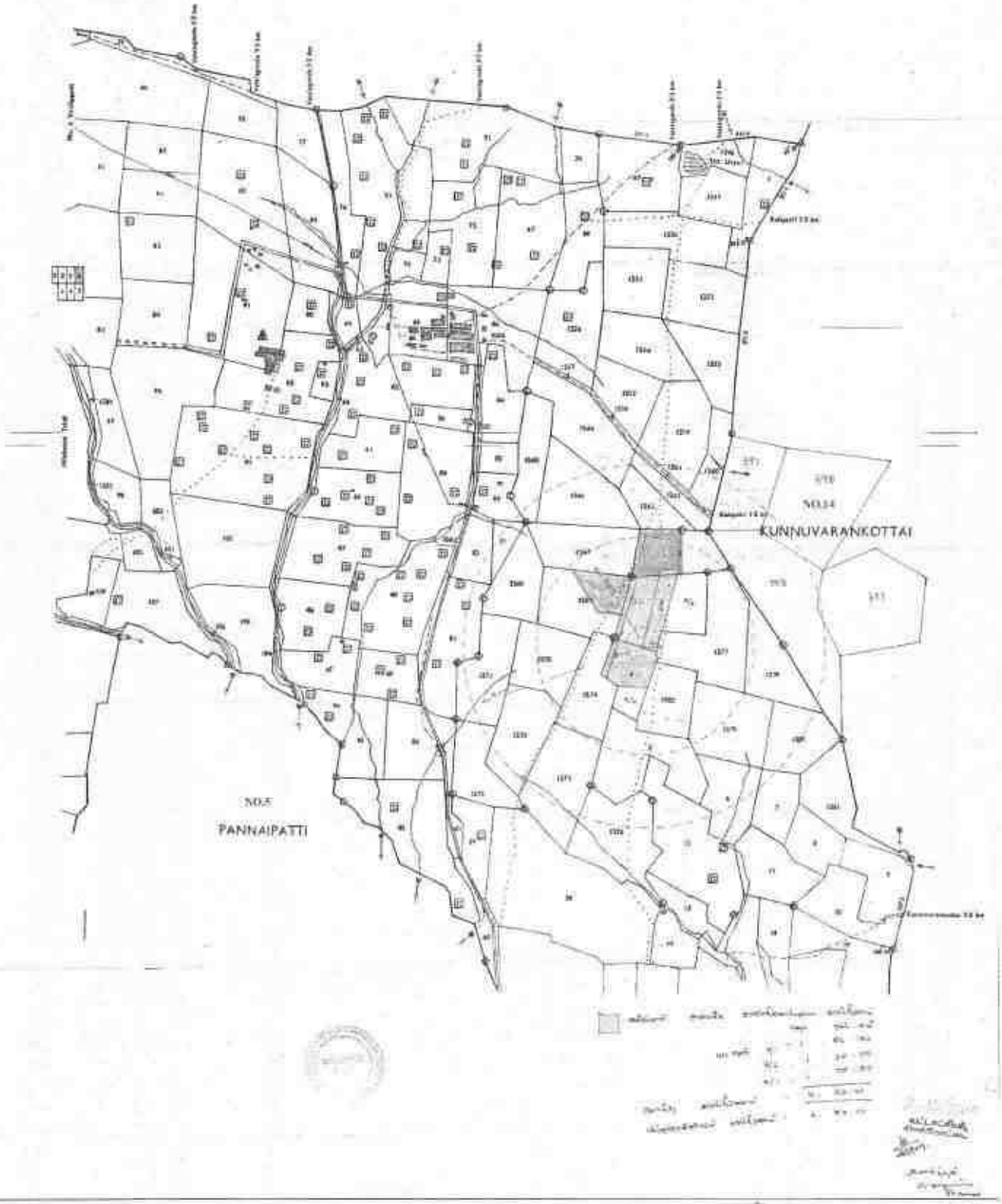
TamilNilam : National Informatics Centre

Geology and Mining Collection



85A

ANNEXURE - III



Lease Applied Area-

ANNEXURE - IV

தமிழ்நாடு அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளர்கள் பெயர்

1. -.. மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
1255	1	1 - 8.50	2.36	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1255	2	2 - 2.50	4.39	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103/13/071671--- -- நத்தத்திற்கு45.7மீஉட்பட்டது- ---- 28-02-2019
1266	2	3 - 34.00	7.18	--	--	--	--	2019/0103/13/071671--- -- நத்தத்திற்கு45.7மீஉட்பட்டது- ---- 28-02-2019
1269	3	1 - 37.00	2.95	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1274	2	1 - 57.00	3.38	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1276	1B2	0 - 40.00	0.86	--	--	--	--	2019/0103/13/071671--- -- நிலவியல் ஓடை------ 28-02-2019
1276	1B3	0 - 10.00	0.22	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
1276	1B4	0 - 5.00	0.11	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103/13/071671--- ------ --- 28-02-2019

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		21 - 45.00	46.26					

குறிப்பு :

1.	மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/05265/60678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2.	இத் தகவல்கள் 29-07-2024 அன்று 11:51:14 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3.	கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

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1953 – ஆம் பசலியில் திண்டுக்கல் மாவட்டம் நிலக்கோட்டை வட்டம் கிராமத் கணக்கு

நில வரித் திட்டத்தின்படி புலன்களின் விபரம்.					கைப்பற்று தாரருடைய பெயரும் சொந்தம் அல்லது அனுபோக தாருடைய பெயர்.	சாகுபடி பயனீர் பெயர்.	முதல் போகம்.				
நில அளவை எண்.	உட்பிரிவு எண்.	பரப்பு	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.		முந்திய எந்த பருவத்தில் பசலி சாகுபடிதாரராக பயிரிட்டிருந்தார்.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது அறுவடை செய்யப்பட்டது	பயிர்ப் பெயர்.	பயிரை / அறுவடை செய்த பருவம்.	உள்ளபடியான பயிர்ச் சாகுபடி.	விளைச்சல் ஆராய விருக்கலாம்.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1264	3	1.39.0	2.85	526	திருவேங்கடசாமி பிள்ளை மகன் சுப்பையா(தா)		7	நெல்	1-போக	சி	
1274	1	1.68.0	3.42	526	- ம -		1	கரி	1	1	
	2	1.39.0	2.85	526	- ம -		1	கரி	1	1	
2	1	1.96.0	2.83	526	- ம -		7	நெல்	1-போக	சி	
4	2	1.63.0	1.50	526	- ம -		1	கரி	-	1	
							12				

1433 ஆம் பசலியில் திண்டுக்கல் மாவட்டம் திண்டுக்கல்வட்டம் ஒட்டுமாடியூர் கிராமக் கணக்கு

நில வரித் திட்டத்தின்படி புலன்களின் விபரம்.					கைம்பற்று வாரதாரரது பெயரும் எண்ணும் அல்லது அதுபோன்ற வாரதாரரது பெயர்.	சாகுபடி பரப்பின் பெயர்.	முதல் போகம்.				
நில அளவை எண். (1)	உட்பிரிவு எண். (2)	ஏரி. (3)	நீர்வை. (4)	ஒரு போகம் அல்லது இரு போகம். (5)	(6)	நிலத்தில் எந்த பயிர் மாகாது சாகுபடியாகவும் பயிரிடப்பட்டுள்ளதை. (7)	எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த பாத்திரில் நீர்பாய்ச்சப்பட்டது. (8)	பயிரின் பெயர். (9)	பரப்பு / அளவுகோல் பாய்ச்சல். (10)	உண்மையான பாய்ச்சல் ஆதாரம். (11)	விளைச்சல் ஆகாது விழுக்காடு. (12)
1282	2c	Nஏரி	நெல்	நெல்	பெரியசோலைபுதூர் அக்ரஹாரம் கோவிலாத்துப் (இரு)		7 மா	மா	4100	ஆடு	
	0	5	410	மானாவாரி	நெல்		7 மா	மா	4100	ஆடு	

இரண்டாம் போகம்.					கிராம நிலவரியின் விகிதங்கள் :- (1) புலன்களின் பகுதிகளில் பயிரிடப்பட்ட விவரங்கள் அனைத்தும் (2) கைப்பற்றில் இல்லாத புலன்களில் சாகுபடியான முக்கிய வாரதாரின் பெயர்களும் உரிமையாளர் பெயர்களும் என்று பதிவேட்டில் காணப்படும் பிரதான மாற்றங்கள் தீர் பார்க்கப்பட்ட விவரங்கள். (10)	சிற்சில்லாவகைகளில் பயிரிடப்படாத உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விவரங்கள் ஒவ்வொரு நில அளவை என் அல்லது அதன் பகுதியில். (அ) வகம், (ஆ) பயனற்ற பயிர் செய்ய இயலாத நிலம், (இ) விவசாயம் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தும் நிலம். (ஈ) பயிரிடத்தக்க தரிசு (உ) நிலையான புல் தரைகளும் மற்றும் இதர மேற்சொன்ன நிலங்களும், (ஊ) விலக்கப்பட்ட நிர பயிர்கள் சேர்க்கப்படாத மலைகள் பயிர்களும் தோப்புகளும், (எ) நடப்புத் தரிசுகள் (ஏ) இதர தரிசு நிலங்கள். (18அ)	பயிர் பாய்ச்சலில் அளவைக் குறிப்புகள். (19)
சந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது. (13)	பயிரின் பெயர். (14)	பரப்பு / அளவுகோல் பாய்ச்சல். (15)	உண்மையான பாய்ச்சல் ஆதாரம். (16)	விளைச்சல் ஆகாது விழுக்காடு. (17)			

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100/12-RF III-A10-5,50,000 Cyc-GRP-MDU-T.

என் 2
கிராமத்தில் வருடவாரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

Assistant Director Dept of Geology and Mining Collectorate Dindigul

ANNEXURE VI

Deputy Director Dept. of Geology and Mining Collectorate Dindigul

அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

கிராமம் : விராலிபட்டி

1. புல எண்	2	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	1	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	2-1	11. தீர்வை (ரூ - ஹெ)	2.15
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 76.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	3.83
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	5265
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.மிரோனேஸ் பில்டர்ஸ் அன்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

குறிப்பு:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/2/1/30678** என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

கிராமம் : விராலிபட்டி

1. புல எண்	1269	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	3	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	1269-3	11. தீர்வை (ரூ - ஹெ)	2.15
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 37.00
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	2.95
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	5265
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

குறிப்பு:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/1269/3/20678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

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ANNEXURE – VII

ANNEXURE VII

1028/2021

தமிழ்நாடு தமிலநாடு TAMILNADU

A 536086

M/s ADAYAR GRANITES

Changanacherry

சி.அக்பர்	தமிழ்நாடு
முத்திரைத்தாள் விற்பனையாளர்	உரிமம். —
L.No.20/B1/2015	நாள். 10.3.2021
[illegible]-624 202	ஆயம் 1500

LEASE DEED

This **Lease Deed** is made on this 11th day of March, 2021 at Batlagundu, Dindigul (Tamilnadu).

By and between:

M/s.MIRONES BUILDERS AND DEVELOPERS PRIVATE LTD., (PAN – AAGCM9459A – CIN No : U70101KL2009PTC025255) having its Registered Office at Room No.2, K.B.C.Complex, Opp K.B.C.Garden, Laikkad, Changanacherry, Kerala State – 686 101 by its Managing Director **Mr.LUKOSE KUDAKUTHIYIL CHACKO** (PAN - AKEPC2878A -Mobile No.09446065353) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Changanacherry Village, Changanacherry Taluk, Perunna (Post), Kottayam District, Kerala State - 686101, hereinafter referred to as the "**First Party**" (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include themselves and their legal heirs, successors, executors, administrators and permitted assigns) of the **FIRST PART.**

FIRST PART

SECOND PART

Document No:1028 of 2021 ..... of Book
.....1.....Contains.....2 Sheets.....1.....Sheet

Registering Officer

AND

M/S. ADAYAR GRANITES a company incorporated under the Companies Act, 1956 and having its registered office at 15/113-2, KBC Complex, Laikkadu, Perunal P.O., Changanacherry, Kottayam District, Kerala – 686 102 through its Partners

1. **Mr.LUKOSE K.C.** (Aadhaar No.4083 3773 4727) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

2. **Mr.THOMASKUTTY K.C.** (Aadhaar No.2447 5470 4601) Age 46 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

3. **Mr.SAJU M.C.** (Aadhaar No.9699 3310 1800) Age 44 years, S/O.Mr.M M Chacko, residing at Milakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State – 685 587.

4. **Mr.CHERIAN JOSEPH** (Aadhaar No.7049 7366 0427) Age 46 years, S/O.Mr. N.M. Joseph, residing at Nellariyil House, Vazhappally P.O., Changanacherry, Kottayam District, Kerala State – 686 103.

5. **Mr.SIJU GEORGE** (Aadhaar No.4889 3853 5566) Age 48 years, S/O.Mr. K.A. Varkey, residing at Kattarath House, Near L.P. School, Thekkumkutty, Krmaranallur, Alll, Kozhikode District, Kerala State – 673 602.

The Partnership deed dated on 12.02.2021 hereinafter referred to as the "Second Party"/Company (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include its legal representatives, administrators, successors and permitted assigns) of the **SECOND PART**.

The First Party and Second Party may be hereinafter individually referred to as the "**Party**" and collectively as the "**Parties**".

WHEREAS:

A. The First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of land admeasuring right got from First Part **P.R.Doc.No.2404/2018** Lands in **29.12 Acres** situated, lying and being In Dindigul Registration District Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, Viralipatti Village in the State of Tamilnadu and more particularly described in the **Schedule-1** annexed to this Agreement (hereinafter referred to as the "**Land Parcel**"). The Land Parcel is clearly shown asper the map annexed hereto as **Annexure-2**.

B. The Second Party is desirous of taking the Land Parcel on lease for Fifteen years (**15**) for the purpose of setting up and operating the ADAYAR GRANITES and shall be the subject matter of the present Agreement.

C. The First Party has represented that there are no legal or other proceedings pending against the First Party which prohibit the First Party from giving the Land Parcel on rent to the Second Party on the terms and conditions as agreed herein between the Parties.

FIRST PART

SECOND PART

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Registering Officer

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D. The First Party has offered to provide the Land Parcel on rent for 15 (Fifteen) years to the Second Party and the Second Party based on the representation and warranties made by the First Party has agreed to take the same on rent for 15 (Fifteen Years) years on the mutual understanding and assurance that both the Parties shall continue to comply with all terms and conditions as set out hereinafter.

NOW THEREFORE, the First Party and the Second Party have agreed to enter into this Agreement upon the terms & conditions set forth herein below:

1. That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of commercial /operational office, switch yard and other related facilities as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon.

2. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the First Party has good, marketable and a valid title of the Land Parcel, has full power and authority to enter into this Agreement and to handover the vacant and peaceful possession of the Land Parcel as contemplated herein to the Second Party for the term of this Agreement. The First Party further represent(s) and warrant(s) that the First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of the Land Parcel and have taken all steps necessary to ensure that the Second Party gets full rights to enjoy the peaceful possession, required usage of the Land Parcel and the rights granted herein to the exclusion of any third party including withdrawal of any previous consents, permissions and licenses given in respect of the Land Parcel to any third party other than the Second Party .

The First Party has assured that the Land Parcel has not been sold, assigned, transferred, encumbered, acquired or surrendered in any manner whatsoever. The First Party has further assured that its right title or interest in the Land Parcel or any part thereof are free from any mortgage, charge, lien, etc. of any nature whatsoever.

3. That this Agreement shall be valid and enforceable for the period of 15 (Fifteen) years (**"Agreement Period"**) commencing from the date of execution of this agreement (**"the Agreement Commencement date"**) and can be further extended in writing with the mutual consent of the parties after expiry of the Agreement Period. The tenure of the present agreement can further be extended at the option of the Second Party.

4. That the annual rent for the Land Parcel shall be at the rate of Rs.1,00,000/- (Rupees One Lac only) (**Rent**), starting from the date of execution of this agreement. The payment of Rent shall be made to the First Party, as per their respective ownership of the Land Parcel as defined in Schedule 1. The rent shall be paid annually and be paid within 30 days from the date when it becomes due, (**"appointed day"**) failing which the First Party will have the right to charge interest at the rate of 12% per annum for the period payment is delayed by the Second Party . It is made clear that the payment of rent as well as interest amount is subject to deduction of applicable TDS in accordance with the prevailing Tax Laws.

FIRST PART

SECOND PART

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The First Party acknowledges the receipt of the rent amount of **Rs.1,00,000/-** (Rupees One Lac Only) for lease period commencing from the date of execution of this agreement as per the details mentioned in **ANNEXURE-3**.

5. That Second Party shall not sub-let the Land Parcel or any part of it without the written permission of the First Party

6. That the Second Party shall, at the end of the Agreement Period or any extended period, hand over to the Land Parcel to the First Party in its original condition.

7. That the First Party shall, at the end of the Agreement Period, offer to renew the Agreement with the Second Party, on mutually agreeable terms and conditions.

8. That the Second Party shall be entitled to use irrigation facilities as are existing on the said Land Parcel by using the existing bore well, if any, by installing their own equipment, if so necessary in addition to the right of installing and maintaining any other water generating resource. But there shall be no deduction in rent.

9. That the Second Party shall be removed by it on expiry of the Agreement Period or any extension thereof, in accordance with the terms and conditions of this Agreement and shall be entitled to fence the said entire Land Parcel with barbed fencing or with permanent wall as required.

10. That the First Party shall provide a passage/way free from any kind of encumbrances to the Second Party for access to the Land Parcel and also assure(s), confirm(s) and warrant(s) the Second Party that the First Party has cleared all statutory or other dues, utility charges including water and electricity charges, liens, loans and any other encumbrances etc. on the Land Parcel, if any, till the date of delivery of actual physical possession of the Land Parcel.

11. That the Second Party shall be responsible for the payments of water and power consumption charges, if and when applicable, charges levied for change in land use or any other charges, taxes or levies imposed by the Central, State, Local or other Authorities in respect of the use of the land for the Project in excess of the charges, taxes or levies so levied on agricultural land, if any. However, the First Party shall be liable to pay the revenue charges, ground rent or the property tax and the taxes on the income from the Rent received under this Agreement, if any. Applicable Service Tax if any payable on the present Agreement shall be borne by the Second Party subject to producing documentary evidence by the First Party reflecting the proof of deposit of the said service tax with Govt. Authorities.

12. The First Party acknowledge(s) that the Second Party shall be free to deposit land revenue or other taxes if any levied on the Land Parcel in the event of the failure of the First Party to timely deposit the same under intimation to the First Party and shall be entitled to adjust the same from the Rent payable by it to the First Party under this Agreement. However, primarily the liability and responsibility to pay land related revenue taxes with respect to the Land Parcel, shall be that of the First Party only.

FIRST PART

SECOND PART

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13. That the Second Party shall pay the stamp duty as per relevant provisions of the Indian Stamp Act, as applicable to state of Tamilnadu or any other law time being in force in the State of Tamilnadu and registration charges as would be payable in respect of this Agreement (if not exempted) and also other legal expenses and charges payable in connection with this Agreement.

14. That the First Party hereby agree(s) and undertake(s) that First Party shall provide all or any kind of assistance to the Second Party/ to the Project that may be required from the First Party for the setting up and operation of the Solar Power Project on the Land Parcel.

Further it has been agreed that the First Party shall not be entitled to terminate or suspend the Agreement in any condition, except in the event of failure of the Second Party to make payments of the rent within 30 days from the Appointed Day however, the parties hereby agreed that this period of 30 days can further be extended automatically by another period of three months ("**Extended Date**").

15. That the Second Party hereby agrees to keep indemnified the First Party from and against all actions, demands, claims, liabilities, losses, damages, costs, expenses and other liabilities whatsoever brought against, suffered or incurred by the First Party that results from or by reason of any breach of this Agreement on the part of the Second Party.

16. That the Second Party shall maintain the Land Parcel in good condition at its own expense and on expiry of the Agreement Period deliver the same to First Party as far as practicable in a condition as it was handed over to the Second Party , except for normal wear and tear and Second Party shall be fully entitled to remove all its equipment, solar panels and other wirings etc. from the said Land Parcel in every possible manner. It is made absolutely clear and understood between the parties that the equipment(s) is and shall be absolutely owned and possessed by the Second Party and First Party shall have no right or lien thereupon in any manner on account of any reason whatsoever.

17. That the First Party agree(s), warrants and covenants that the Second Party shall at all times during the term of this Agreement hold and enjoy the Land Parcel and the rights specified in this Agreement without any interruption or disturbance by the First Party or any person lawfully claiming through, under or in trust to the First Party or by Title, or any third party, including without limitation, any government instrumentality.

During the term of this Agreement, the First Party shall not take or cause any action or engage in any activities that will unnecessarily interfere with the operation of the Project.

FIRST PART

SECOND PART

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Registering Officer

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18. That the First Party shall not, during the terms of this Agreement, transfer or otherwise dispose off or in any manner encumber the Land Parcel or its interest therein or otherwise grant or convey any right or interest in the Land Parcel to any third party without the consent of the Second Party in a manner that would adversely affect the rights transferred to the Second Party under this agreement. However, the First Party may sell the Land Parcel or any part thereof to any person subject to condition that the purchaser of the Land Parcel shall be bound by the terms and conditions of this Agreement and deliver a deed of adherence/ ratification to this effect to the satisfaction of the Second Party and any stamp duty, registration or any other government fee, cesses, charges etc. of the new Agreement shall be carried out at the sole cost and expense of the subsequent purchaser.

19. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the Land Parcel is free from any title defects, duly complies in all respects with the laws of land, and no condition exists at, on or under the Land Parcel that would constitute a violation of the laws or give rise to any right or authority of any government instrumentalities to require the First Party or the Second Party to take any action or to refrain from taking any action with respect to the Land Parcel, or creates any liability or obligation on the First party / Second Party (other than an obligation to pay taxes at statutorily applied rates) with respect to the Land Parcel.

20. That the First Party hereby agrees to keep the Second Party indemnified from and against all actions, demands, claims, defect in title of land, liabilities, losses, damages, cost, expenses and other liability whatsoever brought against, suffered or incurred by the Second Party resulting from or by reason of any breach of any representation or warranty of the First Party provided herein and/ or any violation, non-observance or non-performance by the First Party of any of its obligations under this Agreement . The First Party shall promptly pay all such dues and duties of whatsoever natures relating to Land Parcel as may be determined by any Government Department or by a court of competent jurisdiction at any time and ensure that no disturbance is created by anyone for peaceful enjoyment of the Land Parcel by the Second Party under this Agreement.

21. That keeping in view the nature of Solar Power Project and the investment thereon, the First Party shall not be entitled to terminate this Agreement before its expiry except in the event of non-payment of Rent as defined hereinbefore by giving notice for a period of six months. The Second Party shall have a right to terminate this Agreement at any time by giving an advance written notice of six months without assigning any reason.

22. Any notice, demand, communications or other requests to be given or made under this Agreement shall be only in writing and all such notices etc. shall be delivered by hand, airmail, postage (prepaid), by any national or international reputed courier company. The said notice shall also be deemed to have been delivered in case the same is sent on the last known e mail id of the other party and the same shall be sent on the address as stated in the header of the present Agreement.

FIRST PART

SECOND PART

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23. That the invalidity or un-enforceability of any part of this Agreement shall not prejudice or affect the validity or enforceability of the other provisions contained in this Lease Agreement. Such invalid or un-enforceable provision of the Agreement shall be severed from the Agreement and the remaining provisions shall remain fully enforceable and binding on the Parties but the same shall not be against the provision of the Contract Act.

24. That, in the event of any dispute, difference or question arises out of or in respect of this Agreement or the commission of any breach of any terms thereof or the compensation payable thereunder or in any manner whatsoever in connection with it and not settled by mutual consultation within thirty (30) days, the same shall be referred for arbitration under the Arbitration and Conciliation Act, 1996. The arbitration tribunal shall consist of sole arbitrator who shall be appointed by the Second Party. The decision or award so given shall be binding on the parties hereto. The seat and place of arbitration shall be at Delhi. It is made clear that the provision of Arbitration & conciliation Act, 1996 shall be applicable for resolving the disputed matter.

25. That all the annexures to this Lease Agreement shall be treated as an integral part of this Lease Agreement.

26. That the present Agreement shall be executed in one part wherein the original copy thereof shall be kept and held by the Second Party and a true copy thereof shall be kept with First Party.

27. That notwithstanding anything contained in this Lease Agreement, the following Clauses shall prevail,

a) That the ownership of the Land Parcel shall remain with the First Party and shall not change as a result of this Lease.

b) That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of one commercial /operational office, switch yard as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon. The utility of Land Parcel shall not be disturbed.

c) No Advance amount of this Lease Agreement.

d) That the First Party hereby agrees, confirm and declare that the Second Party in order to secure the debt whether availed by itself or its affiliates, parent or group company from any person, bank and/or financial institution (hereinafter referred to as Lenders) shall have full rights to assign or to create security only with regard to leasehold rights on the land as mentioned in Schedule 1 in favour of the Lenders without requiring any consent/NOC from the Lessors.

e) That the Second Party shall at any point of time during the lease period, have the right to purchase the schedule land on payment of market price (Agreed Price) of the land, the amount of Paid Rent will be adjusted in the cost of the land on prorate basis.

f) That in case any dispute arises, this Agreement shall be governed by the laws applicable in India and the Courts at Periyakulam and Theni (Tamilnadu) shall have the jurisdiction over it.

FIRST PART

SECOND PART

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Registering Officer

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SCHEDULE OF PROPERTIES

1. In Dindigul Registration District, Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, **Viralipatti Village,** Patta No.5265, Survey No.**2/1** an extent of **1-76.5** Hectares or equal to **4 Acres 35 Cents** of punja land.

2. **Viralipatti Village,** Patta No.5265, Survey No.**3/1** an extent of **1-56.5** Hectares or equal to **3 Acres 86 Cents** of punja land.

3. **Viralipatti Village,** Patta No.5265, Survey No.**3/2** an extent of **1-20.0** Hectares or equal to **2 Acres 96 Cents** of punja land.

4. **Viralipatti Village,** Patta No.5265, Survey No.**4/1** an extent of **1-75.5** Hectares or equal to **4 Acres 33 Cents** of punja land.

5. **Viralipatti Village,** Patta No.5265, Survey No.**4/2** an extent of **0-69.5** Hectares or equal to **1 Acres 71 Cents** of punja land.

6. **Viralipatti Village,** Patta No.5265, Survey No.**1269/3** an extent of **1-37.0** Hectares or equal to **3 Acres 38 Cents** of punja land.

7. **Viralipatti Village,** Patta No.5265, Survey No.**1274/1** an extent of **1-68.5** Hectares or equal to **4 Acres 16 Cents** of punja land.

8. **Viralipatti Village,** Patta No.5265, Survey No.**1274/2** an extent of **1-57.0** Hectares or equal to **3 Acres 87 Cents** of punja land.

9. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2C** an extent of 0-46.5 Hectares or 1 Acre 14 Cents on **Western Side 0-10.5** Hectares or equal to **25 Cents** of punja land.

10. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2D** an extent of 0-41.0 Hectares or 1 Acre 01 Cents on **Western Side 0-10.25** Hectares or equal to **25 Cents** of punja land.

FIRST PART

SECOND PART

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Above 1 & 10 items Total or **Acres 29 Cents 12** of Punja Lands Bounded on

North : Road.

South : Land in Survey No.1275.

West : Land in Survey Nos.1275, 1270, 1273, 1268, 1264, 1265, 1264/2.

East : Template Trading and Contracting Pvt.ltd land.

The property situated within the limit of Viralipatti Village Panchayat.

FIRST PART

SECOND PART

WITNESSES :

1. S. Arockiasamy S/o A. Silvai Raj

2. Thomas 8/. Skaria Kuriakose Puthenparampil Chingavanam Kottayam Kerala 6/687 Chinnupatti Reddiyarpatti (P.O) Nilakkottai (T.K)

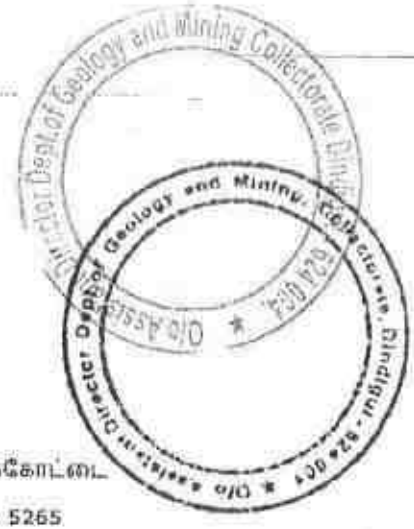
Drafted by : (B.Gopalan),

S/O.V.C.Baluchamy, Batlagundu.

State Document Writer License No: A / 414 / DGL /99

Renewal Closing Date: 31.12.2023.

Document No: 1028 of 2023 of Book 1 Contains 2 Sheets Only Stamp Registering Officer.



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளர்கள் பெயர்

1. - . மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
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1269	3	1 - 37.00	2.95	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
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2	1	1 - 76.50	3.83	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
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Registering Officer

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3	1	1 - 56.50	3.37	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	184	0 - 5.00	0.11	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
		21 - 45.00	46.26					

குறிப்பு2 :

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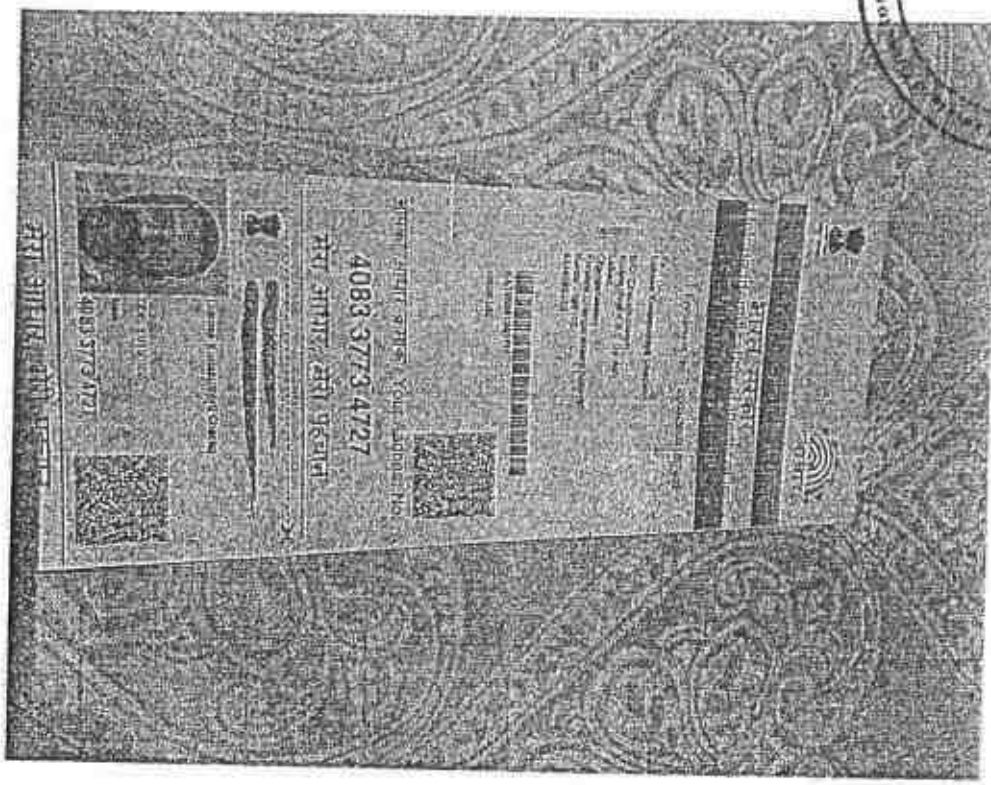

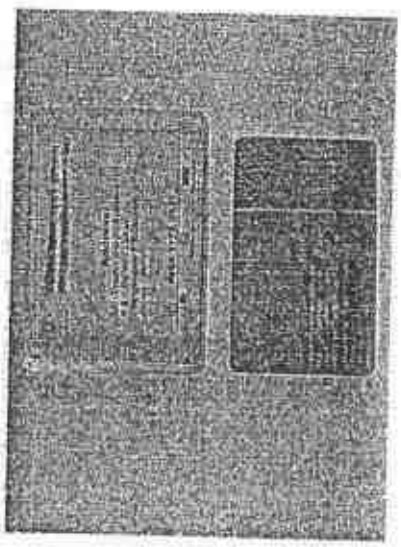

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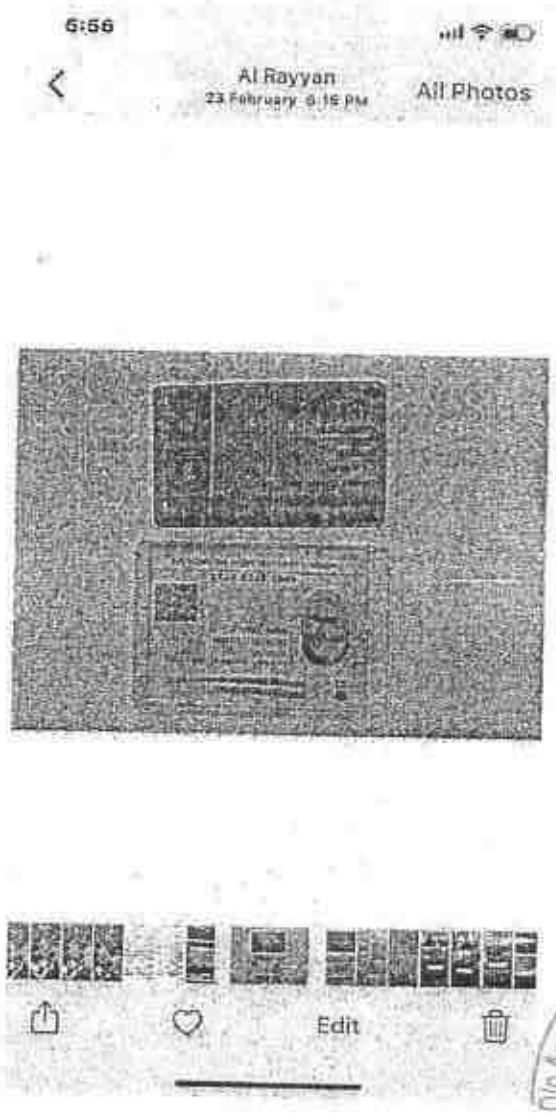
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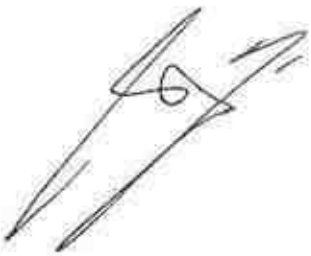
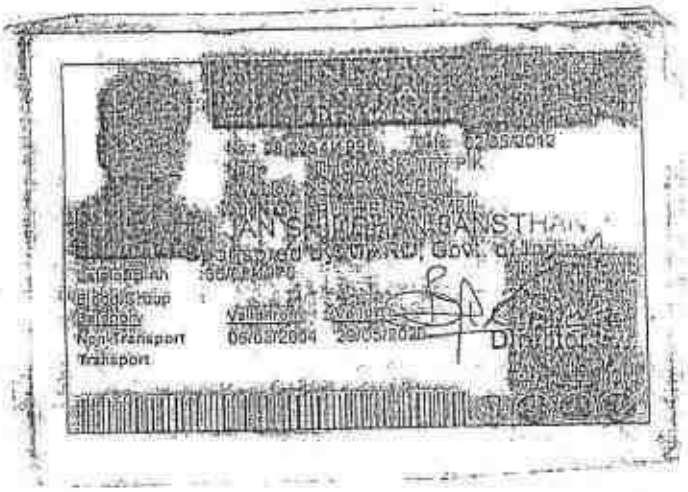
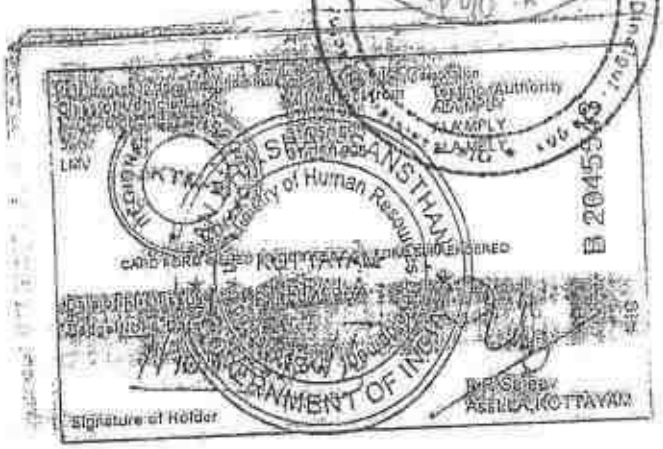


Document No: 1028 of 2021 of Book
1 Contains 20 Sheets 171 Sheet

Registering Officer





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Registering Officer

தமிழ்நாடு அரசு
பதிவுத்துறை
ஒப்புகைச்சீட்டு

பார்வைக்குறிப்பு விவரங்கள்

சார்பதிவாளர் அலுவலகப் பெயர்	வத்தலக்குண்டு
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பரிவர்த்தனை எண்	REG202103118776461
பரிவர்த்தனை நாள்	11/03/2021

விண்ணப்ப விவரங்கள்

விண்ணப்பதாரர் பெயர்	chidamperam
சேவை வகை	சார்பதிவாளர் அலுவலகத்தில் ஆவண்ப் பதிவு (புதியது)
முத்திரைத்தீர்வை (₹)	2700/-
பதிவுக் கட்டணம் (₹)	17700/-
கணினிக் கட்டணம் (₹)	250/-
குறுந்தகடுக் கட்டணம் (₹)	100/-

தொகை செலுத்திய விவரங்கள்

வங்கியின் பெயர்	பாரத ஸ்டேட் வங்கி
வங்கிக்குறிப்பு எண்	IK0BAKRLE3
பணம் செலுத்திய விதம்	இணைய வழி
செலுத்தப்பட்ட தொகை (₹)	20750/-
தொகை செலுத்தும் நிலைப்பாடு	வெற்றி
தொகை செலுத்திய நாள்	11/03/2021

ஏதேனும் சந்தேகங்கள்/குறைகள் இருப்பின் கீழ்க்கண்ட வழிமுறைகளில் தெரிவிக்கலாம்

கட்டணமில்லா தொலைபேசி எண்	1800 102 5174
மின்னஞ்சல் முகவரி	helpdesk@tnreginet.net

Document No:...1028...of...2021.....of Book
.....1.....Contains.....2.....Sheets...1.....Sheet
Registering Officer

110A

R/வத்தலக்குண்டு/புத்தகம்-1/1028/2021

1899ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான சான்று

2021ம் ஆண்டு வரிசை எண் 287

KBC Gardens, Lalkad, Perumna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala, கேரளா, இந்தியா, 686101-ல் வசிக்கும் திரு லூக்காஸ் என்பவரிடமிருந்து ₹ 2,700/- (ரூபாய் இரண்டாயிரத்து எழுநூறு மட்டும்) இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 41வது பிரிவின் படி குறைவாயிருந்த முத்திரைக் கட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் சான்றளிக்கிறேன்.

Sub-Registrar Office
BATALAGUNDU

சார்பதிவாளர் : வத்தலக்குண்டு
நாள்: 11/03/2021

SUB-REGISTRAR
BATALAGUNDU

சார்பதிவாளர் மற்றும் முத்திரைச் சட்டம் பிரிவு 41ன் படி ஆட்சியர்

2021 ஆம் ஆண்டு மார்ச் மாதம் 11ம் தேதி பி.ப 04:40 மணியளவில் வத்தலக்குண்டு சார்பதிவாளர் அலுவலகத்தில் தாக்கல் செய்து கட்டணம் ₹ 16,050/- செலுத்தியவர்.

இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதி வாங்கியதாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

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Document No: 1028 of 2021 of Book I
.....1.....Contains 22 Sheets & 20 Sheet

ANNEXURE - VIII

കേരളം केरल KERALA B 925356

DEED OF PARTNERSHIP

THIS DEED OF PARTNERSHIP executed on this the 26th day of December,2023 amongst:-

1. **LUKOSE KUDAKUTHIYIL CHACKO.,** son of Mr. Chacko Joseph, aged 68 years, residing at Kudakuthiyil K B C Garden, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN – 686 102 on the First Part (hereinafter referred to as the First Party)
2. **THOMASKUTTY K.C.,** son of Mr. Chacko Joseph, aged 49 years, residing at Kudakuthiyil K B C Enclave, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN – 686 102on the Second Part (hereinafter referred to as the Second Party),

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

No - 12896 - Rs. 5000/- CHRIAN JOSEPH
26.8.2023 NELLARIYIL. HOUSE
VAZHAPPALLY. CHANGANACHERRY
CHANGANACHERRY VENDOR

SUB TREASURY

Assistant Director of Geology and Mining Collectorate Dindigul - 624 004 O/O

3. **SAJU M.C.**, son of Mr. M.M. Chacko, aged 47 years, residing at Mlakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State, PIN – 685 587 on the Third Part (hereinafter referred to as the Third Party),

4. **CHERIAN JOSEPH** son of Mr.N.M.Joseph, aged 49 years, residing at Nellariyil House, Vazhappally P.O., Changanacherry, Kottayam, District, Kerala State, PIN – 686 103 on the Fourth Part (hereinafter referred to as the Fourth Party) **AND**

5. **RAJU CYRIAC** son of Cyriac, aged 53 years, residing at Kuzhikkattil House, Vayala P.O., Elackad, Meenachil, Kottyam District, Kerala State, PIN – 686 587 on the Fifth Part (hereinafter referred to as the Fifth Party)

WHEREAS the parties of the First Part to Third Part hereto have been carrying on business under the Name & Style **"ADAYAR GRANITES"** with its principal place of business at Bullding No. 15/113-2, KBC Complex, Laikkadu, Perunnai P.O., Changanacherry, Kottayam District, Kerala – PIN : 686 102 along with **Mr. SIJU GEORGE** son of K.A. Varkey, aged 51 years, residing at Kattarath House, Near L.P. School, Thekkumkutty, Kumaranalloor, Alli, Kozhikode District, Kerala State, PIN – 673 602 on the basis of the deed of partnership executed among them on 12th day of February, 2021.

AND WHEREAS the said **Mr. SIJU GEORGE** has expressed his desire to retire from the partnership on the close of the business hours as on 26th day of December, 2023.

AND WHEREAS the party of the fifth part **Mr. RAJU CYRIAC** has expressed his desire join the partnership and is admitted to the partnership firm with effect from 26th day of December, 2023 with the consent of all the partners.

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

Assistant Director Geology and Mining Collectorate O/o

AND WHEREAS the retiring party retired from the business, after mutual settlement of his accountin the partnership, and the party of the fifth part has been admitted to the partnership.

AND WHEREAS, it has become necessary to reconstitute the partnership deed specifying the terms and conditions of the reconstituted partnership in to writing.

WITNESSES AND it is hereby mutually agreed that the parties shall become partners upon the following terms, conditions and covenants.

1) NAME:
The name of the Partnership Business shall be "ADAYAR GRANITES".

2) DATE OF COMMENCEMENT OF PARTNERSHIP:
The reconstituted partnership shall commence with effect from 26th day December, 2023 (26-12-2023) and to be a Partnership at Will.

3) REGISTERED OFFICE:
The Registered Office of the partnership shall be at Building No.15/113-2, KBC Complex, Laikkadu, Perunnai P.O., Changanacherry, Kottayam District, Kerala – PIN – 686 102 and the same can be changed to any place as the partners mutually decide from time to time. The firm may open branch/branches anywhere in India.

4) NATURE OF BUSINESS:
To primary object of the partnership firm is to carry on business of quarrying, mining, processing and setting up metal crushing units.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

O/o Assistant Director Geology and Mining Collectorate Ernakulam - 682 004

The firm may also carry on the business of fabricating, storing, staging, marketing and selling granite stones and other stone products etc. at any places or locations as may be decided. The firm may carry on the business as quarry masters and to purchase, take on lease or in exchange or acquire by quarrying sets or licence, concession, grant or otherwise any lands, quarries, quarrying rights, easement rights and privilege and other effect of stones, chalks, clay, metals, other stones or deposits. The firm may also carry on the business of setting up an industrial metal crushing unit to manufacture aggregates, m-sand and similar products and similar nature activities and for the purpose to acquire and/or construct land and building, machineries, equipment and vehicles etc. The parties may at any time discontinue any of the above business or start any fresh line of business though not mentioned herein, as would be decided between them, from time to time.

5) CAPITAL:

The capital of the partnership shall be the amounts lying to the credit of the parties from time to time and the parties may further contribute to the capital in such proportion as they may decide in accordance with the requirement of the business.

6) DRAWINGS :

The parties are at liberty to make withdrawals from the capital of the Firm in such manner as agreed among them.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

Assistant Director Geology and Mining Collectorate Thrissur - 680 020

7) MANAGING PARTNER:

The third party Mr.SAJU M.C. shall be the Managing Partner of the firm and may represent the firm before any Civil, Judicial or Revenue authorities and is authorized to deal with other parties for any matter concerned with the business of the firm.

8) WORKING PARTNERS:

All the partners shall be working partners of the firm. The working partners shall attend to all the day to day transactions and matters relating to the affairs of the firm. They shall arrange to keep proper accounts, vouchers and records relating to the firm's business and affairs. The working partners shall be entitled to an annual remuneration. The partners of the firm, by way of a duly convened meeting and by passing a proper resolution in this regard, can appoint any other person as the working partner.

9) INTEREST:

The Capital, Current and Loan account of the partners shall carry a maximum interest of 12% per annum , however, the partners may mutually decide to reduce the rate of interest or waive the payment of interest at any later date. The interest shall be payable on the daily balances of the account, up to 31st March or such other date as may be prescribed by the Government of India as the financial year ending date every year.

10) SALARY OR REMUNERATION:

After debiting all the relevant expenses as per the usual custom and usage of trade, salaries or remuneration may be payable to the working partners. The

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

total salary or remuneration payable shall be computed in the manner and limits as prescribed U/S 40(b) of the Income Tax Act 1961 as amended from time to time.

11) **BOOKS OF ACCOUNTS :**

Proper books of accounts as are usual in this line of trade shall be maintained and the partners are at liberty to inspect the same and extract copies there from at all reasonable times. That once in a year, on the THIRTY FIRST day of March or such other date as may be prescribed by the Government of India as the financial year ending date. the accounts of the firm shall be closed and a Profit and Loss Account and a Balance Sheet shall be prepared.

12) **BANK ACCOUNTS:**

The partners jointly may open accounts with any Bank for and on behalf of the firm. The bank accounts shall be operated by the Managing Partner along with any other partner jointly.

13) **PROFIT SHARING RATIO:**

After debiting all the relevant expenses as per custom and usage of trade and after debiting interest and salary as per clause 9, and 10 as mentioned above, the Net Profit or Loss as the case shall be distributed among the partners as under:

Party of the First Part	:	20% of the profit or loss
Party of the Second Part	:	20% of the profit or loss
Party of the Third Part	:	20% of the profit or loss
Party of the Fourth Part	:	20% of the profit or loss
Party of the Fifth Part	:	20% of the profit or loss

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

Dept of Geology and Mining Collectorate Ernakulam
O/o Assistant Director

14) RETIRMENT/ RESIGNATION OF PARTNERS:

That if any one of the partner decides to retire, he may do so by submitting his resignation. In such case financial statements up to the date of retirement shall be prepared and capital/current/loan standing to his name on the date of retirement shall be arrived at. The dues to the retiring partner shall be paid within 6 months from the date of retirement or such other period as decided by the partners mutually. However, the partnership business shall not be dissolved on this count. The remaining partner/s are free to carry on the business by themselves in the manner in which they decide and no goodwill shall be paid to the retiring / resigning partner.

15) DEATH OF A PARTNER:

That in the event of the death of the partner the partnership shall not be dissolved and the firm shall continue. The legal representative/s of the deceased partner/ s has right to become a partner with immediate effect in the partnership business. Otherwise the deceased partner shall be treated as a partner who has resigned.

16) BORROWING POWERS:

The Managing partners have the power to borrow funds for and on behalf of the firm. They will have to affix their signatures on the documents required for borrowing funds.

17) ADMISSION OF PARTNER:

That a new partner can be brought into the partnership business only if all the continuing partners agree to the above. All the continuing partners together should decide the terms on which the new partner shall be admitted and in the event of reconstitution of the partnership business the existing partners and the new partner/s shall sign the reconstitution deed.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

O/o Assistant Director Dept.of Geology and Mining Collectorate Unit Idukki

18) GOOD WILL:
That in the event of dissolution of the firm the goodwill if any shall be divided by the partners in accordance to their profit-sharing ratio.

19) ARBITRATION:
That in case of any dispute between the partners the same shall be referred to private arbitration and the award of such arbitration shall be final and binding on all the partners to this deed.

20) DISSOLUTION :
If all the partners mutually agree in writing to dissolve the firm, then the partnership firm can be dissolved.

21) DUTIES AND OBLIGATION OF PARTNERS:

a. That all the partners shall diligently attend to the business of the partnership and faithfully engage himself therein.
b. That all the partners shall be just and faithful to the other partners in all transaction relating to partnership and at all times give to the other partners full information and truthful explanation and account on all matters relating to the affairs of the partnership and afford every assistance in his power in carrying on the business of the partnership for their mutual advantage.
c. All the partners have the right to engage or dismiss any employee of the partnership.
d. That all the original deeds, cheques, documents and other important matters relating to business shall be kept at the registered office of the partnership business.
e. That all the partners shall actually pay their separate private debts if any, with out in any way interfering with the partnership and indemnify the other partners and the firm against the same and all expenses on account thereof.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

f. That all the partners shall forthwith pay all monies, cheques negotiable instruments and other received by him on account of the firm into the firm's bank account only.

g. That all the partners shall sign all the necessary forms, declaration, documents etc. as may be required for filing the same with the goods and service tax, income tax, registrar of firms, customs and other authorities like sub registrar office etc.

b) That all the partners shall carry on the business of the firm to the greatest common advantage, be just and faithful to each other and to render true accounts and full information of all things affecting the firm to all the partners to their legal representative.

c) It is specifically mentioned here that no similar business activity shall be carried out by any partner/s while he is a partner of the firm so as to compete with the business of the firm. The partnership name shall not be used under any circumstances for any business activity without information and consent of all the partners.

That no partner shall without the (previous written) consent of the others;

a. Give any security or promise for payment of money or assets on account of the firm.

b. Assign, mortgage or charge his share in the partnership or the assets or profits of the firm or any part thereof or make any other person a partner with him therein.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

c. Compromise or compound or in any way part (except upon payment thereof in full) release or discharge any debt due to the partnership.

22) GENERAL CLAUSE

a) That the terms of this partnership deed may be altered, added, substituted, or varied by the mutual consent of the partners in writing.

b) That, wherever no specific provision are made in this deed, the provisions of Indian Partnership Act, 1932 as amended from time to time and up to date shall apply.

IN WITNESS WHERE OF, WE THE PARTNERS TO THIS PARNTNERSHIP DEED HAVE SET OUR RESPECTIVE HANDS ON THIS DAY, MONTH AND YEAR AS HERE IN ABOVE MENTIONED.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

WITNESS

1. JOHNSON GEORGE
KUNNUMMEL (H)
MUTHALAKODAM P.O
THODUPUZHA

2. BIJUMON NR
NADUVILEDATH (H)
EAST KALOOR
THODUPUZHA

O/o Assistant Director of Geology and Mining Collectorate Nilgiris - 643 004

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விவரங்கள் : இ. எண் 10(1) விதி

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி

பட்டா எண் : 5266

உரிமையாளர்கள் பெயர்

1. -.. டெல்லெட்டரேடிங் அண்ட் காண்ராக்டிங் பிரைவேட் லிமிடெட்

2. -.. மிரோனோல் மிக்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
--	--	ஹெக் - ஏ	ரூ - பை	ஹெக் - ஏ	ரூ - பை	ஹெக் - ஏ	ரூ - பை	
12	1	0 - 77.00	1.66	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1263	-	2 - 1.50	4.37	--	--	--	--	2019/0103 /13/071671--- -- 26-02-2019
1282	2D	0 - 41.00	0.88	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1282	2C	0 - 46.50	1.00	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B1	1 - 14.50	7.46	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
--	--	4 - 81.50	10.37					

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 13/12/806 /05266/60689 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவலகள 11-03-2021 அன்று 03:23:12 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைபேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

3/11/2021, 3:26 P

1 of 1

Document No: 1028/2021/D2 Sheets: 2 Contains

Registering Officer

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1274	2	1 - 57.00	3.38	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1266	2	3 - 34.00	7.16	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B3	0 - 10.00	0.22	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1255	2	2 - 2.50	4.59	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B4	0 - 5.00	0.11	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
		21 - 45.00	46.26					

குறிப்பு2 :

1. மேற்கண்ட தகவல் சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை நாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 13/12/006 /65265/6D679 எனது குறியீட எண்ணைக் உள்ளீடு செய்து உறுதி செய்துகொள்ளலாம்.
2. இத் தகவல்கள் 10-03-2021 அன்று 03:19:58 PM நேரத்தில் அச்சடிக்கப்பட்டது
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

Document No. 107/2021 of 2021 Book
Contains 2 Sheets 1 Sheet
Examining Officer

3/11/2021 3:23:1

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளரகள பெயர்

1. ... மிரோனேல்ஸ் பிஸ்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏ	ரூ - பை	ஹெக் - ஏ	ரூ - பை	ஹெக் - ஏ	ரூ - பை	
1255	1	1 - 8.50	2.36	--	--	--	--	2019/0103/13/071671---28-02-2019
1260	3	1 - 37.00	2.95	--	--	--	--	2019/0103/13/071671---28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103/13/071671---28-02-2019
1276	1B2	0 - 40.00	0.66	--	--	--	--	2019/0103/13/071671---28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103/13/071671---28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103/13/071671---28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103/13/071671---28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103/13/071671---28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103/13/071671---28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103/13/071671---28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103/13/071671---28-02-2019

3/11/2021, 3:23 PM

Document No:...1.b.2.8.of...2.0.1.9...of Book ...1...Contains...22...Sheets...of 19 Sheet

Registering Officer

ADAYAR GRANITES
15/113-2, KBC COMPLEX
LAIKKADU, PERUNNAI, CHANGANACHERRY
KOTTAYAM, KERALA - 686102
Email: adayargranites@gmail.com Mob: 9447391909

COPY MINUTES OF THE MEETING HELD ON 01/10/2024

Where it is deemed desirable and in the best interests of this Firm that the following actions be taken by the Partners of M/S. ADAYAR GRANITES pursuant to resolution.

NOW, THERE FORE, BE IT RESOLVED THAT, pursuant to applicable law, the undersigned, being all the partners of this firm, hereby consent to, approve, and adopt the following.

RESOLVED THAT, it is in the best interest of the firm to appoint Mr. Cherian Joseph, Partner and Mr. Saju M.C Partner are the Authorized Signatories of the firm for Goods and Service Tax Act. That the above partners also shall have the power to, apply for Goods and Service Tax Registration, modification, amendment etc. and to represent the firm in any civil or criminal proceedings, and to do all necessary actions to carry out the affairs of the firm.

For Adayar Granites

Saju M.C
(Managing Partner)

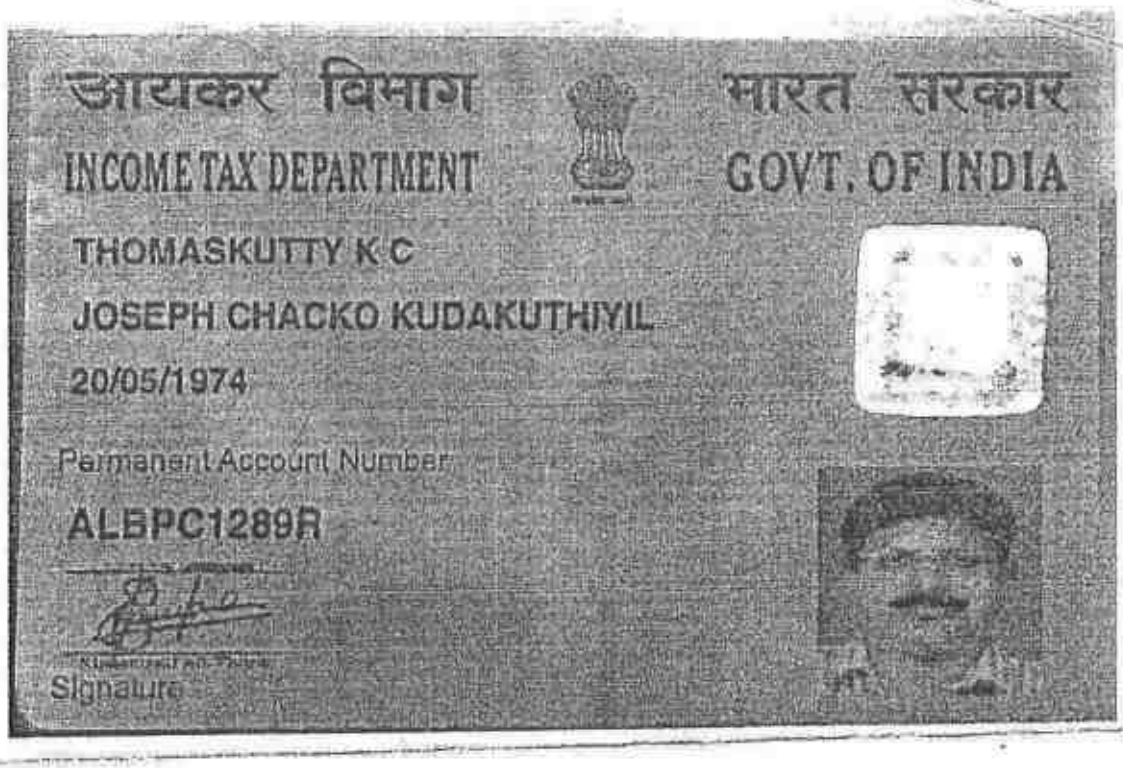
Lukose Kudakuthiyil Chacko
(Partner)

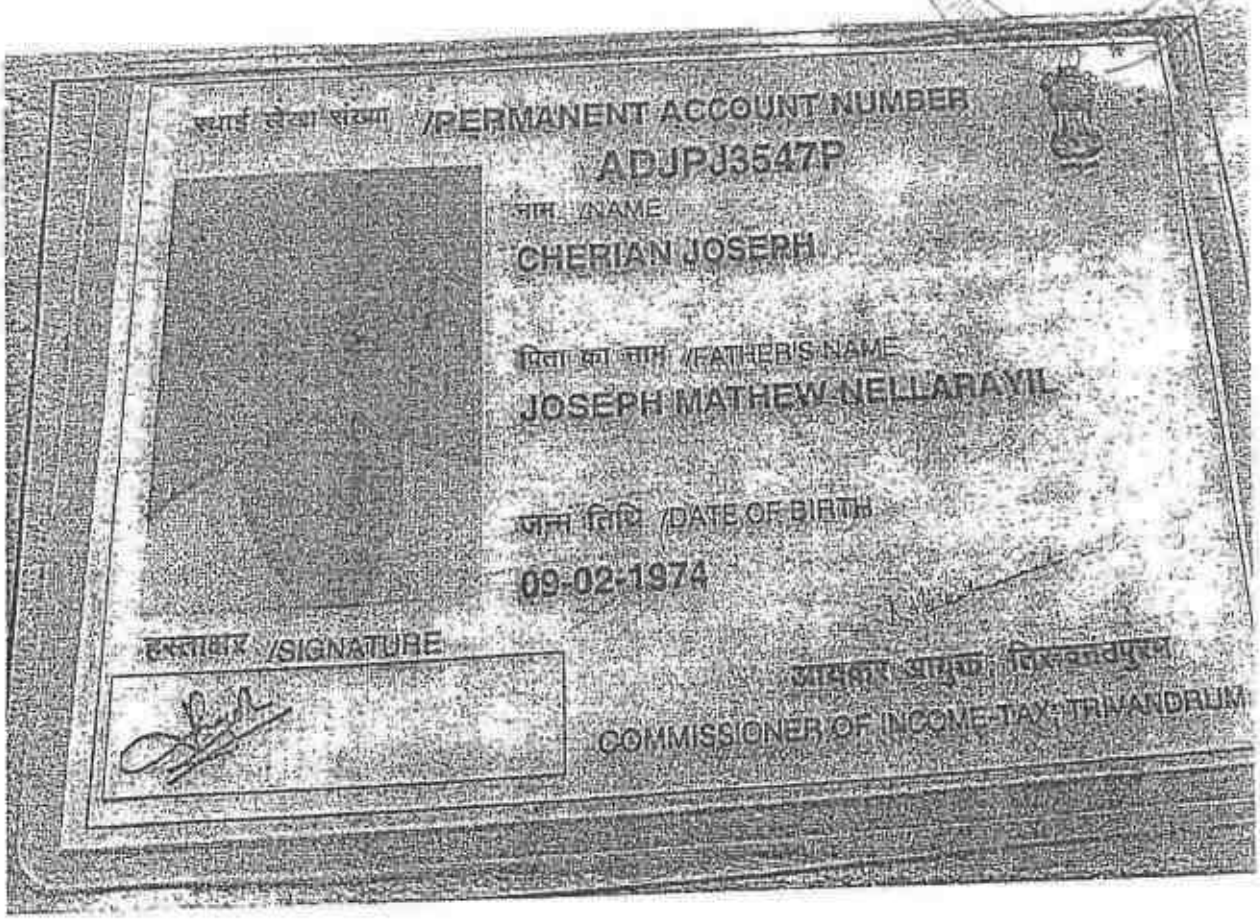
Thomaskutty K.C
(Partner)

Cherian Joseph
(Partner)

Raju Cyriac
(Partner)

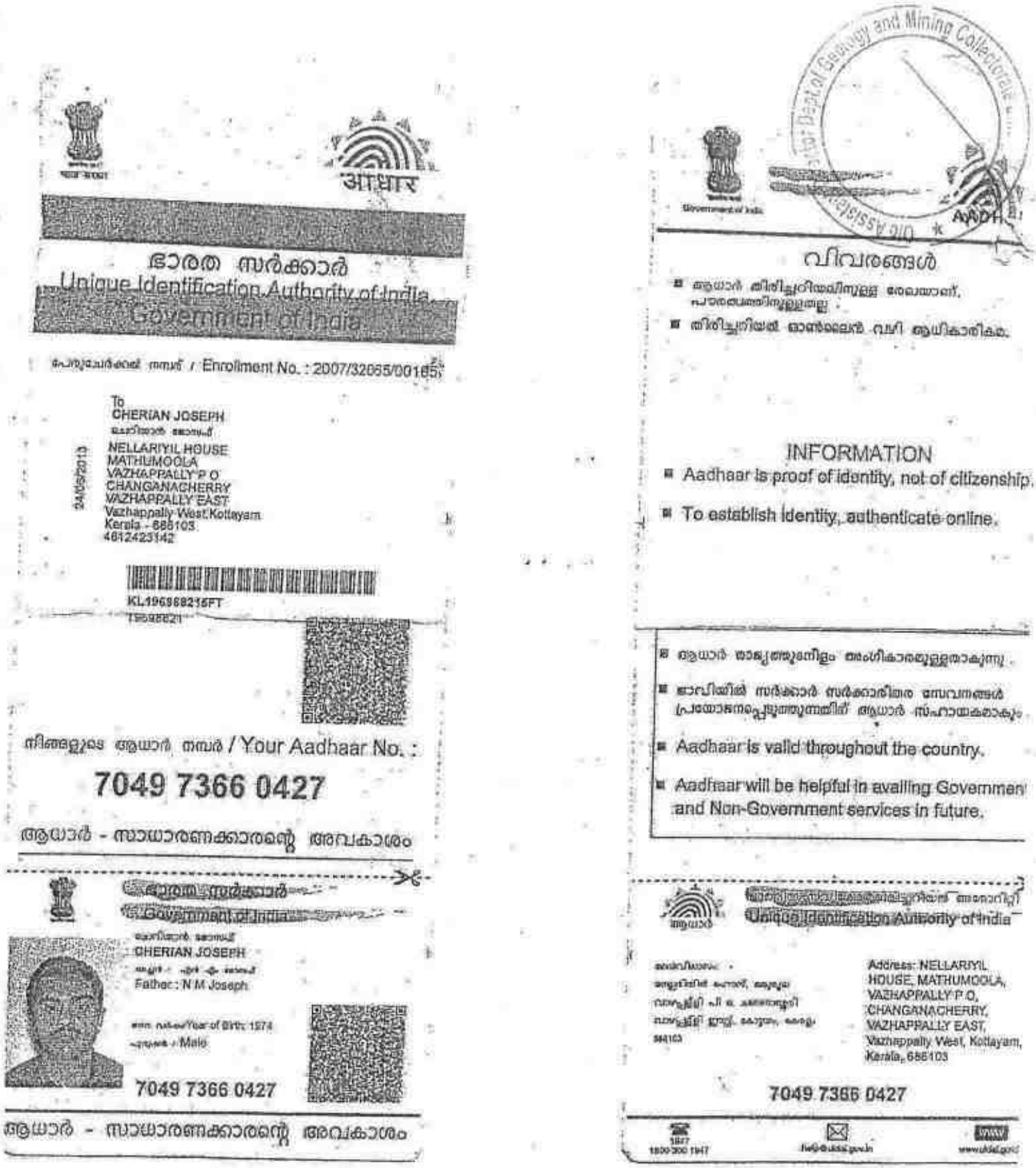
Kottayam
10/01/2024


आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
THOMASKUTTY K C
JOSEPH CHACKO KUDAKUTHIYIL
20/05/1974
Permanent Account Number
ALBPC1289R
Signature


स्थायी लेखा संख्या /PERMANENT ACCOUNT NUMBER
ADJPJ3547P
नाम /NAME
CHERIAN JOSEPH
पिता का नाम /FATHER'S NAME
JOSEPH MATHEW NELLARAVIL
जन्म तिथि /DATE OF BIRTH
09-02-1974
हस्ताक्षर /SIGNATURE
आयकर आयुक्त तिरुवनंतपुरम
COMMISSIONER OF INCOME-TAX, TRIVANDRUM

Saju M C
Father : M.M CHACKO
Year of Birth: 1975
Male
9699 3310 1800
ആധാർ – സാധാരണക്കാരന്റെ അവകാശം
Address: MLAKUZHIYIL, MUTTOM, MUTTOM P O, Muttom, Muttom EK, Idukki, Kerala, 685587

128A



ഭാരത സർക്കാർ
Unique Identification Authority of India
Government of India

To
CHERIAN JOSEPH
NELLARIYIL HOUSE
MATHUMOOLA
VAZHAPPALLY P O
CHANGANACHERRY
VAZHAPPALLY EAST
Vazhappally West,Kottayam
Kerala - 686103
4812423142

KL1969682216FT

നിങ്ങളുടെ ആധാർ നമ്പർ / Your Aadhaar No. :
7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

CHERIAN JOSEPH
Father: N M Joseph
Year of Birth: 1974
Male
7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

വിവരങ്ങൾ

- ആധാർ തിരിച്ചറിയലിനുള്ള രേഖയാണ്, പൗരത്വത്തിനുള്ളതല്ല .
- തിരിച്ചറിയൽ ഓൺലൈൻ വഴി ആധികാരികമാക്കുക.

INFORMATION

- Aadhaar is proof of identity, not of citizenship.
- To establish identity, authenticate online.

- ആധാർ രാജ്യത്തുടനീളം അംഗീകാരമുള്ളതാകുന്നു .
- ഭാവിയിൽ സർക്കാർ സർക്കാരിതര സേവനങ്ങൾ പ്രയോജനപ്പെടുത്തുന്നതിന് ആധാർ സഹായകരമാകും
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

Unique Identification Authority of India

Address: NELLARIYIL HOUSE, MATHUMOOLA, VAZHAPPALLY P.O, CHANGANACHERRY, VAZHAPPALLY EAST, Vazhappally West, Kottayam, Kerala, 686103

7049 7366 0427

1800 200 1947

www.uidai.gov.in

129A

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
RAJU CYRIAC
V M CYRIAC
14/07/1970
Permanent Account Number
AHTPC8820C
Signature

Director Geology and Mining Collectorate Thrissur - 680 003 O/o Assistant

आधार

भारत सरकार
Government of India

भारतीय विशिष्ट पहचान प्राधिकरण
Unique Identification Authority of India

Enrollment No. : 2003/49002/00011

To
Raju Cyriac

S/O: Cyriac,
Kuzhikkattil,
Vayala P O,
VTC: Elackad, PO: Vayala,
Sub District: Meenachil, District: Kottayam,
State: Kerala, PIN Code: 686587,
Mobile: 9446308882

591744864

KF591748647FI

आपका आधार क्रमांक / Your Aadhaar No. :

4209 6339 4287

मेरा आधार, मेरी पहचान

भारत सरकार
Government of India
आधार

Issue Date: 10/03/2018

Raju Cyriac
DOB: 14/07/1970
Male

4209 6339 4287
मेरा आधार, मेरी पहचान

131A

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आधार

भारत सरकार
Unique Identification Authority of India
Government of India

Enrollment No. : 2003/35003/43189

To
Kudakuthiyil Chacko Thomaskutty

S/O: Kudakuthiyil Joseph Chacko
Kudakuthiyil
K B C Enclave
Lalkad
Perunna P O
Changanassery
Perunna,Kottayam
Kerala - 686102
9847550500

11/08/2015

KH5227845564FT
52278456

आपका आधार क्रमांक / Your Aadhaar No. :

2447 5470 4601

आधार - आम आदमी का अधिकार

भारत सरकार
Government of India

Kudakuthiyil Chacko Thomaskutty

DOB: 20/05/1974
Male

2447 5470 4601

आधार - आम आदमी का अधिकार

Director Dept.of Geology and Mining Collectorate Dhanbad

Government of India

AADHAAR

सूचना

- आधार पहचान का प्रमाण है, नागरिकता का नहीं ।
- पहचान का प्रमाण ऑनलाइन प्रमाणीकरण द्वारा प्राप्त क

INFORMATION

- Aadhaar is proof of identity, not of citizenship .
- To establish identity, authenticate online .

- आधार देश भर में मान्य है ।
- आधार भविष्य में सरकारी और गैर-सरकारी सेवाओं का लाभ उठाने में उपयोगी होगा ।
- Aadhaar is valid throughout the country .
- Aadhaar will be helpful in availing Government and Non-Government services in future .

भारत सरकार
Unique Identification Authority of India

Address: S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Lalkad, Perunna P O, Changanassery, Perunna, Kottayam, Changanassery, Kerala, 686102

2447 5470 4601

1947
help@uidai.gov.in
www.uidai.gov.in

Asstt. Director, Dept.of Geology and Mining Collectorate Dindigul

आयकर विभाग
INCOME TAX DEPARTMENT

भारत सरकार
GOVT. OF INDIA

स्थायी लेखा संख्या कार्ड
e - Permanent Account Number (e-PAN) Card
ABUFA6310J

नाम / Name ADAYAR GRANITES

निगमन / गठन की तारीख
Date of Incorporation / Formation 12/02/2021

Signature Not Verified

Cut

Electronically issued and digitally signed ePAN is a valid mode of issue of Permanent Account Number (PAN) post amendments in clause (c) in the Explanation occurring after sub-section (8) of Section 139A of Income Tax Act, 1961 and sub-rule (5) of Rule 114 of the Income Tax Rules, 1962. For more details,

ANNEXURE - IX

ADAYAR GRANITES
15/113-2, KBC COMPLEX
LAIKKADU, PERUNNAI, CHANGANACHERRY
KOTTAYAM, KERALA - 686102
Email: adayargranites@gmail.com Mob: 9447391909

COPY MINUTES OF THE MEETING HELD ON 01/10/2024

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For Adayar Granites

Saju M.C
(Managing Partner)

Lukose Kudakuthiyil Chacko
(Partner)

Thomaskutty K.C
(Partner)

Cherian Joseph
(Partner)

Raju Cyriac
(Partner)

Kottayam
10/01/2024

Asstt. Director Dept. of Geology and Mining Collectorate Office
O/o Asstt. Director Dept. of Geology and Mining Collectorate Office
624 004

GOVERNMENT OF INDIA
Saju M C
Father : M M CHACKO
Year of Birth: 1976
Male
9699 3310 1800
ആധാർ - സാധാരണക്കാരന്റെ അവകാശം
UNIQUE IDENTIFICATION AUTHORITY OF INDIA
Address: MLAKUZHIYIL,
MUTTOM, MUTTOM P O,
Muttom, Muttom EK, Idukki,
Kerala, 685587
1800 180 1947
www.uidai.gov.in
P.O. Box No.1947,
Bengaluru-560 001

Asstt. Director Cochin College and Mining Collectorate University

स्थायी लेखा संख्या /PERMANENT ACCOUNT NUMBER

AJLPS7318F

नाम /NAME

MLAKUZHIYIL CHACKO SAJU

पिता का नाम /FATHER'S NAME

MATHAI CHACKO

जन्म तिथि /DATE OF BIRTH

15-05-1976

हस्ताक्षर /SIGNATURE

आयकर आयुक्त, कोचिन

COMMISSIONER OF INCOME-TAX, COCHIN

इस कार्ड के खो / मिल जाने पर कृपया सूचित करने
और वापसी की सूचित / वापस करें
आयकर आयुक्त,
कोचिन प्रभार, केन्द्रीय राजस्व भवन,
आई.एस.प्रेस रोड,
कोचिन - 682 018.

In case this card is lost/found,kindly inform/return to
the issuing authority :
Commissioner of Income-tax,
Cochin Charge, Central Revenue Building,
I.S.Press Road,
Cochin - 682 018.

ANNEXURE

ഭാരത സർക്കാർ
Unique Identification Authority of India
Government of India

എൻറോൾമെന്റ് നമ്പർ / Enrollment No. : 2007/32065/00165

To
CHERIAN JOSEPH
ചെറിയാൻ ജോസഫ്
NELLARIYIL HOUSE
MATHUMOOLA
VAZHAPPALLY P O
CHANGANACHERRY
VAZHAPPALLY EAST
Vazhapally West,Kottayam
Kerala - 686103
4812423142

24/09/2013

KL1969882115FT
19696821

നിങ്ങളുടെ ആധാർ നമ്പർ / Your Aadhaar No. :

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

ഭാരത സർക്കാർ
Government of India

ചെറിയാൻ ജോസഫ്
CHERIAN JOSEPH
Father : N M Joseph

Year of Birth: 1974
പുരുഷൻ / Male

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

Director Diplo... and Mining Colleges Dindigul
O/o Assistant
* 624004

स्थायी लेखा संख्या /PERMANENT ACCOUNT NUMBER

ADJPJ3547P

नाम /NAME

CHERIAN JOSEPH

पिता का नाम /FATHER'S NAME

JOSEPH MATHEW NELLARAYIL

जन्म तिथि /DATE OF BIRTH

09-02-1974

हस्ताक्षर /SIGNATURE

आयकर आयुक्त, तिरुवनंतपुरम
COMMISSIONER OF INCOME-TAX, TRIVANDRUM

इस कार्ड के खो / मिल जाने पर कृपया जारी करने
वाले प्राधिकारी को सूचित / वापस करें
आयकर आयुक्त,
तिरुवनंतपुरम प्रभार,
आयकर भवन, कावडियार पी.ओ.,
तिरुवनंतपुरम - 695 003.

In case this card is lost/found,kindly inform/return to
the issuing authority :
Commissioner of Income-tax,
Trivandrum Charge,
Aayakar Bhavan, Kawadiar P.O.
Trivandrum - 695 003.

Director Dept.of Geology and Mining College

आधार

भारत सरकार
Government of India

भारतीय विशिष्ट पहचान प्राधिकरण
Unique Identification Authority of India

Enrollment No. : 2003/49002/00011

To
Raju Cyriac

S/O: Cyriac,
Kuzhikkattil,
Vayala P.O,
VTC: Elackad, PO: Vayala,
Sub District: Meenachil, District: Kottayam,
State: Kerala, PIN Code: 686587,
Mobile: 9446308882

59174864

KF591748647FI

आपका आधार क्रमांक / Your Aadhaar No. :

4209 6339 4287

मेरा आधार, मेरी पहचान

भारत सरकार
Government of India
आधार

Issue Date: 10/03/2018

Raju Cyriac
DOB: 14/07/1970
Male

4209 6339 4287
मेरा आधार, मेरी पहचान

139A

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आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
RAJU CYRIAC
V M CYRIAC
14/07/1970
Permanent Account Number
AHTPC8820C
Signature

O/o Assistant Director Dept.of Geology and Mining Collectorate Dindigul - 624 004.

भारतीय विशिष्ट पहचान प्राधिकरण
भारत सरकार
Unique Identification Authority of India
Government of India

E-Aadhaar Letter

Enrolmnt No/Enrolment No.: 2003/35003/43189

Kudakuthiyil Chacko Thomaskutty (Kudakuthiyil Chacko Thomaskutty)

S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Laikad, Perunna P O, Changanassery, Kottayam, Kerala - 686102

Date: 12/08/2015

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

Your Aadhaar No/ Your Aadhaar No.:

2447 5470 4601

Aadhaar-Aam Aadmi ka Adhikar

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

Signature valid
Digitally signed by UNIQUE IDENTIFICATION AUTHORITY OF INDIA
Date: 2015.08.12 18:56:25 IST

- Aadhaar is valid throughout the country.
- You need to enrol only once for Aadhaar.
- Please update your mobile number and e-mail address. This will help you to avail various services in future.

भारत सरकार
GOVERNMENT OF INDIA

Kudakuthiyil Chacko Thomaskutty
DOB: 20/05/1974
Male / MALE

भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

Address:
S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Laikad, Perunna P O, Changanassery, Kottayam, Kerala - 686102

2447 5470 4601

Aadhaar-Aam Aadmi ka Adhikar

2447 5470 4601

Aadhaar-Aam Admi ka Adhikar

141A

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
THOMASKUTTY K C
JOSEPH CHACKO KUDAKUTHIYIL
20/05/1974
Permanent Account Number
ALBPC1289R
Signature

भारत सरकार
GOVERNMENT OF INDIA

Lukose Kudakuthiyil
Chacko
DOB: 21/11/1955
Male / MALE

4083 3773 4727

MERA AADHAAR, MERI PEHACHAN

भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

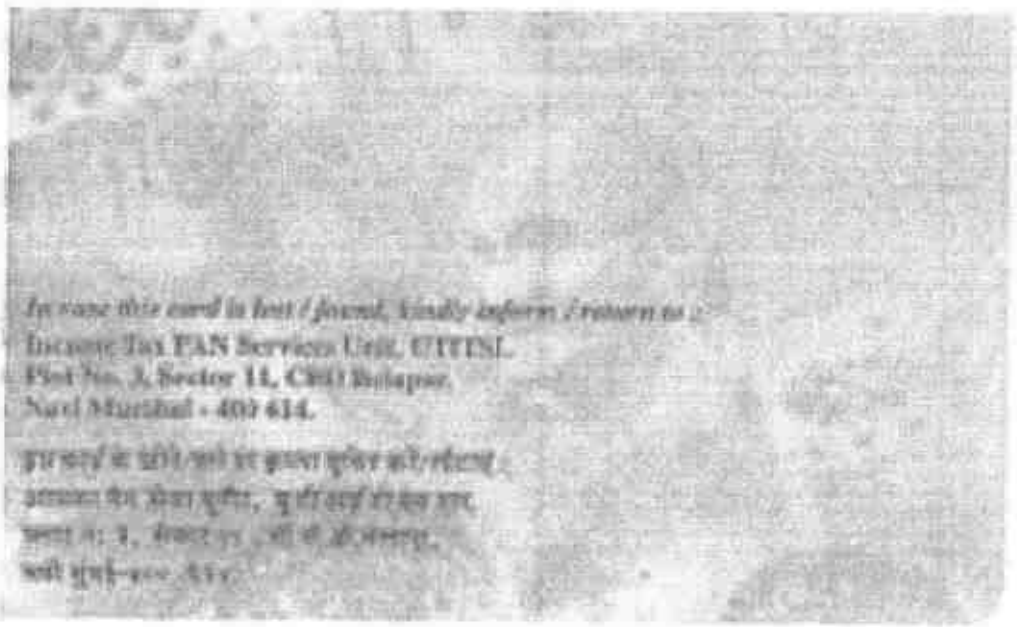
Address:
S/O: Chacko Joseph, Kudakuthiyil
K B C Garden, Laikad,
Changanassery, Kottayam,
Kerala - 686102

4083 3773 4727

Assistant Director Dept. of Geology and Mining Collectorate Dindigul - 624 004. O/o

Geology and Mining College
O/o Assistant Director
624 004

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
LUKOSE KUDAKUTHIYILCHACKO
C K JOSEPH
21/11/1955
Permanent Account Number
AKEPC2878A
Signature


If none this card is lost / found, kindly inform / return to :
Income Tax PAN Services Unit, UTITSL
Plot No. 3, Sector 11, CBD Belapur,
Navi Mumbai - 400 614.

ANNEXURE 6

பெரியார் பல்கலைக்கழகம்
Periyar University

அறிவியல் புலம்
FACULTY OF SCIENCE

பெரியார் பல்கலைக்கழக ஆட்சிக்குழு **2010** ஆம் ஆண்டு **ஏப்ரல்** மாத நடந்த **பயன்பாட்டுப்புவியமைப்பியல்** தேர்வ அரசு கலைக் கல்லூரி, சேலம் - 636 007 (தன்னாட்சி) பயில் **P விஸ்வநாதன்** என்ப **முதல் வகுப்பு A++ தரத்தில்** தேர்ச்சி பெற்றார் என்று தே தேர்வாளர்கள் சான்றளித்தபடி **அறிவியல் நிறைஞர்** என்ன பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **Periyar University** *hereby makes kno*
that **VISWANATHAN P** *has b*
admitted to the **DEGREE OF MASTER OF SCIENCE in APPLIED GEOLOGY**
he/she having been certified by duly appointed Examiners to be qualifie
to receive the same and was placed in the **FIRST CLASS**
WITH A++ GRADE *at the Examination held in* **APR-2010** *thro*
GOVERNMENT ARTS COLLEGE, SALEM - 636 007 (AUTONOMOUS).

Given under the seal of this university

நாள்
Dated 28-02-2011
சேலம் 636011, தமிழ்நாடு, இந்தியா.
Salem 636011, Tamil Nadu, India.

பதிவாளர்
Registrar

துணைவேந்தர்
Vice-Chancellor

ANNEXURE XII

TIN. No. : 3312 2703755
C.S.T. No. : 880783 / 29.11.2005
Area Code : 142

Ph : Mines : 0427 - 240364
Fact : 0427 - 240004

SUDHARSHAAN MINING CORPORATION

Mfrs : Dead Burnt Magnesite, Lightly Calcined Magnesite, Dunite Chips & Powder.
S.F. No. 77, Kuduvampatty Road, Vinayagampatti, SALEM - 636 008.

Date : 28.12.2015....

EXPERIENCE CERTIFICATE

This is to certify that **Shri.P.Viswanathan, S/o. P.Paramasivam, Geologist,** has worked in our Magnesite Mines from **13.09.2010 to 25.11.2015** as our company Geologist. During his service he used to maintain all records and returns submitted to Government Departments.

His nature of work in the mines was to show the plan of working and demarcate Magnesite reserve areas. He was looking after production of Magnesite and was maintaining quality of the Mineral as per the specifications given by the buyers.

During his tenor of his service he was very sincere and prompt in his duties.

I wish him the best of luck in all his future endevours.

For M/s.SUDHARSHAAN MINING CORPORATION,

SUDHARSHAN MINING CORPORATION
SF-77, KUDUVAMPATTI ROAD,
SALEM - 636 008. Tamilnadu.

28 Dec 2015

G.PASUPATHY,
Proprietor

146A

Resi : "Garuda" 14/315, Kaliyapillai Garden IInd Cross, Fairlands, Salem - 636 004. Tamilnadu.

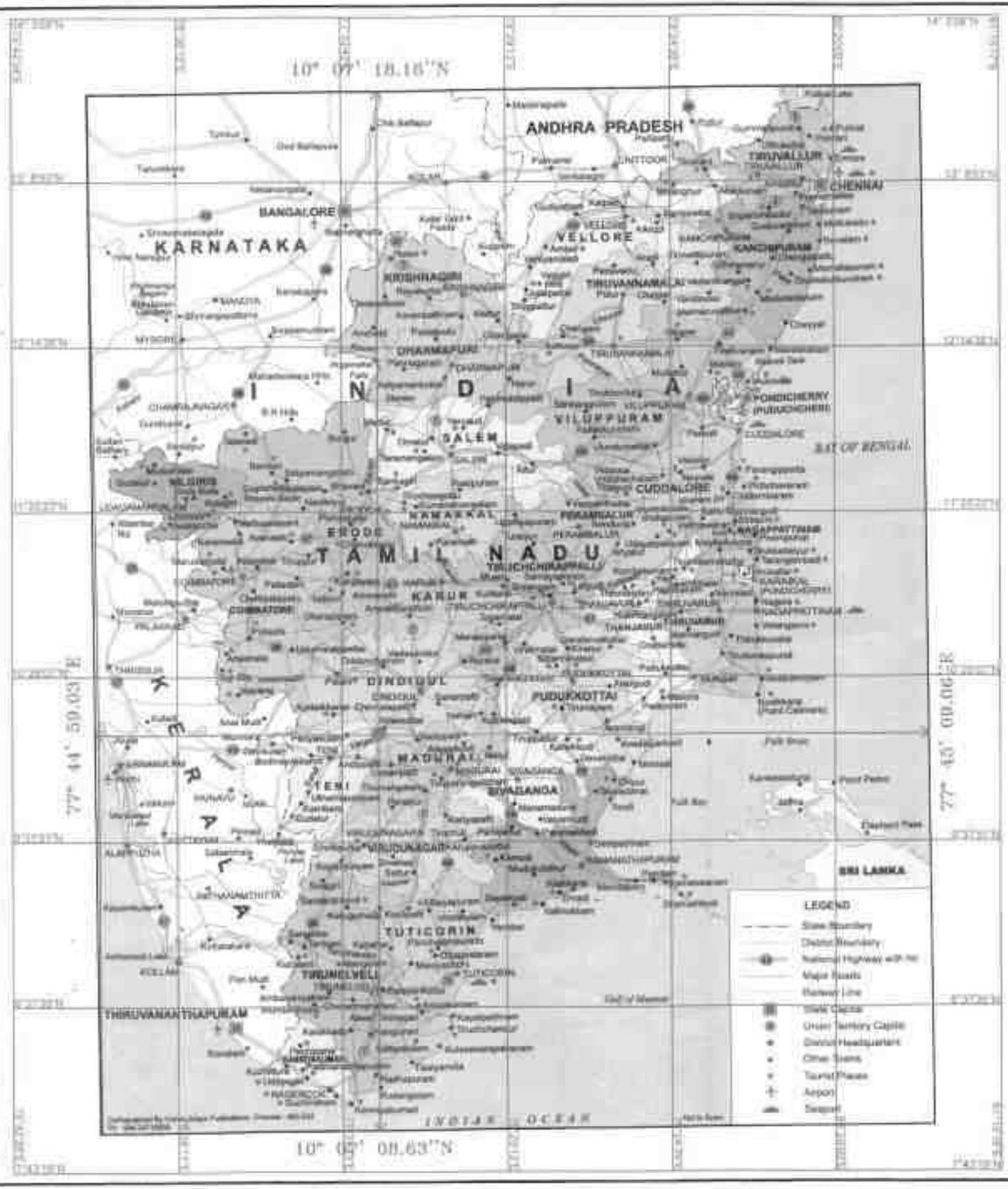


PLATE NO:1

DATE OF SURVEY : 12.01.2025

LESSEE :

Tvl.ADAYAR GRANITES,
REG.No.15/113-2,KBC COMPLEX,
LAIKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 2/1,1269/3.
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI.
TALUK : NATHAM.
DISTRICT : DINDIGUL.
STATE : TAMIL NADU.

INDEX

Q. L. A. AREA :

TOPO SHEET NO. : 58 F/16 & 58 F/12

LATITUDE : 10° 07' 08.63"N TO 10° 07' 18.16"N

LONGITUDE : 77° 44' 59.03"E TO 77° 45' 09.06"E

LOCATION PLAN

SCALE 1:24,00,000

PREPARED BY :

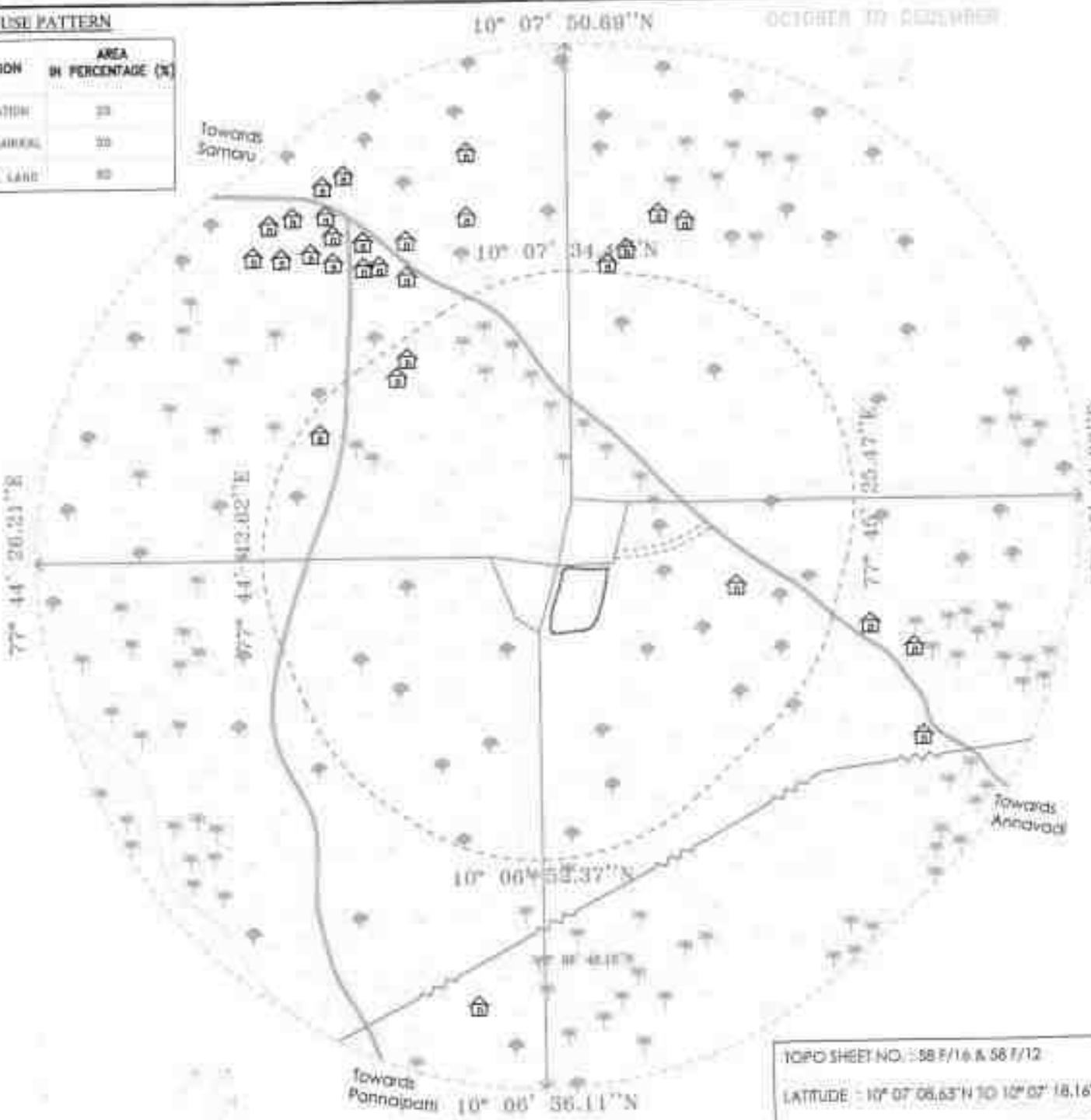
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLAN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE MADE UPON THE LEASEHOLD AUTHENTICATED BY STATE GOVERNMENT

147A

P. MURUGANANTHAM M.Sc.,
QUALIFIED PERSON

LAND USE PATTERN

DESCRIPTION	AREA IN PERCENTAGE (%)
TREES/HABITATION	20
ROAD/ODAI/PARKING	20
AGRICULTURAL LAND	60



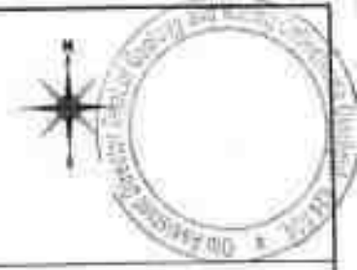


PLATE NO:1-B

DATE OF SURVEY : 12.01.2025

LESSEE :

Tvl.ADAYAR GRANITES,
REG.No.15/113-2,KBC COMPLEX,
LAIKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 2/1,1269/3.
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI.
TALUK : NATHAM.
DISTRICT : DINDIGUL.
STATE : TAMIL NADU.

INDEX

- APPROACH ROAD
- WIND DIRECTION
- TREES
- VILLAGE ROAD
- AGRICULTURE LAND
- HT LINE
- ODAI
- HABITATION

TOPO SHEET NO. : 58 F/16 & 58 F/12

LATITUDE : 10° 07' 06.63"N TO 10° 07' 18.16"N

LONGITUDE : 77° 44' 59.03"E TO 77° 45' 09.06"E

1KM RADIUS :

500M RADIUS :

Q.L.APPLIED AREA :

ENVIRONMENTAL & LANDUSE PLAN(For 1Km Radius)

SCALE 1:10,000

PREPARED BY :

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD AUTHENTICATED BY STATE GOVERNMENT

QUALIFIED PERSON

148A

PLATE NO:I-C

DATE OF SURVEY :12.01.2025

LESSEE :

Tvl.ADAYAR GRANITES,
REG.No.15/113-2,KBC COMPLEX,
LAIKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 2/1,1269/3,
EXTENT : 3.13.50 HA,
VILLAGE : VIRALIPATTI,
TALUK : NATHAM,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

Q.L.APPLIED BOUNDARY

APPROACH ROAD

VILLAGE ROAD

PANCHAYAT ROAD

RIVER

ROUTE MAP

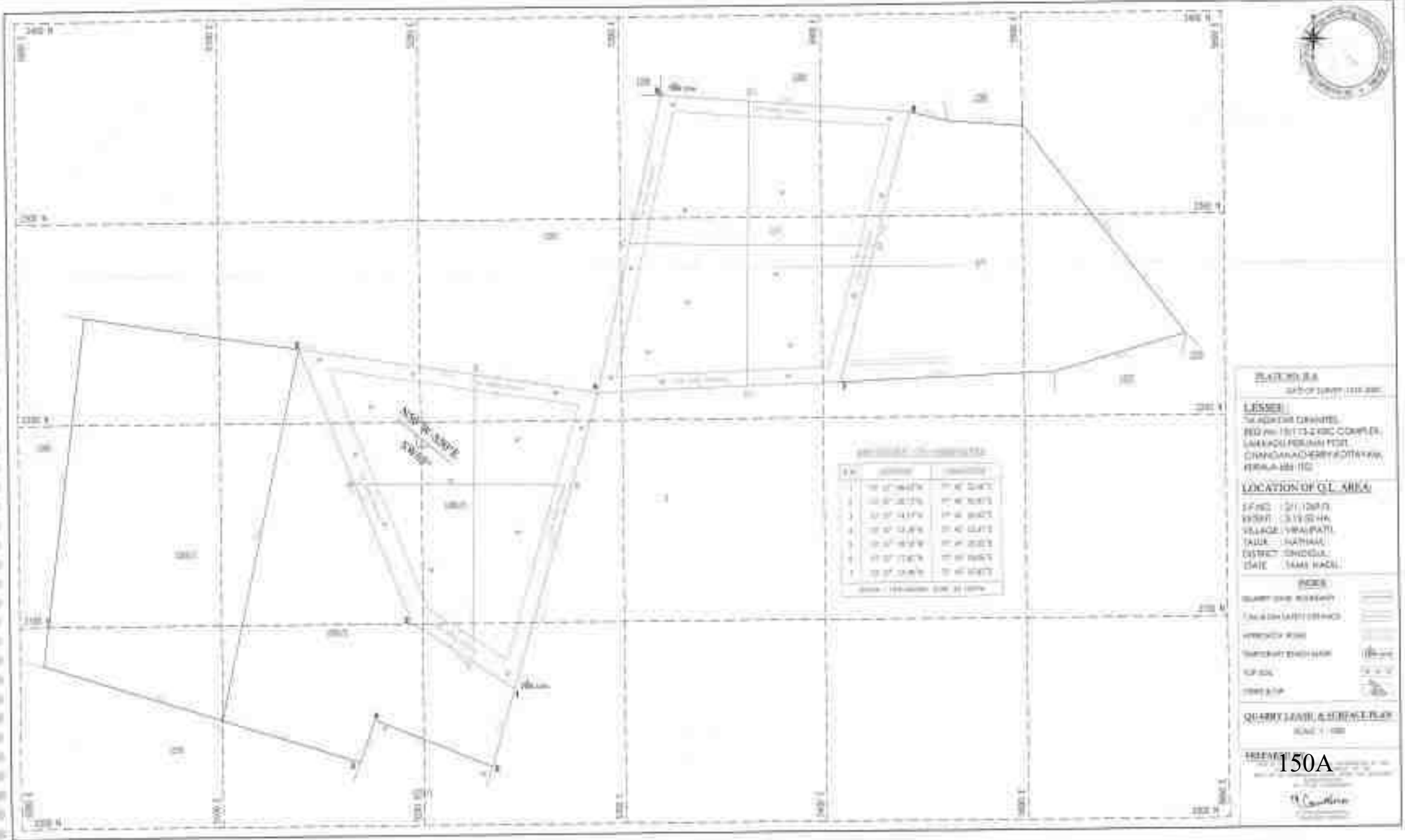
Not to Scale

PREPARED BY:

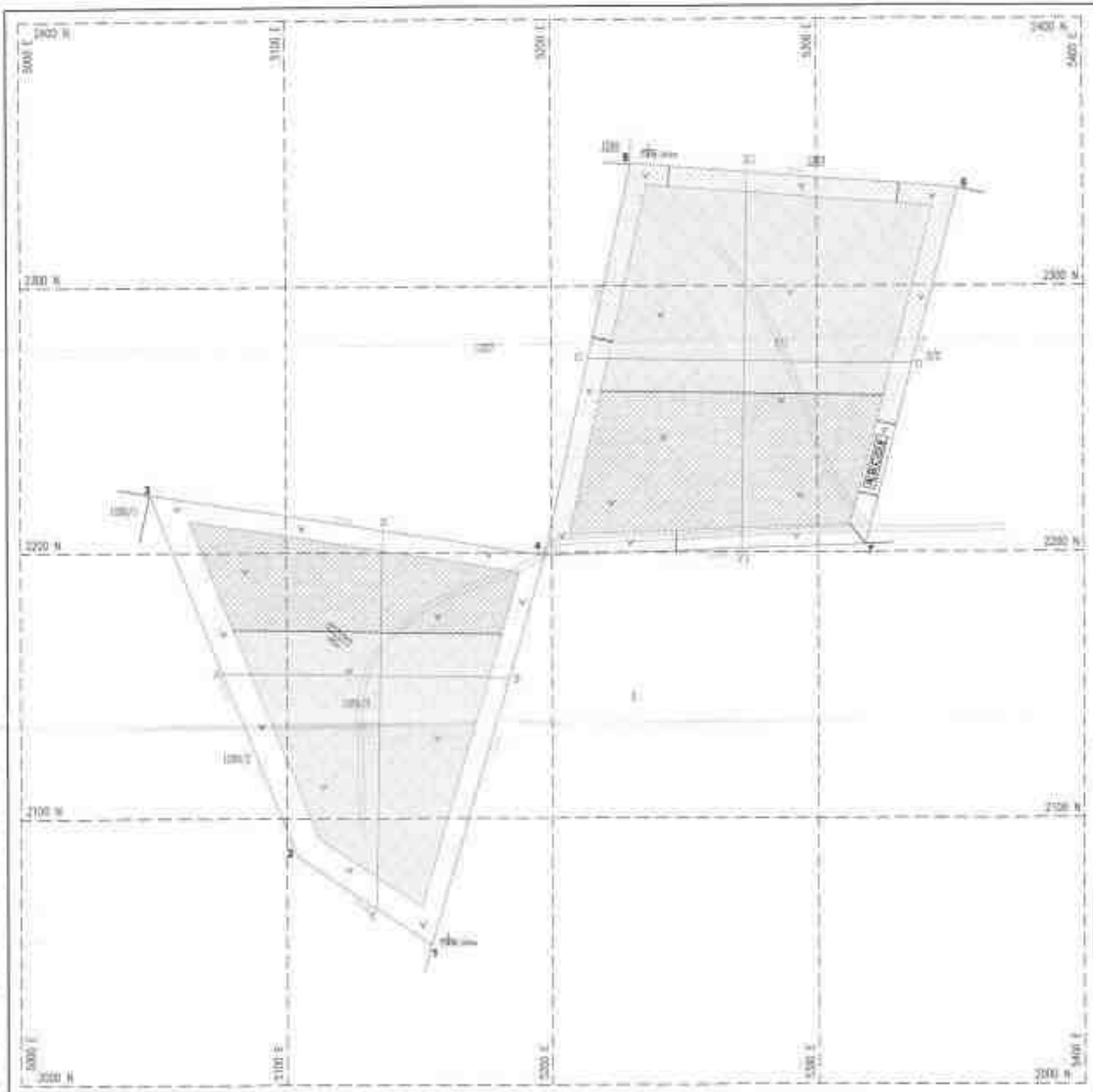
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LATEST AUTHENTICATED MAP BY STATE GOVERNMENT.

P.VISWANATHAN,M.Sc.,

149A



150A


3000 E
3100 E
3200 E
3300 E
3400 E
2400 N
2300 N
2200 N
2100 N
2000 N
3000 N
3100 N
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3300 N
3400 N
3500 E
3600 E
3700 E
3800 E
3900 E
4000 E
4100 E
4200 E
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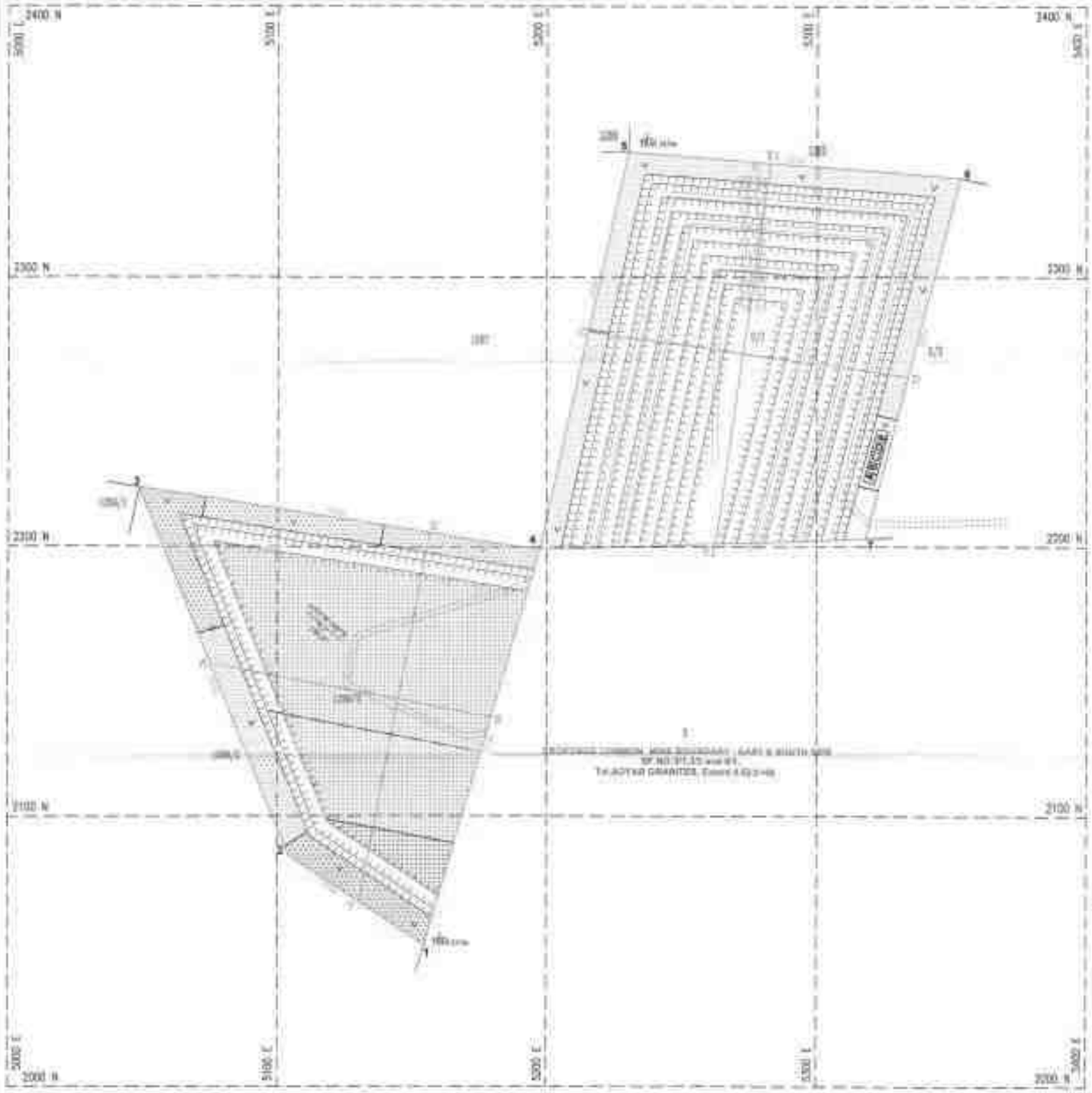
5200 E
5300 E
5400 E



SECTION ALONG X-Y

SECTION ALONG A-B

SECTION ALONG X1-Y1

SECTION ALONG C-D

PLATE NO. III-II

DATE OF SURVEY : 23.01.2020

LESSEE :

THIRU.AYYAR GRANITES,
REG.No. 15/11/13-3 KBC COMPLEX,
LAKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO. : 2/1,12a/1,2,
EXTENT : 3.10.50 Ha.
VILLAGE : VIRALIPATTI,
TALUK : NATHAM,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE BOUNDARY

7.5m &10m SAFETY DISTANCE

APPROACH ROAD

TEMPORARY BENCH MARK

TOP SOIL

WEATHERED ROCK

ROUGH STONE

QUARRY PIT

QUARRY ROAD

STRIKE & DIP

TOPOGRAPHY,GEOLOGICAL,
YEARWISE DEVELOPMENT &
PRODUCTION PLAN & SECTIONS
SECOND PIT 1YEAR
AS PER COMBINED FIRST BOUNDARY.

SCALE : 1:500.

PREPARED BY:

152A

PRESENT & POST LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Ha)	AREA REQUIRED DURING THE FIRST FIVE YEARS OF THE LEASE PERIOD (Ha)	AREA AT THE END OF LEASE PERIOD (Ha)
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

SECTION ALONG X-Y

SECTION ALONG A-B

SECTION ALONG X1-Y1

SECTION ALONG C-D

PLATE NO. IV-A

DATE OF SURVEY : [illegible]

LESSEE :
TV.ADAYAR GRANITES,
REG.No.15/113-2.43/C COMPLEX,
LANKADUPERUNAI POST,
CHANGANACHERRY, KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO. : 2/1,1269/3,
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI,
TALUK : NATHAM,
DISTRICT : DINDIGUL.
STATE : TAMIL NADU.

INDEX

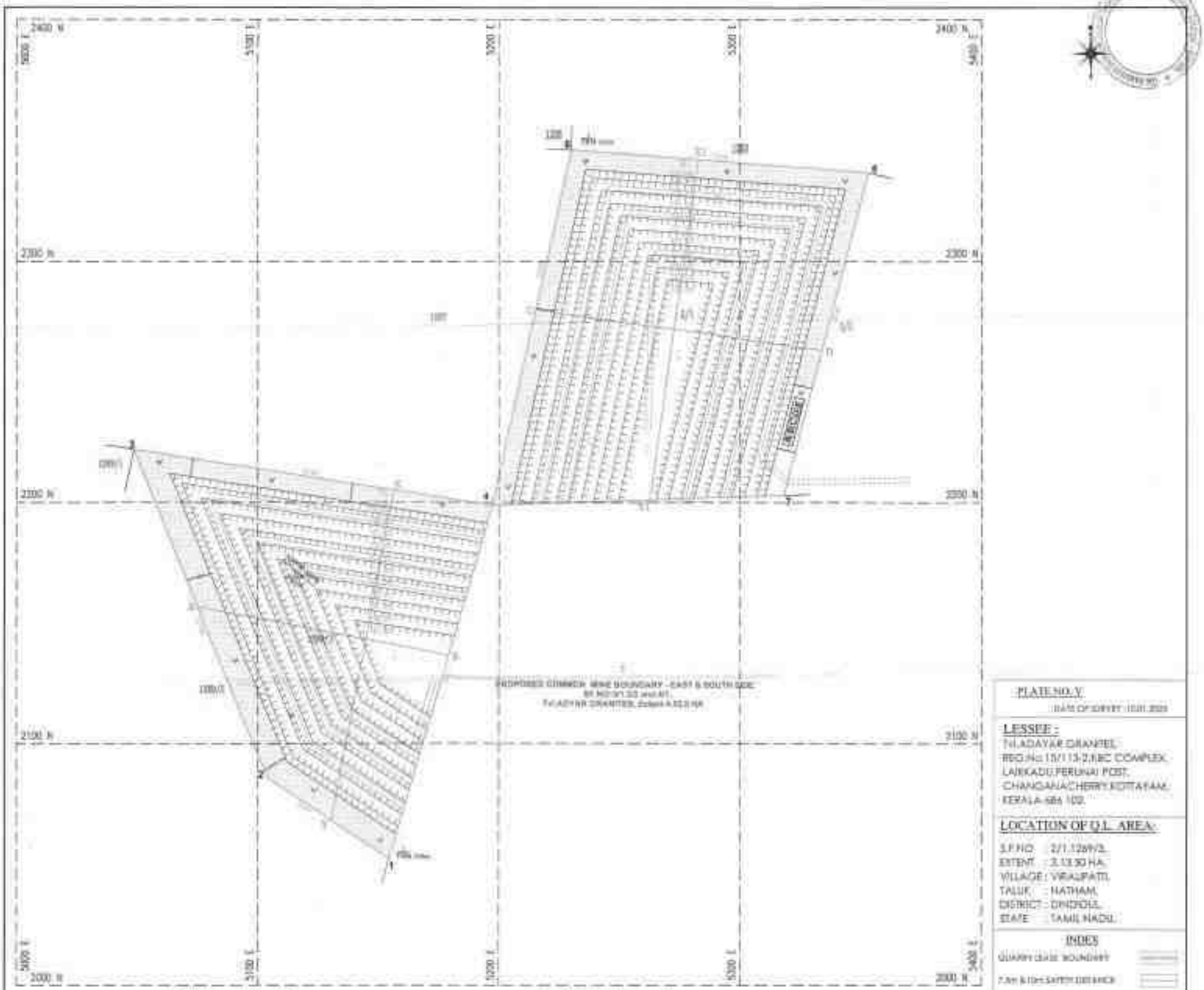
- SURVEY LEASE BOUNDARY
- 7.5m & 50m SAFETY DISTANCE
- APPROACH ROAD
- TEMPORARY BENCH MARK
- TOP SOIL
- WEATHERED ROCK
- ROUGH STONE
- QUARRY PIT
- QUARRY ROAD
- STRIKE & DIP
- TREES
- EXISTING LANDFORM
- CUT SURFACE LEVEL
- FINISHED SURFACE LEVEL
- RAIN WATER STORAGE
- REHABILITATED LANDFORM
- FENCING

PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS

SCALE 1 : 1000

PREPARED BY:

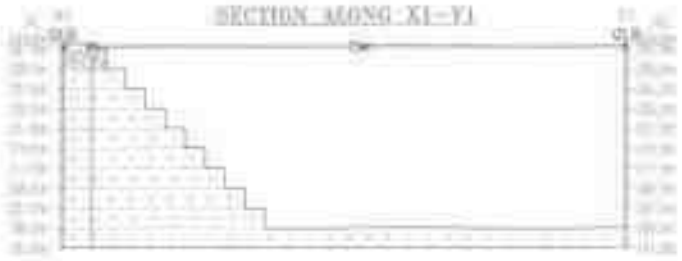
153A



SECTION ALONG X-Y

SECTION ALONG A-B

SECTION ALONG X1-Y1



SECTION ALONG C-D

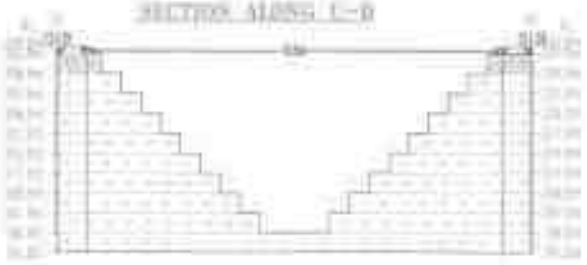


PLATE NO. V

DATE OF SURVEY : 10.01.2023

LESSEE :

THIAGARAJAR GRANITES,
REG.No.15/113-2,R.C. COMPLEX,
LAKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO. : 2/1,1289/3,
EXTENT : 4.13.50 HA.
VILLAGE : VIRALIPATTI,
TALUK : NATHAM,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

- QUARRY LEASE BOUNDARY
- 7.5m & 10m SAFETY DISTANCE
- APPROACH ROAD
- TEMPORARY BENCH MARK
- TOP SOIL
- WEATHERED ROCK
- RUBBISH STONE
- QUARRY PIT
- QUARRY ROAD
- STREET & CAP

CONCEPTUAL PLAN & SECTIONS AS PER COMMON MINE BOUNDARY

SCALE 1 : 1000

PREPARED BY

154A

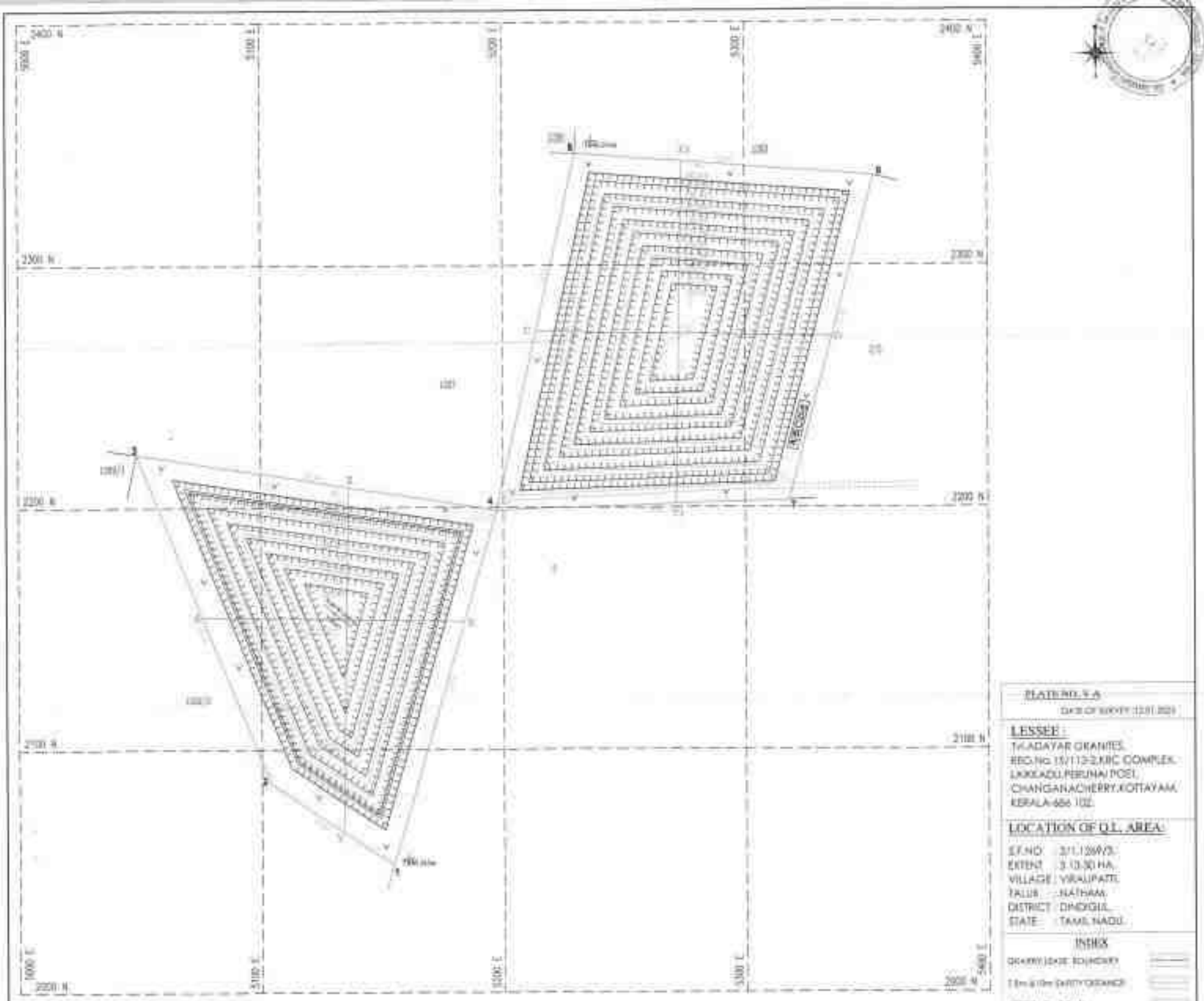


PLATE NO. V-A

DATE OF SURVEY: 12.01.2023

LESSEE :

T.V.ADAYAR GRANITES,
REG.No.15/113-2,KRC COMPLEX,
LAKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 3/1,1269/3,
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI,
TALUK : NATHAM,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE BOUNDARY
7.5m & 10m SAFETY DISTANCE
APPROACH ROAD
TEMPORARY BENCHMARK
TOP SOIL
WEATHERED ROCK
POOR STONE
QUARRY PIT
QUARRY ROAD
STREET & DIP

CONCEPTUAL PLAN & SECTIONS

SCALE 1 : 1000

PREPARED BY

PLATE NO:I-A

DATE OF SURVEY : 12.07.2025

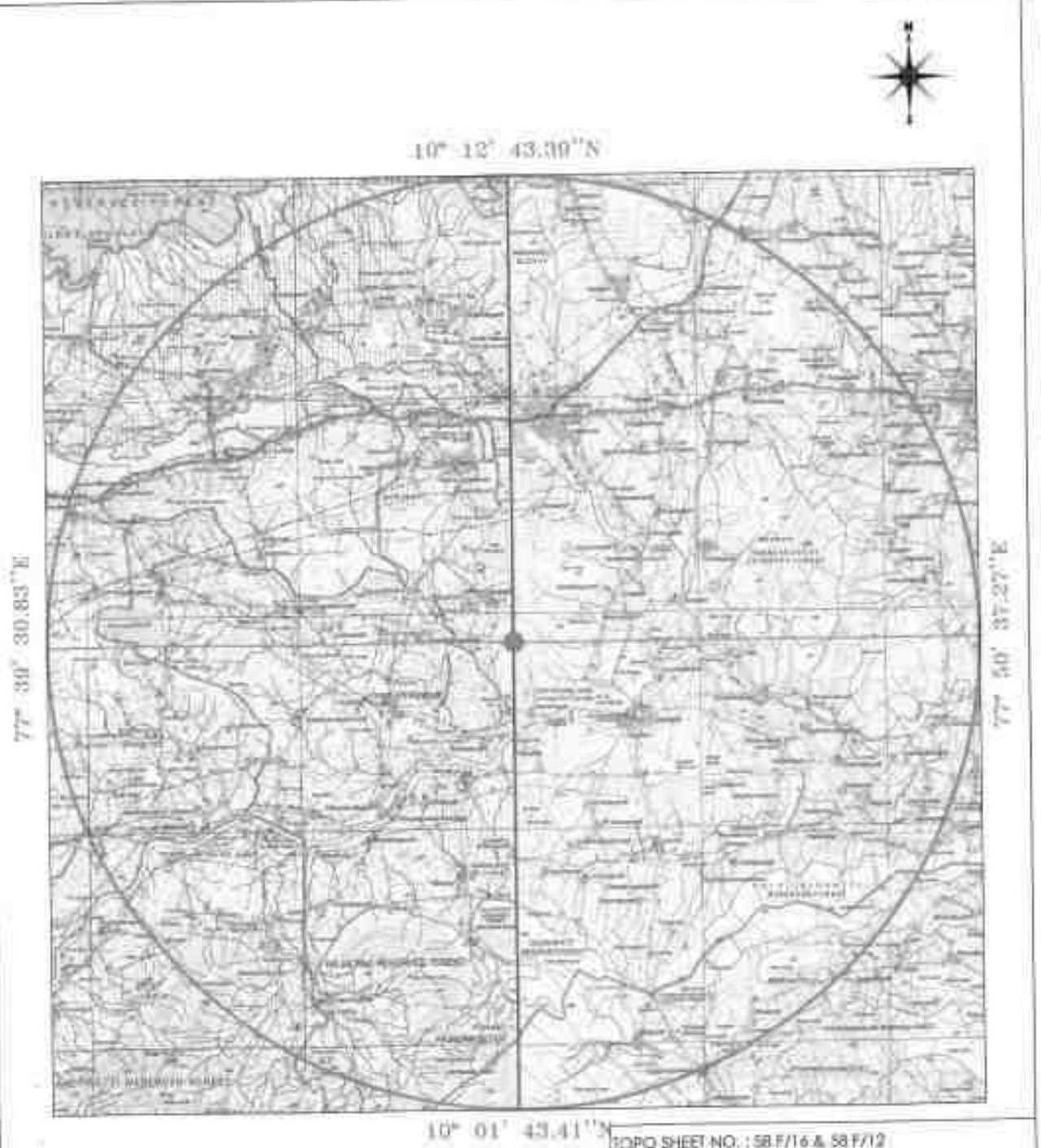
LESSEE :

Tvl.ADAYAR GRANITES,
REG.No.15/113-2,KBC COMPLEX,
LAIKKADU,PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 2/1,1269/3.
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI.
TALUK : NATHAM.
DISTRICT : DINDIGUL.
STATE : TAMIL NADU.

INDEX



TOPO SHEET NO. : 58 F/16 & 58 F/12

LATITUDE : 10° 07' 08.63"N TO 10° 07' 18.16"N

LONGITUDE : 77° 44' 59.03"E TO 77° 45' 09.06"E

10KM RADIUS :

Q.L.APPLIED AREA:

TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

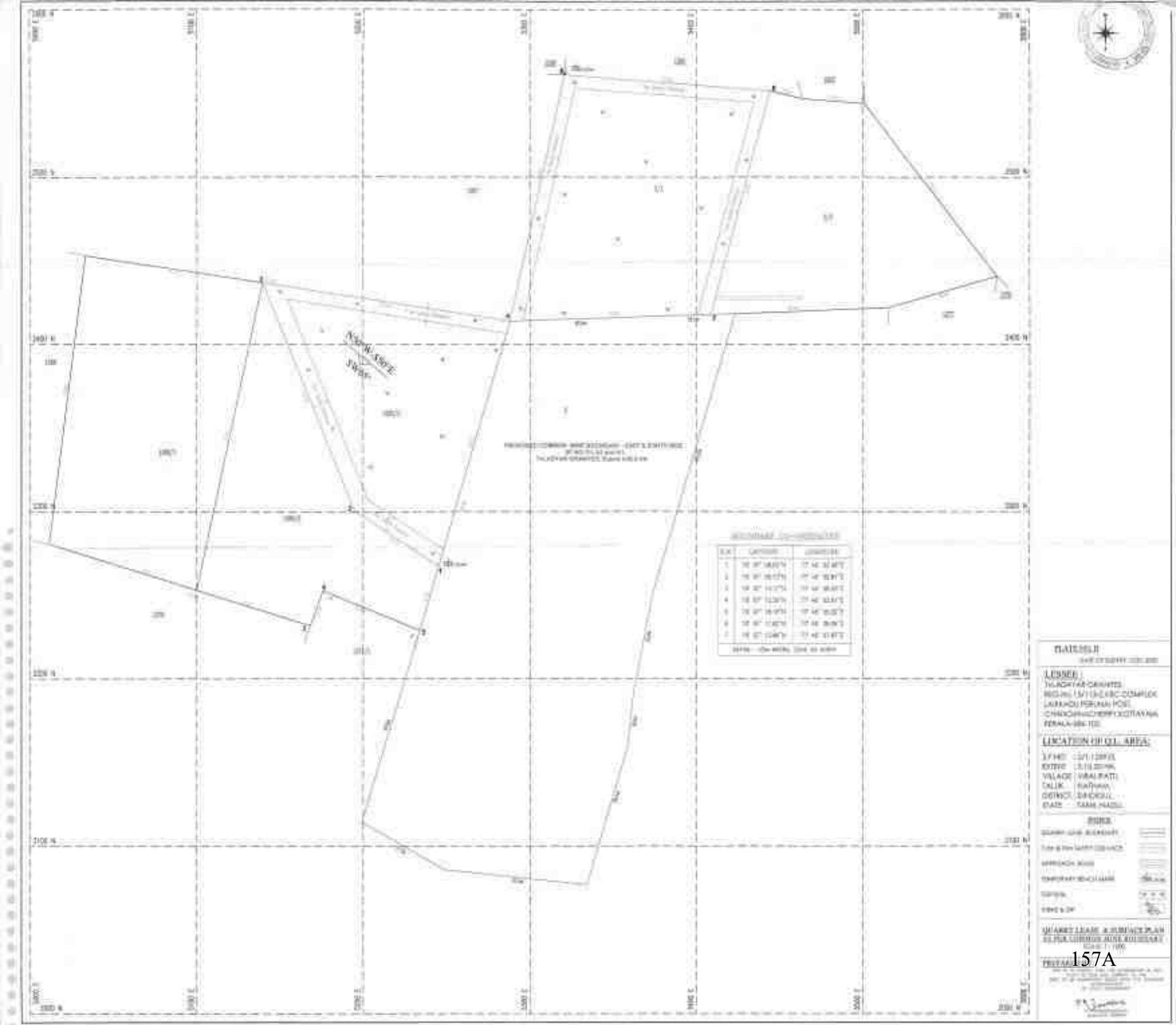
SCALE:- 1:100000

PREPARED BY :

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD AUTHENTICATED BY STATE GOVERNMENT

QUALIFIED PERSON

156A


N 68° W, 480 m
S 68° E
LEASE :
LOCATION OF Q.L. AREA :
SURVEY NO.
VILLAGE
TALUK
DISTRICT
STATE
QUARRY LEASE & SURFACE PLAN
SCALE 1:1000

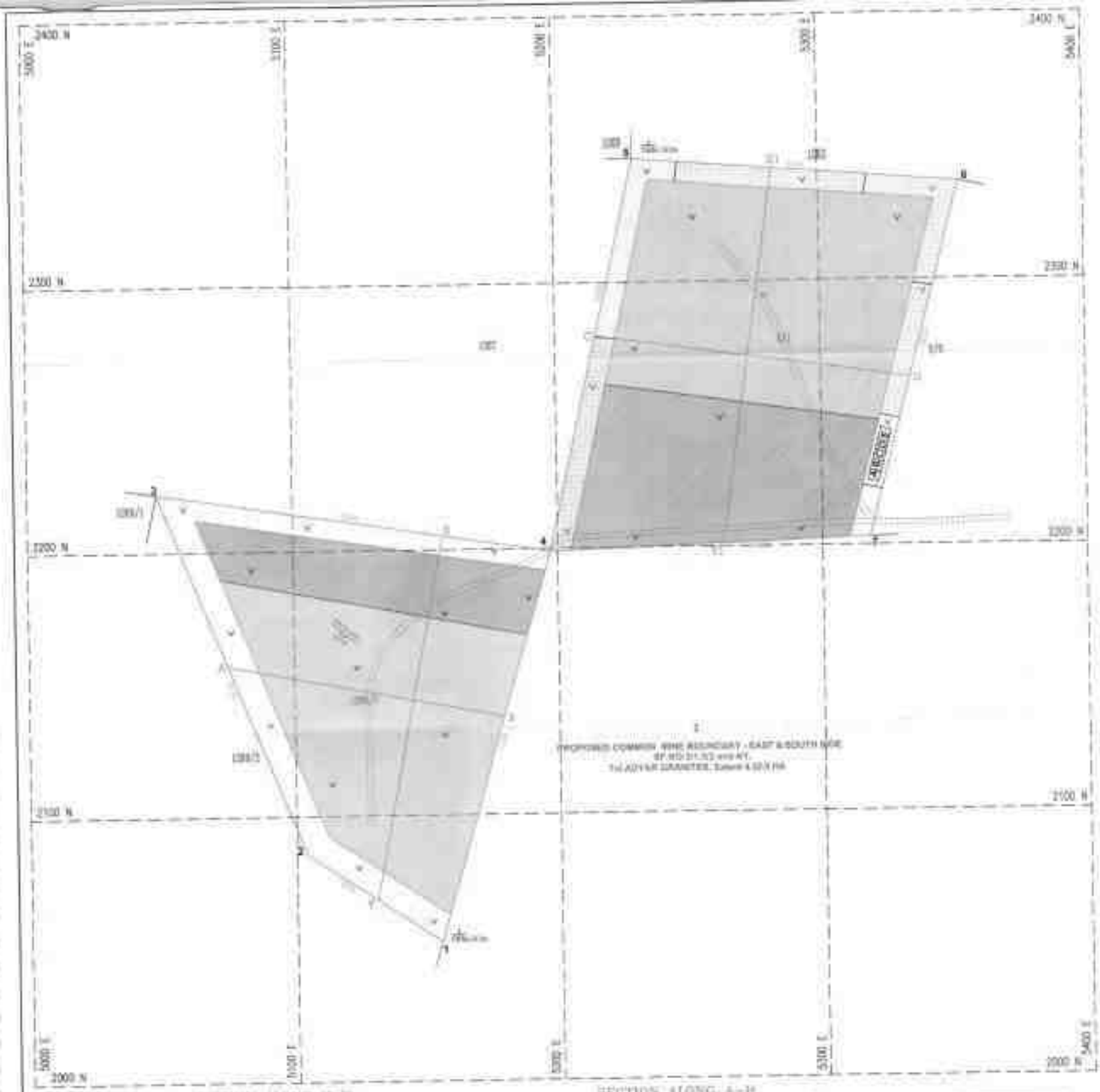


PLATE NO. III

DATE OF SURVEY : 12.07.2022

LESSEE :

M/s ADAYAR GRANITES,
REG.No.10/113-2.93C COMPLEX,
LAKKADI, PERUNAY POST,
CHANGANACHERRY, KOTTAYAM,
KERALA 686 102.

LOCATION OF Q.L. AREA:

LF.NO.	201/259/3.
EXTENT	3.13.50 HA.
VILLAGE	VIRALIPATTI.
TALUK	NATHAM.
DISTRICT	DINDIGUL.
STATE	TAMIL NADU.

INDEX

QUARRY LEASE BOUNDARY

7.5m & 10m SAFETY DISTANCE

APPROACH ROAD

TEMPORARY BENCH MARK

TOP SOIL

WEATHERED ROCK

ROUGH STONE

QUARRY PIT

QUARRY ROAD

TREES & SHRUBS

I - IV PLANTATION

I - IV EXCAVATION

SECTION ALONG X-Y

SECTION ALONG A-B

SECTION ALONG XI-XII

SECTION ALONG C-D

TOPOGRAPHY, GEOLOGICAL FEATURES, DEVELOPMENT & PRODUCTION PLAN & SECTIONS FOR FIRST FIVE YEAR AS PER COMMON MINE BOUNDARY

SCALE 1:1000

PREPARED BY:

158A

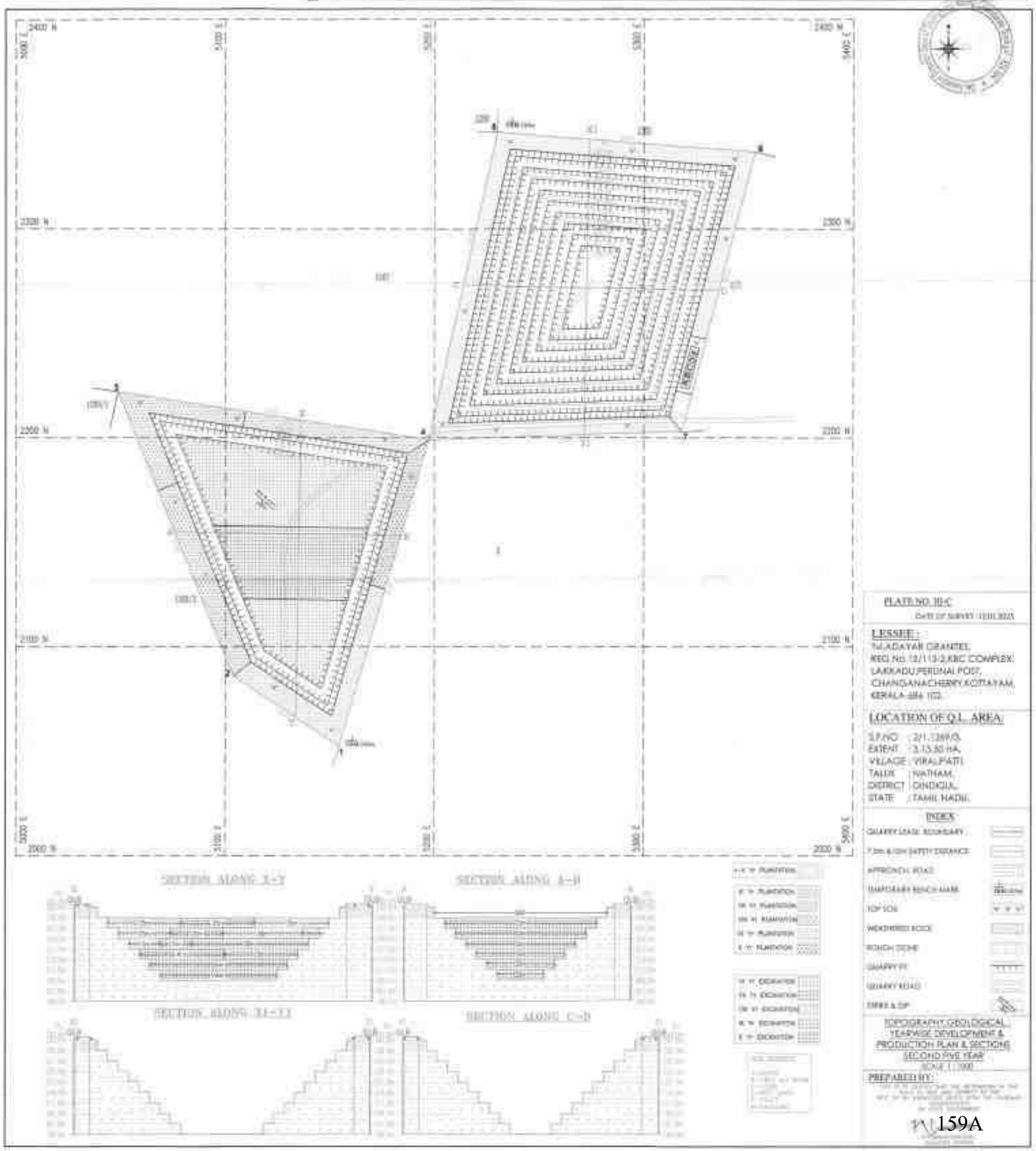


PLATE NO. III-C

DATE OF SURVEY : 12.01.2025

LESSEE :

M/s.ADAYAR GRANITES,
REG. No. 13/113/2,KBC COMPLEX,
LAKKADU PERUMAL POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO : 2/1, 1289/3,
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI
TALUK : NATHAM,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE BOUNDARY

7.5m & 10m SAFETY DISTANCE

APPROACH ROAD

BENCH SLOPE

TOP SOIL

WEATHERED ROCK

BENCH DEPTH

QUARRY PIT

QUARRY ROAD

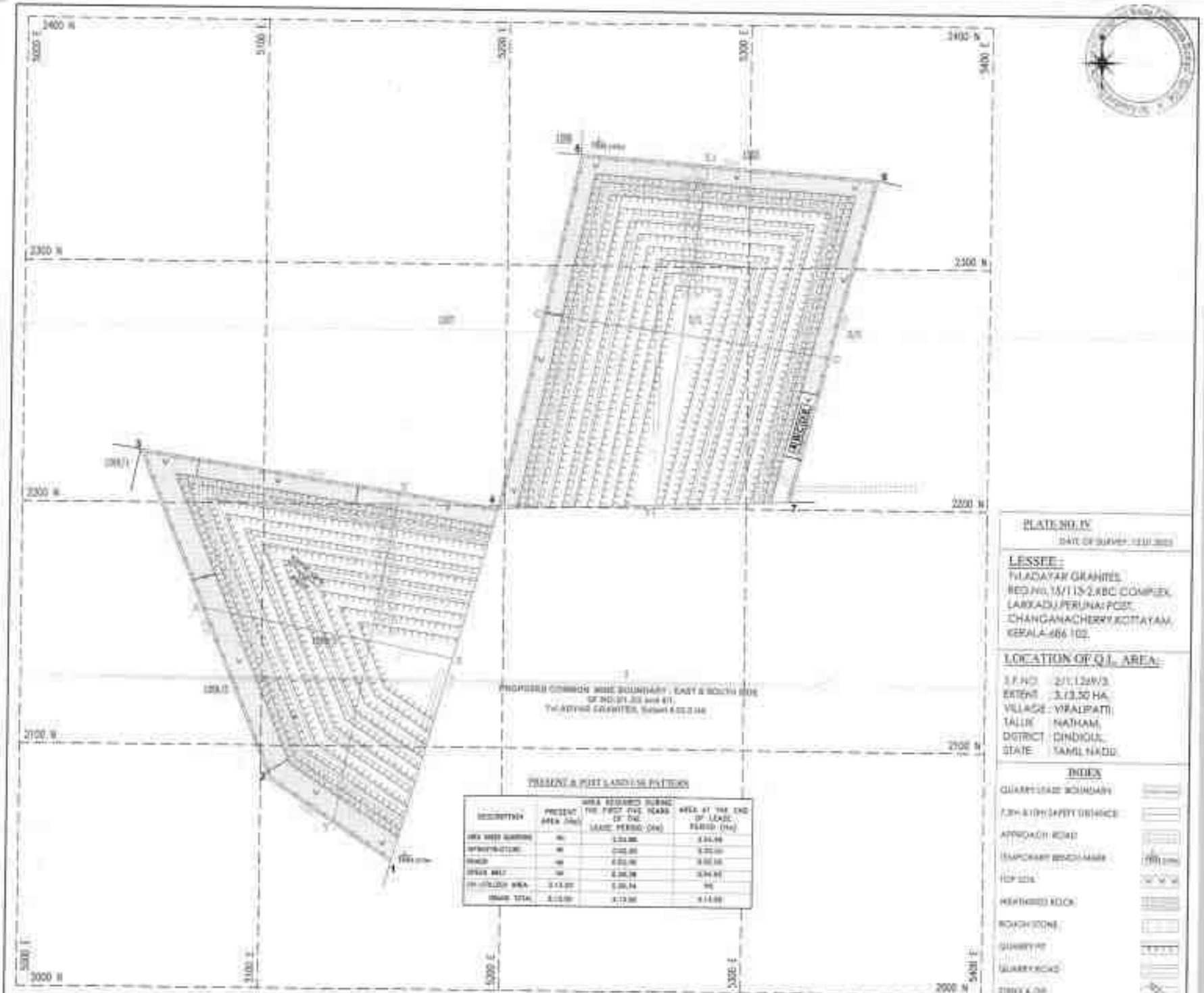
STRIKE & DIP

TOPOGRAPHY, GEOLOGICAL, YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS SECOND FIVE YEAR

SCALE 1:1000

PREPARED BY:

159A



DESCRIPTION	PRESENT AREA (Ha)	AREA REQUIRED DURING THE FIRST FIVE YEARS OF THE LEASE PERIOD (Ha)	AREA AT THE END OF LEASE PERIOD (Ha)
AREA UNDER QUARRYING	Nil	1.54.00	3.34.00
INFRASTRUCTURE	Nil	0.05.00	0.05.00
ROADS	Nil	0.03.00	0.03.00
OPEN AREA	Nil	0.30.00	0.04.00
UN-UTILIZED AREA	3.13.00	0.26.00	Nil
GRAND TOTAL	3.13.00	3.13.00	3.13.00

SECTION ALONG X-Y

SECTION ALONG A-B

SECTION ALONG X1-Y1

SECTION ALONG C-D

PLATE NO.IV

DATE OF SURVEY: 13.01.2023

LESSEE :
TM.ADAYAR GRANITES,
REG.No.18/113/2,KBC COMPLEX,
LARKADU PERUNAI POST,
CHANGANACHERRY,KOTTAYAM,
KERALA-686 102.

LOCATION OF Q.L. AREA:

S.F.NO. : 2/1,12/3
EXTENT : 3.13.50 HA.
VILLAGE : VIRALIPATTI
TALUK : NATHAM,
DISTRICT : DINDIGUL
STATE : TAMILNADU

INDEX

QUARRY LEASE BOUNDARY
7.5M & 10M SAFETY DISTANCE
APPROACH ROAD
TEMPORARY BENCH MARK
TOP SOIL
WEATHERED ROCK
ROUGH STONE
QUARRY PIT
QUARRY ROAD
DRAG & DIP
TREES
DISTRICT LAND FORM
OGL SURFACE LEVEL
PROPOSED SURFACE LEVEL
RAIN WATER STORAGE
REHABILITATED LAND FORM
FENCING
PROPOSED GARLAND DRAIN

PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS AS PER COMMON MINE BOUNDARY

SCALE 1 : 1000

PREPARED BY :

160A

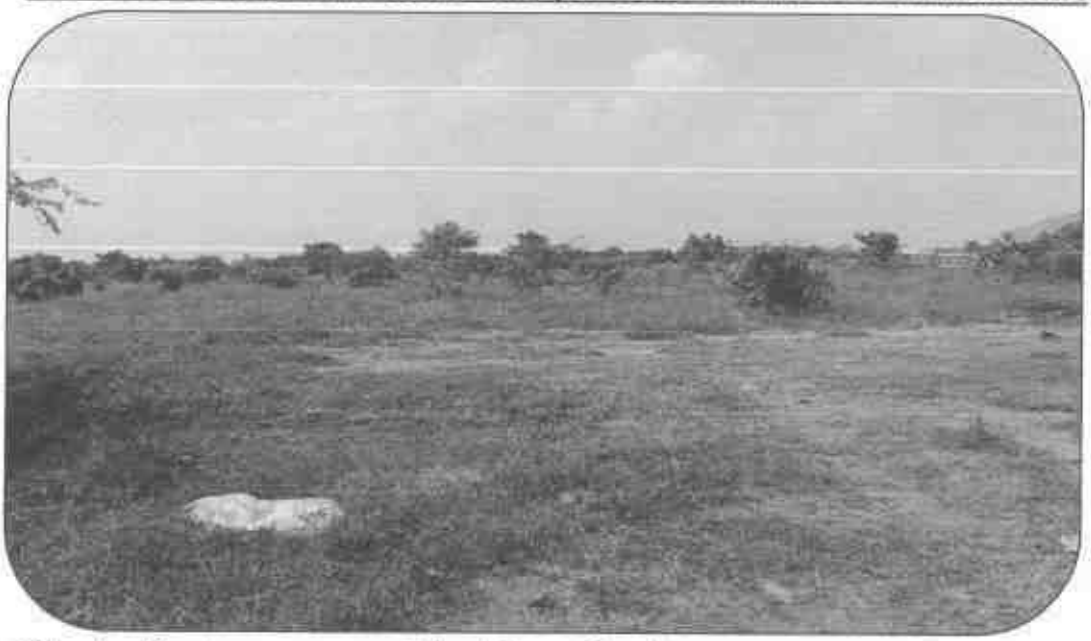
தான்று

திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம் புல எண்கள் 8/1, 1269/3 (3.13.50 Ha) கல் அமைய உள்ள Mr. Saju M.C., Adayal Granites-ல் அமைந்து உள்ள 300 மீட்டர் சுற்றளவிற்குள் கிராம நத்தமோ, வீடோ, குளியோ, தேவாலயமோ, வழிப்பாட்டு தளங்களோ, பள்ளிக் கூடங்களோ, ஆறுகள், அரசு கட்டிடங்களோ இல்லை என்பதை புலத்தணிக்கையின் முலம் அறிந்து சான்றளிக்கப்படுகிறது.

20/01/2025

வருவாய் நிருவாக அலுவலர்
விராலிப்பட்டி
சுற்றுவட்டாரப்பட்டி குழு
நிலக்கோட்டை வட்டம்

TOPOGRAPHICAL VIEW OF VIRALIPATTI
ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA



Name of the Applicant	:	**M/s. Adayar Granites,**
		Thiru. M.C. Saju, Managing Partner,
Address	:	No. 15/113-2, KPC Complex,
		Perunai Post, Changanacherry,
		Kottayam District,
		Kerala State – 686 102.

Location:

S.F.Nos.	:	2/1 and 1269/3
Extent	:	3.13.50 Ha
Village	:	Viralipatti
Taluk	:	Nilakkottai
District	:	Dindigul

Signature of the applicant
For M/s. Adayar Granites,

(M.C. Saju)
(Managing Partner)

20/01/2025
(Village Administrative Officer)

GST No : 33AAKFJO215G1ZV

LIC No : E51889
LIC No : E42551

J.SATHISHKUMAR

M/S.J.P & Co, Explosives Dealer, 12/4/1C1, George Puram,
NILAKOTTAI Post - 624208, Dindigal (Dt)

To:

Thiru.M.C.Saju Managing Partner,
Adayar Granites,
No.15/113-2 KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Date : .....

Ref: Your Letter dated
Sub: Regarding blasting work using explosives in your proposed quarry.

Sir,

We are having explosives licence in From 22 holding No: E/SC/TN/22/537 (E51889) situated in survey S.F.No.12/4/1C1, George purarm, Nilakottai Post - 624208, Dindigul District.

We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our work site and well experienced and licenced blasters and shot firer for safe Blasting work since 2 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.2/1 and 1269/3 (3.13.50 Ha) P.Viralipatti Village, Nilakottai Taluk, Dindigul District - 624202.

Thanking You,

Enclosure:

1. Licence Copy

For J.Sathishkumar
J.P & Co Explosives

(Proprietor)

अनुज्ञप्ति प्ररूप एल. ई.-3 / LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(iii) देखिए)

(See article 3(iii) read with Part 1 of Schedule IV of Explosives Rules, 2008)

(क) उपाबंध के लिए एक समय पर की 1,2,3,4,5 या की 6 के विस्फोटक या किसी मैगजीन में की 6 के विस्फोटक रखने के लिए अनुज्ञप्ति

Licence to possess : (a) for not explosives of class 1, 2,3,4,5 or 6 in a magazine

अनुज्ञप्ति सं. (Licence No.) : E/NC /TN/22/537(L51889)

वार्षिक फीस रुपए / Annual Fee Rs. 5000/-

1. Licence is hereby granted to

J.SATHISH KUMAR,S/o R.JAYAPRAKASH,M/s.J.P.& Co. (अधिभोगी / Occupier : J. Sathishkumar) 12/1A, -
1,Georgepuram Nilakottai Dindigul-624208., Town/Village - Nilakottai, District-DINDIGUL, State-Tamil Nadu, Pincode - 624208

को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रास्थिति / Status of licensee : **Individual**

3. अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है। — possess for use of **Nitrate Mixture, Safety Fuse, Detonating Fuse, Electric and/or Ordinary Detonators,** के उपयोग के लिए

Licence is valid only for the following purpose

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।

Licence is valid for the following kinds and quantity of explosives : — (देखें (a))

क्र. Sr. No	नाम और विवरण Name and Description	वर्ग और प्रकार Class & Division	उप प्रकार Subdivision	मात्रा किसी एक समय में Quantity at any one time
1	Nitrate Mixture	7.0	0	600 Kgs
2	Safety Fuse	6.1	0	25000 Mtrs
3	Detonating Fuse	6.2	0	10000 Mtrs
4	Electric and/or Ordinary Detonators	6.3	0	10000 Nos

(ख) किसी एक कलेंडर मास में खरीद जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(iii) और (vi) के अधीन अनुज्ञप्ति के लिए) — 20 times as above

(b) Quantity of explosives to be purchased in a calendar month(applicable for licence under article 3(iii) and (vi)

5. निम्नलिखित रेखांकन (रेखांकनों) से अनुज्ञप्त परिसर की पुष्टि होती है। — रेखांकन सं. (Drawing No.) : 1(SC/TN/22/537(L51889)

The licensed premises shall conform to the following drawing(s) — दिनांक (Dated) 20/06/2010

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address:

Survey No. 5/2 , ग्राम / Town/Village) : **VezhaiNaickenpatti** पुलिस थाना (Police Station) : **Nilakottai**

जिला (District)	**DINDIGUL**	राज्य (State)	**Tamil Nadu**	पिन कोड (Pincode)	**624208**
दूरभाष (Phone)	**9842161763**	ई मेल (E-Mail)		फैक्स (Fax)	

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं। — **One Explosives Magazine, Lobby & Detonator Annexe**

The licensed premises consist of following facilities

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उसके अधीन बनाए गए विस्फोटक नियम, 2008 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित अनुबंधों के अधीन रहते हुए अनुदत्त की जाती है।

The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2008 framed there under and the conditions additional conditions and the following Annexures.

1. उपर्युक्त क्रम सं. 5 में यथा वर्णित रेखांकन (स्थान, संनिर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।
Drawings (showing site, constructional and other details) as stated in serial No. 5 above
2. अनुज्ञप्ति प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञप्ति की शर्तें और अतिरिक्त शर्तें।
Conditions and Additional Conditions of this licence signed by the licensing authority
3. दूरी प्ररूप DE-2 / Distance Form DE-2

9. यह अनुज्ञप्ति तारीख **31 मार्च 2015** तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2015.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन बनाए नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट शेड-VIII के अधीन तथा उपाबंधित इस अनुज्ञप्ति की शर्तों का अभिपालन करने पर और अनुज्ञप्त परिसर यथास्थान पर उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहृत की जा सकती है, जहां वह लागू हो।

This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Sch VIII wherever applicable, referred to as Part 4 of Schedule V as if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto

Sd/-

तारीख / The Date - 30/06/2010 — संयुक्त मुख्य विस्फोटक नियंत्रक / **Joint Chief Controller of Explosives South Circle, Chennai**

Amendments :

- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 04/08/2010
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 05/11/2014

नवीनीकरण के पृष्ठांकन के लिए स्थान।

Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुज्ञप्ति प्राधिकारी के हस्ताक्षर और मुद्रांक Signature of licensing authority and stamp
24/03/2023	31/03/2028	Jt. Chief Controller of Explosives, South Circle, Chennai

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।

Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

Note :- This is system generated document does not require physical signature. Applicant may take printout for their records.

Digitally signed by MANMEET SINGH CHADHA
Reason: License No. : E/NC/TN/22/537
Location: Chennai [E53100]
Date:2023.03.24 01:21:26 +05:30

File No: 11767
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), TAMIL NADU)
***

Dated **07/04/2025**

To,

Thiru.Saju MC
TVL.ADYAR GRANITES
Viralipatti Nilakkottai, Changanacherry, KOTTAYAM, KERALA, , 624202
arockiasamys1981@gmail.com

Subject: Grant of Terms of Reference with Public Hearing (ToR) under the provision of the EIA Notification 2006-as amended regarding.

Sir/Madam,

SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for Proposed Rough Stone and Gravel quarry lease over an extent 3.95.0Ha at S.F.Nos.4/2, 1274/1 and 1274/2, Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu by Tvl. Adayar Granites – 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/520970/2025, Dated: 29/01/2025.
2. Your application submitted for Terms of Reference dated: 29.01.2025 .
3. Minutes of the 538th meeting of SEAC held on 01.03.2025.
4. Minutes of the 804th authority meeting held on 01.04.2025.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO25B0108TN5628642N
(ii) File No.	11767
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Tvl. Adayar Granites, Rough Stone and Gravel Quarry, Extent: 3.95.0ha, S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District.
(viii) Name of Company/Organization	TVL.ADYAR GRANITES

(ix) Location of Project (District, State)	DINDIGUL, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

1.In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2.The above-mentioned proposal has been considered by SEIAA in the meeting held on 01.04.2025 The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3.The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4.The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal Tvl. Adayar Granites under the provisions of EIA Notification, 2006 and as amended thereof.
5.The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6.The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7.This issues with the approval of the Competent Authority.
8.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.

Copy To

1. The Principal 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 Chairperson, 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, **Dindigul** District.
7. Stock File.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seac Conditions - Site Specific

S. No	Terms of Reference
1.1	1. **A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in**

S. No	Terms of Reference
	the cluster through systematic & scientific approach with appointment of required statutory personnel, appropriate environmental management, system of maintaining the haul roads and village/panchayat roads, authorized blasting operation, Monitoring system of the environmental & other statutory compliances & its reporting methodology, etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: **(i) Copy of the agreement forming CMC.** **(ii) The Organisation chart of the Committee with defining the role of the members** **(iii) The 'Standard Operating Procedures' (SoP) executing the planned activities**. 2. The PP shall enumerate the tress available at the proposed quarry site. 3. The PP shall ensure the installation of CCTV at the proposed quarry site and ensure its inclusion during the EIA presentation. 4. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.

2. Seac Standard Conditions

S. No	Terms of Reference
2.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report. 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

S. No	Terms of Reference
	Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC. 8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level. 9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent. 10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site. 11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences. 12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines, 13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? 14. Quantity of minerals mined out. · Highest production achieved in any one year · Detail of approved depth of mining. · Actual depth of the mining achieved earlier. · Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters

S. No	Terms of Reference
	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. 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.

S. No	Terms of Reference
	37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. 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.

3. Seiaa Standard Conditions:

S. No	Terms of Reference
3.1	**<u>Cluster Management Committee</u>** 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. 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 & emergency management plan, fire safety & evacuation plan and sustainable development goals 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 in the EIA Report. 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 deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. **<u>Agriculture & Agro-Biodiversity</u>** 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area

S. No	Terms of Reference
	and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. **Forests** 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. **Water Environment** 19. 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. 20. Erosion Control measures. 21. 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. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. 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. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress. c) Sediment geochemistry in the surface streams. **Energy** 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. **Climate Change** 29. 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. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical &

S. No	Terms of Reference
	biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. **Mine Closure Plan** 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. **EMP** 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. 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** 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. **Disaster Management Plan** 36. 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** 37. 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. 38. 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. 39. 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.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	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
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee

S. No	Terms of Reference
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould 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)
1.5	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
1.6	Details about the land proposed for mining activities should be givenwith 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
1.7	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
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study rea 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
1.10	Land use of the study rea 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
1.11	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
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees
1.13	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

S. No	Terms of Reference
1.14	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
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.16	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
1.17	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 Wildlifeand copy furnished
1.18	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 alongwith 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
1.19	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 Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	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)
1.21	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
1.22	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-

S. No	Terms of Reference
	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
1.23	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
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	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
1.27	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
1.28	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 State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	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
1.30	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
1.31	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
1.32	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

S. No	Terms of Reference
	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
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.34	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
1.35	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
1.36	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
1.37	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
1.38	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
1.39	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
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	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
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) 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. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for

S. No	Terms of Reference
	environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF 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. g) 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. h) 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. i) 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

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e-Compliance
e-Payments
e-Processing
DSS
CPC GREEN
Nature Protects if She is Protected

SEIAA SPECIFIC CONDITIONS::

The subject was placed in 804th authority meeting held on 01.04.2025. The authority noted that the subject was placed in the 538th SEAC meeting held on 01.03.2025. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing for the quantity of 4,53,280m^3 of rough stone & 46,505m^3 of gravel upto the depth of 51.5m BGL** as per the approved mining plan, 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 & the conditions mentioned in Annexure of this minutes.

A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
4) All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the

EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker

sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect

groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The

project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides the above, the below mentioned general points are also to be followed:-

    a) Executive Summary of the EIA/EMP Report

    b) All documents to be properly referenced with index and continuous page numbering.

    c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

    d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

    e) Where the documents provided are in a language other than English, an English translation should be provided.

f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

In addition to the above, the following shall be furnished:-

The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.

7. Details of village map, “A” register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be 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
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.

27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

Besides the above, the below mentioned general points should also be followed:-

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
b. All documents may be properly referenced with index, page numbers and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -l1013/77/2004-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.

Signature Not Verified

Digitally Signed by : A R Rahul Nadh IAS
Member Secretary, SEIAA

Date: 07/04/2025

187A

From

Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Dindigul.

To

Tvl.Adayar Granites.,
Managing Partner,
Thiru.Saju M.C.,
No:15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Roc.No:259/Mines/2024, Dated: 22.01.2025.

Sir,

Sub: Mines and Minerals - Minor Mineral – Rough Stone - Dindigul District – Nilakottai Taluk – Viralipatty Village – Patta Land - S.F.Nos: 4/2, 1274/1 & 1274/2 Extent 3.95.00 Hectares – Quarry lease application preferred by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel - Approval of Mining Plan - Regarding.

Ref:

1. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State dated: 16.09.2024.
2. The Assistant Director, Geology and Mining, Dindigul Rc.No.259/Mines/2024, Dated: 11.01.2025.
3. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State letter Dated: 21.01.2025 along with Mining Plans.

******

Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 3.95.00 Hectares of Patta Land in S.F.Nos: 4/2, 1274/1 & 1274/2 of Viralipatty Village, Nilakottai Taluk in Dindigul District for a period of 10 Years Under Rule 19 (1), 20 of Tamil Nadu Minor Mineral Concession Rules 1959.

2) The application was examined and consented to grant lease to quarrying Rough Stone and Gravel over an extent of 3.95.00 Hectares of Patta Land in S.F.Nos: 4/2, 1274/1 & 1274/2 for a period of 10 years subject to produce Mining Plan for approval and to obtain Environment Clearance from SEIAA in the reference 2nd cited.

3) The applicant has submitted the Mining Plan, prepared as per guidelines issued by the Commissioner of Geology and Mining and as per Rules and Acts inforce. The Geological and Mineable reserves are discussed in Table 3, 4 and 4-A (Plate No:III, III-A, IV and IV-A) of the Mining Plan. The same as been examined in accordance with Act and Rules inforce and found correct.

4) As per Mining Plan year wise production proposed for each five year is given below.

Year wise production including common boundary for the first five years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
1st year	94150	32218
2nd year	138870	43920
3rd year	59900	61370
4th year	59400	23800
5th year	59400	23800
Grand Total	**411720**	**185108**

Year wise production including common boundary for the Second five years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
6th year	56430	22610
7th year	54600	-
8th year	56700	-
9th year	55080	-
10th year	55080	-
Grand Total	**277890**	**22610**

Year wise production excluding common boundary for the First Five Years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
1st year	49220	31916
2nd year	91325	74212
3rd year	47450	31802
4th year	41475	8925
5th year	46825	8925
Grand Total	**276295**	**155780**

Year wise production excluding common boundary for the Second Five Years.

Year	Rough Stone (in Cbm)	Gravel / Weathered Rock (in Cbm)
6th year	37260	7140
7th year	37260	7140
8th year	34155	6545
9th year	34155	6545
10th year	34155	6545
Grand Total	**176985**	**33915**

5) In view of the above, in exercise of the powers delegated under Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959, I hereby approve the Mining Plan submitted by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel over an extent of 3.95.00 Hectares of Patta Land in S.F.Nos: 4/2, 1274/1 & 1274/2 of Viralipatty Village, Nilakottai Taluk & Dindigul District for a period of 10 years to obtain Environment Clearance from SEIAA, Chennai subject to the following conditions:

1. The Mining Plan is approved without prejudice to any other law applicable to the quarry permission from time to time where such Laws are made by the State Government or any other authority.

2. This approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Tamil Nadu Minor Mineral Concession Rules, 1959.
3. The Mining Plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
4. The approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Amendment Act, 2015 or any other connected Laws including, Environment Protection Act, 1986, and the Rules made there under in Tamil Nadu Minor Mineral Concession Rules, 1959.

Special Condition

- Only after obtaining appropriate permission for common boundary from the Directorate General of Mines Safety under Regulation 111 (3) of the Metalliferous Mines Regulations, 1961 the lessee shall work in the areas of common boundary between the rough stone and Gravel quarry over an extent of 4.52.00 Hects. of Patta lands in S.F.Nos: 3/1, 3/2 and 4/1 of Viralipatty Village situated on the northeastern side of this lease applied area belong to the applicant Tvl.Adayar Granites. No quarry works shall be extended into the common boundary unless permission for this effect is obtained from the Directorate General of Mines Safety and submitted the same to the Assistant Director, Department of Geology and Mining, Dindigul.

Encl: Two copies of Mining Plan.

Assistant Director,
Geology and Mining,
Dindigul.

Copy to:
The Member Secretary,
State Level Environmental Impact
Assessment Authority, PanagalMaligai,
No. I Jeenis Road, Saidapet, Chennai-15.

From

Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Dindigul.

To

Tvl.Adayar Granites.,
Managing Partner,
Thiru.Saju M.C.,
No:15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Roc.No:259/Mines/2024, Dated: 22.01.2025.

Sir,

Sub: Mines and Minerals - Minor Mineral – Rough Stone - Dindigul District – Nilakottai Taluk – Viralipatty Village – Patta Land - S.F.Nos: 4/2, 1274/1 & 1274/2 Extent 3.95.00 Hectares – Quarry lease application preferred by Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C for quarrying Rough Stone and Gravel - Details of quarries in 500 meter radius – Regarding.

Ref: 1. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State dated: 16.09.2024.

2. The Assistant Director, Geology and Mining, Dindigul Rc.No.259/Mines/2024, Dated: 11.01.2025.

3. Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C Changanacherry, Kottayam Kerala State letter Dated: 21.01.2025 along with Mining Plans.

******

Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 3.95.00 Hectares of Patta Land in S.F.Nos: 4/2, 1274/1 & 1274/2 of Viralipatty Village, Nilakottai Taluk in Dindigul District for a period of 10 Years Under Rule 19 (1), 20 of Tamil Nadu Minor Mineral Concession Rules 1959.

2) Tvl.Adayar Granites, Managing Partner, Thiru.Saju M.C in the reference 3rd cited has requested to furnish details of quarries situated within 500 m radial distance from the applied area.

3) As per his request the details of quarry situated within 500m radius from the proposed area is furnished below for obtaining Environment Clearance.

Details of quarries situated within 500 m radial distance from the area applied for lease

S. No	Quarry detail	Village	S.F. No.& Extent (Hect)	Proceedings No. & Lease Period
I	**Existing Quarries:**			
	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State – 686 102	Viralipatty	S.F.Nos: 3/1, 3/2 and 4/1 **(4.52.00)**	Rc.No.169/2021 (Mines) Dated: 25.07.2023 10 Years (25.07.2023 to 24.07.2033)
II	**Abandoned Quarry: Nil**			
III	**Present Proposed Quarry:**			
1.	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State – 686 102	Viralipatty	S.F.Nos: 4/2, 1274/1 & 1274/2 **(3.95.00)**	Memo in Rc.No:259/2024/Mines Dated:11.01.2025
2.	Tvl.Adayar Granites., Managing Partner, Thiru.Saju M.C., No:15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State – 686 102	Viralipatty	S.F.Nos: 2/1 and 1269/3 **(3.13.50)**	Memo in Rc.No:260/2024/Mines Dated:11.01.2025

Assistant Director,
Geology and Mining,
Dindigul.

Copy to:
The Member Secretary,
State Level Environmental Impact
Assessment Authority, PanagalMaligai, No. I Jeenis Road,
Saidapet, Chennai-15.

Dept.of Geology and Mining Collectorate,Dindigul - 624 004
O/o Assistant Director

MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

Patta Land/ Lease period = Ten years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT	: 3.95.0 Ha
S.F.Nos.	: 4/2, 1274/1 and 1274/2
VILLAGE	: VIRALIPATTI
TALUK	: NILAKKOTTAI
DISTRICT	: DINDIGUL
STATE	: TAMIL NADU

FOR

APPLICANT

TVL. ADAYAR GRANITES.,
Managing Partner Thiru. Saju M.C.,
No. 15/113-2, KBC Complex, Laikkadu, Perunai Post,
Changanacherry,
Kottayam,
Kerala State– 686 102.

PREPARED BY

B. VENGADAGIRI, M.Sc.,
Qualified Person (As per Rule 15(I)(a) and (I)(b) of MCR, 2016)
No.105, 5th Cross,
Alagapuram,
Salem District,
Tamil Nadu – 636 010
Mobile No.: +91 86953 32233.
Email ID: vengatb6@gmail.com

ABBREVIATIONS

- EIA - Environment Impact Assessment.
- EMP - Environment Management Plan.
- SEIAA - State Level Environment Impact Assessment Authority.
- SEAC - State Expert Appraisal Committee
- MoEF&CC - Ministry of Environment, Forest and Climate changes.
- CPCB - Central Pollution control board.
- TNPCB - Tamil Nadu Pollution control board.
- DMS - Director of Mines Safety.
- DGMS - Director of General Mines Safety.
- CRZ - Coastal Regulatory Zone.
- HACA - Hill Area Conservation Authority.
- S.F.No. - Survey Field Number.
- MMR - Metalliferous Mines Regulations.
- MCR - Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules.
- TNMMCR - Tamil Nadu Minor Mineral Concession Rules.
- NONEL - Non-Electric.
- PPV - Peak Particle Velocity.
- DGPS - Differential Global Positioning System.
- QP - Qualified Person.
- MSL - Mean Sea Level
- BGL - Below Ground Level
- PHC - Primary Health Center
- Govt. - Government
- WRD - Water Resource Department
- R.L. - Reduced Level

Tvl. Adayar Granites,
Managing partner Thiru. Saju M.C.,
No. 15/113-2, KBC Complex, Laikkadu, Perunai Post,
Changanacherry,
Kottayam,
Kerala State– 686 102.

O/o Assistant Director Dept.of Geology and Mining Collectorate Dindigul - 624 004

CONSENT LETTER FROM THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared by

B. VENGADAGIRI, M.Sc.,
Qualified Person

I have entrusted the works to prepare this Mining Plan based upon the production requirements to meet as per the Mines Acts, Rules, Regulations and Amendments as on date. I request to the Assistant Director, Department of Geology and Mining, Dindigul District, Tamil Nadu State to make further correspondence regarding the corrections of the Mining Plan with the said Qualified Person at his following address.

B. VENGADAGIRI, M.Sc.,
No.105, 5th Cross,
Alagapuram,
Salem District,
Tamil Nadu – 636 010
Mobile No.: +91 86953 32233.

I hereby undertake that all the responsibilities of contents in the Mining Plan and if any corrections made in the Mining Plan by the Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects. If there is any substantial change during operation, I will carry out a Modified Mining plan and seek its approval from concerned Authorities.

Signature of the Applicant
For Tvl. Adayar Granites,

(Saju M.C.)
Managing partner

Place: Kottayam
Date: 12.01.2025

Tvl. Adayar Granites,
Managing partner Thiru. Saju M.C.,
No. 15/113-2, KBC Complex, Laikkadu, Perunai Post,
Changanacherry,
Kottayam,
Kerala State– 686 102.

Office of the Assistant Director of Geology and Mining Collectorate Dindigul - 624 005

DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to quarry from time to time as per Tamil Nadu Minor Mineral Concession Rules, 1959.

Signature of the Applicant
For Tvl. Adayar Granites,

(Saju M.C.)
Managing partner

Place: Kottayam
Date: 13.01.2025

Mining Plan Approved

ASSISTANT DIRECTOR
GEOLOGY AND MINING
DINDIGUL.

This Mining is approved based on guidelines Instructions Issued in the CGM, Letter No: 3888/LC/2012 dated 19-11-2012 and Incorporation of the particulars specified in the letter Roc.No 459/mines/2025 Dated 22/11/2025 of the Assistant Director Geology and Mining, Dindigul and subject to further Fulfillment of the conditions laid down under rule 41,42 of Tamil Nadu Minor Mineral Concession Rules 1959

Assistant Director of Geology & Mining
Dindigul

CERTIFICATE

Certified that I am, **B. VENGADAGIRI, M.Sc.,** residing at No.105, 5th Cross, Alagapuram, Salem District – 636 010, Mobile No.: +91 86953 32233 holding a Post Graduate Degree in Geology (M.Sc. Applied Geology) from Annamalai University, Chidambaram and I worked in the field of Mining in a role of Geologist.

Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 stipulates the eligibility for preparing Mining plans as "(I)(a) a degree in mining engineering or a post-graduate degree in geology granted by a university established" and (I)(b) "Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree". Since my qualification and experience are satisfied the Rule (I)(a) and (I)(b) of 15 of the said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly, I prepared this Mining Plan and Progressive Quarry Closure Plan in Respect of Viralipatti Rough Stone and Gravel Quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District for **Tvl. Adayar Granites**, Managing partner Thiru. Saju M.C. having a Registered office at No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State– 686 102. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

(B. VENGADAGIRI, M.Sc.,)

Place: Salem

Date: 13.01.2025

B. VENGADAGIRI, M.Sc.,
No.105, 5th Cross,
Alagapuram,
Salem District,
Tamil Nadu – 636 010
Mobile No.: +91 86953 32233.

O/o Assistant Director, Dept.of Geology and Mining Collectorate Dindigul - 624 004

CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of Prepared under Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959. The preparation of Mining Plan and Progressive Quarry Closure Plan for Viralipatti Rough Stone and Gravel Quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

Tvl. Adayar Granites,
Managing partner Thiru. Saju M.C.,
No. 15/113-2, KBC Complex, Laikkadu, Perunai Post,
Changanacherry,
Kottayam,
Kerala State– 686 102.

Whenever specific permissions / exemptions / relaxations and approvals are required, the applicant will approach the concerned authorities of the Assistant Director, Department of Geology and Mining, Dindigul District, Tamil Nadu State for such permissions / exemptions / relaxations and approvals.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

(B. VENGADAGIRI, M.Sc.,)

Place: Salem
Date: 13.01.2025

B. VENGADAGIRI, M.Sc.,
No.105, 5th Cross,
Alagapuram,
Salem District,
Tamil Nadu – 636 010
Mobile No.: +91 86953 32233.

O/o Assistant Director Dept.of Geology and Mining Collectorate Dindigul - 624 004

CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations or Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Viralipatti Rough Stone and Gravel Quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

Tvl. Adayar Granites,
Managing partner Thiru. Saju M.C.,
No. 15/113-2, KBC Complex, Laikkadu, Perunai Post,
Changanacherry,
Kottayam,
Kerala State– 686 102.

Whenever specific permissions / exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director of Mines Safety (DMS), No.5, II Street, Block–AA, Anna Nagar, Chennai-40, Tamil Nadu State for such permissions / exemptions / relaxations and approvals.

It is also certified that information furnished in the Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

(B. VENGADAGIRI, M.Sc.,)

Place: Salem

Date: 13.01.2025

Asstt. Director Dept. of Geology and Mining Collectorate Ongole

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MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY.

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

INTRODUCTION AND EXECUTIVE SUMMARY

The Company **Tvl. Adayar Granites**, Managing partner Thiru. Saju M.C. having a Registered office at No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State– 686 102 has entrust and given consent to preparation of Mining plan and Progressive Mine Closure Plan as per the provisions of Mines Act, Rules, Regulations and as amended till date.

The company has applied for Rough stone and Gravel quarry lease for over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District for the period of ten years under rule 19(1) and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was examined, Scrutinized, Inspected and processed by the Assistant Director, Department of Geology and Mining, Dindigul District and passed a precise area communication letter vide **R.C.No.259/Mines/2024, Dated: 11.01.2025** under rule 19(1) and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959 for submission of draft Mining plan and obtain approval and obtain Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu for quarrying Rough stone and Gravel for the period of ten years under Rules 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 with following conditions (Refer Annexure No. I):

General Conditions:

1. A safety distance of 7.5 meters should be provided to the adjacent patta lands.
2. The blasting should be carried out with low intense explosives by the competent qualified personnel and no hindrance shall be caused to the adjacent agriculture lands and Public.
3. Mining Plan and Environmental Clearance should be submitted before grant of the quarry lease.

Geology and Mining Collectorate Dindigul - 624 004 Dio Assistant Director

4. The applicant firm should ensure that all the quarry workers working under its control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.
5. Child labourers should not be engaged in the quarry works.
6. The quarried out minerals should be transported by covered with tarpaulin during transportation to prevent impact of public.

Special Conditions:

1. A safety distance of 10 meters should be provided to the Government Poramboke land in S.F.No. 1269/2 situated on the South and Western side of the applied area.

This Mining Plan along with Progressive quarry closure Plan is prepared in full Consent with **Tvl. Adayar Granites**, Managing partner Thiru. Saju M.C. having a Registered office at No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State– 686 102 in respect of Viralipatti Rough stone and Gravel quarry over an extent 3.95.0 Hectares of patta lands in S.F.Nos. 4/2, 1274/1 and 1274/2 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State under amended Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959 with obtained full consent as per the application and Production schedule in preparation of Mining plan as per the provisions of Mines Act, Rules, Regulations as on date.

The Mining plan has been prepared after carrying the field investigation, geological survey, collection of Primary & secondary data, geological attributes, environmental setting and estimated the Resources & Reserves, depth of mining as identified in the field with best our knowledge and experience without any geological exploration. The present mining plan is prepared by considering the Rule 41 & 42 as amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent amendments.

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal is require prior environmental clearance. As per amendment in EIA Notification 2006 vide S.O. 1886(E), Dated:20.04.2022 "All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal" would be treated as category B and will be considered by the state notified by Ministry of Environment, Forest and Climate Change as prescribed procedure under EIA notification 2006.

The field investigation was carried out by the Qualified Person and his Team as on 12.01.2025.

Short Notes of Mining plan:

a. Village Panchayat - Viralipatti

b. Panchayat Union - Viralipatti

c. Total extent of the lease applied area is 3.95.0Ha.

d. Topography of the area - Plain topography.

e. The Estimated Reserves and Resources are given table below:

The company intends to apply and obtain permission from Director of Mines Safety, Chennai Under Regulation 111 of Metalliferous Mines Regulations, 1961 for **Amalgamating the mine boundary with adjacent existing Rough stone quarry lease over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village situated on the Northeastern side of this lease applied area belongs to Tvl. Adyar Granites,** Kerala. This relaxation for amalgamating mine boundaries will be applied only after grant of this lease by the provisions under Regulation 111 of Metalliferous Mines Regulations, 1961 (Refer Plate No. III to IV). The mineral reserves locked up under safety distance and benches will be removed only after obtained permission and approval from the competent authority.

Hence, the reserves are estimated with two categories, one is proposed annexing mine boundary on the Northeastern side as requested by the applicant (Refer Plate No. III and IV) and another category is leaving the safety distance and Benches on all sides (Refer Plate No. III-A and IV-A). The Estimated Reserves and Resources are given table below:

Table – 1

Description			Rough stone (m^3)	Weathered rock (m^3)	Gravel (m^3)
Estimated Geological Resources			17,77,500	1,97,500	59,250
Tentative Mineable Reserves	As per proposed Common mine Boundary		6,89,610	1,57,805	49,913
	After leaving safety distance and Benches		4,53,280	1,43,190	46,505
Proposed production for Ten years lease period	As per Annexing mine Boundary	Proposal for 1st Five years	4,11,720	1,35,195	49,913
		Proposal for 2nd Five years	2,77,890	22,610	-
		Peak Production	1,38,870	33,390	31,620
	After leaving safety distance and Benches	Proposal for 1st Five years	2,76,295	1,09,275	46,505
		Proposal for 2nd Five years	1,76,985	33,915	-
		Peak Production	91,325	55,475	19,902

The EIA and EMP will be prepared for maximum proposed reserves and the Impact will be accounting an annual peak production value.

f. Proposed Depth of mining = 51.5m (Max) – BGL (R.L. 243m – R.L. 191.5m).

g. Lease Period = Ten Years.

h. Mining Plan Period = Five years

i. It is a fresh lease applied area. Hence, no existing pit within the applied area.

j. Method of mining / level of mechanization.

Opencast mechanized method, the quarry operation involves Wagon Drill machine and Hand Jack hammer is proposed to drilling and slurry blasting with NONEL initiation,

k. Type of machineries proposed in the quarrying operation is given below.

Excavators attached with 0.90m³ Bucket and rock breaker.

Wagon Drill machine – 100 - 110mm diameter drill,

Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity)

Trucks.

l. No trees will be uprooted due to this quarry operation.

m. The approach road from the main road to quarry is already existence; the same will be maintain in good condition for the haulage of quarry materials and machineries.

n. There is No Export of this Rough stone and Gravel.

o. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance and places of worships is marked and enclosed as Plate Nos. IA & IC.

p. The lease applied area is about 3.95.0Ha bounded by eleven corners; the corners are designated as 1 – 11 clock wise from the Southwestern side and Co-ordinates for all the corners are clearly marked in the Quarry Lease Plan and Surface Plan enclosed as Plate No. II.

q. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate No. III, to VI-A.

r. General conditions will not applicable for the proposed area. The area applied for lease is 10Km away from the,

i) Interstate Border

ii) Critically polluted areas as identified by CPCB,

iii) Protected area under wild life protection ACT, 1972,

iv) Notified Eco sensitive areas

s. There is no waste anticipated during this quarry operation. Hence, waste dump is not proposed in the lease applied area.

t. Around 34 employees are proposed to deploying the quarrying operation.

u. Total cost of the project is about **Rs. 4,10,22,000/-**.

1.0 GENERAL INFORMATION

1.1 Name of the Applicant with Address:

Name	:	**Tvl. Adayar Granites,** Managing partner Thiru. Saju M.C.,
Address	:	Reg. office No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam.
State with PIN Code	:	Kerala State – 686 102
Mobile No	:	+91 94473 91909, 98421 88331 and 88833 99994
Email ID	:	adayargranites@gmail.com
Aadhaar No	:	9699 3310 1800 (Refer Annexure No. X)

1.2 Status of the Applicant (Individual / Company / Firm):

The applicant is a Partnership firm and the partnership deed executed on 26.12.2023 with five partners under the Indian Partnership act, 1932. Thiru. Saju M.C. is the managing partner and he is an Authorized person for signing the documents on behalf of the firm (Refer Annexure No. IX).

1.3 Mineral which the Applicant intends to mine:

The Company intends to quarry Rough stone and Gravel.

1.4 Period of permission / lease to be granted:

Ten years as mentioned in Precise area Communication letter.

1.5 Name and address of the Qualified Person who preparing the Mining Plan:

Name	:	**B. VENGADAGIRI, M.Sc.,** Qualified Person (As per Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	No.105, 5th Cross, Alagapuram, Salem District,
State with PIN Code	:	Tamil Nadu – 636 010.
Mobile No.	:	+91 86953 32233
Email	:	vengatb6@gmail.com

(Refer Annexure Nos. XI and XI-A).

1.6 Name and Address of the Prospecting Agency:

State Geology and Mining Department, Government of Tamil Nadu, has carried out the regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed regional exploration studies and geological mapping in Tamil Nadu. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area and the Rough stone is clearly inferred from the adjacent existing quarry pit. No detailed Exploration has carried out.

1.7 Reference no. Date of grant/ Precise Area Communication received form the State Government:

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Dindigul District vide **R.C.No.259/Mines/2024, Dated: 11.01.2025** (Refer Annexure No. I) and was given to us for the preparation of mining plan to meet out the company's production schedule.

Deputy Director of Geology and Mining Collectorate Dindigul - 624 004

2.0 LOCATION AND ACCESSIBILITY:

2.1. Details of the area with location map:

The lease applied area is located about 36m Southwest side of Dindigul town, 17km Southwest side of Nilakkottai town and 2.5km Northeast side of Viralipatti hamlets.

	26km		15km		2.5km	
Dindigul	⟶	Nilakkottai	⟶	Viralipatti	⟶	Lease applied area
	Southwest		Southwest		Northeast	

Location Map of the Lease Applied area

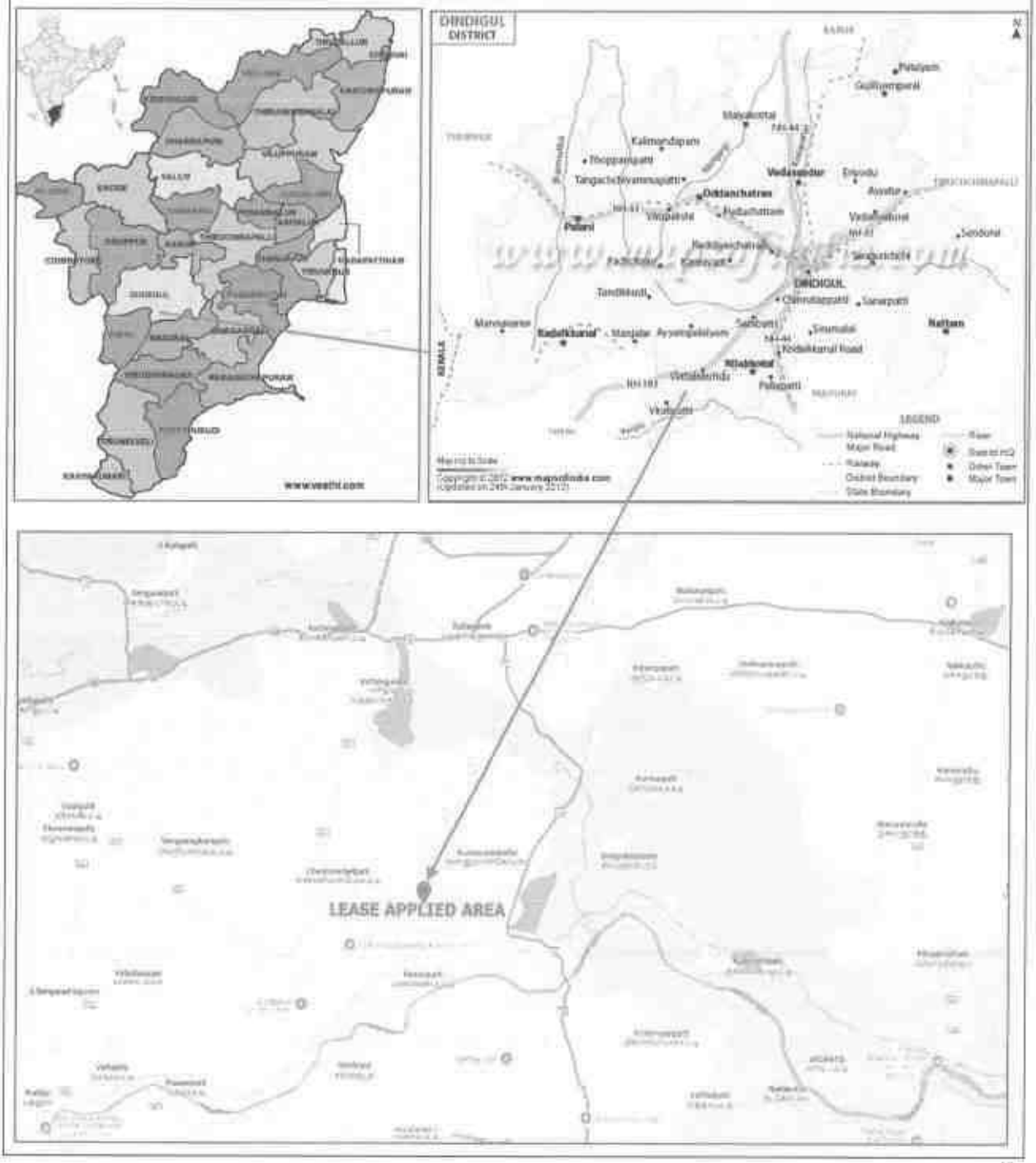

Table – 2

District	Taluk	Village	S.F. No.	Area (Ha.)	Patta no.
Tiruvannamalai	Vembakkam	Sithalapakkam	4/2	0.69.5	5265
			1274/1	1.68.5	
			1274/2	1.57.0	
			Total	**3.95.0**	

Source: As per the FMB and 'A' register record furnished by the applicant.

2.2. Classification of the area (Ryotwari/ Poramboke / others):

It is a patta lands (classified as punsei).

2.3. Ownership / Occupancy of the applied area (surface right):

It is patta lands, registered in the name of M/s. Mirones Builders and Developers Private limited vide Patta No. 5265 (Refer Annexure No. IV to VI). The company has obtained consent from the pattadar for the period of fifteen years from the date of 11.03.2021 to 10.03.2036 and duly registered in Sub registrar office, Vattalagundu vide document No. 1028/2021, Dated:11.03.2021 (Refer Annexure No. VII).

2.4. Existence of public road / Railway line, if any nearby and approximate distance:

The approach (Cart track) road is situated on the Eastern side, which is connects to the V.Kurumbapatti - Kunnuvarankottai Village road situated at 500m on the Northeastern side of the lease applied area.

Road access is available from the quarry to State Highway, no towns are enrooted hence the traffic density is not much more due to the transportation of Rough stone and Gravel.

The approach road from the quarry is already existence on the Northern side and the same has been utilized for haulage and maintained during the entire lease period.

The Nearest Railway line is Madurai - Theni which is located at 14.5km on the Southern side of the area as per the GSI Toposheet and Google Map.

2.5. Toposheet No. with latitude and longitude:

The lease applied area falls in the Toposheet No: **58F/12** and **58F/16** Latitude between: **10°06'57.4958"N to 10°07'08.2157"N** and Longitude between: **77°44'56.3163"E to 77°45'05.4135"E** on WGS datum-1984 as per the GSI Toposheet (Refer Plate Nos. I to II).

PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

3.1 Brief description of the Topography and general Geology of the area (with plans):

The lease applied area is situated in flat terrain. The gradient of the area is gentle towards Southern side and altitude of the area is 243m above from MSL. The area is covered by quaternary formation of gravel having an average thickness of 2m, 5m Weathered rock and followed by Massive Charnockite which is clearly inferred from the adjacent existing quarry pit.

The Water level in the surrounding area is 68m - 73m below from general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 931mm.

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with accumulation of recent quaternary formation. On regional scale of the Charnockite body is N45°E – S45°W with dipping towards SE65°.

The general geological sequences of the rocks in this area are given below:

AGE		FORMATION
Recent	-	Quaternary formation (Gravel)
---------Unconformity----------		
Archaean	-	Charnockite
		Peninsular Gneissic complex

3.2 Details of exploration already carried out if any:

State Geology and Mining Department, Govt. of Tamil Nadu, has carried out the regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Dindigul District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area without geological exploration. The Rough stone is clearly inferred from the adjacent existing quarry pit.

3.3 Estimation of Reserves:

a) Geological Resources with geological sections on a scale of 1:1000 / 1:2000

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally six sections have been drawn, three along the strike direction as (X-Y, X1-Y1 and X2-Y2) Length wise and other three cross sections are drawn perpendicular to strike as (A-B, C-D and E-F) Width wise to cover the maximum area considered for lease upto 51.5m depth below from the ground profile.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone and Gravel deposit has been prepared in the scale of 1:1000 (please refer the Geological plan and sections Plate No. III, III-A, IV and IV-A). As the sale of Rough stone and Gravel are in terms of cubic metres (Volume) only and not in terms of tonnage. No Exploration has been carried out.

Estimation of Geological Resources (Plate No. III, III-A, III-B and III-C):

The Geological Resources of Rough stone and Gravel are estimated upto a depth of 51.5m [1.5m Gravel + 5m Weathered rock + 45m Rough stone] (R.L. 243m - R.L. 191.5m) below from the ground profile (Refer Plate No. III). The Geological resources are estimated by area method and the total estimated geological resources are given table below:

Total area in Hectares = 3.95.0 Ha

Area in square meter/ Hectare = 10,000m^2

Total Area in square meter (3.95.0 Ha x 10,000m^2) = 39,500m^2

TABLE – 3

GEOLOGICAL RESOURCES – (Refer Plate No. III)					
Bench	**Area (m^2)**	**Depth (m)**	**Rough stone @ 100% Recovery (m^3)**	**Weathered Rock (m^3)**	**Gravel (m^3)**
I	39,500	1.5	-	-	59,250
II	39,500	5	-	1,97,500	-
III - XI	39,500	45	17,77,500	-	-

Estimated Geological Resources of Rough Stone : **17,77,500m^3**

Estimated Weathered rock : **1,97,500m^3**

Estimated Gravel : **59,250m^3**

Geological Resources has been estimated based on the physical observation and filed investigation data.

Tentative Mineable Reserves (Refer Plate No. III, III-A, IV and IV-A):

The company intends to apply and obtain permission from Director of Mines Safety, Chennai Under Regulation 111 of Metalliferous Mines Regulations, 1961 for **Amalgamating the mine boundary with adjacent existing Rough stone quarry lease over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village situated on the Northeastern side of this lease applied area belongs to Tvl. Adyar Granites,** Kerala. This relaxation for amalgamating mine boundaries will be applied only after grant of this lease by the provisions under Regulation 111 of Metalliferous Mines Regulations, 1961 (Refer Plate No. III and III-B). The mineral reserves locked up under safety distance and benches will be removed only after obtained permission and approval from the competent authority.

Hence, the mineral reserves are estimated with two categories, one is proposed annexing mine boundary on the Eastern side as requested by the applicant (Refer Plate No. III and III-B) and another category is leaving the safety distance and Benches on all sides (Refer Plate No. III-A and IIIC). The estimated reserves are given table below:

Asst. Director of Geology and Mining Collectorate Dindigul - 624 004

TABLE – 4

TENTATIVE MINEABLE RESERVE – AFTER LEAVING SAFETY DISTANCE AND BENCHES

Section	Bench	Length (m)	Width (m)	Depth (m)	Rough stone @ 100% Recovery (m^3)	Weathered Rock (m^3)	Gravel (m^3)
XY-AB	i	107	53	1.5	-	-	8507
	ii	105	49	5	-	25725	-
	iii	100	39	5	19500	-	-
	iv	95	29	5	13775	-	-
	v	90	19	5	8550	-	-
Total					**41825**	**25725**	**8507**
X1Y1-CD	i	162	124	1.5	-	-	30132
	ii	157	119	5	-	93415	-
	iii	147	109	5	80115	-	-
	iv	137	99	5	67815	-	-
	v	127	89	5	56515	-	-
	vi	117	79	5	46215	-	-
	vii	107	69	5	36915	-	-
	viii	97	59	5	28615	-	-
	ix	87	49	5	21315	-	-
	x	77	39	5	15015	-	-
	xi	67	29	5	9715	-	-
Total					**362235**	**93415**	**30132**
X2Y2-EF	i	69	76	1.5	-	-	7866
	ii	65	74	5	-	24050	-
	iii	54	69	5	18630	-	-
	iv	44	64	5	14080	-	-
	v	34	59	5	10030	-	-
	vi	24	54	5	6480	-	-
Total					**49220**	**24050**	**7866**
Grand Total					**453280**	**143190**	**46505**

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TABLE – 4A

TENTATIVE MINEABLE RESERVE AS PER PROPOSED COMMON MINE BOUNDARY

Section	Bench	Length (m)	Width (m)	Depth (m)	Rough stone @ 100% Recovery (m^3)	Weathered Rock (m^3)	Gravel (m^3)
XY-AB	i	108	65	1.5	-	-	10530
	ii	106	63	5	-	33390	-
	iii	101	58	5	29290	-	-
	iv	96	53	5	25440	-	-
	v	91	48	5	21840	-	-
	vi	86	43	5	18490	-	-
	vii	81	38	5	15390	-	-
	viii	76	33	5	12540	-	-
	ix	71	28	5	9940	-	-
	x	66	18	5	5940	-	-
Total					**138870**	**33390**	**10530**
X1Y1-CD	i	170	124	1.5	-	-	31620
	ii	168	119	5	-	99960	-
	iii	163	109	5	88835	-	-
	iv	158	99	5	78210	-	-
	v	153	89	5	68085	-	-
	vi	148	79	5	58460	-	-
	vii	143	69	5	49335	-	-
	viii	138	59	5	40710	-	-
	ix	133	49	5	32585	-	-
	x	123	39	5	23985	-	-
	xi	113	29	5	16385	-	-
Total					**456590**	**99960**	**31620**
X2Y2-EF	i	69	75	1.5	-	-	7763
	ii	67	73	5	-	24455	-
	iii	62	68	5	21080	-	-
	iv	57	63	5	17955	-	-
	v	52	58	5	15080	-	-
	vi	47	53	5	12455	-	-
	vii	42	48	5	10080	-	-
	viii	37	43	5	7955	-	-
	ix	32	38	5	6080	-	-
	x	21	33	5	3465	-	-
Total					**94150**	**24455**	**7763**
Grand Total					**689610**	**157805**	**49913**

Tentative Mineable Reserves of Rough Stone : **6,89,610m^3**

Estimated Weathered rock : **1,57,805m^3**

Estimated Gravel : **49,913m^3**

The Tentative mineable reserves have been estimated as **6,89,610m^3** of Rough stone, **1,57,805m^3** of Weathered rock and **49,913m^3** of Gravel at the rate of 100% recovery upto a depth of 51.5m below from the ground profile for entire life of quarry.

214A

4.0 MINING:

4.1 Method of mining (opencast / underground):

Open cast Mechanized Mining is proposed.

4.2 Mode of working (mechanized/ manual):

The Rough Stone is proposed to quarry with conventional Opencast Mechanized Method.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director General of Mines Safety for utilize the Heavy Machineries in the quarry operation and to modify the benches. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961.

The quarry operation involves Drilling, Blasting, Rock breaking, Excavation, Loading and Transportation of Rough Stone to the needy crusher.

The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass by considerable volume from the parent rock mass by drilling with Wagon drill machine, Hand Jack Hammer and blasting, the liberated Rough stone will be loaded into the Trucks by hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Hydraulic excavators are attached with rock breakers for fragmentation to reduce the size of large boulders for easy handling of material and to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

4.3 Proposed Bench Height and Width:

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

The applicant intends to apply and obtain permission from Director of Mines Safety, Chennai for working common mine boundary with adjacent existing quarry lease under Regulation 111(1) of Metalliferous Mines Regulations, 1961. The relaxation will be applied and obtained after execution of lease deed/ commencement of quarry operation.

In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. As per 106 2(b) and 111(1) of Metalliferous Mines Regulations, 1961 from the DMS, the realignment of benches will be carried out.

4.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):

The year wise proposed production schedule is arrived with two categories based on the company's requirement, one is proposed common mine boundary on the Northeastern side as requested by the company (Refer Plate No. III and IV) and another category is leaving the safety distance and Benches on all along boundary of the applied are (Refer Plate No. III-A and IV-A).

The overburden in the form of gravel and Weathered rock, the same will be directly loaded into the Trucks for filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough stone will be directly loaded into Truck to the needy customers. The Composite year wise Development and production plan and sections indicating the pit lay out and green belt development are shown in given table below.

Year wise Development and Production

TABLE – 5

YEAR WISE DEVELOPMENT AND PRODUCTION FOR 1st FIVE YEARS – AFTER LEAVING SAFETY AND BENCHES ON ALL SIDES

Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Rough stone @ 100% Recovery (m^3)	Weathered Rock (m^3)	Gravel (m^3)
i	X2Y2-EF	i	69	76	1.5	-	-	7866
		ii	65	74	5	-	24050	-
		iii	54	69	5	18630	-	-
		iv	44	64	5	14080	-	-
		v	34	59	5	10030	-	-
		vi	24	54	5	6480	-	-
	Total					**49220**	**24050**	**7866**
II	XY-AB	i	107	53	1.5	-	-	8507
		ii	105	49	5	-	25725	-
		iii	100	39	5	19500	-	-
		iv	95	29	5	13775	-	-
		v	90	19	5	8550	-	-
	X1Y1-CD	i	55	124	1.5	-	-	10230
		ii	50	119	5	-	29750	-
		iii	40	109	5	21800	-	-
		iv	30	99	5	14850	-	-
		v	20	89	5	8900	-	-
		vi	10	79	5	3950	-	-
	Total					**91325**	**55475**	**18737**
III	X1Y1-CD	i	107	124	1.5	-	-	19902
		ii	20	119	5	-	11900	-
		iii	20	109	5	10900	-	-
		iv	20	99	5	9900	-	-

		v	20	89	5	8900	-	-
		vi	20	79	5	7900	-	-
		vii	20	69	5	6900	-	-
		viii	10	59	5	2950	-	-
	Total					**47450**	**11900**	**19902**
IV	X1Y1-CD	ii	15	119	5	-	8925	-
		iii	15	109	5	8175	-	-
		iv	15	99	5	7425	-	-
		v	15	89	5	6675	-	-
		vi	15	79	5	5925	-	-
		vii	15	69	5	5175	-	-
		viii	15	59	5	4425	-	-
		ix	15	49	5	3675	-	-
	Total					**41475**	**8925**	-
V	X1Y1-CD	ii	15	119	5	-	8925	-
		iii	15	109	5	8175	-	-
		iv	15	99	5	7425	-	-
		v	15	89	5	6675	-	-
		vi	15	79	5	5925	-	-
		vii	15	69	5	5175	-	-
		viii	15	59	5	4425	-	-
		ix	15	49	5	3675	-	-
		x	20	39	5	3900	-	-
		xi	10	29	5	1450	-	-
	Total					**46825**	**8925**	-
Grand Total						**276295**	**109275**	**46505**

TABLE – 5A

YEARWISE DEVELOPMENT AND PRODUCTION FOR 2nd FIVE YEARS - AFTER LEAVING SAFETY AND BENCHES ON ALL SIDES							
Year	**Section**	**Bench**	**Length (m)**	**Width (m)**	**Depth (m)**	**Rough Stone @ 100% (m^3)**	**Weathered Rock (m^3)**
VI	X1Y1-CD	ii	12	119	5	-	7140
		iii	12	109	5	6540	-
		iv	12	99	5	5940	-
		v	12	89	5	5340	-
		vi	12	79	5	4740	-
		vii	12	69	5	4140	-
		viii	12	59	5	3540	-
		ix	12	49	5	2940	-
		x	12	39	5	2340	-
		xi	12	29	5	1740	-
	Total					**37260**	**7140**
VII	X1Y1-CD	ii	12	119	5		7140
		iii	12	109	5	6540	-
		iv	12	99	5	5940	-

		v	12	89	5	5340	-
		vi	12	79	5	4740	-
		vii	12	69	5	4140	-
		viii	12	59	5	3540	-
		ix	12	49	5	2940	-
		x	12	39	5	2340	-
		xi	12	29	5	1740	-
	Total					**37260**	**7140**
VIII	X1Y1-CD	ii	11	119	5	-	6545
		iii	11	109	5	5995	-
		iv	11	99	5	5445	-
		v	11	89	5	4895	-
		vi	11	79	5	4345	-
		vii	11	69	5	3795	-
		viii	11	59	5	3245	-
		ix	11	49	5	2695	-
		x	11	39	5	2145	-
		xi	11	29	5	1595	-
	Total					**34155**	**6545**
IX	X1Y1-CD	ii	11	119	5	-	6545
		iii	11	109	5	5995	-
		iv	11	99	5	5445	-
		v	11	89	5	4895	-
		vi	11	79	5	4345	-
		vii	11	69	5	3795	-
		viii	11	59	5	3245	-
		ix	11	49	5	2695	-
		x	11	39	5	2145	-
		xi	11	29	5	1595	-
	Total					**34155**	**6545**
X	X1Y1-CD	ii	11	119	5	-	6545
		iii	11	109	5	5995	-
		iv	11	99	5	5445	-
		v	11	89	5	4895	-
		vi	11	79	5	4345	-
		vii	11	69	5	3795	-
		viii	11	59	5	3245	-
		ix	11	49	5	2695	-
		x	11	39	5	2145	-
		xi	11	29	5	1595	-
	Total					**34155**	**6545**
Grand Total						**176985**	**33915**

Table – 5B

YEAR WISE DEVELOPMENT AND PRODUCTION FOR 1st FIVE YEARS – AS PER PROPOSED ANNEXING MINE BOUNDARY

Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Rough stone @ 100% Recovery (m^3)	Weathered Rock (m^3)	Gravel (m^3)
I	X2Y2-EF	i	69	75	1.5	-	-	7763
		ii	67	73	5	-	24455	-
		iii	62	68	5	21080	-	-
		iv	57	63	5	17955	-	-
		v	52	58	5	15080	-	-
		vi	47	53	5	12455	-	-
		vii	42	48	5	10080	-	-
		viii	37	43	5	7955	-	-
		ix	32	38	5	6080	-	-
		x	21	33	5	3465	-	-
	Total					**94150**	**24455**	**7763**
II	XY-AB	i	108	65	1.5	-	-	10530
		ii	106	63	5	-	33390	-
		iii	101	58	5	29290	-	-
		iv	96	53	5	25440	-	-
		v	91	48	5	21840	-	-
		vi	86	43	5	18490	-	-
		vii	81	38	5	15390	-	-
		viii	76	33	5	12540	-	-
		ix	71	28	5	9940	-	-
		x	66	18	5	5940	-	-
	Total					**138870**	**33390**	**10530**
III	X1Y1-CD	i	170	124	1.5	-	-	31620
		ii	50	119	5	-	29750	-
		iii	45	109	5	24525	-	-
		iv	40	99	5	19800	-	-
		v	35	89	5	15575	-	-
	Total					**59900**	**29750**	**31620**
IV	X1Y1-CD	ii	40	119	5	-	23800	-
		iii	40	109	5	21800	-	-
		iv	40	99	5	19800	-	-
		v	40	89	5	17800	-	-
	Total					**59400**	**23800**	**0**
V	X1Y1-CD	ii	40	119	5	-	23800	-
		iii	40	109	5	21800	-	-
		iv	40	99	5	19800	-	-
		v	40	89	5	17800	-	-
	Total					**59400**	**23800**	**0**
Grand Total						**411720**	**135195**	**49913**

The Recoverable reserves have been estimated as **4,11,720m³** of Rough stone, **1,35,195m³** of Weathered rock and **49,913m³** of Gravel at 100% **recovery** to a depth of 46.5m below from the ground profile for first five years.

Table – 5C

YEAR WISE DEVELOPMENT AND PRODUCTION FOR 2nd FIVE YEARS – AS PER PROPOSED ANNEXING MINE BOUNDARY							
Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Rough stone @ 100% Recovery (m^3)	Weathered Rock (m^3)
VI	X1Y1-CD	ii	38	119	5	-	22610
		iii	38	109	5	20710	-
		iv	38	99	5	18810	-
		v	38	89	5	16910	-
	Total					**56430**	**22610**
VII	X1Y1-CD	vi	45	79	5	17775	-
		vii	40	69	5	13800	-
		viii	35	59	5	10325	-
		ix	30	49	5	7350	-
		x	20	39	5	3900	-
		xi	10	29	5	1450	-
	Total					**54600**	**-**
VIII	X1Y1-CD	vi	35	79	5	13825	-
		vii	35	69	5	12075	-
		viii	35	59	5	10325	-
		ix	35	49	5	8575	-
		x	35	39	5	6825	-
		xi	35	29	5	5075	-
	Total					**56700**	**-**
IX	X1Y1-CD	vi	34	79	5	13430	-
		vii	34	69	5	11730	-
		viii	34	59	5	10030	-
		ix	34	49	5	8330	-
		x	34	39	5	6630	-
		xi	34	29	5	4930	-
	Total					**55080**	**-**
X	X1Y1-CD	vi	34	79	5	13430	-
		vii	34	69	5	11730	-
		viii	34	59	5	10030	-
		ix	34	49	5	8330	-
		x	34	39	5	6630	-
		xi	34	29	5	4930	-
	Total					**55080**	**-**
Grand Total						**277890**	**22610**

The Recoverable reserves have been estimated as **2,77,890m^3** of Rough stone and **22,610m^3** of Weathered rock at 100% recovery for remaining five years upto a depth of 51.5m (R.L.243m to R.L.191.5m) below from the ground profile. **The peak production capacity in the quarry is 1,38,870m^3 of Rough stone, 33,390m^3 of Weathered rock and 31,088m^3 of Gravel**

and the proposed production schedule is arrived as per applicant's requirement and the EIA & EMP will be prepared an annual peak production.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the rough stone locked up in benches will be exploited after obtaining necessary permission from the office of Director of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

One lorry load	=	$12m^3$ (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed during the lease period	=	$6,89,610m^3$
Annual Peak production capacity of Rough stone	=	$1,38,870m^3$
Hence total lorry loads per day	=	$1,38,870m^3/12m^3$
	=	11,573 lorry loads
	=	11,573/300 Days
Rough stone	=	**38-39** lorry loads per day

One lorry load	=	$12m^3$ (approx.)
Total No of Working days	=	300 Days per year
Annual Peak production capacity of Weathered rock	=	$33,390m^3$
Hence total lorry loads per day	=	$33,390m^3/12m^3$
	=	2,783 lorry loads
	=	2,783/300 Days
Weathered rock	=	**9** lorry loads per day

One lorry load	=	$12m^3$ (approx.)
Total No of Working days	=	300 Days per year
Annual Peak production capacity of Gravel	=	$31,088m^3$
Hence total lorry loads per day	=	$31,088m^3/12m^3$
	=	2591 lorry loads
	=	2591/300 Days
Gravel	=	**8-9** lorry loads per day

Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 pm lunch break).

4.5 Machineries to be used:

For Mining:

The following machineries are proposed for the development and production work at this quarry.

TABLE – 6

I. DRILLING MACHINE:

S. No.	Type	Nos.	Dia Hole mm	Size Capacity	Motive power
1	Wagon drill machine	1	110	3m to 10m	Diesel Drive
2	Hand Jackhammer	4	32	1.2m to 2.0m	Air Compression
3	Compressor	1	-	400 psi	Diesel Drive

II. EXCAVATION & LOADING EQUIPMENT:

S. No.	Type	Nos.	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	2	300	Diesel Drive

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S. No.	Type	Nos.	Capacity	Motive Power
1	Truck	4	30 tonnes	Diesel Drive
2	Water Sprinkling Tanker	1	10,000 litres	Diesel Drive

4.6 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:

Conceptual mining plan is prepared with an object of long-term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

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

As the applicant has awarded quarry lease for ten years, the ultimate pit limit (dimension) at the end of this lease period is given below:

TABLE – 7

Proposal	Section	Length (m)	Width (m)	Depth (m) (Max.)
As per proposed Amalgamation	XY-AB	108	65	46.5m - BGL
	XY1-CD	170	124	51.5- BGL
	X2Y2-EF	69	75	46.5- BGL
Leaving safety and Benches	XY-AB	108	65	21.5m - BGL
	XY1-CD	170	124	51.5
	X2Y2-EF	75	69	26.5

Geology and Mining Collectorate Dindigul - 624 004

All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF & CC Norms. Please refer Plate Nos. III to VI-A . As per the NGT orders the applicant is directed to plant 500 tree saplings per hectares along the quarry site either at the regular or the phased manner by planting native species.

There is no waste anticipated during the entire life of quarry. Hence, there is no proposal for backfilling. After completion of quarry operations, the quarry pit will be allowed to collect the seepage and rain water, the water storage will be kept as temporary reservoir to charging the nearby wells and will be utilized for greenbelt development. When the quarry reaches its ultimate pit limit or at the end of life of quarry, greenbelt development will be carried out over the quarried out top bench. The Conceptual Mining is based upon the entire ROM proposed for the life of the Mine.

The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle.

5.0 BLASTING:

5.1 Blasting pattern:

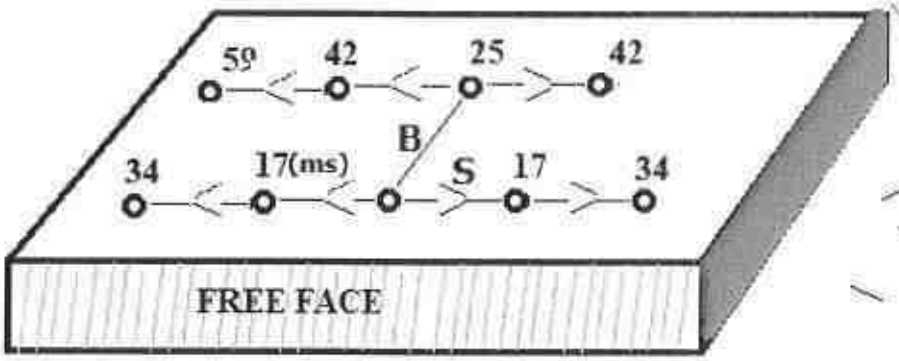
Selection of drilling pattern for blasting varies with the type and size of the drills used, depth of hole, kind of rock, quantity, rapidity of the explosives and amount of steaming. The quarrying operation is proposed to carried out by Wagon drill machine and Jack hammer drilling and blasting of shattering effect for loosen the Rough Stone with NONEL initiation. Wagon machine drilling will be proposed for primary Drilling and blasting for splitting the boulders from parent rock mass followed by excavator attached with rock breaker for secondary fragmentation of large size boulders to avoid secondary blasting. Nonel initiation provides reasonably good solution to fly rock problem. The main objectives of Nonel Blasting are to reduce the ground vibration, noise, flyrocks generated due to blasting operations. The overall cost of blasting in NONEL is very less compared to electrical blasting hence it optimizes the cost of blasting.

Drilling and blasting parameters are as follows:

Depth of Each hole	:	5m
Spacing between holes	:	3.5m
Burden for hole	:	2.75m
Diameter of hole	:	100 - 110mm
Pattern of hole	:	Staggered pattern
Inclination of holes	:	80°from horizontal
Use of delay detonators	:	NONEL
Hole to Hole	:	17 milli second delay (ms)
Row to Row	:	25 milli second delay (ms)

Staggered Pattern of Blasting Design

NONEL DELAY PATTERN



Spacing (S)	=	**3.5m**
Burden (B)	=	**2.75m**
Depth of the hole	=	**5m**
No. of holes proposed per day (Peak Production)	=	**10 Holes**

5.2 Type of explosives to be used:

85mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No secondary blasting is proposed. NONEL blasting and muffle blasting may be adopted after permission from DGMS.

5.3 Measures proposed to minimize ground vibration due to blasting:

The quarry is situated more than 300m away from the nearby villages, Controlled blasting measures by NONEL initiation is being adopt for minimizing ground vibration and fly rock.

Wagon drill machine and Hand jackhammer drilling with blasting is proposed to be carried out with minimum use of explosive mainly to give heaving effect in Rough stone for easy excavation and to control fly rock.

NONEL Delay detonators:

NONEL blasting permits for bottom initiation and lesser charge per delay.

The major advantages of NONEL blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

Blasting program for the production per day (As per Peak production capacity):

The Hydraulic excavators are attached with rock breakers for breaking the rock mass to reduce the blasting and explosive usage also to avoid secondary blasting. Anyhow as per day's production schedule the maximum blasting program proposed as given below.

Annual Peak production	= 1,38,870m^3 x 2.6(Bulk Density) = 3,61,062 Tons
No of Holes	= 10 Holes
Yield	= 1205 Tons
Powder factor	= 5 Tons/ Kg of explosives
Maximum explosive required	= 241 Kg-Slurry explosives
Charge/ hole	= 25 Kg
Blasting at day time only	= 12.30 – 1.00 P.M. (whenever required)

Anticipated theoretical calculation of PPV

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

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

Where –

V = peak particle velocity (mm/s)

K = site and rock factor constant

Q = maximum instantaneous charge (kg)

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

R = distance from charge (m)

PREDICTED PPV VALUES DUE TO BLASTING

Table – 8

Maximum Charge per day (kg)	Number of Round Blast per day	Maximum Charge per Round (kg)	Number of holes blasted per round	Number of holes blasted per day	Maximum Charge blast at a time by NONEL (kg)	Nearest Infrastructure (m)	PPV (mm/s)
241	2	120.5	5	10	50 (2 Holes)	440	1.362

From the above table, the charge per blast of 241kg is well below the Peak Particle Velocity of 8 mm/s as per Director General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997. Anyhow, the applicant ensures that carry out the **blasting twice a day based on the site condition** under the supervision of competent qualified statutory personnel employed. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

5.4 Storage and safety measures to be taken while blasting:

The applicant will engage an authorized explosive agency as approved by Petroleum and Explosives safety Organization (PESO) to carry out the blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be having the valid Blaster certificate. He will blast holes in the quarry site. After completion of Blasting the explosive Agency will take it out back the remaining quantity of Explosives. The blasting and quarrying operation is advised to handle by competent qualified statutory personnel approved by the DGMS and competent authorities and he will maintain the records of Explosives as per the Indian Explosives Act, Mines Act and Environment Protection Act.

6.0 MINE DRAINAGE:

6.1 Depth of water table (based on nearby wells and water bodies):

The lease applied area consist dendritic drainage pattern. The water table in the area is about 68m - 73m BGL which is observed from the existing private boreholes. The lease applied area is fully covered by Massive Charnockite. The quarry operation confined to well above the water table hence, the Ground Water problem will not arise. Anyhow, Garland drain will be constructed along the boundary to prevent surface run-off water entering into the quarry.

TABLE – 9

Type	Distance & Direction	Location
Bore Well	25m Eastern side	10°07'00.3402"N 77°45'05.5607"E

6.2 Arrangements and places where the mine water is finally proposed to be discharged:

The quarry operations are confined to well above the water table during the entire lease period. If water is encountered at quarry due to rain water and seepage, the same will be pumped out by 5HP water pump and discharge to the Greenbelt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

7.0 STACKING OF MINERAL WASTE AND DISPOSAL OF WASTE:

There is no waste anticipated during entire life of the quarry hence, disposal of waste does not arise.

8.0 USE OF THE MINERAL:

The excavated rough stone (100%) will be directly loaded into Trucks as raw form to the needy nearby crushing unit to making Road metals and construction materials. The quarried out gravel and Weathered rock will be directly loaded into Trucks for filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fee to the Government.

9.0 OTHERS:

9.1 Other Permanent Structure (also shown in the map)

TABLE – 10

S.No.	Description-Nearest	Particulars	Aerial Distance & Direction
1	National Highway	(NH-183) Dindigul – Theni	5.2km – NW
2	State Highways	(SH-154) Vattalagundu - Usilampatti	1.7km – East
3	Railway station	Usilampatti	16.7 km – SE
4	Airport	Madurai	48.5km – SE
5	Town	Vattalagundu	5 km – NE
6	Government School	Viralipatti - Govt. School	2.7 km – SW
7	Government Hospital	Vattalagundu	5km – NE
8	Habitation	810m – NW	
9	Reserved Forest	Kadavakurichi R.F. – 5.2km – NE.	
10	Water Bodies	Odai – 230m – SW.	
11	Defence Installation/ Historical Monuments/ Archaeological	Nil within 500m radius.	
12	Interstate Boundary	Around 51km – NW (Kerala state border)	
13	Critically Polluted areas identified by the CPCB	Around 124km – NW (Coimbator, kurichi – SIDCO)	
14	Protected areas Notified under wildlife (Protection) Act, 1972.	10.7 km – NW – Kodaikanal wildlife Sanctuary Eco sensitive area – 9.8km – NW	
15	Applicability of CRZ, Notification 2011 as amended.	Not Applicable	
16	Applicability of Hill Area Conservation Authority (HACA) Clearance.	Not Applicable	
17	Housing area, EB line (HT & LT Line)	There is no EB-LT/HT line or Housing area located within 50m radius from the lease applied area.	
18	Boundaries of the permitted area.	The boundaries of the permitted areas are as follows (Refer Plate No. II): North - S.F.Nos. 1269/2 and 4/1. East - S.F.Nos. 1282/1, 1282/2A, 1282/2B and 1282/2C.	

		South - S.F.Nos. 1274. West - S.F.Nos. 1270.
19	Adjacent Patta lands / Govt. Land	(Refer Plate No. II):

Direction	Classification	Safety Distance
North	Govt. land	10m
	Patta land	Common Mine Boundary
East	Patta land	7.5m
South	Patta land	7.5m
West	Patta land	7.5m
	Govt. land	10m

TABLE – 11

Number of Structure	Type of Structure	Usage Purpose	Commercial / industry/ residential/ farm house/ Govt. building	Occupants of Building/ Structure	Remarks
STRUCTURE WITHIN **100m** Number of Structures – Nil.					
Nil					
STRUCTURE WITHIN **100m - 200m** Number of Structures – Nil.					
Nil					
STRUCTURE WITHIN **200m - 300m** Number of Structures – 2 No.					
2	Shed	Storage for Agriculture goods	Farm house	No resident	Private

9.2 Employment potential (skilled, semi-skilled, un skilled):

TABLE – 12

Designation	Present Employment position	Employees Requirement	Total
a) Supervisory category			
Mine Manager	-	1	1
Geologist	-	1	1
b) Skilled labour			
Mine Foreman	-	1	1
Blaster/Mate	-	1	1
Excavator – Operator	-	2	2
Wagon drill operator	-	1	1
Truck Driver	-	4	4
Water sprinkler Driver	-	1	1
Jack-Hammer Drillers	-	8	8
c) Unskilled			
Security	-	1	1
Labour & Helper	-	4	4
Co-operator and Cleaner	-	9	9
Total	-	**34**	**34**

The proposed output per man shift:

TABLE – 13

Annual Peak Production of Rough stone		1,38,870m^3
No. of days likely to be worked		300 days
Average production per day		463m^3
OMS =	Average Production per day / Average employment per day	463m^3 / 34 = 13.6m^3

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

9.3 Welfare Measures:

a) Drinking Water:

Packaged drinking water is available from the nearby water vendors in Vattalagundu which is located about 5km on the Northeastern side of the lease applied area.

b) Sanitary Facilities:

Hygienic modern Sanitary Facilities will be constructed as semi-permanent structure within the applied area and it will be maintained periodically.

c) First aid facility:

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle. Hospital is available in Vattalagundu located at 5km on the Northeastern side.

d) Labour Health:

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

e) **Precautionary safety measures to the labourers:**

- Helmets,
- Reflector Jackets
- Dust mask
- Mine Goggles,
- Ear plugs,
- Ear muffs
- Safety Shoes

All personnel protective equipment as per the DGMS standard will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

10.0 MINERAL PROCESSING:

No mineral processing/beneficiation involved.

PART – B

11.0 ENVIRONMENT MANAGEMENT PLAN

The EMP is prepared based on the Mines act, Rules & amendment from by state & central government. If the SEIAA/SEAC instructed the modification and alter the EMP the outcome of their recon would be final and the applicant is instructed to follow the EIA / EMP for its compliance as per the CPCB / TNPCB Norms.

Environment	Anticipated impact	Mitigation measure
Land Environment	i. Topography of the area will change due to mining activity.	i. Backfilling is the only source for mitigation measure for topographical changes, but no waste will be anticipated during entire life of the Rough stone and Gravel quarrying operation hence, backfilling is not proposed. ii. The Mining benches will not exceed beyond the approved height and width. iii. At the end of life of mine, the pit will be allowed to collect the seepage and rain water and the water storage will be kept as temporary reservoir for charging the nearby wells also the water utilized for greenbelt development purpose.
	ii. Soil quality and agriculture land on surrounding land environment will impact due to; a) Dust propagation during quarry operation like drilling, blasting, loading, unloading and movement of men, Vehicle and machineries. b) Vehicular and machineries emissions and spillage of oil and grease.	i. Regular water sprinkling on dust prone area like haul road and other active area to arrest the dust generation. ii. Green belt will be developed in the safety barriers with thick long leave plants to prevent dust and vehicular emissions propagation. iii. Wet drilling/dust extractor unit by proper drilling pattern and controlled blasting with NONEL initiation will be carried out to minimize the dust generation. iv. Excavated benches shall be developed by planting with grasses, herbs and shrubs of local species to prevent soil erosion and landslide.

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	c) Propagation of foreign material like undecomposed waste materials dumping.	v. PUC (Pollution under control) certified vehicles will be used for transportation and all vehicles and their exhausts would be well maintained and regularly tested for pollutant concentrations. vi. Oiling and greasing will be managed in respective places at vehicle maintenance shed and oil tray will be use to collect the spillage during maintenance and the same will be disposed in manner. vii. Non-degradable materials like polythene bag, useless articles, plastic water and cool drink containers will not be allowed within quarry premises.
Water Environment	Surface Mining can have direct impact on physico-chemical characteristics of the local drainage and groundwater resources. The detrimental effects, if any, to water resources resulting from surface mining are caused by following: i. Flow direction of Surface run off rain water will be interrupting during rainy season due to modification of topography. ii. Surface water course will be contaminated due to dust propagation, Machinery and vehicle emissions.	i. Garland drain with check dam will be constructed all along the boundary barrier to prevent surface run off rain water entering into the pit. ii. Greenbelt will be developed in the safety barrier with thick long leave plants to arrest the fugitive dust, machinery and vehicular emissions. iii. Further mining will be completely stopped during the monsoon for free flow of surface run off and allowing natural recharge of groundwater. iv. No wastewater will be generated from the quarry activity. Proper drainage will be Maintained to eliminate inundation of working pit during rain from run-off water. v. The pit water due to rain and seepage will be utilized for water sprinkling on haul Roads and plantations. vi. Septic tanks and soak pits will be provided for the disposal of domestic/ washroom effluents, the same will be disposed in manner.
Air Environment	In surface mining operations, the source of air pollution may cause deterioration of air quality due to;	i. Regular water sprinkling on haul road and dust prone area to arrest the dust generation. ii. Greenbelt will be developed in the safety barrier and Haul road with thick

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	a) The fugitive dust emissions from drilling/blasting, scooping, loading-unloading operation of extracted mineral and its transportation. Drilling/blasting and loading of quarry material would be associated with the fugitive dust emission in the active area whereas fugitive emission during transportation would affect the areas/villages situated adjacent to the road side. Another source of air pollution would be emission from the drilling machinery and excavators/tippers vehicles to be used for loading.	long leaves plants to arrest the fugitive dust and vehicular emissions. iii. Wet drilling/dust extractor unit by proper drilling pattern and controlled blasting with NONEL initiation will be carried out to minimize the dust generation. iv. Quarry material will be handled under wet condition during scooping, loading and unloading to minimize the dust propagation, besides loaded materials are covered by Tarpaulin until to reaches its destination. v. Provision of dust filters/ Nose mask to workers working at dust prone areas. vi. Vehicular emission as a result of combustion of diesel generates particulate matter (PM_{10} & $PM_{2.5}$), Nitrogen oxides and Sulphur dioxide (NO_2 & SO_2). High quality diesel will be used in the motor vehicles to control these pollutants. vii. PUC (Pollution under control) certified vehicles will be used for transportation and all vehicles and their exhausts would be well maintained and regularly tested the pollutant concentrations. viii. CPCB Prescribed emission standards for the vehicles would be followed.
Noise Environment	In the present mining activity for building material, noise will be generated from drilling machinery, blasting and vehicular movement. Noise level in the working environment is compared with the standards prescribed by Central Pollution Control Board as adopted and enforced by the Govt. of India through Noise Pollution (Regulation and Control) Rules, 2000.	i. Selection of innovative low – noise equipment under BS-VI for the quarry operation. ii. The noise levels shall be maintained within the permissible levels by involving all the noise regulating measures in vehicles and drilling/blasting operations. iii. To ensure minimum vibrations and noise due to blasting, NONEL in continuous sequence is proposed. iv. Personnel Protective Equipment (PPE) like earmuffs and earplugs shall be provided to the employees whose in critical operation like drilling, blasting and excavation as occupational safety measures. v. Proper maintenance done with regular interval by the Oiling and greasing for the machineries and vehicles to control the Source of noise during operation and transportation.

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		vi. Regular and proper maintenance of machinery and transportation vehicles shall be ensured. vii. Transporting vehicles are enforcing the speed limits of 25km/hour within quarry area and not exceed 40km per hour from quarry to destination to reduce Noise and vibration. viii. There would be restrictions on mining activity and vehicular movement during night hours.
Biological Environment	The area having main floras are Neem, Manchanathi, Mango, Cocos nucifera, Amla, Prosopis juliflora, Acacia nilotica, Cactus and shrubs. No plants of botanical interest or animals of zoological interest recorded within 500m radius. The anticipated impacts on biological environment as follows: i. Public and Cattles may cause injury/die by inadvertent entry to the pit. ii. Diversity of living insects and faunas due to vibration. iii. Natural habitats of the existing faunas will change due to the noise and vibration during operation. iv. The mining activities can also disrupt the ecological diversity. v. Deposition of dust on the plant and crop leaves is affecting the photosynthesis, Pollination, growth ratio and agriculture productivity.	i. Maintaining the existing Barbed wire fencing and safety bund will be formed around the quarry to prevent inadvertent entry of public and cattle. ii. The natural habitats of the existing flora and fauna will not be disturbed. iii. No mining will be carried out during the monsoon season to minimize impact on aquatic life for many species. iv. Fruit bearing trees will be planted to survive the existing faunas. v. No clearance of vegetation will be done during the entire mining operations. vi. Regular Water sprinkling on haul roads would be reduces the dust propagation, thus avoiding damage to the crops and plants.
Socio – Economic Environment	Any activity during mining will have adverse impact on Environment, careful mitigation measures are proposed to balance the impact on the existing environment and the applicant is always instruct to carry out	i. Preference employment will be given to the local community. This quarrying activity will also indirectly provide employment to the local

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	safe, sustainable, eco-friendly mining operations at all times. The following positive impact on the society due to this mining activity. i. It is proposed to provide employment to about 34 persons for carrying out mining operations and give preference to the local people in providing employment in this cluster. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. the economic status of the local people will be enhanced due to mining project. ii. 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. iii. Improvement of Physical structure like 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. iv. The continuation of opportunity for the employments, the nearby villages, living peoples and their life style would be improved. v. The applicant is advised to invest the CER cost (@ 2% from the total Project Cost) to develop the local Panchayat.	community by the way of petty shops, hotels, etc. ii. The CER activity proposed by the applicant will enhance the requirement of the local community. iii. The improvement of physical structure like road transport facilities, medical, social benefits will get enhanced. iv. There will be a positive enhancement of lifestyle of the nearby village.

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11.1 Environmental impact assessment statement describing impact of mining on the next Ten years:

In the mining plan proposed for production of Rough stone and gravel. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF& CC. It is B Category mine. The compliance monitoring will be carried out for every six months as prescribed by the MOEF&CC and with state concerned authorities.

11.2 Proposal for waste management:

There is no waste anticipated in this Rough stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%). The maintenance of machineries & fuelling will be carried out as per the TNPCB Norms and the waste will be disposed in the Norms.

11.3 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):

In the mining plan only to a maximum depth of 51.5m below from the ground profile has been envisaged as workable depth for safe & economic quarrying operation during entire life of quarry. There is no waste anticipated during entire life of the quarry hence, backfilling is not proposed. After completion of quarry operations, the quarry pit will be allowed to collect the seepage and rain water, the water storage will be kept as temporary reservoir to charging the nearby wells and will be utilized for greenbelt development. When the quarry reaches its ultimate pit limit or at the end of life of quarry, greenbelt development will be carried out over the quarried out top bench. The quarry area will be fenced with Barbed wire fencing also safety bund formed around the quarry to prevent inadvertent entry of public and cattle.

11.4 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):

The applicant has proposed the greenbelt development along the safety barrier by planting 1,500 tree saplings also the applicant proposed to plant 500 tree saplings in the quarried out top benches and 500 saplings on haul road during this Plan period and maintain at least 1,800 plants at the end of the lease period at a survival rate of 80%. Manuring and tree guards will be provided by the applicant to safeguard and maintain the plants. The plantation will be carried out as recommended by the SEIAA based on the output Environmental Clearance and the recommended species will be planted in a phased manner as described below (Refer Plate No. III).

Table – 14

Year	No. of tress proposed to be planted	Area to be covered (m^2).	Survival (%)	Name of the species	No. of trees expected to be grown
I	150	570	80%	Neem, Pongamia Pinnata, Cordia dichotoma, Mango, Senkondrai, Mookusali maram, Mantharai, etc.,	120
II	150	570	80%		120
III	150	570	80%		120
IV	150	570	80%		120
V	150	570	80%		120
VI	150	570	80%		120
VII	150	570	80%		120
VIII	150	570	80%		120
IX	150	570	80%		120
X	150	570	80%		120

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11.5 Proposed financial estimate / budget for the project:

Budget Provision for the Mining Plan period:

TABLE – 15

A. Operational Cost / Project Cost / Investment:		**Cost (Rs.)**
i) Land cost	The Land value as per the Government Guideline land cost is calculated as follows, S.F. No. | Area (Ha) | Cost / Ha. (Rs.) | Cost of the area (Rs.) 4/2 | 0.69.5 | 4,94,500 | 3,43,678 1274/1 | 1.68.5 | 4,94,500 | 8,33,232 1274/2 | 1.57.0 | 4,94,500 | 7,76,365 **Total** | **3.95.0** | 4,94,500 | **19,53,275** Round off Total Land Cost = Rs.19,54,000/- (source : https://tnreginet.gov.in/portal/)	19,54,000
ii) Machinery cost	The following machineries are proposed to meet out the productions. i. Excavator (2 Nos.) ii. Wagon Drill Machine (1 No.) iii. Rock breaker (2 Nos.) iv. Trucks (4 Nos.) v. Compressor (1 No.) vi. Hand jack hammer and loose tools (4 Nos.)	1,00,00,000 30,00,000 2,00,000 1,00,00,000 7,50,000 2,00,000
	Total	2,41,50,000
iii) Blasting Cost	Explosives, Detonator, etc., (Rs. 6 per ton) (17,92,986 Tons x Rs. 6)	1,07,58,000
iv) Labourers shed	Labour shed will be constructed as semi-permanent structure. The cost is around	5,00,000
v) Sanitary facility	Adequate latrine and urinal accommodation has provided at conveniently accessible places the cost would be around.	1,00,000
vi) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around.	1,91,000
vii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around.	3,00,000
viii) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around.	50,000
Total Cost		**3,80,03,000**

B. EMP Cost:	**Cost (Rs.)**
1. Environmental Monitoring Program (Air Quality, Water Quality Sampling, Noise and Ground vibration test) Rs. 50,000/ year.	5,00,000
2. Water will be sprinkled in the haul roads by own water sprinklers for dust suppression (1 No.). The cost would be around.	6,00,000
3. Fencing constructed around the lease area to prevent the inadvertent entry of public and cattle cost would be around (Total Peripheral length 800m x	2,40,000

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	Rs. 300/meter).	
4.	Construction of Garland drain with check dam to prevent surface run-off rain water entering to the quarry pit, the construction cost is around (Total Peripheral length 750m x Rs. 300/meter).	2,25,000
5.	First aid room & accessories	50,000
6.	Dust extractor unit for Jackhammer (4 Nos.)	1,00,000
7. Greenbelt development for dust suppression & Noise control measures	Greenbelt development will be carried out along the safety barrier; the cost would be around (1,500 saplings x Rs. 200/sapling).	3,00,000
	Greenbelt development will be carried out along the quarried out top benches; the cost would be around (500 saplings x Rs. 200/sapling).	1,00,000
	Greenbelt development will be carried out on haul road; the cost would be around (500 saplings x Rs. 200/sapling).	1,00,000
	Total EMP Cost (B)	**22,15,000/-**

Description	**Cost (Rs.)**
A. Operational Cost	**3,80,03,000/-**
B. EMP Cost	**22,15,000/-**
Total Project Cost (A+ B)	**4,02,18,000/-**
C. The applicant indents to involve corporate environment responsibilities (CER) activity like Water Purifier, Plantation, Books to Library, Smart class board, class room renovation, painting, sanitary facility and as per requirement to the Viralipatti Govt. School at 2.0% from the total project cost. The Cost would be around **Rs.8,04,000.** If the concerned authority is directed to modify the CER cost and mode of utilization of the cost, the same will be implement by the applicant.	**8,04,000/-**
Total Cost (A+B+C)	**4,10,22,000/-**
The total cost would be around four crores ten lakhs and twenty thousand only.	

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12.0 PROGRESSIVE QUARRY CLOSURE PLAN

12.1 Introduction:

As per guidelines for preparation of mining plan prescribed under Minor Mineral Conservation and Development Rules, 2010 also the entire area is proposed for a short period of Ten years only hence, the progressive quarry closure plan may not be applicable to this quarry. Anyhow, during temporary discontinuance of quarry the following measures will be taken.

a. Barbed wire fencing will be constructed around the quarry.
b. Benches will be smoothening.
c. Quarry will be closed & sentries will be posted round the clock.
d. Green belt development will be maintained.
e. Machineries will be removed from pit and engaged in another site.

12.2 Present and Post Land use pattern:

Table – 16

Description	Present Area (Ha)	Proposed Amalgamation		Leaving safety and Benches	
		Area required during the first five years (Ha)	Area at the end of lease period (Ha)	Area required during the first five years (Ha)	Area at the end of lease period (Ha)
Area Under Quarry	Nil	3.35.0	3.35.0	3.17.0	3.17.0
Site Services	Nil	0.01.0	0.01.0	0.01.0	0.01.0
Roads	Nil	0.02.0	0.02.0	0.02.0	0.02.0
Green Belt	Nil	0.57.0	0.57.0	0.75.0	0.75.0
Unutilized Area	3.95.0	Nil	Nil	Nil	Nil
Grand Total	**3.95.0**	**3.95.0**	**3.95.0**	**3.95.0**	**3.95.0**

12.3 Statutory obligations:

The Applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations as per the DGMS, Department of Geology and Mines, Labour Enforcement officer, controller of Explosives etc., circulars, Norms, Rules, Regulations and Act.

12.4 Progressive quarry closure plan preparation:

Name and address of the Qualified Person who prepared the progressive closure plan and executing agency who is involved in the Preparation of progressive quarry closure plan.

Name	:	**B. VENGADAGIRI, M.Sc.,**
		Qualified Person (Under Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	No.105, 5th Cross,
		Alagapuram,
		Salem District,
State with PIN Code	:	Tamil Nadu – 636 010.
Mobile No.	:	+91 86953 32233
Email	:	vengatb6@gmail.com

The applicant will himself implement the closure plan; no outside agency will be involved.

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(i) Safety & Security:

Safety measures will be implemented to prevent access in the excavation area an un-authorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0 m for ease of operations and provide sufficient room for the movement of machineries and vehicles.
- Personnel Protective equipment like dust masks, ear-plugs/ muffs and other equipment shall be provided for use by the working personnel.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be given to the public before blasting to prevent accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.
- Installation of CCTV cameras in the quarry and entrance of the quarry.
- Monitoring of Quarrying operation by external agency as directed by authorities.

(ii) Disaster Management and Risk Assessment:

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The Greenbelt Development will be formed in around the quarried out top benches and panchayat road of the lease applied area.

Environmental Monitoring Cell:

A dedicated team nominated by the mine manager or Agent will monitor and maintain the environmental compliances of the quarry as per the approved Environment Management Plan and report the Compliance to the competent authority from time to time.

Disaster Management Cell:

The Competent Qualified Statutory managers appointed by the applicant as per the Director of Mines Safety will be responsible for Disaster Management. It care any eventualities his mobile number will be displayed and he will take all the precautions and safety measures as per Mines and Minerals (Development and Regulations) Act, 1957.

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(iii) Disposal of mining machinery

All the Machineries will be purchased fresh, the same has been maintained in good condition during entire life of quarry if required the machineries will be replaced or repaired. After completion of quarry operation all machineries will be utilized at another quarry area or sold out to the second hand. Hence, disposal or decommissioning of mining machinery does not arise.

(iv) Care and Maintenance during Temporary Discontinuance:

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

  Quarry roads and approach roads,

  Fencing on approach roads,

  Checking and maintenance of machines and equipment,

  Drinking water arrangements,

  Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

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(v) Economic Repercussion of Closure of Quarry and manpower Retrenchments:

The quarry lease is granted for a period of Ten years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

(vi) Abandonment Cost:

As at present mining is not going to be closed so abandonment cost could not be assessed. However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below at present scenario:

TABLE – 17

ACTIVITY		YEARS										RATE	COST (Rs.)
		I	II	III	IV	V	VI	VII	VIII	IX	X		
Plantation under safety zone	Nos	150	150	150	150	150	150	150	150	150	150	Rs.200 Per sapling	3,00,000
	Cost	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000		
Plantation in quarried out top bench and Haul road	Area	Haul Road			Quarried out top bench								2,00,000
	Nos	200	200	100	-	-	-	200	200	100	-		
	Cost	40000	40000	20000	-	-	-	40000	40000	20000	-		
Barbed Wire Fencing (800 Mtrs)		2,40,000	-	-	-	-	-	-	-	-	-	Rs300 Per Meter	2,40,000
Garland Drain (750 Mtrs)		1,35,000	-	-	-	-	-	-	-	-	-	Rs300 Per Meter	2,25,000
Total													**9,65,000**

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13.0 STATUTORY COMPLIANCE TO BE FOLLOWED DURING THE COURSE & CLOSURE OF QUARRY LEASE:

The Applicant after execution of lease deed should ensure to carry out that the quarry operation in accordance to the Approved Mining plan and as per TNMMCR, 1959, Mine Act 1952 & as per MMR, 1961.

The conditions in the nutshell as follows:

1. The quarry operation should be fenced with the barbed wire and three tier Greenbelt has to be carried out all along the boundary barriers and should be maintained till the end of the life of the mine.
2. The quarry operation should be carried out as per the regulation 3,4,5 of MMR, 1961 as prescribed in the form I, II, III, IVA, IVB, IVC, V, VI.
3. Statutory competent qualified person as per regulation 39, 40, 41, 42, 43, 44, 47, 48 of MMR, 1961 should be appointed to carryout day today quarrying operation in scientific & systematic manner.
4. Blasting has to be carried out during the designated timing as per the approved mining plan with sufficient warning all around the mines by only the Qualified blaster as indicated in the regulations 153, 154, 156, 160, 166, 167, 169 of MMR 1961.
5. During the Quarrying operations the benches has to be maintained and haul roads should be maintained as per the regulations 60, 61, 62, 65, 66, 95, 96, 105, 106, 110, 115, 118 of MMR 1961. When the quarry attains 30mts depth from the general ground profile a slope stability study should be carried out with competent authorized agencies only.
6. All PPE should be provided to the employees and periodic Medical Examination has to be carried out as per the regulation 124, 127, 177, 178, 181, 183, 185, 188, 190, 191A of MMR 1961.
7. The Applicant should submit the quarterly, half yearly & Annual returns to the concerned Authorities as per regulation 3, 4, 5, 9 &10 MMR 1961 on time and HYCR self-compliance reports should be submitted to the State Pollution control Board.
8. Periodical Hydrology & Hydrogeological Studies has to be carried out during the course of quarrying operation. If any significant seepages is inferred, the applicant should carry out a comprehensive Hydrogeological studies to ensure the impact of agricultural activities in and around the mine (Open well & Tube well). If the impact is noticed considerably the quarry had to be continued only after obtaining permission clearances and approval from the competent regulatory authorities.
9. The lessee should utilize green energy / Solar energy as far as possible for operation of machineries, equipment and illumination in the mine's office, quarry boundaries and avenue roads.
10. The lessee should ensure all the skilled and semi-skilled workers should be provided trainings in nearby Vocational Training center as per the MVTR 1966 and should be registered in Shram Suvidha portal as directed by the Ministry of labour.
11. The lessee should carry out the quarrying operation keeping the view of mineral conservation, development and sustainable mining.
12. If the lessee intends to deviate from the approved mining plan, a modified mining plan has to be prepared submitted and approved from the concerned authority before making any significant changes in the mining operations.
13. The lessee should carry out the mining operation in Eco friendly environment with good hygienic conditions to the employees deployed and maintain good harmony with local communities in the impact zone.
14. The conditions stipulated in the lease deed and Environmental clearance especially the mitigation measures as proposed in EMP to the SEIAA has to be followed during the course of quarrying operation and also to as per the rules of TNMCR 1959, Mine act 1952, MMR 1961, Mine Rule 1955, Environment Protection Act 1986 and Indian Explosive act 1884 and Indian Explosive Rules 2008 and all the amendments issued by the concern State and Central Government authorities from time to time.

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This Mining plan for Rough stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified and modified after scrutiny comments as per the guidelines of the Concerned Department and Authorities.

This Mining Plan and mine design is prepared based on the requirement instructed by the applicant to me. If there is any change in the production schedule, change of technology, change in product mix during the course of operations, the applicant is advice to prepare a modified mining plan and get approval by the concerned authority for subsequent clearance and approval. The same will be monitored by the inspecting authority of Department of Geology and mining and other Concerned Departments under Rule 25 and sub rule (5)(d) in Rule 36 of Tamil Nadu Minor Mineral Concession Rules, 1959.

I hereby ensure that the information provided is correct to best of my knowledge and experience, some of the information contained in this report has been provided by external sources and by the applicant and is presented as the form as submitted by the applicant. The information is not intended to serve as legal advice related to the individual situation. I do not owe and specifically disclaim any liability resulting from the use during the course of quarrying operations after the grant of lease. The document may be scrutinized by the competent authority before approval.

Prepared by

B. VENGADAGIRI, M.Sc.,
Qualified Person

Place: Salem
Date: 13.01.2025

This Mining is approved based on guidelines & Instructions issued in the CGM, Letter No : 3888/LC/2012 dated 19-11-2012 and incorporation of the particulars specified in the letter Roc.No 259/Mines/2024 Dated 23/11/2024 of the Assistant Director of Geology and Mining, Dindigul and subject to further Fulfillment of the conditions laid down under ru 41,42 of Tamil Nadu Minor Mineral Concession Rules 195-

Assistant Director of Geology & Mining
Dindigul

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TOPOGRAPHICAL VIEW OF VIRALIPATTI ROGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA.

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ANNEXURES

ANNEXURE

புவியியல் மற்றும் சுரங்கத்துறை

ந.க.எண்: 259/கனிமம்/2024

உதவி இயக்குநர் அலுவலகம்,
மாவட்ட ஆட்சியர் அலுவலக வளாகம்,
திண்டுக்கல்.

நாள்: 11.01.2025.

குறிப்பாணை

பொருள்: கனிமங்களும் சுரங்கங்களும் - திண்டுக்கல் மாவட்டம் - நிலக்கோட்டை வட்டம் - விராலிப்பட்டி கிராமம் - புல எண்கள்: 4/2 (0.69.50 ஹெக்), 1274/1 (1.68.50 ஹெக்) மற்றும் 1274/2 (1.57.00 ஹெக்) மொத்த பரப்பு 3.95.00 ஹெக்டேர்ஸ் - 10 வருடங்களுக்கு சாதாரண கல் மற்றும் கிராவல் குவாரி உரிமம் வழங்கல் - உகந்த பரப்பு (Precise Area) தேர்வு செய்யப்பட்டது - சுரங்கத்திட்டம் மற்றும் மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை:

1. தி/ள்.அடையார் கிரானைட்ஸ் நிர்வாக பங்குதாரர் திரு.M.C.சஜீ, கேபிசி காம்ப்ளக்ஸ், கேரளா விண்ணப்பம் நாள்:இல்லை இவ்வலுவலகத்தில் பெறப்பட்ட நாள்: 16.09.2024.
2. இவ்வலுவலக கடிதம் ந.க. எண்:259/கனிமம்/2024 நாள்:03.10.2024 திண்டுக்கல், வருவாய் கோட்டாட்சியருக்கு முகவரியிட்டது.
3. திண்டுக்கல், வருவாய் கோட்டாட்சியர் கடிதம் எண்: 7682/2024/அ1, நாள்: 30.12.2024.
4. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 07.01.2025.
5. 1959 -ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 41 மற்றும் 42.
6. அரசாணை எண்.169 தொழில் (எம்.எம்.சி.1) துறை, நாள்: 04.08.2020.
7. அரசாணை எண்.208, தொழில் (எம்.எம்.சி.1) துறை, நாள்: 21.09.2020.
8. தொடர்புடைய ஆவணங்கள்.

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திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம், புல எண்கள்: 4/2 (0.69.50 ஹெக்), 1274/1 (1.68.50 ஹெக்) மற்றும் 1274/2 (1.57.00 ஹெக்) மொத்த பரப்பு 3.95.00 ஹெக்டேர் பரப்பில் சாதாரண கல் மற்றும் கிராவல்

குவாரி குத்தகை உரிமம் வழங்கக்கோரி கேரளா மாநிலம், கோட்டயம் மாவட்டம், சங்கனாச்சேரி, பெருநை அஞ்சல், கேபிசி காம்ப்ளக்ஸ், எண்:15/113-2 எனும் முகவரியில் இயங்கி வரும் தி/ள்.அடையார் கிரானைட்ஸ் நிர்வாக பங்குதாரர் திரு.M.C.சஜீ என்பவர் பார்வை 1-ல் காணும் விண்ணப்பத்தினை சமர்பித்துள்ளார்.

திண்டுக்கல், வருவாய் கோட்டாட்சியர் மற்றும் புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோரின் அறிக்கையில் விண்ணப்பிக்கப்பட்ட புலங்கள்: 4/2 (0.69.50 ஹெக்), 1274/1 (1.68.50 ஹெக்) மற்றும் 1274/2 (1.57.00 ஹெக்) பட்டா எண்: 5265-ன் படி மிரோனஸ் பில்டர்ஸ் அன்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட் என்ற பெயரில் விராலிப்பட்டி கிராம கணக்கில் தாக்கலாகியுள்ளது. மேற்படி, நிறுவனம் விண்ணப்பதாரர் நிறுவனமான தி/ள்.அடையார் கிரானைட்ஸ் பங்குதாரர்களுடன் குத்தகை ஒப்பந்தம் மேற்கொண்டு மேற்படி, ஒப்பந்தம் வத்தலகுண்டு, சார்பதிவாளர் அலுவலக ஆவண எண்:1028/2021-ன்படி பதிவு செய்யப்பட்டுள்ளது. அதனடிப்படையில் தி/ள்.அடையார் கிரானைட்ஸ் நிறுவனம் மேற்கண்ட புலங்களில் கற்குவாரி குத்தகை உரிமம் வழங்க கேட்டு விண்ணப்பம் அளித்துள்ளனர். இவ்வாறாக மேற்கண்ட புலங்களுக்கு விண்ணப்பதாரர் முழு உரிமையுடையவராகிறார்.

விண்ணப்பிக்கப்பட்ட புலங்கள் புஞ்சை வகைப்பாடுடைய தரிசு நிலங்களாகும். புலங்களில் விவசாய பணிகள் ஏதுமின்றி தரிசாக உள்ளது. புலங்களின் மேற்பரப்பு செம்மண் நிறைந்தும் (சுமார் 1.5மீ ஆழம்), விலை உயர்ந்த மரங்கள் இன்றிவும் உள்ளது. அதன் தொடர்ச்சியாக சிதைந்த பாறைகள் (Weathered Rock), சார்னகைட் (Charnockite) எனப்படும் கடின பாறைகள் (Hard Rock) உள்ளது அருகில் உள்ள குவாரிகளை ஆய்வு செய்ததில் அரிய வருகிறது. கடின பாறைகளில் காணப்படும் வேறுபட்ட நிறங்கள் (Different in colours), இணைப்புகள் (Joints), பிளவுகள் (Fractures) கீரல்கள் (Cracks) வெடிப்புகள் மற்றும் மாறுபட்ட அளவு கொண்ட கனிமங்கள் காரணமாக இப்பாறைகளில் மெருகேற்ற கூடிய வண்ண கற்களை (Polished Granite / Blocks) உற்பத்தி செய்ய இயலாது. இவ்வகை பாறைகளில் இருந்து கட்டிடப்பணிகள் மற்றும் சாலை / இரயில்வே பணிகளுக்கு தேவைப்படும் உடைற்கள், ஜல்லிகள் ஆகியவற்றை உற்பத்தி செய்ய இயலும். புலங்கள் அனைத்தும் ஒன்றுடன் ஒன்று தொடர்ச்சியாக உள்ளது.

மேலும், 300 மீட்டர் சுற்றளவில் குடியிருப்புகள், 50 மீட்டர் சுற்றளவில் ஓடைகள், ஆறுகள், உயர் அழுத்த மின்கம்பங்கள், உயர் வகை மரங்கள் ஆகியவை இல்லை என தெரிவித்துள்ளார். வனத்துறையால் பாதுகாக்கப்பட்ட பகுதியாக

அறிவிக்கப்பட்ட சரணாலையங்கள், தேசிய பூங்காக்கள் சுற்றுச்சுழல் உணர் திறன் மிக்க பகுதிகள் (ECO-SENSITIVE ZONE), 1 கி.மீட்டர் சுற்றளவில் காப்புக்காடுகள், 500 மீட்டர் சுற்றளவில் அருங்காட்சியக துறையின் மூலம் பாதுகாக்கப்பட்ட பகுதிகளாக அறிவிக்கப்பட்ட இடங்கள் மற்றும் வரலாற்று சின்னங்கள் எதும் இல்லை எனவும், புலங்களில் முதல் முறையாக குவாரி உரிமம் கோரப்பட்டுள்ளது என தெரிவித்து 10 ஆண்டுகளுக்கு கீழ்காணும் நிபந்தனைகளுக்குட்பட்டு மேற்கண்ட புலங்களில் உடைகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்துள்ளனர்.

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
2) கற்குவாரி உரிமம் கோரும் புல எண்களுக்கு தெற்கு மற்றும் மேற்கு பகுதியில் அமையப்பெற்றுள்ள அரசு புறம்போக்கு புல எண்: 1269/2-ற்கு 10மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
3) பொதுமக்கள் / விவசாய நிலங்களுக்கு பாதிப்பு ஏற்படாத வகையில் தகுதி வாய்ந்த அங்கீகரிக்கப்பட்ட நபர்கள் மூலம் வெடிமருந்துகனை கையாண்டு சேமிக்கப்பட்டு குவாரியில் வெடித்தல் வேண்டும். குவாரியில் குறைந்த சக்தி கொண்ட வெடி மருந்துகளை பயன்படுத்தல் வேண்டும்.
4) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.
5) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் தொழிலாளர் நலவாரியம் மற்றும் காப்பீடு திட்டத்தில் பதிவு செய்து தொழிலாளர் நலன் பேணபட வேண்டும்.
6) குழந்தை தொழிலாளர்களை குவாரி பணியில் அமர்த்தக் கூடாது.
7) கனிமங்களை வாகனங்களில் கொண்டு செல்லும் போது பாதசாரிகள், பொது மக்கள் மற்றும் பிற வாகனங்கள் பாதிக்காதவண்ணம் தார்பாய்கள் கொண்டு மூடி எடுத்துச் செல்ல வேண்டும்.

எனவே, துறை அலுவலர்களின் பரிந்துரையினை ஏற்றும் நிபந்தனைகளுக்கு உட்பட்டும், திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம், புல எண்கள்: 4/2 (0.69.50 ஹெக்), 1274/1 (1.68.50 ஹெக்) மற்றும் 1274/2 (1.57.00 ஹெக்) மொத்த பரப்பு 3.95.00 ஹெக்டேர் நிலம் பத்து வருட காலத்திற்கு சாதாரண கல் மற்றும் கிராவல் குவாரி உரிமம் வழங்க தகுதி வாய்ந்த நிலப்பரப்பாக (Precise Area) கருதப்படுகிறது.

தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண்: 41 -ன்படி குவாரி பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்கத் திட்டத்தினை (Mining Plan) 90 தினங்களுக்குள் சமர்ப்பிக்குமாறும், விதி எண்: 42-ன்படி மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (State Level Environmental Impact Assessment Authority) இசைவினைப் பெற்று சமர்ப்பிக்குமாறும் மனுதாரர் தி/ள்.அடையார் கிராணைட்ஸ் நிர்வாக பங்குதாரர் திரு.M.C.சஜீ என்பவர் கேட்டுக்கொள்ளப்படுகிறார்.

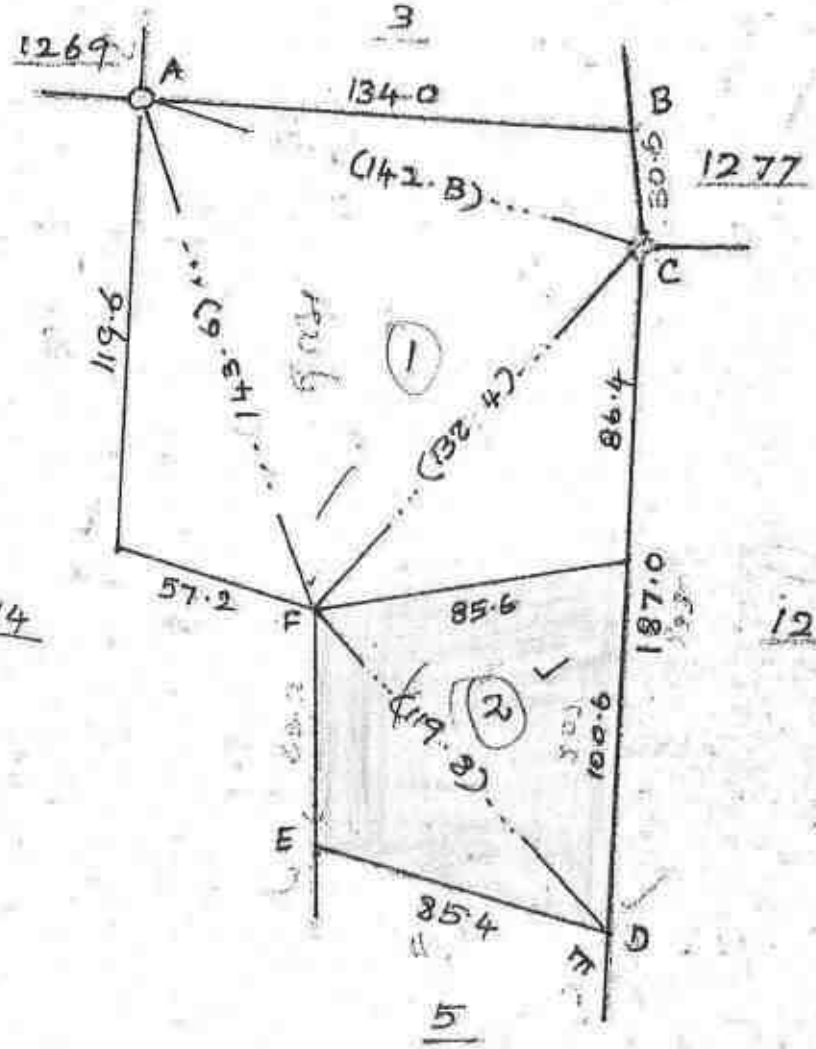
உதவி இயக்குநர், 11/12/15
புவியியல் மற்றும் சுரங்கத்துறை,
திண்டுக்கல்.

பெறுநர்
தி/ள்.அடையார் கிராணைட்ஸ்,
நிர்வாக பங்குதாரர் திரு.M.C.சஜீ,
எண்:15/113-2, கேபிசி காம்ப்ளக்ஸ்,
பெருநை அஞ்சல், சங்கனாச்சேரி,
கோட்டயம் வட்டம்,
கேரளா மாநிலம்.

நகல்
உறுப்பினர் செயலர்,
மாநில சுற்றுசூழல் தாக்க மதிப்பீட்டு ஆணையம் (SEIAA),
சென்னை.

ANNEXURE

4/1 (5)
412



Lease Applied Area-

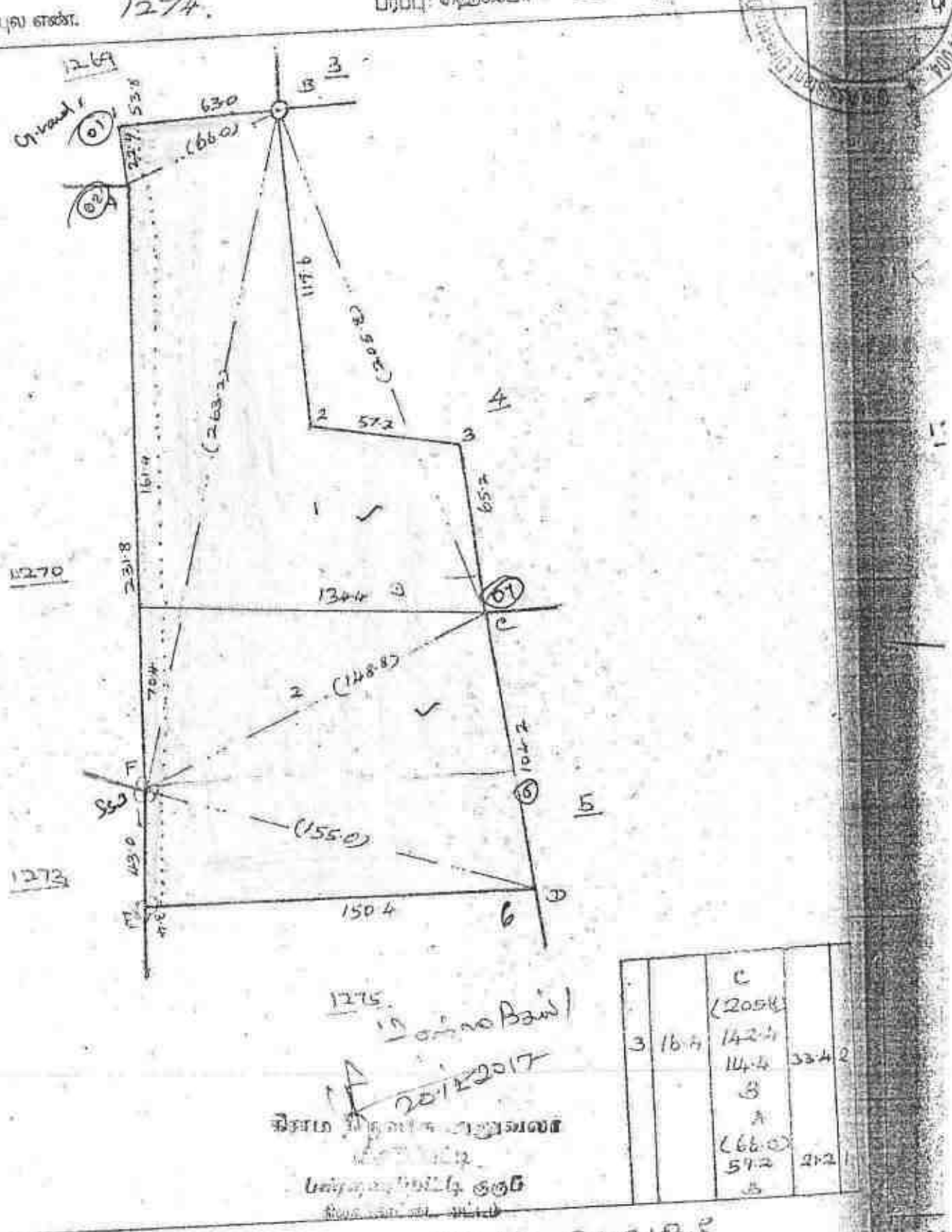
மதுரை

எண். 6

கிராமம் { பெயர். கிழவனேரி

பரப்பு: ஹெக்டேர் 3 ஏ. 25

பு.ல எண். 1274.



25/12/2017

1 ஏ. 25 ச. : 2000 சதுர மீ

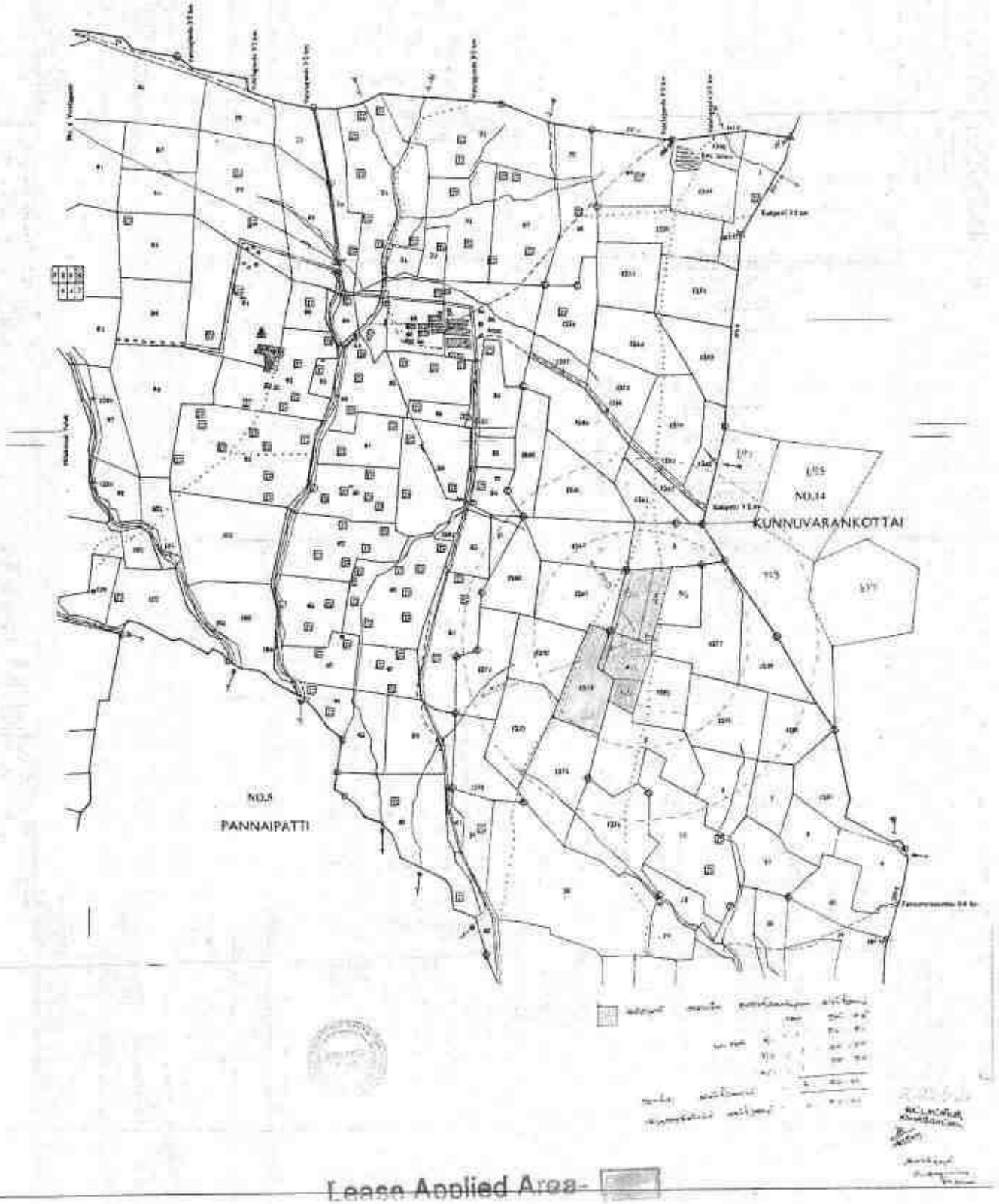
அளவு

26.7.83

Lease Applied Area-

252A

ANNEXURE III



Lease Applied Area-

ANNEXURE Dept. of Revenue Collectorate Dindigul

தமிழ்நாடு அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளர்கள் பெயர்

1. -.. மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
1255	1	1 - 8.50	2.36	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1255	2	2 - 2.50	4.39	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103/13/071671--- -- நத்தத்திற்கு45.7மீஉட்பட்டது- ---- 28-02-2019
1266	2	3 - 34.00	7.18	--	--	--	--	2019/0103/13/071671--- -- நத்தத்திற்கு45.7மீஉட்பட்டது- ---- 28-02-2019
1269 /	3	1 - 37.00	2.95	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1274 /	1	1 - 68.50	3.62	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1274 /	2	1 - 57.00	3.38	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1276	1B2	0 - 40.00	0.86	--	--	--	--	2019/0103/13/071671--- -- நிலவியல் ஓடை---- 28-02-2019
1276	1B3	0 - 10.00	0.22	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
1276	1B4	0 - 5.00	0.11	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
/ 2	1	1 - 76.50	3.83	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
/ 4	2	0 - 69.50	1.50	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103/13/071671--- ----- --- 28-02-2019

		21 - 45.00	46.26					

குறிப்பு :

1.	மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/05265/60678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2.	இத் தகவல்கள் 29-07-2024 அன்று 11:51:14 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3.	கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

1433 – ஆம் பசலியில் கண்டிகை மாவட்டம் திருக்கழுகுன்றம் வட்டம் கிராமம் கணக்கு

நில வரித் திட்டத்தின்படி புலங்களின் விபரம்.					கைப்பற்று தாருடைய பெயரும் என்னும் அல்லது அனுபோக தாருடைய பெயர்.	சாகுபடி யாளரின் பெயர்.	முதல் போகம்.				
நில அளவை எண். (1)	உட்பிரிவு எண். (2)	பரப்பு. (3)	தீர்வை (4)	ஒரு போகம் அல்லது இரு போகம் (5)	(6)	நிலத்தின் சாகுபடி பற்றி அல்லது அனுபோகம் பயிரிப்பட்டுள்ளதா. (7)	சாகுபடி செய்யப்பட்ட அல்லது சாகுபடி செய்யப்படாத தரிசு நிலம் (8)	பயிரின் பெயர். (9)	பயிரின் / தோட்டம். காசு பயிர். (10)	உள்ளவாரான பயிர்கள் ஆதாரம். (11)	விளைச்சல் தூசாவு விபரங்கள். (12)
1269	3	1.39½	2.95	526	[illegible]		7	நஞ	1.000	[illegible]	
1271	1	1.68½	3.62	526	-ம-		1	நஞ	-	-	
	2	1.50½	3.23	526	-ம-		1	நஞ	-	-	
2	1	1.96½	5.83	526	-ம-		7	நஞ	1.000	[illegible]	
4	2	1.45½	4.50	526	-ம-		1	நஞ	-	-	
							15	[illegible]		[illegible]	
								[illegible]			
								[illegible]			
								[illegible]			

256A

330/123-RS III-A16-5,00,000 Cpo.-GBP.-MDU-7.

எண் 2

கிராமத்தில் வருடாவாரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

இரண்டாம் போகம்.					சாகுபடி செய்யப்பட்ட அல்லது சாகுபடி செய்யப்படாத தரிசு நிலம் (13)	பயிரின் பெயர். (14)	பயிரின் / அறுவடையான பரப்பு. (15)	உள்ளவாரான பயிர்கள் ஆதாரம். (16)	விளைச்சல் தூசாவு விபரங்கள். (17)	தீர்வை அலுவலரின் குறிப்புரை:- (1) பயிரிடப்பட்டுள்ள பயிர்களின் விபரங்கள் சரியாக இணைக்கப்பட்டுள்ளதா. (2) வகைப்படுத்தி இல்லாத நிலங்களின் விபரம் (3) முக்கியமான பயிர்களைத் தவிர மற்ற பயிர்களை தனித்தனியாக பதிவு செய்யப்பட வேண்டியதா. (18)	நிர்ணயம் செய்யப்பட்டுள்ள உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விளைச்சல் ஒவ்வொரு நில அளவை எண் தன்மை அடங்கிய பகுதியில். (18.a)	பயிர் பார்வையிட்ட அலுவலர் குறிப்புகள். (19)
											(i) வகம், (ஆ) பயனற்ற பயிர் செய்ய இயலாத நிலம், (இ) ஸ்மசானம் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தப் படும் நிலம், (ஈ) பயிரிடத்தக்க தரிசு நிலையான புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும், (உ) விலக்கப்பட்ட நிகர பயிர் செய்யப்படாத பாலகப் பயிர்களும் தொப்புகளும், (ஊ) நடப்புத் தரிசுகள் (ஐ) இதர தரிசு நிலங்கள்.	

ANNEXURE 2
Dy. Assistant Director Dept. of Statistics and Planning Madurai
Dindigul • 634 004

கிராமக் கணக்கு

433 ஆம் பகுதியில் திண்டுக்கல் தாலுக்கா/தாலுகா திண்டுக்கல் மாவட்டம்

நில வரித் திட்டத்தின்படி புலங்களின் விபரம்.					சாகுபடி பயனின் வகை.	முதல் போகம்.					
நில அளவை எண்.	உட்பிரிவு எண்.	புஞ்சை	தரிசு	ஒரு போகம் அல்லது இரு போகம்.	கைப்பற்று தாரருடைய பெயரும் என்னும் அல்லது அனுபோக தாருடைய பெயர்.	நிலத்தில் எந்த பயிர் எவ்வித காலுப்பளவாக பயிரிடப்பட்டுள்ளது.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது அல்லது பார்த்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அறுவடை மகசூல்.	உள்ளபடியான பயன்கள் ஆதாரம்.	விளைச்சல் அளவு விபரங்கள்.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
282	2E	புஞ்சை	தரிசு	இரு போகம்	தமிழ்செல்வன் (நபர்)		ஜூன்	பருத்தி	400	நிலம்	
	2D	புஞ்சை	தரிசு	இரு போகம்	தமிழ்செல்வன் (நபர்)		ஜூன்	பருத்தி	400	நிலம்	

திரு.ஆ.சரவணன்
உதவி இயக்குனர்
வேளாண்மை விரிவாக்கம்
பன்னை [illegible]

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முதல் போகம்.							இரண்டாம் போகம்.								
எந்த மாதத்தில் பயிர் செய்யப்பட்டது அல்லது எந்த மாதத்தில் செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அறுவடையான பரப்பு.	உள்ளபடியான பயன்கள் ஆதாரம்.	விளைச்சல் அளவு விபரங்கள்.	சிறப்பு அலுவலரின் குறிப்புகள் (1) புலங்களின் வகைகளில் பயிரிடப்பட்ட விவரங்கள் அதனால் (2) வகைப்பாடு இல்லாத பயிர் களின் காரணங்கள் (3) முக்கிய மாற்றங்கள் பயிர்களை உற்பத்தியான பிரதான பிரச்சனை மற்றும் பிரச்சனைகளின் விவரங்கள்.	கிழக்கண் நகலில் பதிவு செய்யாது உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விவரங்கள் ஒப்பொரு நில அளவை எண் அல்லது அதன் பகுதியில். (அ) வகை, (ஆ) பயன்படும் பயிர் செய்ய இயலாத நிலம், (இ) விளைவாய் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தப் படும் நிலம். (ஈ) பயிரிடத்தக்க தரிசு (உ) நிலையான புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும். (ஊ) விலக்கப்பட்ட நிகர பயனில் சேர்க்கப்படாத மரங்கள் பயிர்களும் தோப்புகளும். (எ) தடப்பத் தரிசுகள் (ஏ) நிகர நில நிலங்கள்.	பயிர் பரிசலனையில் அதிகாரி கையொப்பம்.
(13)	(14)	(15)	(16)	(17)	(18)	(19)									

O/o Assistant Director, Dept of Economics and Statistics, Dindigul - 624 004

வட்டாட்சியர் அலுவலக இணைய சேவை - அ-பதிவேடு

ANNEXURE VI

அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

கிராமம் : விராலிபட்டி

1. புல எண்	4	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	2	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	4-2	11. தீர்வை (ரூ - ஹெ)	2.15
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 69.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	1.50
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	5265
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

குறிப்பு:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/4/2/50678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

...ட்சியர் அலுவலக இணைய சேவை - அ-பதிவேடு விவரங்களை பார்வையிட

அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

கிராமம் : விராலிபட்டி

1. புல எண்	1274	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	1	10. மன் தரம்	5
3. பழைய புல உட்பிரிவு எண்	1274-1	11. தீர்வை (ரூ - ஹெ)	2.15
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 68.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	3.62
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	5265
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.மிரோனேஸ் பில்டர்ஸ் அன்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

குறிப்பு:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/1274/1/20678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

வட்டாட்சியர் அலுவலக இணைய சேவை - அ-பதிவேடு விவரங்கள் பார்வையிடல்

அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : திண்டுக்கல்

வட்டம் : நிலக்கோட்டை

கிராமம் : விராலிபட்டி

1. புல எண்	1274	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	2	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	1274-2	11. தீர்வை (ரூ - ஹெ)	2.15
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 57.00
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	3.38
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	5265
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

குறிப்பு:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/1274/2/20678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

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ANNEXURE VII

1028/20

भारतीय गैर न्यायिक INDIA NON JUDICIAL

रु. 1500 FIFTEEN THOUSAND RUPEES

पन्द्रह हजार रुपये Rs. 1500

INDIA

தமிழ்நாடு तमिलनाडु TAMILNADU

A 536086

M/s ADAYAR GRANITES

Changanacherry

சி.அக்பர் | தமிழ்நாடு
முத்திரைத்தாள் விற்பனையாளர் | உரிமம் எண்.
உ.No.20/B1/2015 | நாள் 10.3.2021
விழுப்புரம்-624 202 | ஆய் / 1500

LEASE DEED

This **Lease Deed** is made on this 11th day of March, 2021 at Batlagundu, Dindigul (Tamilnadu).

By and between:

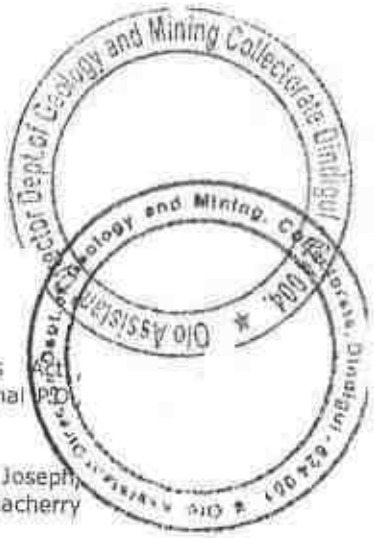
M/s.MIRONES BUILDERS AND DEVELOPERS PRIVATE LTD., (PAN - AAGCM9459A - CIN No : U70101KL2009PTC025255) having its Registered Office at Room No.2, K.B.C.Complex, Opp K.B.C.Garden, Laikkad, Changanacherry, Kerala State - 686 101. by its Managing Director **Mr.LUKOSE KUDAKUTHIYIL CHACKO** (PAN - AKEPC2878A -Mobile No.09446065353) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Changanacherry Village, Changanacherry Taluk, Perunna (Post), Kottayam District, Kerala State - 686101. hereinafter referred to as the "**First Party**" (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include themselves and their legal heirs, successors, executors, administrators and permitted assigns) of the **FIRST PART.**

FIRST PART

SECOND PART

Document No: 1028 of 2021 of Book 1 Contains 27 Sheets 1 Sheet

Registering Officer



AND

M/S. ADAYAR GRANITES a company incorporated under the Companies Act, 1956 and having its registered office at 15/113-2, KBC Complex, Laikkadu, Perunal P.O., Changanacherry, Kottayam District, Kerala – 686 102 through its Partners

1. **Mr.LUKOSE K.C.** (Aadhaar No.4083 3773 4727) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

2. **Mr.THOMASKUTTY K.C.** (Aadhaar No.2447 5470 4601) Age 46 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

3. **Mr.SAJU M.C.** (Aadhaar No.9699 3310 1800) Age 44 years, S/O.Mr.M M Chacko, residing at Milakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State – 685 587.

4. **Mr.CHERIAN JOSEPH** (Aadhaar No.7049 7366 0427) Age 46 years, S/O.Mr. N.M. Joseph, residing at Nellariyil House, Vazhappally P.O., Changanacherry, Kottayam District, Kerala State – 686 103.

5. **Mr.SIJU GEORGE** (Aadhaar No.4889 3853 5566) Age 48 years, S/O.Mr. K.A. Varkey, residing at Kattarath House, Near L.P. School, Thekkumkutty, Krmaranallur, Alli, Kozhikode District, Kerala State – 673 602.

The Partnership deed dated on 12.02.2021 hereinafter referred to as the "Second Party"/Company (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include its legal representatives, administrators, successors and permitted assigns) of the **SECOND PART**.

The First Party and Second Party may be hereinafter individually referred to as the "**Party**" and collectively as the "**Parties**".

WHEREAS:

A. The First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of land admeasuring right got from First Part **P.R.Doc.No.2404/2018** Lands in **29.12 Acres** situated, lying and being In Dindigul Registration District Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, Viralipatti Village in the State of Tamilnadu and more particularly described in the **Schedule-1** annexed to this Agreement (hereinafter referred to as the "**Land Parcel**"). The Land Parcel is clearly shown asper the map annexed hereto as **Annexure-2**.

B. The Second Party is desirous of taking the Land Parcel on lease for Fifteen years (**15**) for the purpose of setting up and operating the ADAYAR GRANITES and shall be the subject matter of the present Agreement.

C. The First Party has represented that there are no legal or other proceedings pending against the First Party which prohibit the First Party from giving the Land Parcel on rent to the Second Party on the terms and conditions as agreed herein between the Parties.

FIRST PART

SECOND PART

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D. The First Party has offered to provide the Land Parcel on rent for 15 (Fifteen) years to the Second Party and the Second Party based on the representation and warranties made by the First Party has agreed to take the same on rent for 15 (Fifteen Years) years on the mutual understanding and assurance that both the Parties shall continue to comply with all terms and conditions as set out hereinafter.

NOW THEREFORE, the First Party and the Second Party have agreed to enter into this Agreement upon the terms & conditions set forth herein below:

1. That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of commercial /operational office, switch yard and other related facilities as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon.

2. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the First Party has good, marketable and a valid title of the Land Parcel, has full power and authority to enter into this Agreement and to handover the vacant and peaceful possession of the Land Parcel as contemplated herein to the Second Party for the term of this Agreement. The First Party further represent(s) and warrant(s) that the First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of the Land Parcel and have taken all steps necessary to ensure that the Second Party gets full rights to enjoy the peaceful possession, required usage of the Land Parcel and the rights granted herein to the exclusion of any third party including withdrawal of any previous consents, permissions and licenses given in respect of the Land Parcel to any third party other than the Second Party .

The First Party has assured that the Land Parcel has not been sold, assigned, transferred, encumbered, acquired or surrendered in any manner whatsoever. The First Party has further assured that its right title or interest in the Land Parcel or any part thereof are free from any mortgage, charge, lien, etc. of any nature whatsoever.

3. That this Agreement shall be valid and enforceable for the period of 15 (Fifteen) years (**"Agreement Period"**) commencing from the date of execution of this agreement (**"the Agreement Commencement date"**) and can be further extended in writing with the mutual consent of the parties after expiry of the Agreement Period. The tenure of the present agreement can further be extended at the option of the Second Party.

4. That the annual rent for the Land Parcel shall be at the rate of Rs.1,00,000/- (Rupees One Lac only) **(Rent)**, starting from the date of execution of this agreement. The payment of Rent shall be made to the First Party, as per their respective ownership of the Land Parcel as defined in Schedule **1**. The rent shall be paid annually and be paid within 30 days from the date when it becomes due, (**"appointed day"**) failing which the First Party will have the right to charge interest at the rate of 12% per annum for the period payment is delayed by the Second Party . It is made clear that the payment of rent as well as interest amount is subject to deduction of applicable TDS in accordance with the prevailing Tax Laws.

FIRST PART

SECOND PART

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Registering Officer

The First Party acknowledges the receipt of the rent amount of **Rs.1,00,000/-** (Rupees One Lac Only) for lease period commencing from the date of execution of this agreement as per the details mentioned in **ANNEXURE-3**.

5. That Second Party shall not sub-let the Land Parcel or any part of it without the written permission of the First Party

6. That the Second Party shall, at the end of the Agreement Period or any extended period, hand over to the Land Parcel to the First Party in its original condition.

7. That the First Party shall, at the end of the Agreement Period, offer to renew the Agreement with the Second Party, on mutually agreeable terms and conditions.

8. That the Second Party shall be entitled to use irrigation facilities as are existing on the said Land Parcel by using the existing bore well, if any, by installing their own equipment, if so necessary in addition to the right of installing and maintaining any other water generating resource. But there shall be no deduction in rent.

9. That the Second Party shall be removed by it on expiry of the Agreement Period or any extension thereof, in accordance with the terms and conditions of this Agreement and shall be entitled to fence the said entire Land Parcel with barbed fencing or with permanent wall as required.

10. That the First Party shall provide a passage/way free from any kind of encumbrances to the Second Party for access to the Land Parcel and also assure(s), confirm(s) and warrant(s) the Second Party that the First Party has cleared all statutory or other dues, utility charges including water and electricity charges, liens, loans and any other encumbrances etc. on the Land Parcel, if any, till the date of delivery of actual physical possession of the Land Parcel.

11. That the Second Party shall be responsible for the payments of water and power consumption charges, if and when applicable, charges levied for change in land use or any other charges, taxes or levies imposed by the Central, State, Local or other Authorities in respect of the use of the land for the Project in excess of the charges, taxes or levies so levied on agricultural land, if any. However, the First Party shall be liable to pay the revenue charges, ground rent or the property tax and the taxes on the income from the Rent received under this Agreement, if any. Applicable Service Tax if any payable on the present Agreement shall be borne by the Second Party subject to producing documentary evidence by the First Party reflecting the proof of deposit of the said service tax with Govt. Authorities.

12. The First Party acknowledge(s) that the Second Party shall be free to deposit land revenue or other taxes if any levied on the Land Parcel in the event of the failure of the First Party to timely deposit the same under intimation to the First Party and shall be entitled to adjust the same from the Rent payable by it to the First Party under this Agreement. However, primarily the liability and responsibility to pay land related revenue taxes with respect to the Land Parcel. shall be that of the First Party only.

FIRST PART

SECOND PART

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13. That the Second Party shall pay the stamp duty as per relevant provisions of the Indian Stamp Act, as applicable to state of Tamilnadu or any other law time being in force in the State of Tamilnadu and registration charges as would be payable in respect of this Agreement (if not exempted) and also other legal expenses and charges payable in connection with this Agreement.

14. That the First Party hereby agree(s) and undertake(s) that First Party shall provide all or any kind of assistance to the Second Party/ to the Project that may be required from the First Party for the setting up and operation of the Solar Power Project on the Land Parcel.

Further it has been agreed that the First Party shall not be entitled to terminate or suspend the Agreement in any condition, except in the event of failure of the Second Party to make payments of the rent within 30 days from the Appointed Day however, the parties hereby agreed that this period of 30 days can further be extended automatically by another period of three months ("**Extended Date**").

15. That the Second Party hereby agrees to keep indemnified the First Party from and against all actions, demands, claims, liabilities, losses, damages, costs, expenses and other liabilities whatsoever brought against, suffered or incurred by the First Party that results from or by reason of any breach of this Agreement on the part of the Second Party.

16. That the Second Party shall maintain the Land Parcel in good condition at its own expense and on expiry of the Agreement Period deliver the same to First Party as far as practicable in a condition as it was handed over to the Second Party , except for normal wear and tear and Second Party shall be fully entitled to remove all its equipment, solar panels and other wirings etc. from the said Land Parcel in every possible manner. It is made absolutely clear and understood between the parties that the equipment(s) is and shall be absolutely owned and possessed by the Second Party and First Party shall have no right or lien thereupon in any manner on account of any reason whatsoever.

17. That the First Party agree(s), warrants and covenants that the Second Party shall at all times during the term of this Agreement hold and enjoy the Land Parcel and the rights specified in this Agreement without any interruption or disturbance by the First Party or any person lawfully claiming through, under or in trust to the First Party or by Title, or any third party, including without limitation, any government instrumentality.

During the term of this Agreement, the First Party shall not take or cause any action or engage in any activities that will unnecessarily interfere with the operation of the Project.

FIRST PART

SECOND PART

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Registering Officer

18. That the First Party shall not, during the terms of this Agreement, transfer or otherwise dispose off or in any manner encumber the Land Parcel or its interest therein or otherwise grant or convey any right or interest in the Land Parcel to any third party without the consent of the Second Party in a manner that would adversely affect the rights transferred to the Second Party under this agreement. However, the First Party may sell the Land Parcel or any part thereof to any person subject to condition that the purchaser of the Land Parcel shall be bound by the terms and conditions of this Agreement and deliver a deed of adherence/ ratification to this effect to the satisfaction of the Second Party and any stamp duty, registration or any other government fee, cesses, charges etc. of the new Agreement shall be carried out at the sole cost and expense of the subsequent purchaser.

19. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the Land Parcel is free from any title defects, duly complies in all respects with the laws of land, and no condition exists at, on or under the Land Parcel that would constitute a violation of the laws or give rise to any right or authority of any government instrumentalities to require the First Party or the Second Party to take any action or to refrain from taking any action with respect to the Land Parcel, or creates any liability or obligation on the First party / Second Party (other than an obligation to pay taxes at statutorily applied rates) with respect to the Land Parcel.

20. That the First Party hereby agrees to keep the Second Party indemnified from and against all actions, demands, claims, defect in title of land, liabilities, losses, damages, cost, expenses and other liability whatsoever brought against, suffered or incurred by the Second Party resulting from or by reason of any breach of any representation or warranty of the First Party provided herein and/ or any violation, non-observance or non-performance by the First Party of any of its obligations under this Agreement . The First Party shall promptly pay all such dues and duties of whatsoever natures relating to Land Parcel as may be determined by any Government Department or by a court of competent jurisdiction at any time and ensure that no disturbance is created by anyone for peaceful enjoyment of the Land Parcel by the Second Party under this Agreement.

21. That keeping in view the nature of Solar Power Project and the investment thereon, the First Party shall not be entitled to terminate this Agreement before its expiry except in the event of non-payment of Rent as defined hereinbefore by giving notice for a period of six months. The Second Party shall have a right to terminate this Agreement at any time by giving an advance written notice of six months without assigning any reason.

22. Any notice, demand, communications or other requests to be given or made under this Agreement shall be only in writing and all such notices etc. shall be delivered by hand, airmail, postage (prepaid), by any national or international reputed courier company. The said notice shall also be deemed to have been delivered in case the same is sent on the last known e mail id of the other party and the same shall be sent on the address as stated in the header of the present Agreement.

FIRST PART

SECOND PART

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Registering Officer

23. That the invalidity or un-enforceability of any part of this Agreement shall not prejudice or affect the validity or enforceability of the other provisions contained in this Lease Agreement. Such invalid or un-enforceable provision of the Agreement shall be severed from the Agreement and the remaining provisions shall remain fully enforceable and binding on the Parties but the same shall not be against the provision of the Contract Act.

24. That, in the event of any dispute, difference or question arises out of or in respect of this Agreement or the commission of any breach of any terms thereof or compensation payable thereunder or in any manner whatsoever in connection with it and not settled by mutual consultation within thirty (30) days, the same shall be referred for arbitration under the Arbitration and Conciliation Act, 1996. The arbitration tribunal shall consist of sole arbitrator who shall be appointed by the Second Party. The decision or award so given shall be binding on the parties hereto. The seat and place of arbitration shall be at Delhi. It is made clear that the provision of Arbitration & conciliation Act, 1996 shall be applicable for resolving the disputed matter.

25. That all the annexures to this Lease Agreement shall be treated as an integral part of this Lease Agreement.

26. That the present Agreement shall be executed in one part wherein the original copy thereof shall be kept and held by the Second Party and a true copy thereof shall be kept with First Party.

27. That notwithstanding anything contained in this Lease Agreement, the following Clauses shall prevail,

a) That the ownership of the Land Parcel shall remain with the First Party and shall not change as a result of this Lease.

b) That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of one commercial /operational office, switch yard as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon. The utility of Land Parcel shall not be disturbed.

c) No Advance amount of this Lease Agreement.

d) That the First Party hereby agrees, confirm and declare that the Second Party in order to secure the debt whether availed by itself or its affiliates, parent or group company from any person, bank and/or financial institution (hereinafter referred to as Lenders) shall have full rights to assign or to create security only with regard to leasehold rights on the land as mentioned in Schedule 1 in favour of the Lenders without requiring any consent/NOC from the Lessors.

e) That the Second Party shall at any point of time during the lease period, have the right to purchase the schedule land on payment of market price (Agreed Price) of the land, the amount of Paid Rent will be adjusted in the cost of the land on prorate basis.

f) That in case any dispute arises, this Agreement shall be governed by the laws applicable in India and the Courts at Periyakulam and Theni (Tamilnadu) shall have the jurisdiction over it.

FIRST PART

SECOND PART

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Registering Officer

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SCHEDULE OF PROPERTIES

1. In Dindigul Registration District, Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, **Viralipatti Village,** Patta No.5265, Survey No.**2/1** an extent of **1-76.5** Hectares or equal to **4 Acres 35 Cents** of punja land.

2. **Viralipatti Village,** Patta No.5265, Survey No.**3/1** an extent of **1-56.5** Hectares or equal to **3 Acres 86 Cents** of punja land.

3. **Viralipatti Village,** Patta No.5265, Survey No.**3/2** an extent of **1-20.0** Hectares or equal to **2 Acres 96 Cents** of punja land.

4. **Viralipatti Village,** Patta No.5265, Survey No.**4/1** an extent of **1-75.5** Hectares or equal to **4 Acres 33 Cents** of punja land.

5. **Viralipatti Village,** Patta No.5265, Survey No.**4/2** an extent of **0-69.5** Hectares or equal to **1 Acres 71 Cents** of punja land.

6. **Viralipatti Village,** Patta No.5265, Survey No.**1269/3** an extent of **1-37.0** Hectares or equal to **3 Acres 38 Cents** of punja land.

7. **Viralipatti Village,** Patta No.5265, Survey No.**1274/1** an extent of **1-68.5** Hectares or equal to **4 Acres 16 Cents** of punja land.

8. **Viralipatti Village,** Patta No.5265, Survey No.**1274/2** an extent of **1-57.0** Hectares or equal to **3 Acres 87 Cents** of punja land.

9. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2C** an extent of 0-46.5 Hectares or 1 Acre 14 Cents on **Western Side 0-10.5** Hectares or equal to **25 Cents** of punja land.

10. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2D** an extent of 0-41.0 Hectares or 1 Acre 01 Cents on **Western Side 0-10.25** Hectares or equal to **25 Cents** of punja land.

FIRST PART

SECOND PART

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Registering Officer

Above 1 & 10 items Total or **Acres 29 Cents 12** of Punja Lands Bounded On:

North : Road.

South : Land in Survey No.1275.

West : Land in Survey Nos.1275, 1270, 1273, 1268, 1264, 1265, 1264/2.

East : Template Trading and Contracting Pvt.ltd land.

The property situated within the limit of Viralipatti Village Panchayat.

FIRST PART

SECOND PART

WITNESSES :

1. S. Arockiasamy S/o A. Silvai Raj

2. Thomas 8/. Skaria Kurian. 6/187 chinnupatti Puthenparambil Chingavanam Kottayam Kerala Reddiyarpatti (P.O) Nilakkottai (T.K)

Drafted by : (B.Gopalan),

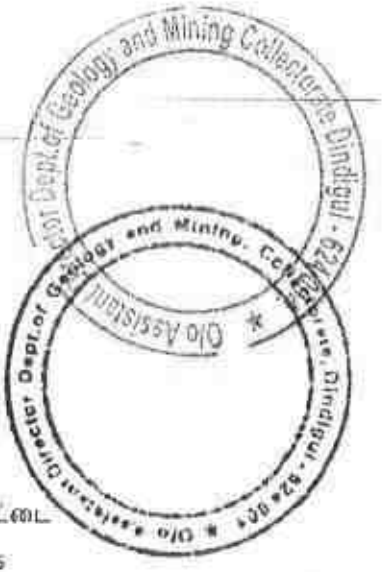
S/O.V.C.Baluchamy, Batlagundu.

State Document Writer License No: A / 414 / DGL /99

Renewal Closing Date: 31.12.2023.

Document No: 1028 of 2024 in Book 1 Contains 2 Sheets

Registering Officer



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளர்கள் பெயர்

1. ... மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
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1269	3	1 - 37.00	2.95	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B2	0 - 40.00	0.66	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
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Registering Officer

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1276	184	0 - 5.00	0.11	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
		21 - 45.00	46.26					

குறிப்பு2 :

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2. இத் தகவல்கள் 11-03-2021 அன்று 03:19:58 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

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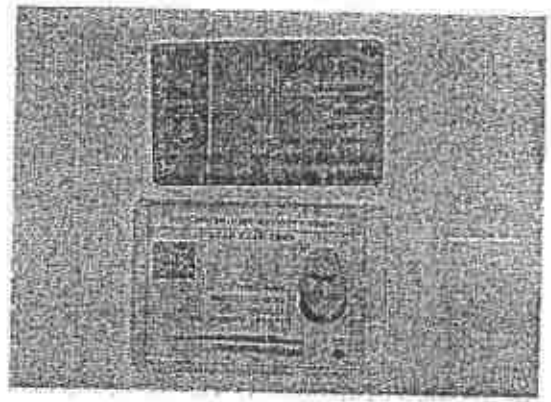
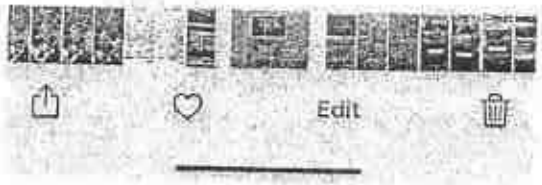
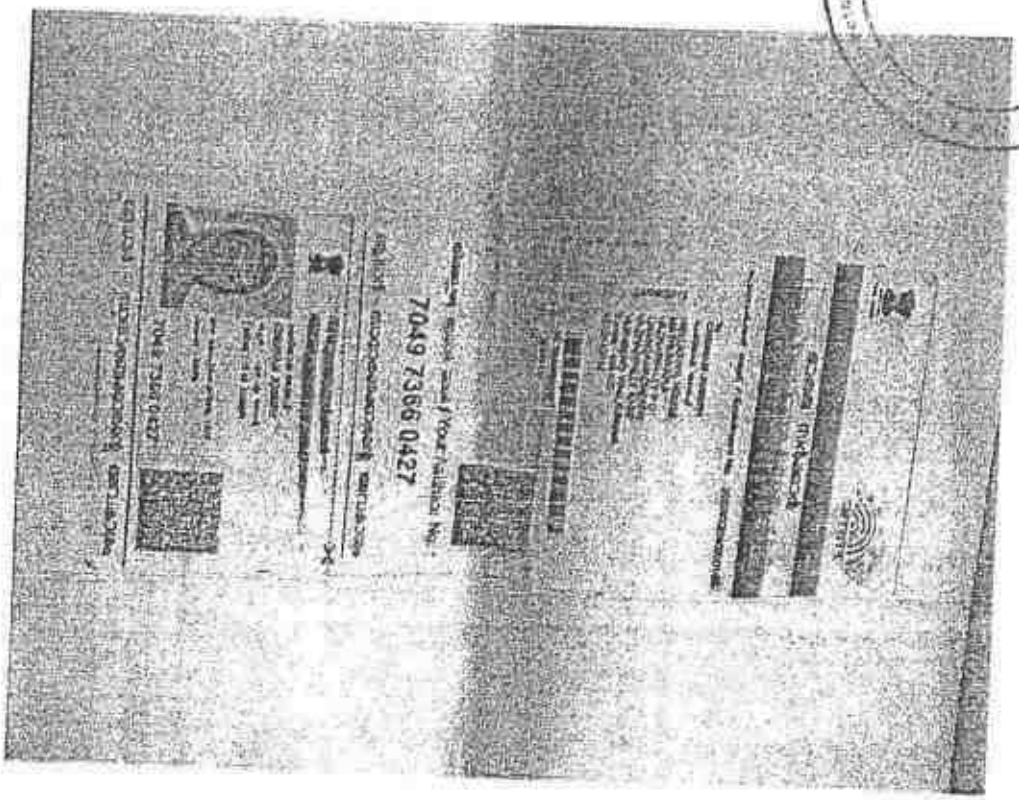
Registering Officer

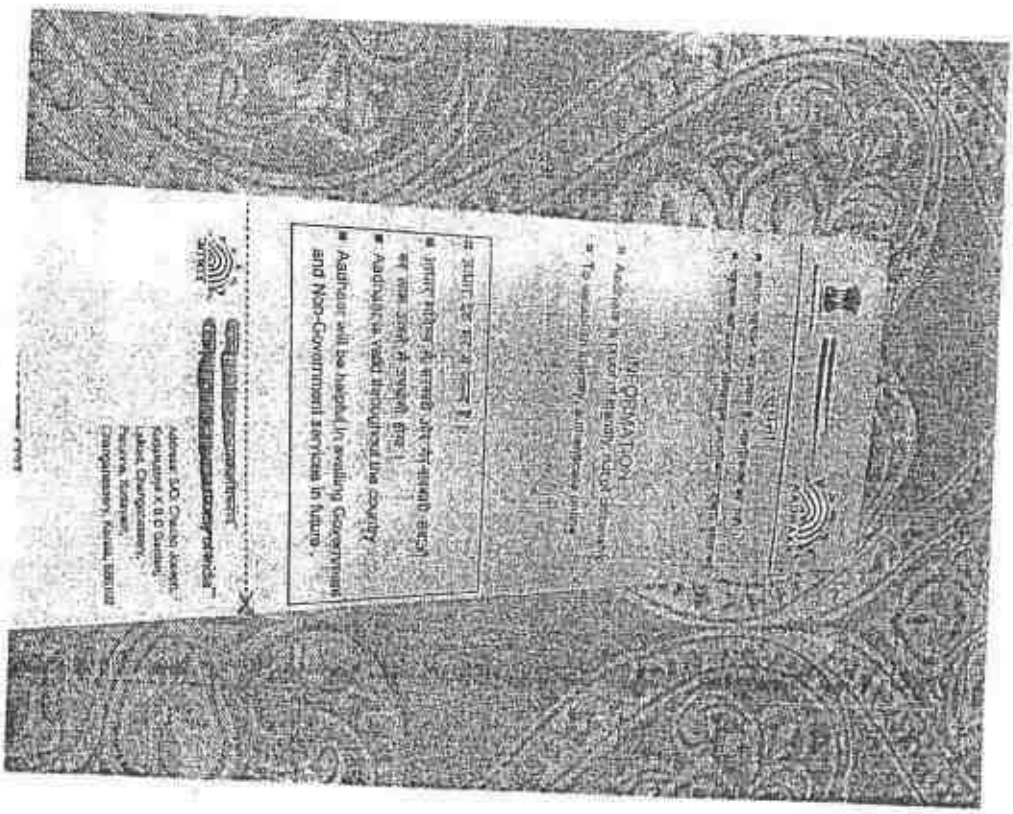




274A

Dept.of Geology and Mining, Collectorate Dindigul - 624 001.
O/o Assistant Director





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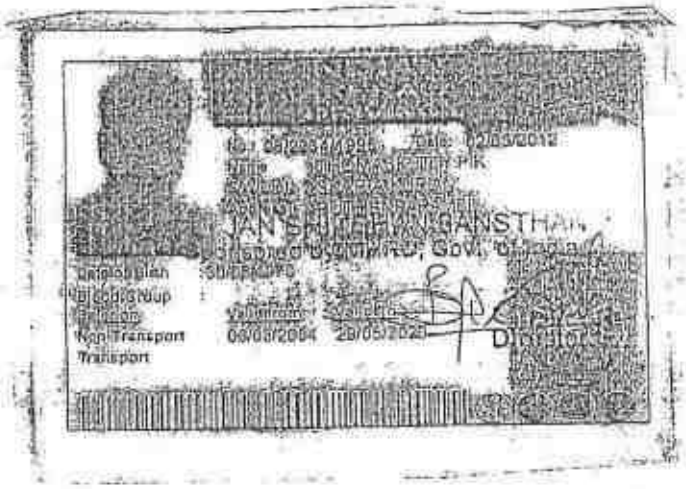
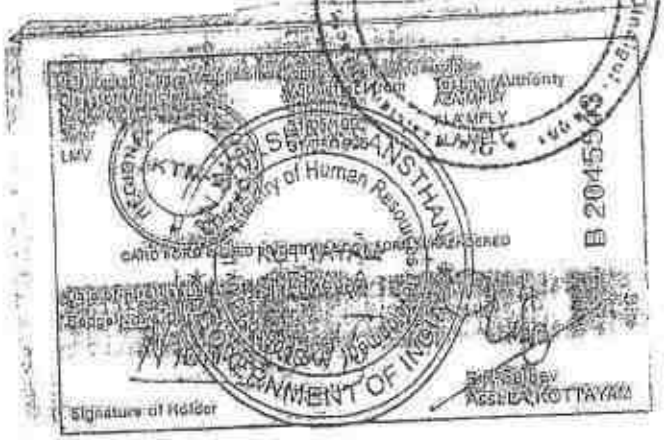
Document No: 1028 of 2021 of Book
1 Contains 20 Sheets 17 Sheet

Registering Officer





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தமிழ்நாடு அரசு
பதிவுத்துறை
ஒப்புகைச்சீட்டு

பார்வைக்குறிப்பு விவரங்கள்

சார்பதிவாளர் அலுவலகப் பெயர்	வத்தலக்குண்டு
விண்ணப்ப எண்	S01LANDVV202103119851910
பரிவர்த்தனை எண்	REG202103118776461
பரிவர்த்தனை நாள்	11/03/2021

விண்ணப்ப விவரங்கள்

விண்ணப்பதாரர் பெயர்	chidamparam
சேவை வகை	சார்பதிவாளர் அலுவலகத்தில் ஆவண்ப் பதிவு (புதியது)
முத்திரைத்தீர்வை (₹)	2700/-
பதிவுக் கட்டணம் (₹)	17700/-
கணினிக் கட்டணம் (₹)	250/-
குறுந்தகடுக் கட்டணம் (₹)	100/-

தொகை செலுத்திய விவரங்கள்

வங்கியின் பெயர்	பாரத ஸ்டேட் வங்கி
வங்கிக்குறிப்பு எண்	IK0BAKRLE3
பணம் செலுத்திய விதம்	இணைய வழி
செலுத்தப்பட்ட தொகை (₹)	20750/-
தொகை செலுத்தும் நிலைப்பாடு	வெற்றி
தொகை செலுத்திய நாள்	11/03/2021

ஏதேனும் சந்தேகங்கள்/குறைகள் இருப்பின் கீழ்க்கண்ட வழிமுறைகளில் தெரிவிக்கலாம்

கட்டணமில்லா தொலைபேசி எண்	1800 102 5174
மின்னஞ்சல் முகவரி	helpdesk@tnreginet.net

Document No:1023 of 2021 of Book 1 Contains 2 Sheets 1 Sheet
Registering Officer

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R/வத்தலக்குண்டு/புத்தகம்-1/1028/2021

1899ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான சான்று

2021ம் ஆண்டு வரிசை எண் 287

KBC Gardens, Lalkad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala, கேரளா, இந்தியா, 686101-ல் வசிக்கும் திரு லூக்காஸ் என்பவரிடமிருந்து ₹ 2,700/- (ரூபாய் இரண்டாயிரத்து எழுநூறு மட்டும்) இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 41வது பிரிவின் படி குறைவாயிருந்த முத்திரைக் கட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் தான்றளிக்கிறேன்.

Sub-Registrar Office
BATALAGUNDU

சார்பதிவாளர் : வத்தலக்குண்டு
நாள்: 11/03/2021

SUB-REGISTRAR
BATALAGUNDU

சார்பதிவாளர் மற்றும் இந்திய முத்திரைச் சட்டம் பிரிவு 41ன் படி ஆட்சியர்

2021 ஆம் ஆண்டு மார்ச் மாதம் 11ம் தேதி பி.ப. 04:40 மணியளவில் வத்தலக்குண்டு சார்பதிவாளர் அலுவலகத்தில் தாக்கல் செய்து கட்டணம் ₹ 18,050/- செலுத்தியவர்.

இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதி வாங்கியதாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

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Document No: 1028 of 2021 of Book 1 Contains 22 Sheets 20 Sheet

ANNEXURE

കേരളം केरल KERALA B 925356

DEED OF PARTNERSHIP

THIS DEED OF PARTNERSHIP executed on this the 26th day of December,2023 amongst:-

1. **LUKOSE KUDAKUTHIYIL CHACKO,**, son of Mr. Chacko Joseph, aged 68 years, residing at Kudakuthiyil K B C Garden, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN – 686 102 on the First Part (hereinafter referred to as the First Party)
2. **THOMASKUTTY K.C.**, son of Mr. Chacko Joseph, aged 49 years, residing at Kudakuthiyil K B C Enclave, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN – 686 102on the Second Part (hereinafter referred to as the Second Party).

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

Rlo - 12896 - Rs. 5000/- CHRIAN JOSEPH
26.12.2023 NELLAIRIYIL HOUSE
VAZHAPPALLY, CHANGANACHERRY
VENDOR

SUB TREASURY

O/o Assistant Director, Dept. of Geology and Mining Collectorate Kundipuri, 624 004

3. **SAJU M.C.**, son of Mr. M.M. Chacko, aged 47 years, residing at Mlakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State, PIN – 685 587 on the Third Part (hereinafter referred to as the Third Party).

4. **CHERIAN JOSEPH** son of Mr.N.M.Joseph, aged 49 years, residing at Nellaniyil House, Vazhappally P.O., Changanacherry, Kottayam, District, Kerala State, PIN – 686 103 on the Fourth Part (hereinafter referred to as the Fourth Party) **AND**

5. **RAJU CYRIAC** son of Cyriac, aged 53 years, residing at Kuzhikkattil House, Vayala P.O., Elackad, Meenachil, Kottyam District, Kerala State, PIN – 686 587 on the Fifth Part (hereinafter referred to as the Fifth Party)

WHEREAS the parties of the First Part to Third Part hereto have been carrying on business under the Name & Style **"ADAYAR GRANITES"** with its principal place of business at Bullding No. 15/113-2, KBC Complex, Laikkadu, Perunnai P.O., Changanacherry, Kottayam District, Kerala – PIN : 686 102 along with **Mr. SIJU GEORGE** son of K.A. Varkey, aged 51 years, residing at Kattarath House, Near L.P. School, Thekkumkutty, Kumaranalloor, Alli, Kozhikode District, Kerala State, PIN – 673 602 on the basis of the deed of partnership executed among them on 12th day of February, 2021.

AND WHEREAS the said **Mr. SIJU GEORGE** has expressed his desire to retire from the partnership on the close of the business hours as on 26th day of December, 2023.

AND WHEREAS the party of the fifth part **Mr. RAJU CYRIAC** has expressed his desire join the partnership and is admitted to the partnership firm with effect from 26th day of December, 2023 with the consent of all the partners.

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

O/o Assistant Director Dept.of Geology and Mining Collectorate Dindigul - 624 004

AND WHEREAS the retiring party retired from the business, after mutual settlement of his accountin the partnership, and the party of the fifth part has been admitted to the partnership.

AND WHEREAS, it has become necessary to reconstitute the partnership deed specifying the terms and conditions of the reconstituted partnership in to writing.

WITNESSES AND it is hereby mutually agreed that the parties shall become partners upon the following terms, conditions and covenants.

1) NAME:
The name of the Partnership Business shall be "ADAYAR GRANITES".

2) DATE OF COMMENCEMENT OF PARTNERSHIP:
The reconstituted partnership shall commence with effect from 26thday December, 2023 (26-12-2023) and to be a Partnership at Will.

3) REGISTERED OFFICE:
The Registered Office of the partnership shall be at Building No.15/113-2, KBC Complex, Laikkadu, Perunnai P.O., Changanacherry, Kottayam District, Kerala – PIN – 686 102 and the same can be changed to any place as the partners mutually decide from time to time. The firm may open branch/branches anywhere in India.

4) NATURE OF BUSINESS:
To primary object of the partnership firm is to carry on business of quarrying, mining, processing and setting up metal crushing units.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

Director Dept. of Geology and Mining Collectorate Thrissur - 624 004

The firm may also carry on the business of fabricating, storing, staging, marketing and selling granite stones and other stone products etc. at any places or locations as may be decided. The firm may carry on the business as quarry masters and to purchase, take on lease or in exchange or acquire by quarrying sets or licence, concession, grant or otherwise any lands, quarries, quarrying rights, easement rights and privilege and other effect of stones, chalks, clay, metals, other stones or deposits. The firm may also carry on the business of setting up an industrial metal crushing unit to manufacture aggregates, m-sand and similar products and similar nature activities and for the purpose to acquire and/or construct land and building, machineries, equipment and vehicles etc. The parties may at any time discontinue any of the above business or start any fresh line of business though not mentioned herein, as would be decided between them, from time to time.

5) **CAPITAL:**

The capital of the partnership shall be the amounts lying to the credit of the parties from time to time and the parties may further contribute to the capital in such proportion as they may decide in accordance with the requirement of the business.

6) **DRAWINGS :**

The parties are at liberty to make withdrawals from the capital of the Firm in such manner as agreed among them.

First Party	:	LUKOSE KUDAKUTHIYIL CHACKO
Second Party	:	THOMASKUTTY K.C.
Third Party	:	SAJU M.C.
Fourth Party	:	CHERIAN JOSEPH
Fifth Party	:	RAJU CYRIAC

O/o Assistant Director, Dept. of Geology and Mining Collectorate Complex, Kollam - 691 004

7) MANAGING PARTNER:

The third party Mr.SAJU M.C. shall be the Managing Partner of the firm and may represent the firm before any Civil, Judicial or Revenue authorities and is authorized to deal with other parties for any matter concerned with the business of the firm.

8) WORKING PARTNERS:

All the partners shall be working partners of the firm. The working partners shall attend to all the day to day transactions and matters relating to the affairs of the firm. They shall arrange to keep proper accounts, vouchers and records relating to the firm's business and affairs. The working partners shall be entitled to an annual remuneration. The partners of the firm, by way of a duly convened meeting and by passing a proper resolution in this regard, can appoint any other person as the working partner.

9) INTEREST:

The Capital, Current and Loan account of the partners shall carry a maximum interest of 12% per annum , however, the partners may mutually decide to reduce the rate of interest or waive the payment of interest at any later date. The interest shall be payable on the daily balances of the account, up to 31st March or such other date as may be prescribed by the Government of India as the financial year ending date every year.

10) SALARY OR REMUNERATION:

After debiting all the relevant expenses as per the usual custom and usage of trade, salaries or remuneration may be payable to the working partners. The

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

Assistant Director Geology and Mining Collectorate Ernakulam - 682 001 O/o

total salary or remuneration payable shall be computed in the manner and limits as prescribed U/S 40(b) of the Income Tax Act 1961 as amended from time to time.

11) **BOOKS OF ACCOUNTS :**

Proper books of accounts as are usual in this line of trade shall be maintained and the partners are at liberty to inspect the same and extract copies there from at all reasonable times. That once in a year, on the THIRTY FIRST day of March or such other date as may be prescribed by the Government of India as the financial year ending date, the accounts of the firm shall be closed and a Profit and Loss Account and a Balance Sheet shall be prepared.

12) **BANK ACCOUNTS:**

The partners jointly may open accounts with any Bank for and on behalf of the firm. The bank accounts shall be operated by the Managing Partner along with any other partner jointly.

13) **PROFIT SHARING RATIO:**

After debiting all the relevant expenses as per custom and usage of trade and after debiting interest and salary as per clause 9, and 10 as mentioned above, the Net Profit or Loss as the case shall be distributed among the partners as under:

Party of the First Part	:	20% of the profit or loss
Party of the Second Part	:	20% of the profit or loss
Party of the Third Part	:	20% of the profit or loss
Party of the Fourth Part	:	20% of the profit or loss
Party of the Fifth Part	:	20% of the profit or loss

First Party : **LUKOSE KUDAKUTHIYIL CHACKO**

Second Party : **THOMASKUTTY K.C.**

Third Party : **SAJU M.C.**

Fourth Party : **CHERIAN JOSEPH**

Fifth Party : **RAJU CYRIAC**

14) RETIRMENT/ RESIGNATION OF PARTNERS:

That if any one of the partner decides to retire, he may do so by submitting his resignation. In such case financial statements up to the date of retirement shall be prepared and capital/current/loan standing to his name on the date of retirement shall be arrived at. The dues to the retiring partner shall be paid within 6 months from the date of retirement or such other period as decided by the partners mutually. However, the partnership business shall not be dissolved on this count. The remaining partner/s are free to carry on the business by themselves in the manner in which they decide and no goodwill shall be paid to the retiring / resigning partner.

15) DEATH OF A PARTNER:

That in the event of the death of the partner the partnership shall not be dissolved and the firm shall continue. The legal representative/s of the deceased partner/ s has right to become a partner with immediate effect in the partnership business. Otherwise the deceased partner shall be treated as a partner who has resigned.

16) BORROWING POWERS:

The Managing partners have the power to borrow funds for and on behalf of the firm. They will have to affix their signatures on the documents required for borrowing funds.

17) ADMISSION OF PARTNER:

That a new partner can be brought into the partnership business only if all the continuing partners agree to the above. All the continuing partners together should decide the terms on which the new partner shall be admitted and in the event of reconstitution of the partnership business the existing partners and the new partner/s shall sign the reconstitution deed.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

18) GOOD WILL:
That in the event of dissolution of the firm the goodwill if any shall be divided by the partners in accordance to their profit-sharing ratio.

19) ARBITRATION:
That in case of any dispute between the partners the same shall be referred to private arbitration and the award of such arbitration shall be final and binding on all the partners to this deed.

20) DISSOLUTION :
If all the partners mutually agree in writing to dissolve the firm, then the partnership firm can be dissolved.

21) DUTIES AND OBLIGATION OF PARTNERS:

a. That all the partners shall diligently attend to the business of the partnership and faithfully engage himself therein.
b. That all the partners shall be just and faithful to the other partners in all transaction relating to partnership and at all times give to the other partners full information and truthful explanation and account on all matters relating to the affairs of the partnership and afford every assistance in his power in carrying on the business of the partnership for their mutual advantage.
c. All the partners have the right to engage or dismiss any employee of the partnership.
d. That all the original deeds, cheques, documents and other important matters relating to business shall be kept at the registered office of the partnership business.
e. That all the partners shall actually pay their separate private debts if any, with out in any way interfering with the partnership and indemnify the other partners and the firm against the same and all expenses on account there of.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

f. That all the partners shall forthwith pay all monies, cheques negotiable instruments and other received by him on account of the firm into the firm's bank account only.

g. That all the partners shall sign all the necessary forms, declaration, documents etc. as may be required for filing the same with the goods and service tax, income tax, registrar of firms, customs and other authorities like sub registrar office etc.

b) That all the partners shall carry on the business of the firm to the greatest common advantage, be just and faithful to each other and to render true accounts and full information of all things affecting the firm to all the partners to their legal representative.

c) It is specifically mentioned here that no similar business activity shall be carried out by any partner/s while he is a partner of the firm so as to compete with the business of the firm. The partnership name shall not be used under any circumstances for any business activity without information and consent of all the partners.

That no partner shall without the (previous written) consent of the others;

a. Give any security or promise for payment of money or assets on account of the firm.

b. Assign, mortgage or charge his share in the partnership or the assets or profits of the firm or any part thereof or make any other person a partner with him therein.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

Director of Geology and Mining Collectorate Kinfra Industrial Park 624 004 O/o Assistant

c. Compromise or compound or in any way part (except upon payment thereof in full) release or discharge any debt due to the partnership.

22) GENERAL CLAUSE

a) That the terms of this partnership deed may be altered, added, substituted, or varied by the mutual consent of the partners in writing.

b) That, wherever no specific provision are made in this deed, the provisions of Indian Partnership Act, 1932 as amended from time to time and up to date shall apply.

IN WITNESS WHERE OF, WE THE PARTNERS TO THIS PARNTNERSHIP DEED HAVE SET OUR RESPECTIVE HANDS ON THIS DAY, MONTH AND YEAR AS HERE IN ABOVE MENTIONED.

First Party : LUKOSE KUDAKUTHIYIL CHACKO

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : RAJU CYRIAC

WITNESS

1. JOHNSON GEORGE
KUNNUMMEL (H)
MUTHALAKODAM P.O
THODUPUZHA

2. BIJUMON NR
NADUVILEDATH (H)
EAST KALOOR
THODUPUZHA

Assistant Director Geology and Mining Collectorate

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விவரங்கள் : இ. எண் 19(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5266

உரிமையாளர்கள் பெயர்

1. .. டெல்லெட்டரேஷ் அண்ட் கான்ராக்டிங் பிரைவேட் லிமிடெட்

2. .. மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
12	1	0 - 77.00	1.66	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1263	-	2 - 2.90	4.37	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1282	2D	0 - 41.00	0.88	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1282	2C	0 - 46.50	1.00	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1275	1B1	1 - 14.50	2.46	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
--	--	4 - 81.50	10.37					

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் தகவல் விவரங்களின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 13/12/805 /05266/50698 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 11-03-2021 அன்று 03:23:12 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கலாம்

3/11/2021, 3:26 P

Document No. ... Contains ... Signature

1 of 1

1274	2	1 - 57.00	3.38	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1266	2	3 - 34.00	7.16	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B3	0 - 10.00	0.22	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1255	2	2 - 2.50	4.39	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B4	0 - 5.00	0.11	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
		21 - 45.00	46.26					

குறிப்பு2 :

1 மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை இவற்றை சரிபார்க்க https://eservices.tn.gov.in என்ற இணைய தளத்தில் 13/12/006 /99265/50670 எனும் குறியட எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.

2 இந்த தகவல்கள் 11-03-2021 அன்று 03:19:56 PM நேரத்தில் அச்சடிக்கப்பட்டது

3.ஸ்மார்ட்போன் மொபைலில் barcode ஸ்கேனர் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

Document No: 102_8 of 2021 M/s Book
Contains 02 Sheets
Authorising Officer

3/11/2021 3:23 PM

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) விரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளரின் பெயர்

1. ... மிரோனேஸ் பில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏ	ரூ - பை	ஹெக - ஏ	ரூ - பை	ஹெக - ஏ	ரூ - பை	
1255	1	1 - 8.50	2.36	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1269	3	1 - 37.00	2.95	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B2	0 - 40.00	0.86	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019

3/11/2021, 3:23 PM

Document No. 1.B.A.8 of 2021 Book 1 Pages 22 Sheets 11 Sheet

292A

ADAYAR GRANITES
15/113-2, KBC COMPLEX
LAIKKADU, PERUNNAI, CHANGANACHERRY
KOTTAYAM, KERALA - 686102
Email: adayargranites@gmail.com Mob: 9447391909

District Geology and Mining Collectorate Manual - 634 004
O/o Assistant Director *

COPY MINUTES OF THE MEETING HELD ON 01/10/2024

Where it is deemed desirable and in the best interests of this Firm that the following actions be taken by the Partners of M/S. ADAYAR GRANITES pursuant to resolution,

NOW, THERE FORE, BE IT RESOLVED TRAT, pursuant to applicable law, the undersigned, being all the partners of this firm, hereby consent to, approve, and adopt the following.

RESOLVED THAT, it is in the best interest of the firm to appoint Mr. Cherian Joseph, Partner and Mr. Saju M.C Partner are the Authorized Signatories of the firm for Goods and Service Tax Act. That the above partners also shall have the power to, apply for Goods and Service Tax Registration, modification, amendment etc. and to represent the firm in any civil or criminal proceedings, and to do all necessary actions to carry out the affairs of the firm.

For Adayar Granites

Saju M.C
(Managing Partner)

Lukose Kudakuthiyil Chacko
(Partner)

Thomaskutty K.C
(Partner)

Cherian Joseph
(Partner)

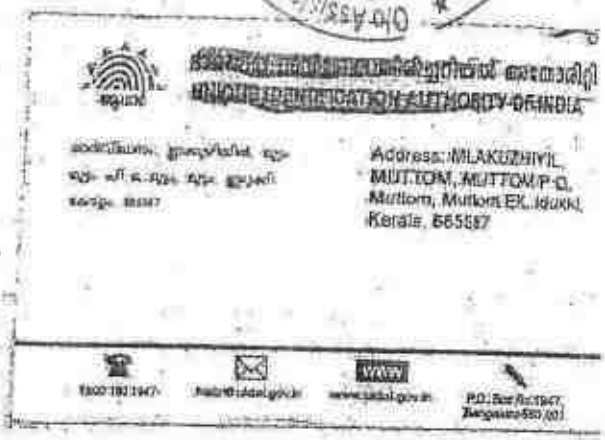
Raju Cyriac
(Partner)

Kottayam
10/01/2024

Assistant Professor
Department of Geology and Mining
Government College
Chittur - 678 654
O/o

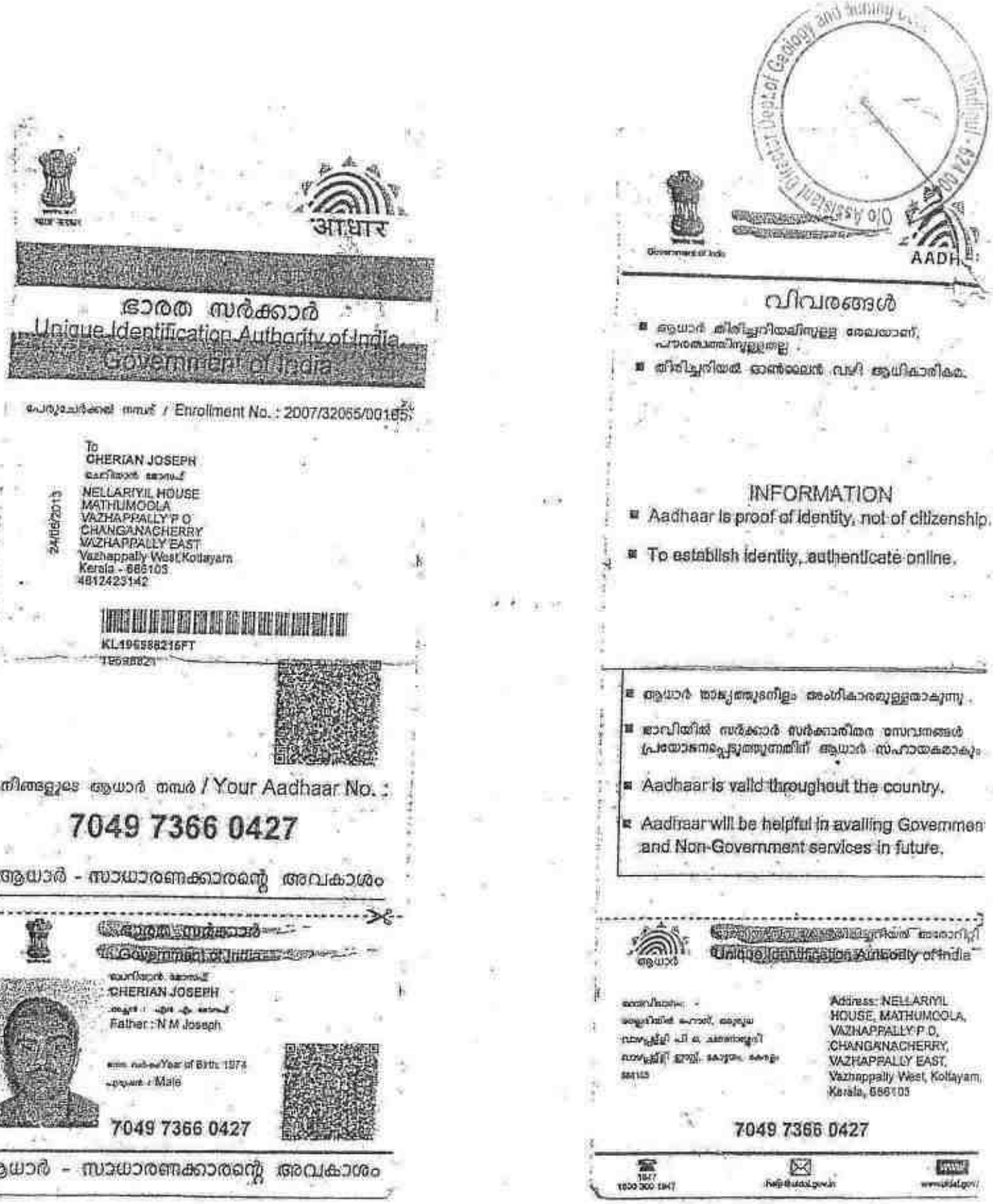
आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
THOMASKUTTY K C
JOSEPH CHACKO KUDAKUTHIYIL
20/05/1974
Permanent Account Number
ALBPC1289R
Signature

Dept. of Geology and Mining Collectorate Ernakulam
O/o Assistant Director
624 004



Dte. Assistant Director, Govt. Dept. of Geology and Mining Collectorate Premises, Idukki - 624 004

296A



ഭാരത സർക്കാർ
Unique Identification Authority of India
Government of India

പേരുചേർക്കൽ നമ്പർ / Enrollment No.: 2007/32065/00165

To
CHERIAN JOSEPH
ചെറിയാൻ ജോസഫ്
NELLARIYIL HOUSE
MATHUMOOLA
VAZHAPPALLY P O
CHANGANACHERRY
VAZHAPPALLY EAST
Vazhappally West,Kottayam
Kerala - 686103
4812423142

24/06/2013

KL1965886216FT

നിങ്ങളുടെ ആധാർ നമ്പർ / Your Aadhaar No.:

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

ഭാരത സർക്കാർ
Government of India

ചെറിയാൻ ജോസഫ്
CHERIAN JOSEPH
Father : N M Joseph

ജനന വർഷം/Year of Birth: 1974
പുരുഷൻ / Male

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

Government of India

AADH

വിവരങ്ങൾ

- ആധാർ തിരിച്ചറിയലിനുള്ള രേഖയാണ്, പൗരത്വത്തിനുള്ളതല്ല .
- തിരിച്ചറിയൽ ഓൺലൈൻ വഴി ആധികാരികമാക്കുക.

INFORMATION

- Aadhaar is proof of identity, not of citizenship.
- To establish identity, authenticate online.

- ആധാർ രാജ്യത്തുടനീളം അംഗീകാരമുള്ളതാകുന്നു .
- ഭാവിയിൽ സർക്കാർ സർക്കാരിതര സേവനങ്ങൾ പ്രയോജനപ്പെടുത്തുന്നതിന് ആധാർ സഹായകമാകും
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

ആധാർ
Unique Identification Authority of India

Address: NELLARIYIL HOUSE, MATHUMOOLA, VAZHAPPALLY P.O, CHANGANACHERRY, VAZHAPPALLY EAST, Vazhappally West, Kottayam, Kerala, 686103

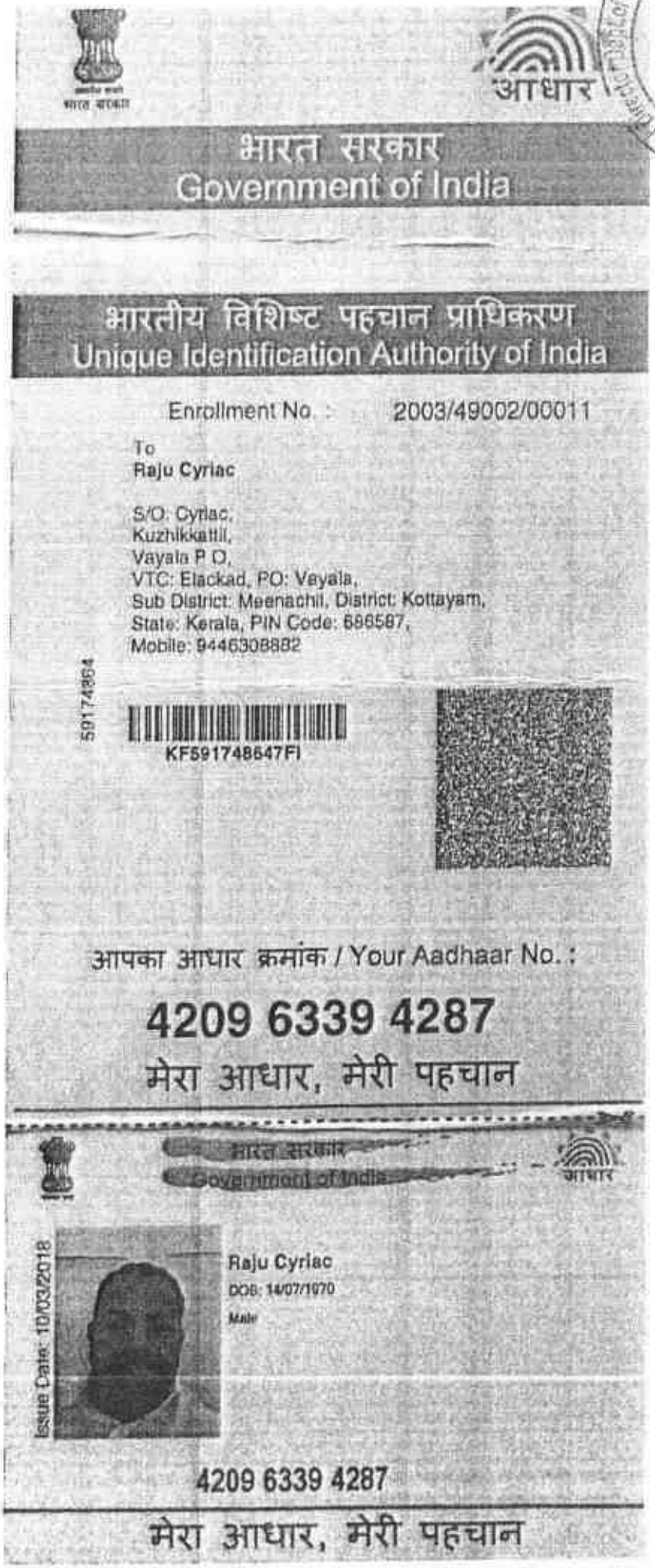
7049 7366 0427

1947
1800 300 1947

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
RAJU CYRIAC
V M CYRIAC
14/07/1970
Permanent Account Number
AHTPC8820C
Signature

O/o Assistant Director Geological Survey and Mining Collectorate Dindigul - 624 004

O/o Assistant Professor (Geology and Mining) Collectorate Campus, Kollam - 691 004



भारत सरकार
Government of India

आधार

भारतीय विशिष्ट पहचान प्राधिकरण
Unique Identification Authority of India

Enrollment No. : 2003/49002/00011

To
Raju Cyriac

S/O: Cyriac,
Kuzhikkattil,
Vayala P O,
VTC: Elackad, PO: Vayala,
Sub District: Meenachil, District: Kottayam,
State: Kerala, PIN Code: 686587,
Mobile: 9446308882

591748647

KF591748647FI

आपका आधार क्रमांक / Your Aadhaar No. :

4209 6339 4287

मेरा आधार, मेरी पहचान

भारत सरकार
Government of India

आधार

Issue Date: 10/03/2018

Raju Cyriac
DOB: 14/07/1970
Male

4209 6339 4287

मेरा आधार, मेरी पहचान

299A

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आधार

भारत सरकार
Unique Identification Authority of India
Government of India

Enrollment No. : 2003/35003/43189

To
Kudakuthiyil Chacko Thomaskutty

S/O: Kudakuthiyil Joseph Chacko
Kudakuthiyil
K B C Enclave
Laikad
Perunna P O
Changanassery
Perunna,Kottayam
Kerala - 686102
9847550500

11/08/2015

KH522784984FT
52278456

आपका आधार क्रमांक / Your Aadhaar No. :

2447 5470 4601

आधार - आम आदमी का अधिकार

भारत सरकार
Government of India

Kudakuthiyil Chacko Thomaskutty

DOB: 20/06/1974
Male

2447 5470 4601

आधार - आम आदमी का अधिकार

सूचना

- आधार पहचान का प्रमाण है, नागरिकता का नहीं ।
- पहचान का प्रमाण ऑनलाइन प्रमाणीकरण द्वारा प्राप्त क

INFORMATION

- Aadhaar is proof of identity, not of citizenship .
- To establish identity, authenticate online .

- आधार देश भर में मान्य है ।
- आधार भविष्य में सरकारी और गैर-सरकारी सेवाओं का लाभ उठाने में उपयोगी होगा ।
- Aadhaar is valid throughout the country .
- Aadhaar will be helpful in availing Government and Non-Government services in future .

भारत सरकार
Unique Identification Authority of India

Address: S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Laikad, Perunna P O, Changanassery, Perunna, Kottayam, Changanassery, Kerala, 686102

2447 5470 4601

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

Director of Geology and Mining Collectorate Dindigul - 624 004
O/o Assistant Director

आयकर विभाग
INCOME TAX DEPARTMENT

भारत सरकार
GOVT. OF INDIA

ई– स्थायी लेखा संख्या कार्ड
e - Permanent Account Number (e-PAN) Card
ABUFA6310J

नाम / Name ADAYAR GRANITES

निगमन/गठन की तारीख
Date of Incorporation / Formation 12/02/2021

Signature Not Verified

Electronically issued and Digitally signed ePAN is a valid proof of issue of Permanent Account Number (PAN) post amendments in clause (c) in the Explanation occurring after sub-section (8) of Section 139A of Income Tax Act, 1961 and sub-rule (5) of Rule 114 of the Income Tax Rules, 1962. For more details

ANNEXURE

ADAYAR GRANITES
15/113-2, KBC COMPLEX
LAIKKADU, PERUNNAI, CHANGANACHERRY
KOTTAYAM, KERALA - 686102
Email: adayargranites@gmail.com Mob: 9447391909

COPY MINUTES OF THE MEETING HELD ON 01/10/2024

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For Adayar Granites

Saju M.C
(Managing Partner)

Lukose Kudakuthiyil Chacko
(Partner)

Thomaskutty K.C
(Partner)

Cherian Joseph
(Partner)

Raju Cyriac
(Partner)

Kottayam
10/01/2024

302A

ANNEXURE

ഭാരത സർക്കാർ
GOVERNMENT OF INDIA
Saju M C
Father : M M CHACKO
Year of Birth: 1976
Male
9699 3310 1800
ആധാർ - സാധാരണക്കാരന്റെ അവകാശം
ഭാരതീയ സവിശേഷ തിരിച്ചറിയൽ അതോറിറ്റി
UNIQUE IDENTIFICATION AUTHORITY OF INDIA
Address: MLAKUZHIYIL,
MUTTOM, MUTTOM P O,
Muttom, Muttom EK, Idukki,
Kerala, 685587
1800 180 1947
help@uidai.gov.in
www.uidai.gov.in
P.O. Box No.1947,
Bengaluru-560 001

Director Dept of Geology and Mining Collectorate Ernakulam
O/o Assistant

स्थायी लेखा संख्या /PERMANENT ACCOUNT NUMBER

AJLPS7318F

नाम /NAME

MLAKUZHIYIL CHACKO SAJU

पिता का नाम /FATHER'S NAME

MATHAI CHACKO

जन्म तिथि /DATE OF BIRTH

15-05-1976

हस्ताक्षर /SIGNATURE

आयकर आयुक्त, कोचिन

COMMISSIONER OF INCOME-TAX, COCHIN

इस कार्ड के खो / गिर जाने पर कृपया जारी करने
वाले प्राधिकारी को सूचित / वापस करें
आयकर आयुक्त,
कोचिन प्रभार, केन्द्रीय राजस्व भवन,
आई.एस.प्रेस रोड,
कोचिन - 682 018.

In case this card is lost/found,kindly inform/return to
the issuing authority:
Commissioner of Income-tax,
Cochin Charge, Central Revenue Buildings,
I.S.Press Road,
Cochin - 682 018.

ANNEXURE

ഭാരത സർക്കാർ
Unique Identification Authority of India
Government of India

Enrollment No. : 2007/32065/00165

To
CHERIAN JOSEPH
NELLARIYIL HOUSE
MATHUMOOLA
VAZHAPPALLY P O
CHANGANACHERRY
VAZHAPPALLY EAST
Vazhappally West,Kottayam
Kerala - 686103
4812423142

24/06/2013

KL196988215FT
19988821

നിങ്ങളുടെ ആധാർ നമ്പർ / Your Aadhaar No. :

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

ഭാരത സർക്കാർ
Government of India

CHERIAN JOSEPH
Father : N M Joseph

Year of Birth: 1974
Male

7049 7366 0427

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

O/o Assistant Director, Geology and Mining Co... Govt. of ... Kollam - 691 004

स्थायी लेखा संख्या /PERMANENT ACCOUNT NUMBER

ADJPJ3547P

नाम /NAME

CHERIAN JOSEPH

पिता का नाम /FATHER'S NAME

JOSEPH MATHEW NELLARAYIL

जन्म तिथि /DATE OF BIRTH

09-02-1974

हस्ताक्षर /SIGNATURE

आयकर आयुक्त, तिरुवनंतपुरम

COMMISSIONER OF INCOME-TAX, TRIVANDRUM

इस कार्ड के खो / मिल जाने पर कृपया सूचित करने प्राधिकारी को सूचित / वापस करें

आयकर आयुक्त,
तिरुवनंतपुरम प्रभार,
आयकर भवन, कवडियार पी.ओ.,
तिरुवनंतपुरम - 695 003.

In case this card is lost/found,kindly inform/return to the issuing authority :
Commissioner of Income-tax,
Trivandrum Charge,
Aayakar Bhavan, Kawadiar P.O.
Trivandrum - 695 003.

O/o Assistant Director Dept. of Geology

आधार

भारत सरकार
Government of India

भारतीय विशिष्ट पहचान प्राधिकरण
Unique Identification Authority of India

Enrollment No. : 2003/49002/00011

To
Raju Cyriac

S/O: Cyriac,
Kuzhikkattil,
Vayala P O,
VTC: Elackad, PO: Vayala,
Sub District: Meenachil, District: Kottayam,
State: Kerala, PIN Code: 686587,
Mobile: 9446308882

591743 64

KF591748647FI

आपका आधार क्रमांक / Your Aadhaar No. :

4209 6339 4287

मेरा आधार, मेरी पहचान

भारत सरकार
Government of India
आधार

Issue Date: 10/03/2016

Raju Cyriac
DOB: 14/07/1970
Male

4209 6339 4287
मेरा आधार, मेरी पहचान

307A

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Assistant Director
Geology and Mining

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
RAJU CYRIAC
V M CYRIAC
14/07/1970
Permanent Account Number
AHTPC8820C
Signature

भारतीय विशिष्ट पहचान प्राधिकरण
भारत सरकार
Unique Identification Authority of India
Government of India

E-Aadhaar Letter

Enrolmnt No/Enrolment No.: 2003/35003/43189

Kudakuthiyil Chacko Thomaskutty (Kudakuthiyil Chacko Thomaskutty)

S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Laikad, Perunna P O, Changanassery, Kottayam, Kerala - 686102

Date: 12/08/2015

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

Your Aadhaar No/ Your Aadhaar No.:

2447 5470 4601

Aadhaar-Aam Aadmi ka Adhikar

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

Signature valid
Digitally signed by UNIQUE IDENTIFICATION AUTHORITY OF INDIA
Date: 2015.08.12 10:30:25 IST

- Aadhaar is valid throughout the country.
- You need to enrol only once for Aadhaar.
- Please update your mobile number and e-mail address. This will help you to avail various services in future.

भारत सरकार
GOVERNMENT OF INDIA

Kudakuthiyil Chacko Thomaskutty
DOB: 20/05/1974
Male / MALE

भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

Address:
S/O: Kudakuthiyil Joseph Chacko, Kudakuthiyil, K B C Enclave, Laikad, Perunna P O, Changanassery, Kottayam, Kerala - 686102

309A

2447 5470 4601

Aadhaar-Aam Aadmi ka Adhikar

2447 5470 4601

Aadhaar-Aam Aadmi ka Adhikar

आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
THOMASKUTTY K C
JOSEPH CHACKO KUDAKUTHIYIL
20/05/1974
Permanent Account Number
ALBPC1269R
Signature

O/o Assistant Director, Dept.of Geology and Mining, Kozhikod - 624 004

भारत सरकार
GOVERNMENT OF INDIA

Lukose Kudakuthiyil
Chacko
DOB: 21/11/1955
Male / MALE

4083 3773 4727

MERA AADHAAR, MERI PEHACHAN

भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

Address:
S/O: Chacko Joseph, Kudakuthiyil
K B C Garden, Laikad,
Changanassery, Kottayam,
Kerala - 686102

4083 3773 4727

O/o Assistant Director of Geology
Dindigul - 624 004

O/o Assistant Director Dept.of Geology and Mining Collectorate, Thrissur - 680 003

आयकर विभाग
INCOME TAX DEPARTMENT

भारत सरकार
GOVT. OF INDIA

LUKOSE KUDAKUTHIYILCHACKO

C K JOSEPH

21/11/1955

Permanent Account Number

AKEPC2878A

Signature

In case this card is lost / found, kindly inform / return to :
Income Tax PAN Services Unit, UTIITSL
Plot No. 3, Sector 11, CBD Belapur,
Navi Mumbai - 400 614.

312A

ANNEXURE XI

அண்ணாமலைப் பல்கலைக்கழகம்
ANNAMALAI UNIVERSITY

Reg. No. : 090895

அறிவியற்புலம்
FACULTY OF SCIENCE

மே, 2011 இல் பயன்பாட்டு நிலத்தியல் பிரிவில் நடத்திய தேர்வுகளில் வெங்கடகிரி பா/ கூடுதல் மதிப்புப்புள்ளிகள் 10.00 க்கு சராசரியாக 6.03 பெற்று இரண்டாம் வகுப்பில் தேர்ச்சியடைந்து முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி, அறிவியல் நிறைஞர் பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார் என அண்ணாமலைப் பல்கலைக்கழக ஆளவை இதன்வழி அறிவிக்கின்றது.

The Senate of the ANNAMALAI UNIVERSITY hereby makes known that VENGATAGIRI B has been admitted to the Degree of MASTER OF SCIENCE in APPLIED GEOLOGY, he/she having secured OGPA of 6.03 out of 10.00 been certified by duly appointed Examiners at the Examination held in MAY,2011 to be qualified to receive the same, and that he/she was placed in SECOND CLASS.

பல்கலைக்கழக முத்திரை பெறுகின்றது
Given under the seal of the University

[redacted]

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அண்ணாமலைநகர்

ANNEXURE XIV A

GOVERNMENT OF INDIA
MINISTRY OF LABOUR AND EMPLOYMENT
DIRECTORATE GENERAL OF MINES SAFETY

Certificate of Practical Experience granted by the Manager to a Candidate for a Manager's/ Surveyor's/ Mining foreman/ Mining Mate/ Blasters certificate of competency examination under Metalliferous Mines Regulation, 1961.

I, M.S.Pavel being the Manager of K.Pitchampatti Multicolour Granite Mine belong to M/s. Anupkumar Lohia do hereby certify that **Thiru. B.Vengadagiri** son of **Thiu. Balasubramanian** (whose signature is appended) worked in the above mine from 10.07.2012 to 15.08.2018 and is still working. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for certificate of competency.

M.S. 15.8.18

(Signature with date and official seal)

(Mines Manager's class)

MANAGER (MINES)
MULTICOLOUR GRANITE MINE
K. PITCHAMPATTI,
KARUR - TALUK & DIST.

(Signature of Candidate)

S No.	Particulars of Practical experience (a)	Place of Experience (b) Opencast	Period of Practical experience (c)		Total Experience (e)		
			From	To	Yrs.	Months	Days
1.	As a trainee in drilling operation	Open cast	10.07.2012	24.10.2013	01	03	15
2.	As a trainee in deep hole blasting operation	Open cast	25.10.2013	31.12.2014	01	02	07
3	Production incharge quality control and Supervisor of Earth moving Mining Machinery	Open cast	01.01.2015	15.08.2016	3	7	14
GRAND TOTAL					05	1	5
In words : Six years one month ten days					Six	One	Five

In below ground working	In open cast working	In all
Nil	Average monthly output 250m³	250m³
Nil	Average daily employment 25Nos	25Nos

Note: The average employment is less because this is mechanized mines having deep hole drilling, blasting and Heavy Earth Moving Machineries operation.

(Signature of Candidate)

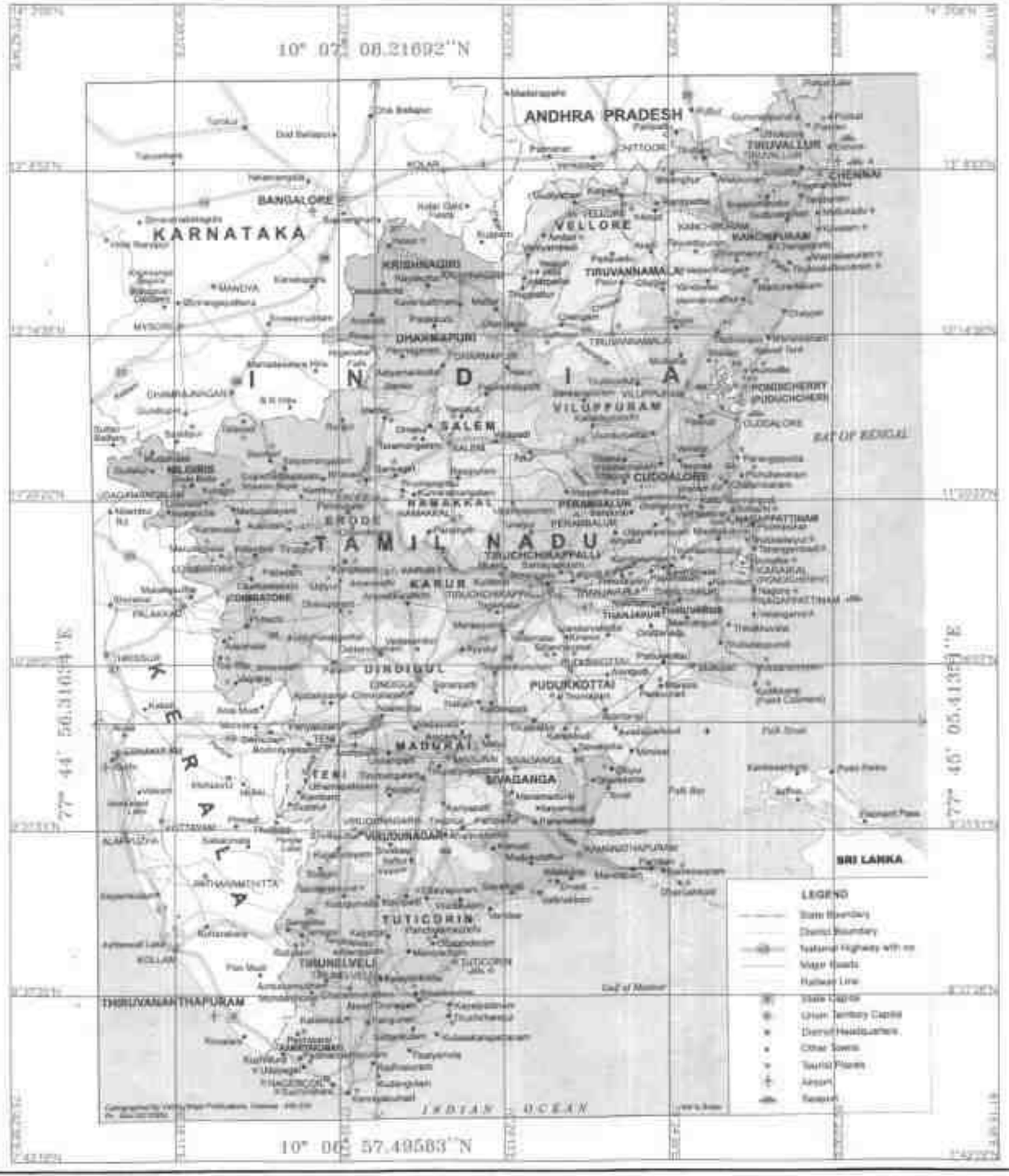
(Signature with date and official seal)

(Mines Manager 1st class)

MANAGER (MINES)
MULTICOLOUR GRANITE MINE
K. PITCHAMPATTI,
KARUR - TALUK & DIST.

315A

PLATES



N

PLATE NO:1

DATE OF SURVEY :12.01.2025

APPLICANT :

Tvl.ADAYAR GRANITES,
MANAGING PARTNER THIRU.M.C.SAJI,
No.15/113-2,KBC COMPLEX,
PERUNAI POST,SANGANACHERI,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA:

S.F.NO : 4/2,1274/1 and 1274/2,
EXTENT : 3.95.00 Ha.
VILLAGE :VIRALIPATTI,
TALUK : NILAKKOTTAI,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

Q. L. A. AREA :

TOPO SHEET NO. : 58 F/16

LATITUDE : 10° 06' 57.49"N to 10° 07' 08.21"N
LONGITUDE : 77° 44' 56.31"E to 77° 45' 05.41"E

LOCATION PLAN

SCALE 1:24,00,000

PREPARED BY :

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD AUTHENTICATED BY STATE GOVERNMENT

317A

QUALIFIED PERSON

PLATE NO:I-A

DATE OF SURVEY :12.01.2025

APPLICANT :

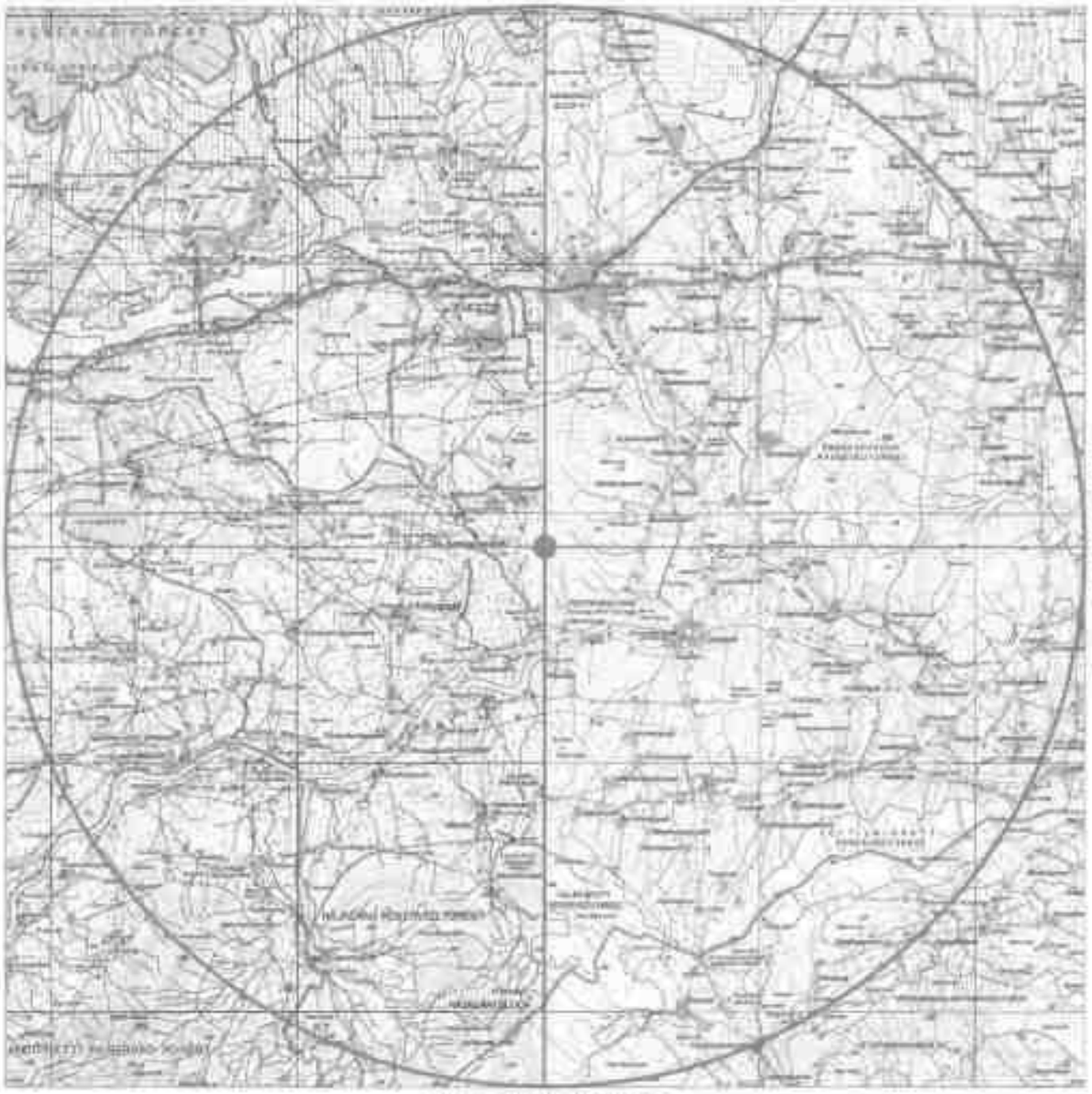
Tvl.ADAYAR GRANITES,
MANAGING PARTNER THIRU.M.C.SAJI,
No.15/113-2,KBC COMPLEX,
PERUNAI POST,SANGANACHERI,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA:

S.F.NO : 4/2,1274/1 and 1274/2.
EXTENT : 3.95.00 Ha.
VILLAGE : VIRALIPATTI.
TALUK : NILAKKOTTAI.
DISTRICT : DINDIGUL.
STATE : TAMIL NADU.

INDEX

CONVENTIONAL SYMBOLS



TOPO SHEET NO. : 58 F/16

LATITUDE : 10° 06' 57.49583"N to 10° 07' 08.21692"N
LONGITUDE : 77° 44' 56.31634"E to 77° 45' 05.41351"E

10KM RADIUS :

Q.L.APPLIED AREA:

TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

SCALE– 1:100000

PREPARED BY :

THIS IS TO CERTIFY THAT THIS INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE CADASTRAL MAP AUTHENTICATED BY GOVERNMENT.

DIAMOND SUPERVISOR

318A

LAND USE PATTERN

DESCRIPTION	AREA IN PERCENTAGE (%)
TREES/HABITATION	
ROAD/ODAI/VAIKKAL	
AGRICULTURAL LAND	

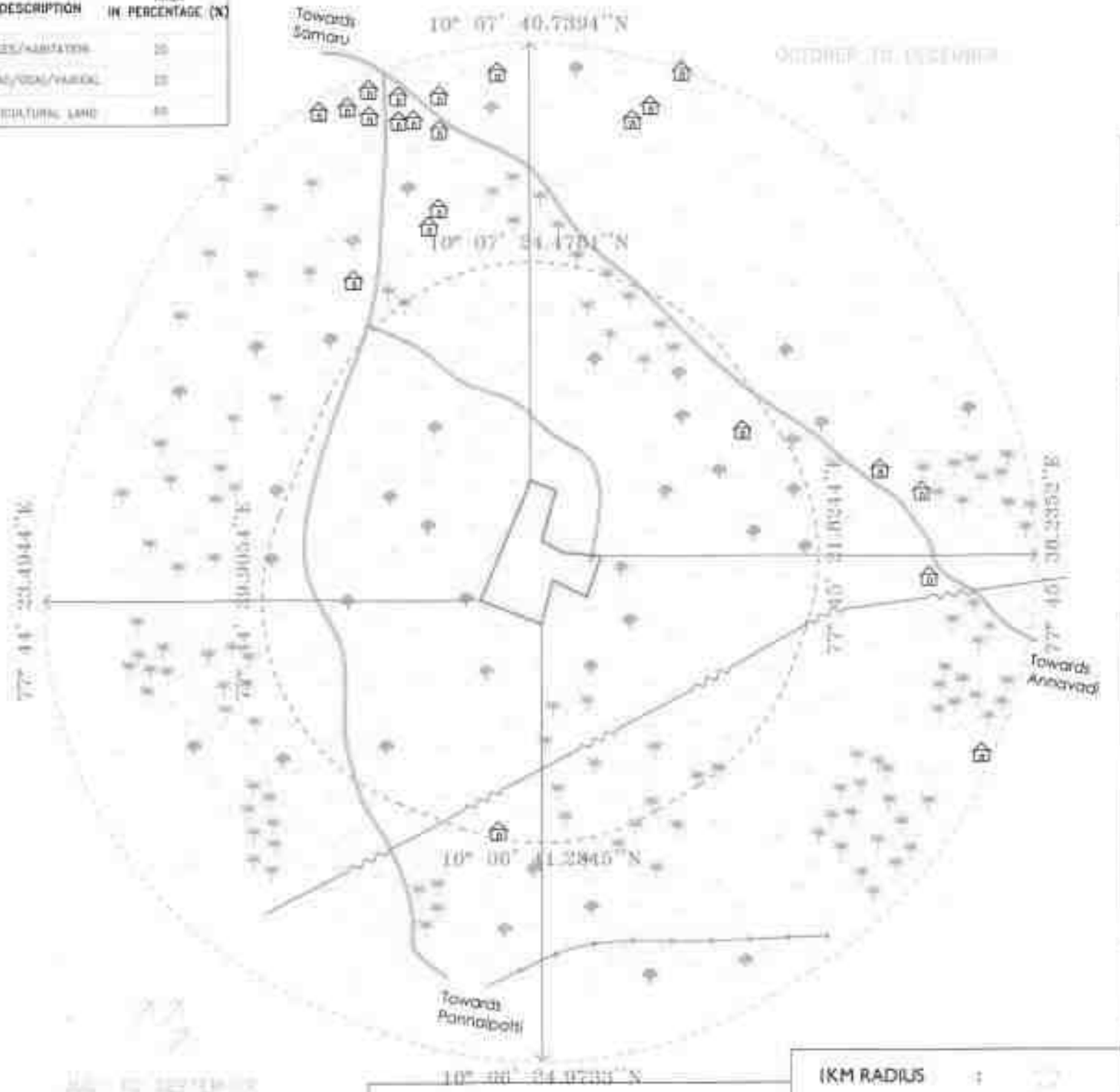


PLATE NO:I-B

DATE OF SURVEY :12.01.2025

APPLICANT :

TVI.ADAYAR GRANITES,
MANAGING PARTNER THIRU.M.C.SAJI,
No.15/113-2,KBC COMPLEX,
PERUNAI POST,SANGANACHERI,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA:

S.F.NO : 4/2,1274/1 and 1274/2,
EXTENT : 3.95.00 Ha.
VILLAGE : VIRALIPATTI,
TALUK : NILAKKOTTAI,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

APPROACH ROAD
WIND DIRECTION
TREES
VILLAGE ROAD
AGRICULTURE LAND
HT LINE
ODAI
HABITATION
VAIKKAL

ENVIRONMENTAL & LANDUSE PLAN(For 1Km Radius)

SCALE 1:10,000

PREPARED BY :

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLAN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD AUTHORISED

319A

TOPO SHEET NO. : 58 F/16

LATITUDE : 10° 06' 57.49583"N to 10° 07' 06.21692"N
LONGITUDE : 77° 44' 56.31634"E to 77° 45' 05.41351"E

1KM RADIUS :

500M RADIUS :

Q.L.APPLIED AREA:

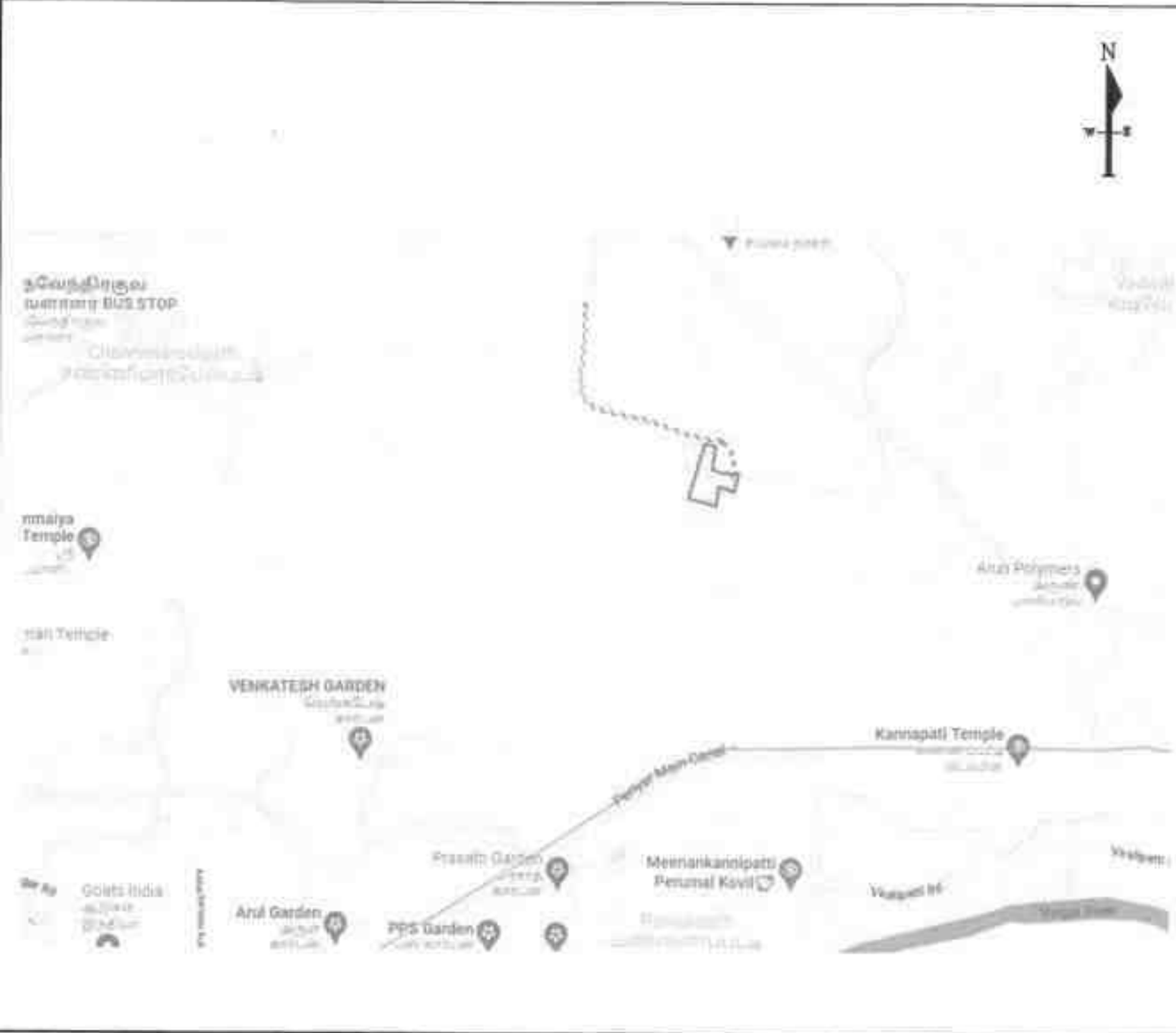


PLATE NO:I-C

DATE OF SURVEY :12.01.2025

APPLICANT :

Tvl.ADAYAR GRANITES,
MANAGING PARTNER THIRU.M.C.SAJI,
No.15/113-2,KBC COMPLEX,
PERUNAI POST,SANGANACHERI,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA:

S.F.NO : 4/2,1274/1 and 1274/2,
EXTENT : 3.95.00 Ha,
VILLAGE :VIRALIPATTI,
TALUK : NILAKKOTTAI,
DISTRICT : DINDIGUL,
STATE : TAMIL NADU.

INDEX

Q.L.APPLIED BOUNDARY
APPROACH ROAD
VIRALIPATTI ROAD
PANCHAYAT ROAD
RIVER

ROUTE MAP

Not to Scale

PREPARED BY

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLAN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, BASED UPON THE CADASTRAL MAP AUTHENTICATED BY STATE GOVERNMENT.

Under Rule 12(1)(b) of EIA Notification 2006, MOE,2018

320A

BOUNDARY CO-ORDINATES

S.No.	LATITUDE	LONGITUDE
1	10° 06' 58.23242"N	77° 44' 36.21894"E
2	10° 07' 00.81068"N	77° 44' 56.83114"E
3	10° 07' 00.52997"N	77° 44' 59.61228"E
4	10° 07' 08.31992"N	77° 45' 00.15680"E
5	10° 07' 07.49863"N	77° 45' 03.63771"E
6	10° 07' 02.72476"N	77° 45' 00.97975"E
7	10° 07' 02.80936"N	77° 45' 02.60618"E
8	10° 07' 02.54429"N	77° 45' 05.41351"E
9	10° 06' 59.49769"N	77° 45' 04.25463"E
10	10° 07' 00.71026"N	77° 45' 01.77254"E
11	10° 06' 57.49983"N	77° 45' 00.89133"E

DATUM : WGS84, ZONE 43N

COMMON BOUNDARY WORKED
by ADIYAR GRANITE

PLATE NO - II
DATE OF SURVEY : 12.01.2022

APPLICANT :
THIRUADIYAR GRANITES,
MANAGING PARTNER THIRU.M.C.BAIJU
No.15/113-2 KSIC COMPLEX
PERUMAY POST,THINGANADOM,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA

S.F.NO : 4/2,127/1 and 127/2
EXTENT : 3.93.00 Hs.
VILLAGE : VIRALIPATTI
TALUK : NILAKKOTTAI
DISTRICT : DINDIGUL
STATE : TAMILNADU

INDEX

QLA APPLIED LEASE BOUNDARY	
7.5m & 10m SAFETY DISTANCE	
TEMPORARY BENCH MARK	TBM
GRAVEL	
APPROACH ROAD	
STRIKE & DIP	

QUARRY LEASE & SURFACE PLAN
(AFTER OBTAINED PERMISSION COMMON MINE BOUNDARY UNDER RULE 11 (1) (b) MMR 1961)

SCALE 1:1000

PREPARED BY :

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SLNO.	LATITUDE	LONGITUDE
1	11° 38' 59.33748"N	77° 44' 56.31634"E
2	11° 39' 00.61088"N	77° 44' 56.88114"E
3	11° 39' 01.52956"N	77° 44' 56.91208"E
4	11° 39' 06.27660"N	77° 45' 00.19886"E
5	11° 39' 07.40855"N	77° 45' 02.07716"E
6	11° 39' 03.72478"N	77° 45' 03.67015"E
7	11° 39' 02.81636"N	77° 45' 02.42918"E
8	11° 39' 02.04400"N	77° 45' 00.41311"E
9	11° 38' 59.84758"N	77° 45' 04.29404"E
10	11° 39' 00.77028"N	77° 45' 01.77234"E
11	11° 38' 57.40565"N	77° 45' 00.89153"E

N 50°W-S50°E

S W 6.5m

PLATE NO : II-A

DATE OF SURVEY : 12.01.2025

APPLICANT

THIRUDAYAM GRANITES,
MANAGING PARTNER THIRUM.C.SAJI,
No.13/113-2,SBC COMPLEX,
PERUMAL POST,SANGANACHERI,
KOTTAYAM TALUK,KERALA STATE.

LOCATION OF Q.L.A AREA

S.F.NO. 423 (P&R1) and 427/2
EXTENT 2.85.00 Hs.
VILLAGE VIRALUPATTI,
TALUK VILAKKUDI(P&R),
DISTRICT DINDIGUL,
STATE TAMILNADU.

INDEX

Q.L.APPLIED LEASE BOUNDARY

7.5m & 10m SAFETY DISTANCE

TEMPORARY BENCH MARK

GRAVEL

APPROACH ROAD

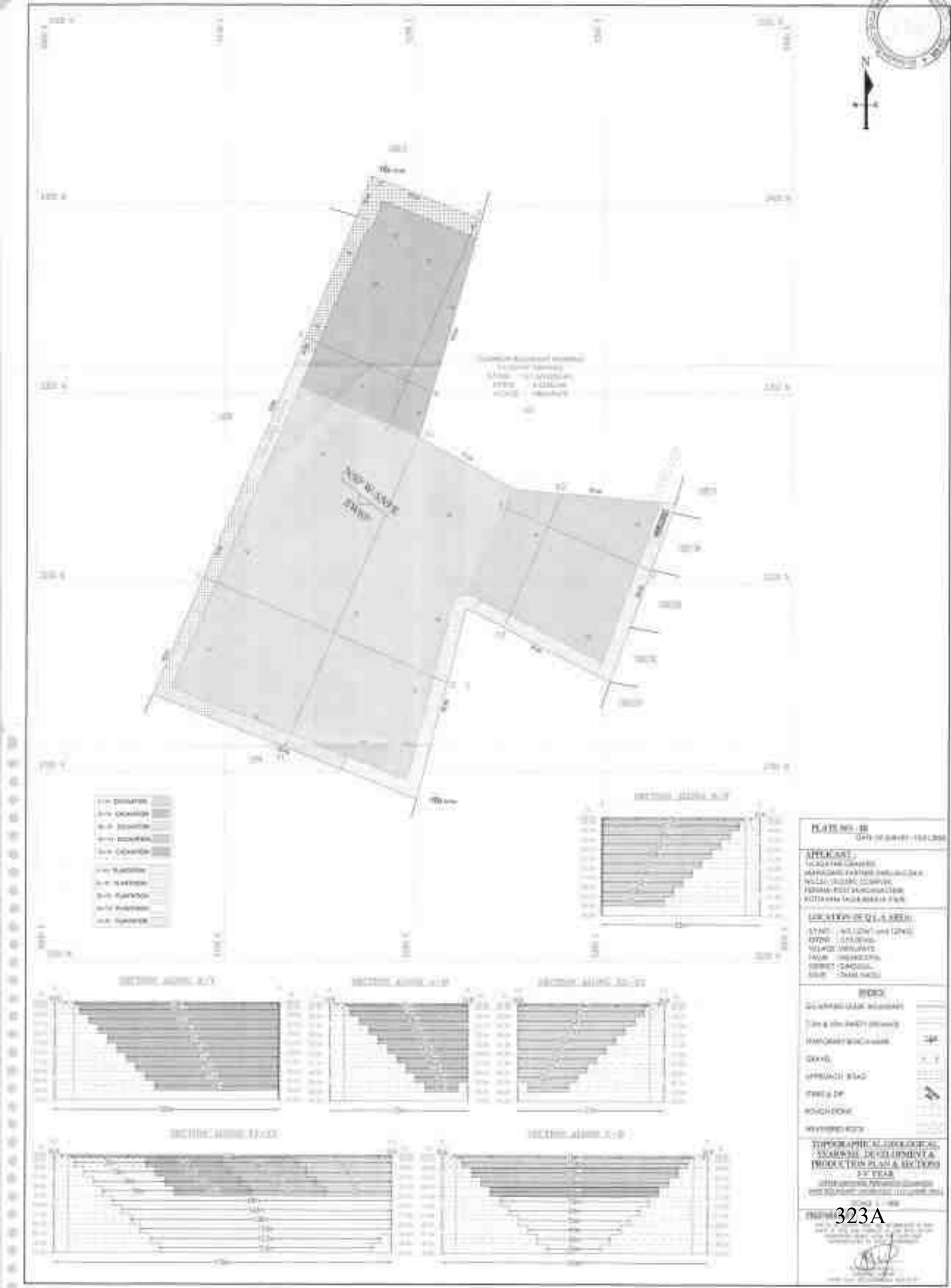
STRIKE & DIP

QUARRY LEASE & SURFACE PLAN

SCALE 1 : 1000

PREPARED BY :

322A



323A

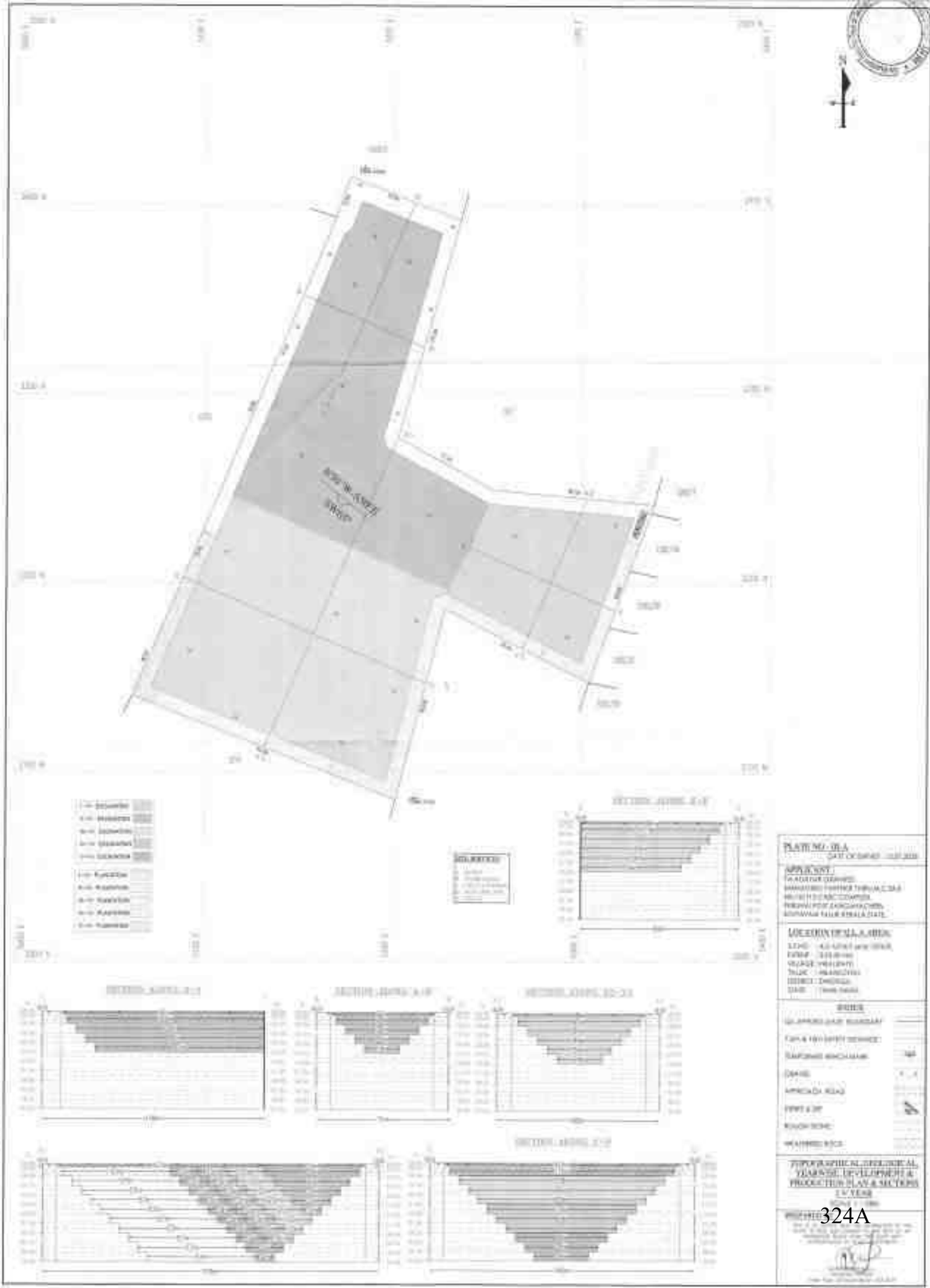


PLATE NO : 01-A

APPLICANT :

LOCATION DETAILS AREA

NOTES

TOPOGRAPHICAL, GEOLOGICAL, YEAR WISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS 5 + 5 YEAR

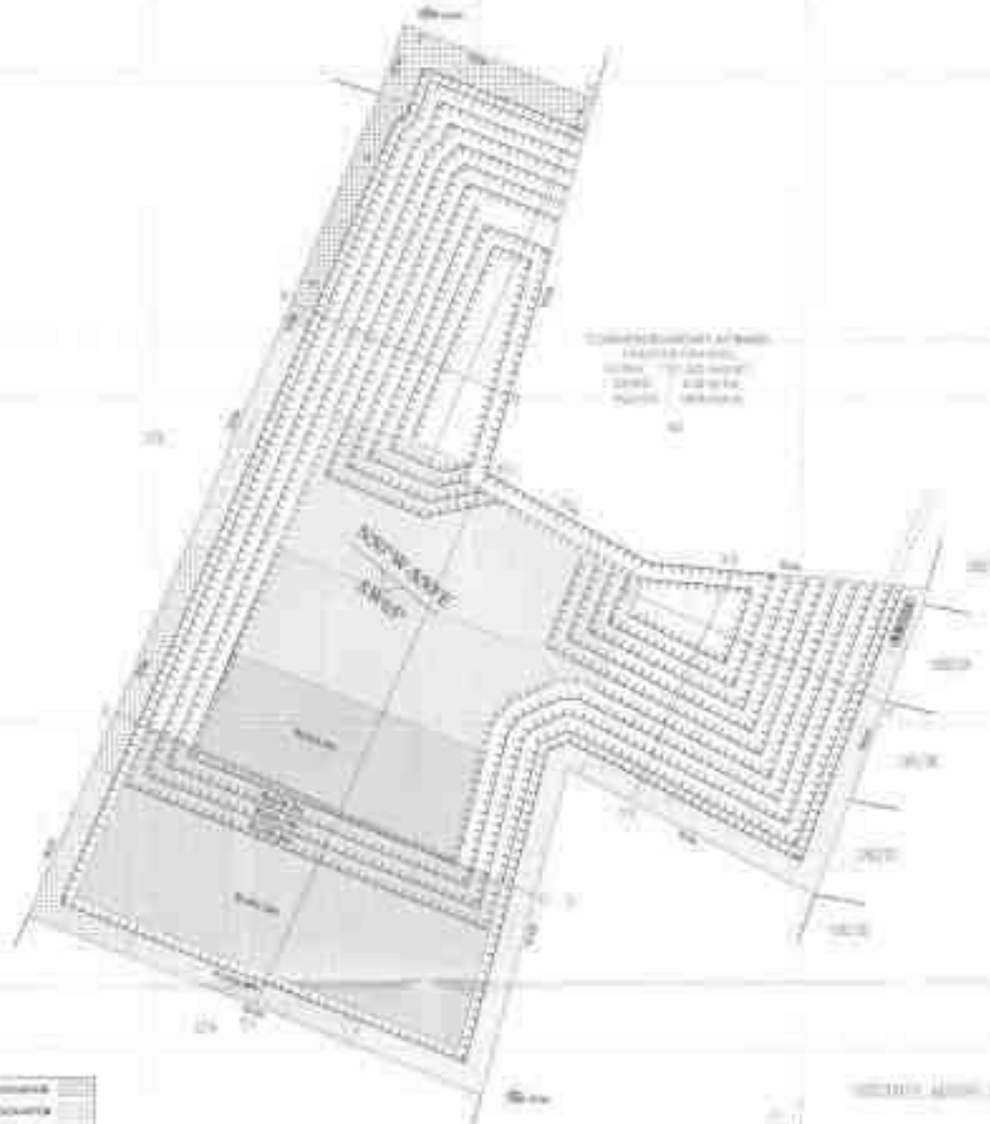


PLATE NO : IV

SPECIFIES

LOCATION OF G.L.A. AREA

INDEX

TOPOGRAPHICAL, GEOLOGICAL, YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF V.S. YEAR

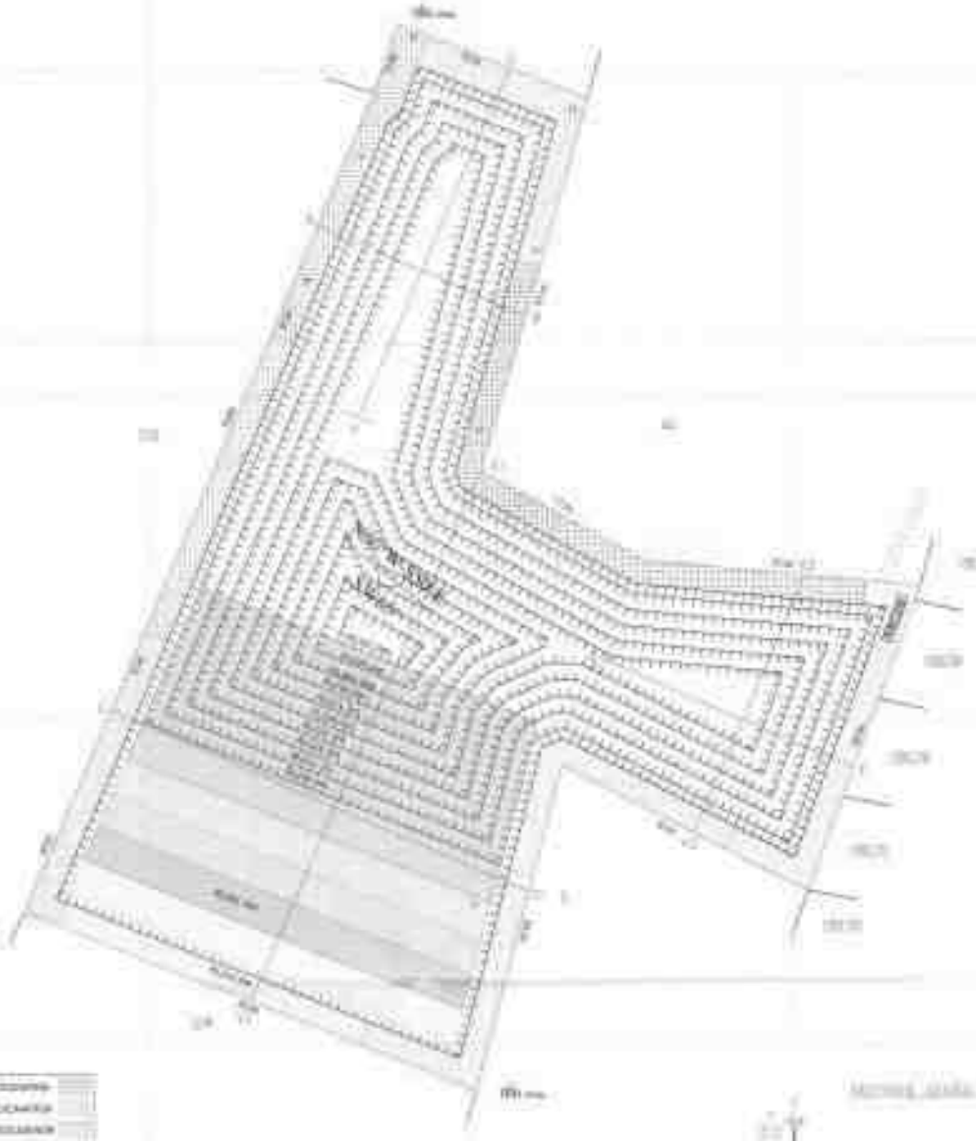


PLATE NO - IV-A

DATE OF SURVEY : 12.01.2015

APPLICANT

LOCATION OF THE LEASE AREA

INDEX

TOPOGRAPHICAL, GEOLOGICAL, LEASEHOLD, DEVELOPMENT & PRODUCTION PLAN & SECTIONS

1 : 1000

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PLATE NO. V

INDEX

PROGRESSIVE QUARRY CLOSURE
PLAN AND SECTIONS

SCALE 1:1000

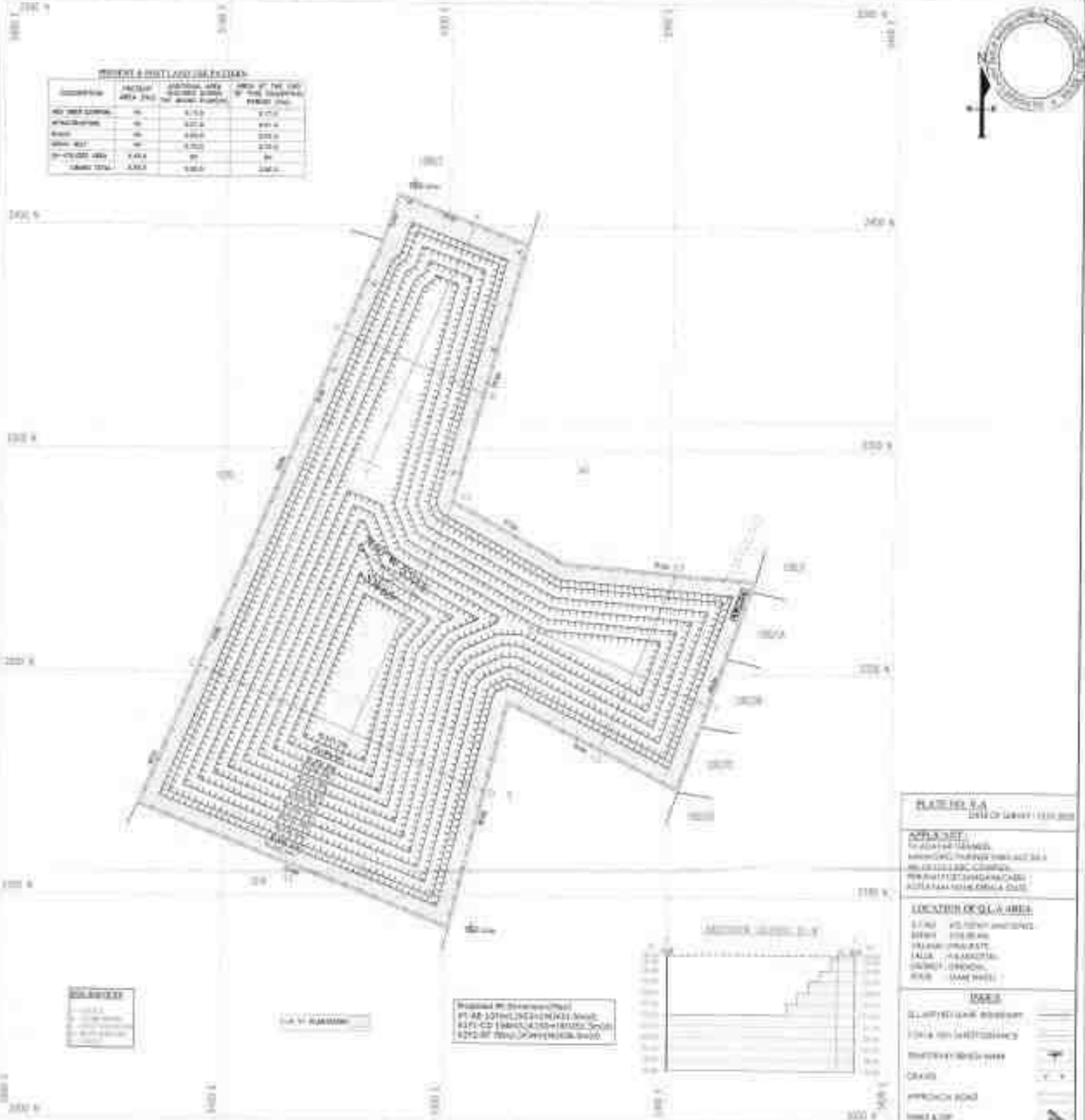


PLATE NO. 5-A

LOCATION OF Q.L.A. AREA

PARTS

PROPOSED QUARRY CUTTING PLAN AND SECTIONS

SCALE 1 : 1000

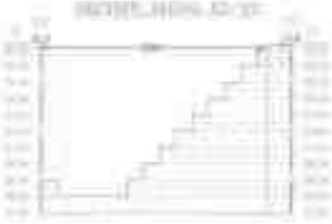


PLATE NO.: 01

APPLICANT

LOCATION OF QUARRY

INDEX

PROGRESSIVE QUARRY CLOSURE PLAN AND SECTIONS

SCALE 1:1000

329A

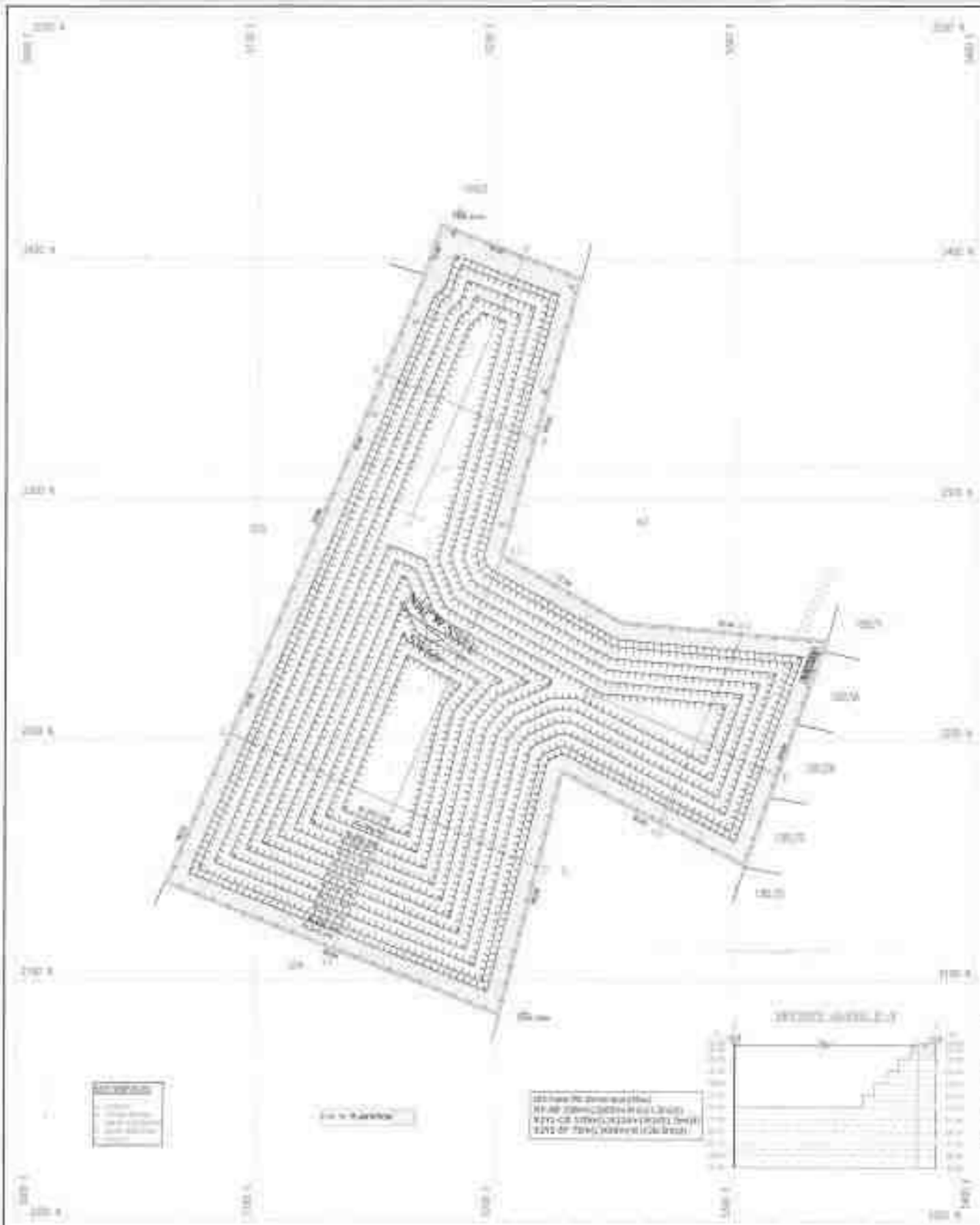


PLATE NO. V1-A

LOCATION OF CLAY AREA

INDEX

PROPOSED QUARRY OUTLINE PLAN AND SECTIONS

330A

சான்று

திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிப்பட்டி கிராமம் புல எண்கள் 4/2, 1274/1, 1274/2 (3.95.0 Ha) ஆகியவற்றில் அமையவுள்ள Mr. Saju M.C., Adayar Granites - ன் சுற்றி உள்ள 300 மீட்டர் சுற்றளவிற்குள் கிராம நத்தமோ, வீடோ, ஏரியோ, தேவாலயமோ, வழிபாட்டு தலங்களோ, பள்ளிக் கூடங்களோ, ஆறுகள், அரசு கட்டிடங்களோ இல்லை என்பதை புலத்தணிக்கையின் மூலம் அறிந்து சான்றளிக்கப்படுகிறது.

20/01/2025

கிராம நிர்வாக அலுவலர்
விராலிப்பட்டி
நல்லூர் பேட்டி குரூப்
நிலக்கோட்டை வட்டம்

TOPOGRAPHICAL VIEW OF VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA

Name of the Applicant	:	**Tvl. Adayar Granites,** Managing partner Thiru. Saju M.C.,
Address	:	No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kottayam, Kerala State– 686 102.

Location:

S.F.Nos.	:	4/2, 1274/1 and 1274/2
Extent	:	3.95.0 Ha
Village	:	Viralipatti
Taluk	:	Nilakkottai
District	:	Dindigul

Signature of the Applicant
Tvl. Adayar Granites,

(Saju M.C.)
Managing partner

20/01/2025

(Village Administrative officer)
Attestation

LIC No : E51889
LIC No : E42551

GST No : 33AAKFJO215G1ZV

J.SATHISHKUMAR

M/S.J.P & Co, Explosives Dealer, 12/4/1C1, George Puram,
NILAKOTTAI Post - 624208, Dindigal (Dt)

Date : .....

To:

Thiru.M.C.Saju Managing Partner,
Adayar Granites,
No.15/113-2 KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kottayam,
Kerala State – 686 102.

Ref: Your Letter dated
Sub: Regarding blasting work using explosives in your proposed quarry.

Sir,

We are having explosives licence in From 22 holding No: E/SC/TN/22/537 (E51889) situated in survey S.F.No.12/4/1C1, George purarm, Nilakottai Post - 624208, Dindigul District.

We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our work site and well experienced and licenced blasters and shot filter for safe Blasting work since 2 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.4/2,1274/1 and 1274/2 (3.95.0Ha) P.Viralipatti Village, Nilakottai Taluk, Dindigul District - 624202.

Thanking You,

For J.Sathishkumar
J.P & Co Explosives

(Proprietor)

Enclosure:

1. Licence Copy

333A

अनुज्ञप्ति प्ररूप एल. ई.-3 / LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 4 के अनुच्छेद 3(क) से (घ) देखिए।)
(See article 3(a) to (d) of Part 4 of Schedule IV of Explosives Rules, 2008)

(क) उपबंध के लिए एक समय पर कोई 1, 2, 3, 4, 5 या कोई 7 के विस्फोटक या किसी मैगजीन में कोई 6 के विस्फोटक रखने के लिए अनुज्ञप्ति
Licence to possess : (a) for use explosives of class 1, 2, 3, 4, 5, 6 or 7 in a magazine

अनुज्ञप्ति सं. (Licence No.) : L/SC/TN/22/5337/(15188/9)
वार्षिक फीस रुपए (Annual Fee Rs) : 5600/-

1. Licence is hereby granted to

J.SATHISH KUMAR,S/o R.JAYAPRAKASH,M/s.I.P.& Co. (अधिभोगी / Occupier : J. Sathishkumar), 32, S/o -
1,Georgepuram Nilakottai Dindigul-624208 , Town/Village – Nilakottai, District DINDIGUL, State-Tamil Nadu, Pincode : 624208

को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रास्थिति (Status of licencee : **Individual**

3. अनुज्ञप्ति निम्नलिखित प्रयोजन के लिए विधिमान्य है। Licence is valid only for the following purpose

Nitrate Mixture, Safety Fuse, Detonating Fuse, Electric and/or Ordinary Detonators, के उपयोग के लिए

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है। Licence is valid for the following kinds and quantity of explosives :- (क) (a)

क्र. सं. Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप-प्रभाग Sub-division	किसी एक समय मात्रा Quantity at any one time
1.	Nitrate Mixture	2.0	0	600 Kg
2.	Safety Fuse	6.1	0	25000 Mtrs
3.	Detonating Fuse	6.2	0	10000 Mtrs
4.	Electric and/or Ordinary Detonators	6.3	0	44000 Nos

(ख) किसी एक कैलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए) (b) Quantity of explosives to be purchased in a calendar month (applicable for licence under article 3(b) and (c)) : **20 times as above.**

5. निम्नलिखित रेखांक(रेखांकों) से अनुज्ञप्त परिसर की पुष्टि होती है। The licensed premises shall conform to the following drawing(s) : रेखांक सं. (Drawing No.) : L/SC/TN/22/5337/(15188/9), दिनांक (Dated) : 30/06/2010

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address :
Survey No. 5/2 , 4B1 (Town/Village) : VeezhiNaickenpatti पुलिस थाना (Police Station) : **Nilakottai**

जिला (District) :	**DINDIGUL**	राज्य (State) :	**Tamil Nadu**	पिन कोड (Pincode) :	**624208**
दूरभाष (Phone) :	**9842161763**	ई मेल (E-Mail) :	-	फैक्स (Fax) :	

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्वलित हैं। The licensed premises consist of following facilities : **One Explosives Magazine, Lobby & Detonator Annexe**

8. अनुज्ञप्ति समय-समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उसके अधीन विरचित विस्फोटक नियम, 2008 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित अनुलग्नकों के अधीन रहते हुए अनुदत्त की जाती है।
The licence is granted subject to the provisions of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2008 framed there under and the conditions, additional conditions and the following Annexures :

1. उपर्युक्त क्रम सं. 5 में यथा वर्णित रेखांक (स्थान, संस्थापन संबंधी और अन्य विवरण दर्शाते हुए)।
Drawings (showing site, constructional and other details) as stated in serial No. 5 above
2. अनुज्ञप्ति प्राधिकारी द्वारा इसमें हस्ताक्षरित इस अनुज्ञप्ति की शर्तें और अतिरिक्त शर्तें।
Conditions and Additional Conditions of this licence signed by the licensing authority
3. दूरी प्ररूप DE-2 / Distance Form DE-2

9. यह अनुज्ञप्ति तारीख **31 मार्च 2015** तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2015.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्देश सं.-VIII के अधीन उसमें उपवर्णित इस अनुज्ञप्ति की शर्तों का अतिक्रमण करने पर या यदि अनुज्ञप्त परिसर पाया गया उसमें शामिल उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहृत की जा सकती है, जहां यह लागू हो।
This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Sr. VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plan and Annexure attached hereto

Sd/-

तारीख : The Date – 30/06/2010

संयुक्त मुख्य विस्फोटक नियंत्रक | **Joint Chief Controller of Explosives**
South Circle, Chennai

Amendments :
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 04/08/2010
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 03/11/2014

नवीनीकरण के पृष्ठांकन के लिए स्थान।
Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुज्ञप्ति प्राधिकारी के हस्ताक्षर और मुद्रांक Signature of licensing authority and stamp
24/03/2023	31/03/2028	Jt. Chief Controller of Explosives, South Circle, Chennai

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरूपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।
Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

Note :- This is system generated document does not require physical signature. Applicant may take printout for their records.

Digitally signed by MANMEET SINGH MANHAS
Reason: Licence No. - L/SC/TN/22/5337
Location: Chennai (ES1885)
Date: 2023.03.24 09:31:26 +05:30

MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

Patta Land/ Lease period = Ten years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT	: 4.52.0Ha
S.F.Nos.	: 3/1, 3/2 AND 4/1,
VILLAGE	: VIRALIPATTI
TALUK	: NILAKKOTTAI
DISTRICT	: DINDIGUL
STATE	: TAMIL NADU

FOR

APPLICANT

TVL. ADYAR GRANITES.,

Registered office No. 15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kattyam,
Kerala State– 686 102.

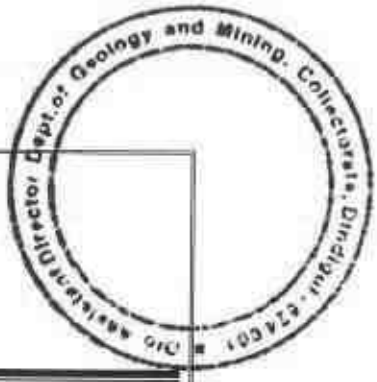
PREPARED BY

S. ILAVARASAN, M.Sc.,

Recognised Qualified Person
RQP/MAS/253/2013/A

No.17, Advaitha Ashram Road,
Alagapuram, Salem – 636 004.
Cell: +91 94422 78601 & 94433 56539.
E-Mail: infogeoexploration@gmail.com

Tvl. Adyar Granites,
Registered office No. 15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kattyam,
Kerala State– 686 102.



CONSENT LETTER FROM THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in respect of Rough stone and Gravel Quarry over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared by

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A

I request the Assistant Director, Department of Geology and Mining, Dindigul District to make further correspondence regarding the modification of the Mining Plan with the said Recognised Qualified Person at his following address.

S. ILAVARASAN, M.Sc.,
No.17, Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: +91 94422 78601 & 94433 56539.

I hereby undertake that all the modifications, if any made in the mining plan by the Recognised Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the Applicant
For Tvl. Adyar Granites

(Saju M.C.)
Managing Partner

Place: Dindigul
Date: 17.11.2021

Tvl. Adyar Granites,
Registered office No. 15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kattyam,
Kerala State– 686 102.

Assistant Director Dept.of Geology and Mining, Collectorate, Dindigul

DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in respect of Rough stone and Gravel Quarry over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant
For Tvl. Adyar Granites

(Saju M.C.)
Managing Partner

Place: Dindigul
Date: 17.11.2021

S. ILAVARASAN, M.Sc.,
No.17, Advaitha Ashram Road,
Alagapuram, Salem – 636 004.
Cell: +91 94422 78601 & 94433 56539.

Assistant Director Dept. of Geology and Mining, Collectorate, Dindigul

CERTIFICATE FROM THE RECOGNISED QUALIFIED PERSON

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Rough stone and Gravel Quarry over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

Tvl. Adyar Granites,
Registered office No. 15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kattyam,
Kerala State– 686 102.

Whenever specific permissions / exemptions / relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director, Department of Geology and Mining, Dindigul District, Tamil Nadu for such permissions/ exemptions / relaxations and approvals.

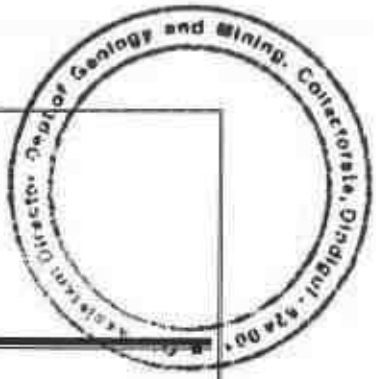
It is also certified that information furnished in the above Mining plan are true and correct to the best of my knowledge.

Signature of the RQP

S. ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem
Date: 19.11.2021

S. ILAVARASAN, M.Sc.,
No.17, Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: +91 94422 78601 & 94433 56539.



CERTIFICATE FROM THE RECOGNISED QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Rough stone and Gravel Quarry over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for

Tvl. Adyar Granites,
Registered office No. 15/113-2, KBC Complex,
Laikkadu, Perunai Post,
Changanacherry, Kattyam,
Kerala State– 686 102.

Whenever specific permissions / exemptions / relaxations and approvals are required, the Applicant will approach the concerned authorities of Director of Mines Safety (DGMS), No. 5, IInd Street, Block – AA, Anna Nagar, Chennai-40, Tamil Nadu for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the mining plan are true and correct to the best of my knowledge.

Signature of the RQP

S. ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem
Date: 19.11.2021

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Deputy Director Dept.of Geology and Mining, Collectorate, Dindigul - 624 005

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2.	Copy of FMB Sketches	II
3.	Copy of Village map	III
4.	Copy of Patta	IV
5.	Copy of A-Register	V
6.	Copy of Adangal	VI
7.	Copy of Land Lease Document from the pattadar	VII
8.	Copy of Partnership deed	VIII
9.	Copy of ID Proof of the Managing Partner	IX
10.	Copy of Recognised Qualified Person Certificate	X

LIST OF PLATES

S. No	Description	Plate No
1.	Location Plan	I
2.	Toposketch of Quarry Lease Applied Area for 10km Radius	IA
3.	Environmental Plan & Land use Plan for 1km Radius	IB
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MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR VIRALIPATTI ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The Mining Plan and Environmental Management plan is prepared for **Tvl. Adyar Granites**, having a Registered office at No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kattyam, Kerala State– 686 102.

The applicant applied to quarry Rough stone and Gravel for over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District for a period of Ten years under Rule 19 and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director, Department of Geology and Mining, Dindigul Distric and passed a Precise Area Communication letter vide **Rc.No. 169/2021 (Mines), Dated: 11.11.2021** to submit Mining Plan for obtain approval from Department of Geology and Mining, Dindigul District and obtain Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu for **over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District for the period of Ten years** under Amended rules 19 and 20 of Tamil Nadu Minor Mineral Concession Rules, 1959 with the following conditions to provide (Refer Annexure No. I):

1. The applicant firm should leave a safety distance of 10 meters to the Government Poramboke lands and 7.5 meters to the patta lands.
2. No hindrance shall be caused to the adjoining lands and public while carrying out the quarrying operations.
3. The applicant firm should fence the lease granted area with barbed wire before commencement of quarry operation.
4. The quarry operation should be carried out by systematic and scientific method.

5. Blasting should be carried out with hand jack hammer and low intense explosives
6. The quarrying should be carried out properly with Certified Blaster, Foreman and Mines manager.
7. The applicant firm should be intimate to the Director of Mines Safety, Chennai before commencement of quarry operation.
8. The quarrying should be carried out as per rule 36(1) of Tamil Nadu Minor Mineral Concession Rules, 1959.
9. The Mining Plan should be submitted as per guidelines prescribed by the State Level Environment Impact Assessment Authority.
10. The applicant firm should submit the No Objection Certificate from the State Level Environment Impact Assessment Authority.

All the conditions stipulated in the precise area communication have been followed while preparing this Mining Plan

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100Ha including projects or minor mineral with lease applied area less then 5Ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state Competent Authority notified by MoEF & CC as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan along with Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre-feasibility report to obtain environmental clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu, Rough stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 24.01.2019.

Short Notes of Mining plan:

a. Village Panchayat - Viralipatti

b. Panchayat Union - Viralipatti

c. The Total Geological Resources are **20,34,000m^3** of Rough stone, **45,200m^3** of Weathered rock and **67,800m^3** of Gravel in the entire area.

d. The Total Mineable Reserves are **7,58,190m^3** of Rough stone, **31,995m^3** of Weathered rock and **50,763m^3** of Gravel in the entire area.

e. The proposed quantity of reserves/ (level of production) to be mined are **7,58,190m^3** of Rough stone for the period of Ten years and **31,995m^3** of Weathered rock and **50,763m^3** of Gravel for first three years in the entire area.

f. Total extent of the lease applied area is about 4.52.0Ha.

g. Topography of the area = The area is exhibits flat terrain

h. Proposed Depth of mining = 47.5m (1.5m Gravel + 1m Weathered rock + 45m Rough Stone) below ground level (47.5m on the Northern part for first five years and 47.5m for entire lease period).

i. Lease Period = Ten years

j. Mining Plan Period = Ten years

k. It is a fresh lease applied area. At present the area is virgin.

l. Method of mining / level of mechanization.

Opencast mechanized method, the quarry operation involves shallow jack hammer drilling and slurry blasting.

m. Type of machineries proposed in the quarrying operation is given below.

Excavators attached with rock breaker (Rental Basis).

Jack hammer, Compressor (Diesel drive) (4 Jack Hammer capacity) (Rental Basis).

n. No trees will be uprooted due to this quarry operation.

o. The approach road from the main road to quarry already existence and the same will be maintained in a good condition for the haulage of quarry materials and machineries.

p. There is No Export of this Rough stone and Gravel.

q. Topo sketch covering 10Km and 1Km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archeological importance, and place of worship is marked and enclosed as Plate No. IA and IB.

r. The lease applied area is about 4.52.0 Ha bounded by nine corners; the corners are designated as 1-9 clock-wise from the Southwest corner and the Co-ordinates for all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No-II.

s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are marked in the Year wise Development and production Plan and sections enclosed as Plate Nos. II and III-A.

t. The General conditions will not applicable for the proposed area. Based on the EIA Notification 2006 the general condition shall apply except mining of minor minerals category B2 (upto 5Ha of mining lease applied area) The area applied for quarry lease is 10Km away from the,

i) Interstate Boundary,

ii) Protected area under wild life protection ACT, 1972,

iii) Critically polluted areas as identified by CPCB,

iv) Notified Eco sensitive areas.

u. There is no wastage anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

v. Around 38 employees are deploying in the quarrying operation.

w. Total Cost of the project is about **Rs.1,27,64,000/-**.

x. Infrastructures are bounded by the quarry lease applied area is given below table:

Table – 1

Particulars	Location	Approximate aerial distance from lease applied area.
Nearest Post Office	Viralipatti	3km – SW
Nearest School	Kurumbapatti	1km – NW
Nearest Dispensary	Viralipatti	3km – SW
Nearest Police Station	Vathalagundu	5km – North
Nearest govt. Hospital	Vathalagundu	5km – North
Nearest Town	Vathalagundu	5km – North
Nearest D.S.P. Office	Nilakottai	12km – NE
Nearest Railway Station	Vadipatti	22km – SE
Nearest Airport	Madurai	49km – SE
Nearest Seaport	Thoothukudi	158km – SE
District Head quarters	Dindigul	36km – NE

2.0 GENERAL INFORMATION

2.1 a) Name of the Applicant : Tvl. Adyar Granites,

b) Address of the Applicant (With Phone No and Aadhaar No.)

Address	:	Reg. office No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kattyam. Kerala State
Pin Code	:	686 102
Mobile No	:	+91 98421 88331 and 88833 99994
Aadhaar No	:	9699 3310 1800 (Refer Annexure No. IX)
Email ID	:	arockiasamys1981@gmail.com

c) Status of the Applicant (Individual / Company / Firm):

The applicant is a Partnership frim and the partnership deed executed on 12.02.2021 with five partners under the Indian Partnership act, 1932. Mr. Saju M.C. is an Authorized person for signing the documents on behalf of the firm (Refer Annexure No. VIII).

2.2 a) Mineral which the Applicant intends to mine:

The Applicant intends to quarry Rough stone and Gravel.

b) Precise area communication letter details received from the Competent Authority of the Government:

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Dindigul District vide **Rc. No. 169/2021 (Mines), Dated: 11.11.2021** (Refer Annexure No. I).

c) Period of permission / lease to be granted:

Ten years.

d) Name, Registration Number and address of the Recognised Qualified Person preparing the mining plan:

Name	:	S. ILAVARASAN, M.Sc., Recognised Qualified Person
Registration Number	:	RQP/MAS/253/2013/A
Address	:	No.17, Advaitha Ashram Road, Alagapuram, Salem - 636 004.
Mobile	:	+91 94422 78601 & 94433 56539
Telephone No.	:	0427- 2431989
Email	:	infogeoexploration@gmail.com

(Refer Annexure No. X)

3.0 LOCATION

a) Details of the area with location map:

The lease applied area is located about 36m Southwest side of Dindigul town, 12km Southwest side of Nilakkottai town and 3km Northeast side of Viralipatti Village.

Dindigul —26km, Southwest→ Nilakkottai —15km, Southwest→ Viralipatti —3km, Northeast→ Lease applied area

Deputy Director, Dept. of Geology and Mining, Collectorate, Dindigul - 624 001

Location Map of the Lease Applied area

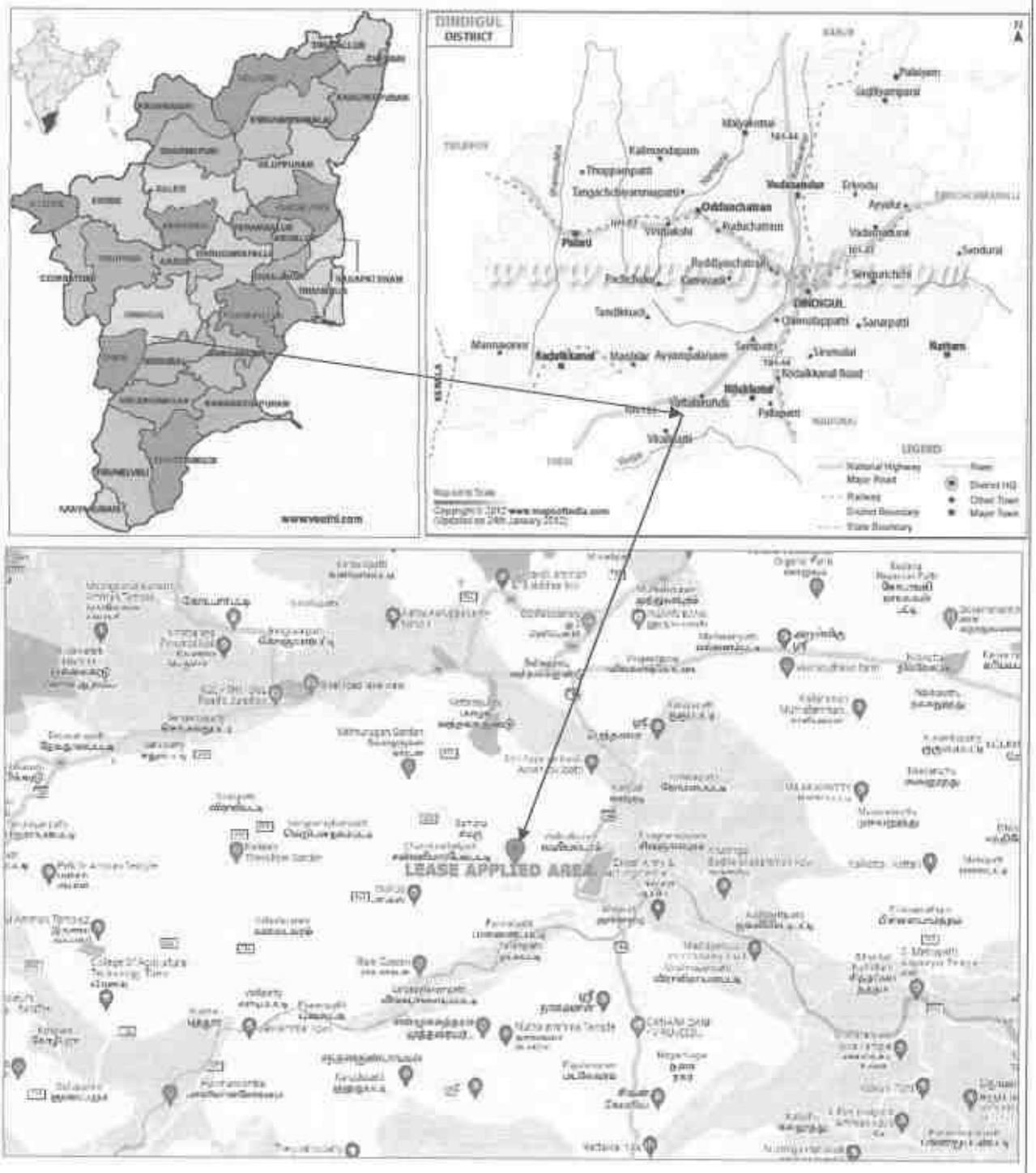


Table – 2

District	Taluk	Village	S.F. No.	Area in Ha.	Patta No.	Classification
Dindigul	Nilakkottai	Viralipatti	3/1	1.56.5	5265	Patta lands (Refer Annexure No. IV to VI)
			3/2	1.20.0		
			4/1	1.75.5		
Total Extent				**4.52.0**		

b) Classification of the area (Ryotwari/ Poramboke / others):

It is a Patta land (Ryotwari).

c) Ownership / Occupancy of the applied area (surface right):

It is Patta lands, registered in the name of M/s. Mirones Builders and Developers Private limited vide Patta No. 5265 (Refer Annexure No. IV to VI). The applicant firm has obtained consent from the pattadar for the period of fifteen years from the date of 11.03.2021 to 10.03.2036 (Refer Annexure No. VII).

d) Toposheet No. with latitude and longitude:

The lease applied area falls in the Toposheet No: **58 F/16** Latitude between: **10°07'02.42"N** to **10°07'13.50"N** and Longitude between: **77°45'00.91"E** to **77°45'08.34"E** on WGS datum-1984. Please refer the Plate Nos. I to II.

e) Existence of public road / Railway line, if any nearby and approximate distance:

The approach (Cart track) road is situated on the Eastern side of the applied area which is connects to the Kurumbapatti - kunnuvarankottai Village road situated at 200m on the Northeast side of the area.

Multiple road access is available from the quarry to state highways and National Highway, no towns are enrooted hence the traffic density is not much more due to the transportation of Rough stone and Gravel.

The approach road from the quarry area to main road already available and the same will be utilized and maintained for haulage, besides trees will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Madurai - Dindigul which is located at 18km on the Eastern side of the area.

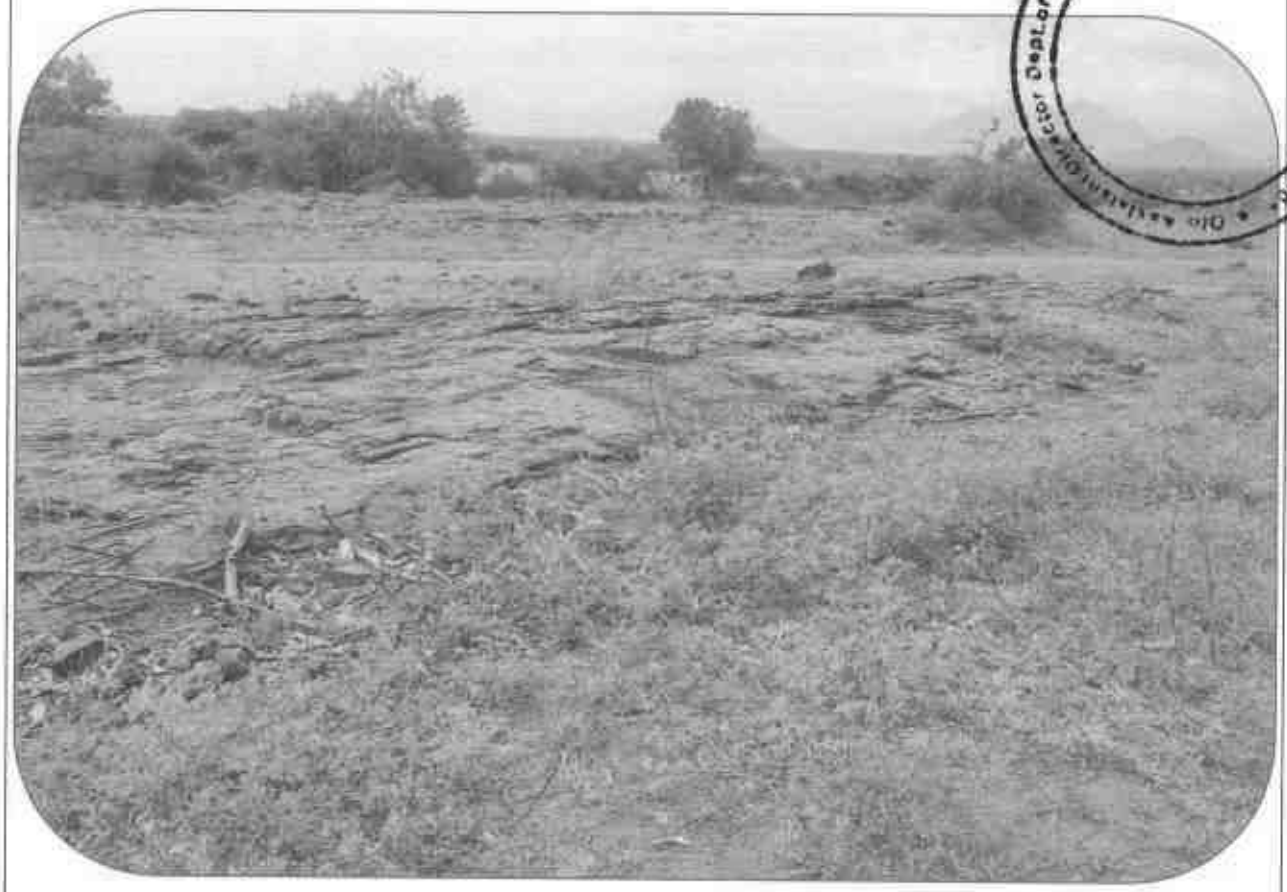
PART – A

4.0 GEOLOGY AND MINERAL RESERVES

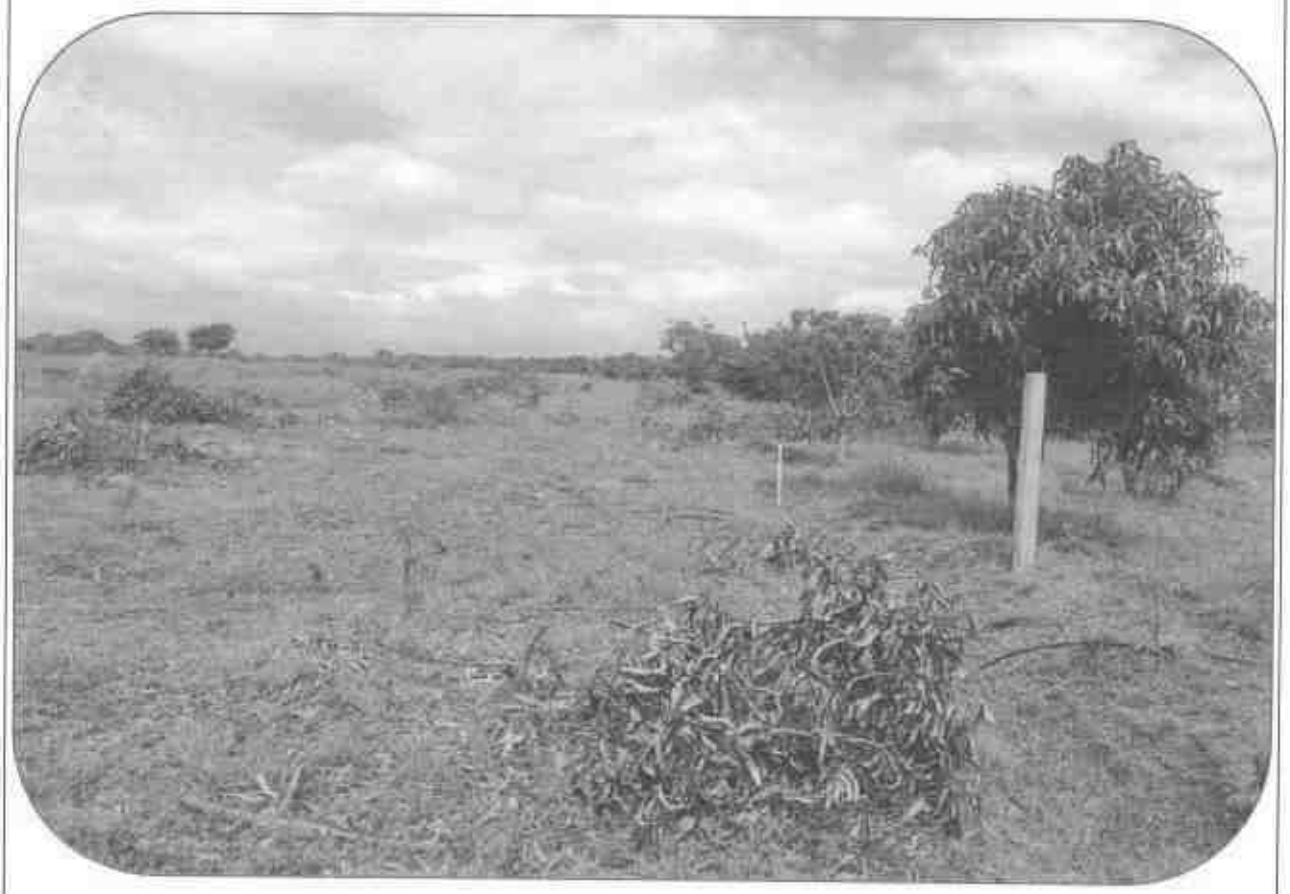
4.1 Brief description of the Topography and general Geology of the area (with plans):

The lease applied area is flat terrain. The gradient is gentle towards Southern side and altitude of the area is 243m above from Mean Sea level. The area is covered by 1.5m thickness of Gravel, 1m Weathered rock and followed by Massive Charnockite which is clearly inferred from the surface outcrops. The Water level in the surrounding area is 66m in summer and at 61m in rainy seasons below general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 931mm.

Topographical view of Viralipatti Rough Stone and Gravel Quarry lease applied area



Boundary Pillars



Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body N45°E – S45°W with dipping towards SE65°.

The general geological sequences of the rocks in this area are given below:

AGE		FORMATION
Recent	-	Quaternary formation (Gravel)
--------Unconformity---------		
Archaean	-	Charnockite
		Peninsular Gneiss complex

4.2 Details of exploration already carried out if any:

State Geology and Mining Department, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Dindigul District. Besides, the Recognised Qualified Person and his team members made a detailed geological study of the proposed area. The Rough stone formation is clearly inferred from the surface outcrops.

4.3 Estimation of Reserves:

a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally three sections have been drawn, one section drawn along the strike direction as (X-Y) length wise and other two cross sections drawn perpendicular to strike as (A-B and C-D) width wise to cover the maximum area considered for lease up to 47.5m depth.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in the scale of Plan and Sections 1:1000 (please refer the Geological plan and sections Plate No.- III and III-A). As the sale of Rough stone are in terms of cubic meters (Volume) only and not in terms of tonnage.

Geological Resources (Plate No. III):

The Geological Resources of Rough Stone and Gravel Quarry are calculated to a maximum depth of 47.5m (1.5m Gravel + 1m Weathered rock + 45m Rough Stone) below from the existing ground profile. The total Geological resources are calculated by area method. The total geological resources are given table below.

Total Extent of the area : 2.85.5 Hectares

Area in square meter (2.85.5 x 10,000) : 28,550m^2

Table – 3

Geological Resources				
Area (m^2)	**Depth (m)**	**Rough Stone (m^3)**	**Weathered rock (m^3)**	**Gravel (m^3)**
45200	1.5	-	-	67800
45200	1	-	45200	-
45200	45	2034000	-	-

Total Geological Resources of Gravel : **67,800m^3**

Total Geological Resources of Weathered rock : **45,200m^3**

Total Geological Resources of Rough Stone : **20,34,000m^3**

Mineable Reserves:

The mineable reserves are calculated after leaving the safety distance and Bench loss.

Table – 4

Section	Bench	Length (m)	Width (m)	Depth (m)	Mineable Reserves of Rough stone @ 100% (m^3)	Weathered rock (m^3)	Gravel (m^3)
XY-AB	i	165	109	1.5	-	-	26977.5
	ii	163	105	1	-	17115	-
	iii	162	103	5	83430	-	-
	iv	157	93	5	73005	-	-
	v	152	83	5	63080	-	-
	vi	147	73	5	53655	-	-
	vii	142	63	5	44730	-	-
	viii	137	53	5	36305	-	-
	ix	132	43	5	28380	-	-
	x	127	33	5	20955	-	-
	xi	122	23	5	14030	-	-
Total					**417570**	**17115**	**26977.5**
XY-CD	i	157	101	1.5	-	-	23785.5
	ii	155	96	1	-	14880	-
	iii	154	94	5	72380	-	-
	iv	149	84	5	62580	-	-
	v	144	74	5	53280	-	-
	vi	139	64	5	44480	-	-
	vii	134	54	5	36180	-	-
	viii	129	44	5	28380	-	-
	ix	124	34	5	21080	-	-
	x	119	24	5	14280	-	-
	xi	114	14	5	7980	-	-
Total					**340620**	**14880**	**23785.5**
Grand Total					**758190**	**31995**	**50763**

Total Mineable Recoverable Reserves of Gravel : 50,763m^3

Total Mineable Recoverable Reserves of Weathered Rock : 31,995m^3

Total Mineable Recoverable Reserves of Rough Stone @ 100% : 7,58,190m^3

The mineable reserves have been computed as **7,58,190m^3** of Rough stone, **31,995m^3** of Weathered rock and **50,763m^3** of Gravel at the rate of 100% recovery upto a depth of 47.5m (1.5m Gravel + 1m Weathered rock + 45m Rough Stone) below from the general ground level for a period of Ten years.

5.0 MINING

5.1. Method of mining (opencast / underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence, it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.

5.2. Mode of working (mechanized, semi mechanized, manual):

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry explosives in blasting, excavation, Loading and transportation of Rough stone to the needy crusher.

The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

5.3. Proposed Bench Height and Width:

The bench height is proposed 5.0 meter vertical bench in Rough stone of the bench is not less than the Height.

5.4. Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):

The overburden is in the form of Gravel and Weathered formation. The quarried out overburden will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fee to the Government. The excavated Rough stone will be directly loaded into tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate Nos. – III and III-A.

Year wise Development and Production Table

Table – 5

YEAR WISE PROPOSAL FOR FIRST FIVE YEARS								
Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Recoverable Reserves of Rough stone @ 100% (m^3)	Weathered rock (m^3)	Gravel (m^3)
I	XY-AB	i	104	109	1.5	-	-	17004
		ii	100	105	1	-	10500	-
		iii	65	103	5	33475	-	-
		iv	55	93	5	25575	-	-
		v	45	83	5	18675	-	-
	Total					**77725**	**10500**	**17004**
II	XY-CD	i	52	101	1.5	-	-	7878
		ii	50	96	1	-	4800	-
	XY-AB	i	61	109	1.5	-	-	9973.5
		ii	63	105	1	-	6615	-
		iii	55	103	5	28325	-	-
		iv	55	93	5	25575	-	-
		v	55	83	5	22825	-	-
	Total					**76725**	**11415**	**17851.5**
III	XY-CD	i	105	101	1.5	-	-	15907.5
		ii	105	96	1	-	10080	-
	XY-AB	iii	42	103	5	21630	-	-
		iv	42	93	5	19530	-	-
		v	42	83	5	17430	-	-
	Total					**58590**	**10080**	**15907.5**
IV	XY-AB	vi	132	73	5	48180	-	-
		vii	122	63	5	38430	-	-
	Total					**86610**	-	-
V	XY-AB	viii	112	53	5	29680	-	-
		ix	102	43	5	21930	-	-
		x	92	33	5	15180	-	-
		xi	82	23	5	9430	-	-
	Total					**76220**	-	-
Grand Total						**375870**	**31995**	**50763**

Table – 5A

YEAR WISE PROPOSAL FOR SECOND FIVE YEARS

Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Recoverable Reserves of Rough stone @ 100% (m^3)	Weathered rock (m^3)	Gravel (m^3)
VI	XY-CD	iii	154	94	5	72380	-	-
	XY-AB	iv	5	93	5	2325	-	-
	Total					**74705**	-	-
VII	XY-AB	v	10	83	5	4150	-	-
	XY-CD	iv	149	84	5	62580	-	-
		v	30	74	5	11100	-	-
	Total					**77830**	-	-
VIII	XY-CD	v	114	74	5	42180	-	-
		vi	100	64	5	32000	-	-
	XY-AB	vi	15	73	5	5475	-	-
	Total					**79655**	-	-
IX	XY-CD	vi	39	64	5	12480	-	-
		vii	134	54	5	36180	-	-
		viii	70	44	5	15400	-	-
	XY-AB	vii	20	63	5	6300	-	-
		viii	25	53	5	6625	-	-
	Total					**76985**	-	-
X	XY-CD	viii	59	44	5	12980	-	-
		ix	124	34	5	21080	-	-
		x	119	24	5	14280	-	-
		xi	114	14	5	7980	-	-
	XY-AB	ix	30	43	5	6450	-	-
		x	35	33	5	5775	-	-
		xi	40	23	5	4600	-	-
	Total					**73145**	-	-
Grand Total						**382320**	-	-
Over all Total for Ten Years						**758190**	**31995**	**50763**

Total Proposed Reserves of Gravel @ 100% : 50,763m^3

Total Proposed Reserves of Weathered rock @ 100% : 31,995m^3

Total Proposed Recoverable Reserves of Rough Stone @ 100% : 7,58,190m^3

The Recoverable reserves have been computed as **7,58,190m^3** of Rough stone, **31,995m^3** of Weathered rock and **50,763m^3** of Gravel at the rate of 100% recovery upto a depth of 47.5m (1.5m Gravel + 1m Weathered rock + 45m Rough Stone) below ground level for the period of Ten years for Rough stone and first three years for Gravel and Weathered rock.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the rough stone locked up in benches will be exploited after obtaining necessary permission from the office of Director General of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

One lorry load	=	$6m^3$ (approx.)
Total No of Working days	=	300 Days per year
Total Rough stone to be removed during the plan period	=	$7,58,190m^3$
Hence total Lorry loads per day	=	$7,58,190m^3/6m^3$
	=	1,26,365 Lorry loads
	=	1,26,365/10 years
	=	12,637/300
Rough stone	=	**42 Lorry loads per day**
Total Weathered rock to be removed during the plan period	=	$31,995m^3$
Hence total Lorry loads per day	=	$31,995m^3/6m^3$
	=	5,333Lorry loads
	=	5,333/3 years
	=	1,778/300 days
Weathered rock	=	**6 Lorry loads per day**
Total Gravel to be removed during the plan period	=	$50,763m^3$
Hence total Lorry loads per day	=	$50,763m^3/6m^3$
	=	8,461 Lorry loads
	=	8,461/3 Years
	=	2,820/300 Days
Gravel	=	**9 Lorry loads per day**

Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 P.M. lunch break)

5.5. Machineries to be used:

For Mining:

The following machineries are utilized on rental basis for the development and production work at this quarry.

I. DRILLING MACHINE:

Table – 6

S.No.	Type	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	9	30-35	1.2m to 2.0m	Compressed air
2	Compressor	3	-	400 psi	Diesel Drive

II. EXCAVATION & LOADING EQUIPMENT:

S.No.	Type	Nos	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	2	300	Diesel Drive

III. **HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:**

S.No.	Type	Nos	Capacity	Motive Power
1	Tippers	5	20 tonnes	Diesel Drive

5.6. Disposal of Overburden/Waste:

The overburden is in the form of Gravel and Weathered formation. The quarried out overburden will be directly loaded into tippers for the filling and levelling of low lying areas. The excavated rough stone will be directly loaded into tippers to the needy customers. Hence, there is no Waste anticipated and disposal of waste does not arise.

5.7. Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

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

As the applicant has applied quarry lease for Ten years, the ultimate pit limit (dimension) at the end of this mining plan period is given below:

Table – 7

Length (Max) (m)	Width (Max) (m)	Depth (Max) (m)
322	109	47.5m Below Ground Level

All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF & CC Norms. Please refer Plate No. IV and IV-A & VI.

It is proposed to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

There is no waste anticipated during the entire life of quarry. Hence, backfilling is not possible in this quarry. The quarry pit will be allowed to collect the seepage and rain water and the water storage will be kept as reservoir to charging the nearby wells and utilized for greenbelt development. When the quarry reaches its ultimate pit limit or at the end of life of quarry, suitable soil type will be brought from outside and preserved over the quarried out top benches to facilitate the greenbelt development. The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle (Refer plate no. IV and V).

6.0 BLASTING

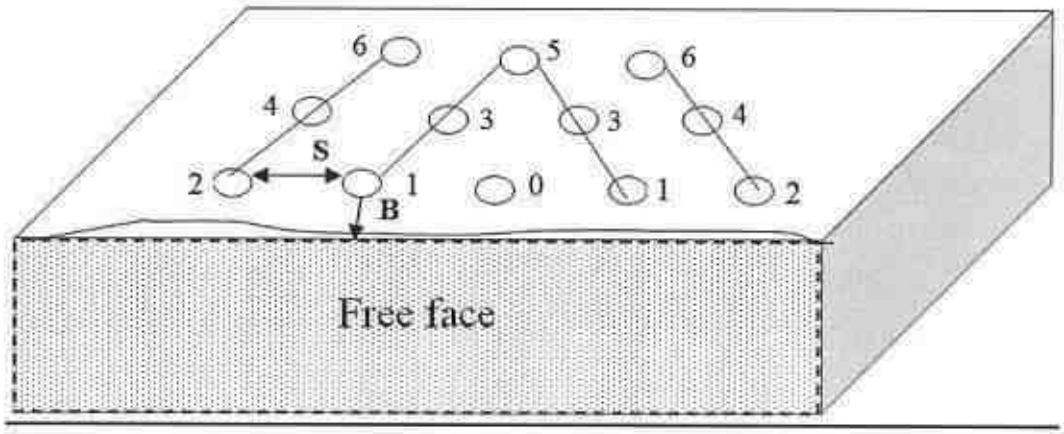
6.1 Blasting pattern:

The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting of shattering effect for loosen the Rough stone.

Drilling and blasting parameters are as follows:

Depth of Each hole	:	1.5m
Diameter of hole	:	30-32mm
Spacing between holes	:	1.2m
Burden for hole	:	1.0m
Pattern of hole	:	Zigzag – Multi-rows
Inclination of holes	:	$80^0$from horizontal
Use of delay detonators	:	25millisecond relays
Detonating fuse	:	"Detonating" Cord

BLASTING PATTERN DRAWING



Staggered "V" Pattern of Blasting Design

Spacing	=	**1.2m**
Burden	=	**1.0m**
Depth of the hole	=	**1.5m**
No of holes proposed per day	=	**220 Holes**

6.2 Type of explosives to be used:

Small Dia. 25mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No deep hole drilling or secondary blasting is proposed.

6.3 Measures proposed to minimize ground vibration due to blasting:

The quarry is situated more than 300m away from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depth jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give heaving effect in rough stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantages of delay blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

Blasting program for the production per day:

No of Holes	= 220 Holes
Yield	= 660 Tons
Powder factor	= 6 Tons/Kg of explosives
Total explosive required	= 110 Kg-Slurry explosives
Charge/ hole	= 0.5 Kg
Blasting at day time only	= 12.30 P.M – 1.00P.M.(whenever required)

6.4 Storage and safety measures to be taken while blasting:

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be have the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the explosives Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.

7.0 MINE DRAINAGE

7.1 Depth of water table (based on nearby wells and water bodies):

The water table in the area is about 66m in summer season and 61m in Rainy season which is observed from the nearby wells and the data obtained from existing private boreholes. The lease area is fully covered by Massive Charnockite formation and it is revealed from the outcrops. Hence, the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

Table – 8

Type	Distance & Direction	Location
Bore Well	70m Southern side	10°07'00.34"N 77°45'05.56"E

7.2 Arrangements and places where the mine water is finally proposed to be discharged:

The quarry operations are confined to well above the water table during the entire lease period. If water is encountered at quarry due to rain water and seepage, the same will be pumped out by 5HP water pump and discharge to the Green belt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

8.0 OTHER PERMANENT STRUCTURES (also shown in the map)

8.1 Habitations/ Villages natham:

There is no approved habitation within 300m radius from the lease applied area.

8.2 Power Lines (HT/LT):

There is an EB-LT line passing in North – South direction on the East and Northern side of the applied area, a safety distance of 50m has been provided to the Power line. There is no EB(HT) line or Housing area situated within 50m radius of the area.

8.3 Water bodies (river, pond, lake, odai, canal, etc.,):

There is no River, Pond, Odai, Canal, Lake or Reservoir located within 50m radius of the area.

8.4 Archaeological / historical monuments:

There is no Archaeological / historical monument/Place of Worship within 500m radius of the area.

8.5 Road (NH, SH others):

The Nearest National Highway (NH – 45) Dindigul – Theni Road is situated at 5.4km on the Northern side of the lease applied area.

The State Highway Vathalagundu – Usilampatti (SH-154) Road is located about 1.7km on the Eastern side of the lease applied area.

The major District Vathalagundu – Usilampatti (903) road is situated about 2.7km on the Western side of the area.

8.6 Places of worships:

There is no place of worship within the radius of 500m from the lease applied area.

8.7 Reserved forest / forest / social forest / wild life sanctuary etc.:

There is no reserved forest / forest / social forest / wild life sanctuary etc., situated within 1km radius of the lease applied area.

SALIENT FEATURES

Table – 9

S. No.	Salient Futures Present around site	Prescribed safety distance	If any present within Prescribed distance - Actual Distance from the site
1.	Railways, Highways, Reservoirs or Canal	50m	None of the above situated within 50m radius.
2.	Village Road	10m	There is no village road within 10m radius.
3.	Habitation / Village	300m	There is no approved habitation located within 300m radius of the lease applied area (Refer Plate No I-B).
4.	Adjacent Patta/Govt. Land	7.5m/10m	(Refer Plate No. II).
5.	Power House, EB line (HT & LT Line)	50m	There is an EB-LT line passing in North – South direction on the East and Northern side of the applied area, a safety distance of 50m has been provided to the Power line. There is no EB(HT) line or Housing area situated within 50m radius of the area (Refer Plate No. II).
6.	Boundaries of the permitted area	7.5m	The boundaries of the permitted areas as follows: North – S.F.No. 2 East – S.F.Nos. 3/3, 1277 and 1282 South – S.F.Nos. 4/2 and 1274 West – S.F.Nos. 1269/2, 1269/3 and 1274 (Refer Plate No. II).
7.	Reserve forest	1km	There is no reserved forest located within the radius of 1km from the lease applied area.
8.	Protected area of Wild Life Sanctuary / ECO sensitive area/ Critically Polluted Area / Interstate Border	10km	There is no Wildlife Sanctuary/ ECO sensitive Zone/ Interstate Border/ Critically Polluted Area/ HACA/ CRZ located within 10km radius of the area.

Sub-table for S. No. 4:

Direction	S.F.No.	Classification	Safety Distance
North	2	Patta land	7.5m and 50m to the EB-LT line
East	3/3	Govt. land	10m
	1277 and 1282	Patta land	50m to the EB-LT line
South	4/2 and 1274	Patta land	7.5m
West	1269/2	Govt. land	10m
	1269/3 and 1274	Patta land	7.5m

9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

9.1 Employment potential (skilled, semi-skilled, un skilled):

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous mines regulations, 1961.

a. Skilled labour:

Mine Foreman	:	1
Blaster/mate	:	1
Mine Manager	:	1
Excavator – Operator & Driver	:	7
Jack hammer operator	:	18

b. Semi-skilled:

Security	:	1

c. Unskilled:

Labour & Helper	:	2
Co-operator and Cleaner	:	7
Total	**:**	**38**

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

9.2 Welfare Measures:

a) Drinking Water:

Packaged drinking water is available from the nearby water vendors in Vathalagundu which is located about 5km on the Northern side of the lease applied area.

b) Sanitary Facilities:

Hygienic modern Sanitary Facilities will be constructed with in the safety area as semi permanent structure and it will be maintained periodically.

c) First aid facility:

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle. Hospital is available in Vathalagundu located at 5km on the Northern side.

d) Labour Health:

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

e) Precautionary safety measures to the labourers:

- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets
- Safety Shoes

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

PART – B

10.0 ENVIRONMENT MANAGEMENT PLAN

10.1 Existing Land use pattern:

The quarry lease applied area is flat terrain. The area is a dry barren land devoid of Agriculture and Habitations. The land is previously did not used any specific purpose.

Land Use Pattern

Table – 10

Description	Present area in (ha)	Area utilized (%)
Area under quarry	Nil	-
Infrastructure	Nil	-
Roads	Nil	-
Green Belt	Nil	-
Unutilized	4.52.0	100
Grand Total	**4.52.0**	**100**

10.2 Water Regime:

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climate change.

10.3 Flora and Fauna:

Table – 11

S.No	Name of the plant (Scientific)	Family Name	Common Name	Habit	Picture
1.	Cocos nucifera	Arecaceae	Coconut, Thennai	Tree	
2.	Azadirachta indica	Meliaceae	Neem, Vembu	Tree	
3.	Leucas aspera	Lamiaceae	Thumbai	Shrub	
4.	Mangifera indica	Anacardiaceae	Mango	Tree	
5.	Prosopis juliflora	Fabaceae	Karuvelam tree	Tree	

List of Fauna			
S.No.	Scientific Name	Common Name	Picture
1.	Capra aegagrus hircus	Goat	
2.	Funambulus palmarum	Squirrel	
3.	Bos taurus	Cow	
4.	Oryctolagus cuniculus	Rabbit	
5.	Corvus levaillantii	Crow	
6.	Gallusgallus domesticus	Hen	

10.4 Climatic Conditions:

The area receives rainfall of about 931mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 21°C.

10.5 Human settlement:

There are few villages located within 5km radius of the area; the approximate distance, direction and populations are given below:

Table – 12

S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Viralipatti	3km – SW	11,500
2.	Kurumbapatti	1km – NW	1,300
3.	Sekkapatti	3km – SE	2,500
4.	Kunnuvarankottai	3km – SE	5,000

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc are available at Vathalagundu located at 5km on the Northern side of the area.

10.6 Plan for air, dust suppression:

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, Loading and unloading during the Rough stone quarry operation.
The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non-quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigate measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000**/year.

10.7 Plan for Noise level control:

The noise level increased due to the Excavation, Drilling, Blasting and Transportation.

Engineering Noise control:

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse will be used for rough stone. Hence, ground vibration and noise pollution i.e., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs. 2,000**/Year.

10.8 Environmental impact assessment statement describing impact of mining on the next Ten years:

In the mining plan proposed for a production of Rough stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF& CC. It is B2 Category mine. The estimated budget would be around **Rs.7,60,000/-.**

10.9 Proposal for waste management:

There is no waste anticipated in this Rough stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%). Hence, Waste management does not arise.

10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):

In the mining plan only to a maximum depth of 47.5m has been envisaged as workable depth for safe & economic quarry operation during entire lease applied area. When the quarry reaches its ultimate pit limit or at the end of life of quarry suitable soil type will be brought from outside the same will be spread out over the quarried out top bench to facilitate the greenbelt development. There is no proposal for backfilling. However, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around **Rs. 2,85,000/-.**

10.11 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):

The safety zone all along the boundary barrier has been utilized for Greenbelt development. Appropriate species of Neem, Pongamia pinnata, Thespesia Populnea, etc., trees will be planted in a phased manner as described below.

Table – 13

Year	No. of tress proposed to be planted	Survival %	Area to be covered m^2	Name of the species	No. of trees expected to be grown
I	100	80%	1156	Neem, Pongamia pinnata, Thespesia Populnea, etc.,	80
II	100	80%	1156		80
III	100	80%	1156		80
IV	100	80%	1156		80
V	100	80%	1156		80
VI	100	80%	1156		80
VII	100	80%	1156		80
VIII	100	80%	1156		80
IX	100	80%	1156		80
X	100	80%	1156		80

Nearly 11,560m^2 area is proposed to use under Greenbelt by planting 1,000 Numbers of trees during mining plan period with an anticipated survival rate of 80% (Please refer Plate No. III, IIIA and IV). The estimated budget for plantation and maintenance of Green belt development would be around **Rs. 1,00,000/-** for the period of Ten years.

The Greenbelt will be carried out over all along the quarried out top bench and approach road. The cost would be around **Rs. 50,000/-**

10.12 Proposed financial estimate / budget for (EMP) environment management:

Budget Provision for the entire quarrying period:

Table – 14

S. No	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year
1	Ambient air quality monitoring	6500	4	26000	52000
2	Noise level monitoring	250	4	1000	2000
3	Ground vibration monitoring	1000	2	2000	4000
4	Water sampling and analysis	9000	1	9000	18000
Total EMP Cost/ year					**76,000**

The EMP cost would be around **Rs. 7,60,000/-** for the period of Ten years.

A. Project cost / investment		
i) Land cost	The Land value as per the Government Guideline land cost is calculated as follows, Total Extent = 4.52.0Ha Cost per Hectare = Rs. 83,500/- 4.52.0 x 83,500/- = Rs. 3,77,420/- (source : https://tnreginet.gov.in/portal/)	Rs.3,78,000/-
ii) Machinery to be used	The following machineries are proposed to meet out the productions. Excavator attached with rock breaker, Tipper, Tractor mounted compressor with jack Hammer and loose tools (Rental Basis)	Rs.1,00,00,000/-
iii) Refilling/ Fencing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattle cost would be around	Rs.2,85,000/-
iv) Labourers shed	Labour sheds will be constructed as semipermanent structure. The cost would be around	Rs. 2,50,000/-
v) Sanitary facility	Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around	Rs. 1,00,000/-
vi) Others items	First aid room & accessories	Rs. 50,000/-
vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labors. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around	Rs.1,00,000/-
viii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around	Rs.50,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around	Rs.50,000/-
x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	Rs.1,00,000/-
xi) Garland drain	Construction of Garland drain with check dam to prevent surface run-off rain water in to the quarry pit, the construction cost is around	Rs. 2,40,000/-
xii) Greenbelt etc.	Greenbelt development and maintenance will be carried out in the safety zone, the cost would be around	Rs.1,00,000/-
	Greenbelt program will be carried out in the quarried out top benches, approach road and Panchayat road.	Rs.50,000/-
	Total Project Cost	**Rs.1,17,53,000/-**

B. EMP Cost :- (Per year)

Air Quality monitoring	=	Rs. 52,000/-
Water Quality Sampling	=	Rs. 18,000/-
Noise Monitoring	=	Rs. 2,000/-
Ground vibration test	=	Rs. 4,000/-
Total Cost	=	**Rs. 76,000/-**

Total EMP Cost for the Ten years period is **Rs. 7,60,000/-**

A+B =

A. Project cost	=	Rs.1,17,53,000/-
B. EMP Cost	=	Rs. 7,60,000/-
Total Project Cost (A+B)	=	**Rs.1,25,13,000/-**

C. The applicant Indents to involve Corporate Environment responsibilities (CER) activity like Water purifier, Cot and Bed facility to the Viralipatti Dispensary and Water Purifier to the Kurumbapatti Govt. School around 2.0% from the total project cost the cost would be around **Rs. 2,51,000 /-**

Total Project cost = Rs. 1,25,13,000/-

CER Cost (2%) = Rs. 2,51,000/-

Total cost (A+B+C) = Rs. 1,27,64,000/-

(The Total cost of the project including EMP Cost is Rupees one crore twenty seven Lakhs and sixty four thousand only).

11.0 PROGRESSIVE QUARRY CLOSURE PLAN

11.1 Introduction:

The Progressive Quarry Closure Plan for Rough stone and Gravel quarry lease applied area over an extent of 4.52.0 Ha of Patta Lands in S.F.Nos. 3/1, 3/2 and 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu State has been prepared for **Tvl. Adyar Granites,** having a Registered office at No. 15/113-2, KBC Complex, Laikkadu, Perunai Post, Changanacherry, Kattyam, Kerala State– 686 102.

11.2 Present Land use pattern:

Land Use Table – 15

Description	Present area (Ha)
Quarry Pit	Nil
Infrastructure	Nil
Roads	Nil
Green Belt	Nil
Unutilized Area	4.52.0
Grand Total	**4.52.0**

11.3 Method of Mining:

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height for Rough stone.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

11.4 Mineral Processing Operations:

The quarried out Rough stone will be transported by the 20tons capacity Tippers to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

11.5 Reasons for closure:

As the mineral is not going to be exhausted during the proposed plan period no immediate closure is planned due to sufficient reserves are available to carry on the activities. Hence, the reason for closure will be discussed in the ensuing mining plan or in final mine closure plan.

11.6 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations.

11.7 Progressive quarry closure plan preparation:

Name and address of the Recognised Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the Preparation of progressive quarry closure plan.

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A
No.17, Advaitha Ashram Road,
Alagapuram, Salem – 636 004.
Cell: 94433 56539, 94422 78601

The applicant will himself implement the closure plan; no outside agency will be involved.

11.8 Review of Implementation of Mining Plan including Progressive Closure Plan upto the Final Closure Plan:

Mining Plan and Progressive quarry closure plan are being submitted for the first time. It will be reviewed after Ten years and review of implementation will be given in the next mining plan.

11.9 Closure Plan:

(i) Mined Out Land:

At the end of the mining plan period, about 3.32.4Ha of area will be mined out. Land use at various stages is given in the table below.

Land Use Table – 16

Description	Present area in (Ha)	Area Required during the first five years (Ha)	Area at the end of Lease period (Ha)
Area under quarry	Nil	3.32.4	3.32.4
Infrastructure	Nil	0.01.0	0.01.0
Roads	Nil	0.02.0	0.03.0
Green Belt	Nil	0.74.9	1.15.6
Unutilized Area	4.52.0	0.41.7	Nil
Grand Total	**4.52.0**	**4.52.0**	**4.52.0**

(ii) Water quality management:

Following control measures will be adopted for controlling water pollution:-

- Garland drain will be constructed around the quarry area to prevent surface runoff rainwater entering in to the pit.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture lands.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

(iii) Air Quality Management:

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

(iv) Top Soil and Waste Management:

There is no topsoil and waste generated during entire life of quarry, hence waste management does not arise.

(v) Disposal of mining machinery:

All the Machineries will be engaged on rental basis and the same has been maintained in good condition during entire life of quarry. Hence, disposal or decommissioning of mining machinery does not arise.

(vi) Safety & Security:

Safety measures will be implemented to prevent access in the excavation area an un-authorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0 m for ease of operations and provide sufficient room for the movement of equipment.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipment shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations also proper signal by siren alarm will be provide to the public before blasting to prevent accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.

(vii) Disaster Management and Risk Assessment:

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The quarried out benches, Greenbelt Development will be formed in all around the benches and safety barrier of the lease applied area.

(viii) Care and Maintenance during Temporary Discontinuance:

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

  Quarry roads and approach roads,

  Fencing on approach roads,

  Checking and maintenance of machines and equipment,

  Drinking water arrangements,

  Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

(ix) Economic Repercussion of Closure of Quarry and manpower Retrenchments:

The quarry lease is granted for a period of Ten years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

(x) Time Scheduling For Abandonment:

The lease applied area has enormous potential for continuance of operations even after the expiry of the lease period. The details of time schedule of all abandonment will be given at the time of final closure plan.

(xi) Abandonment Cost:

As at present mining is not going to be closed so abandonment cost could not be assessed. However based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

Table – 17

ACTIVITY		YEAR										RATE	COST (Rs.)
		I	II	III	IV	V	VI	VII	VIII	IX	X		
Plantation under safety zone	No. of sapling	100	100	100	100	100	100	100	100	100	100	Rs.100 Per sapling	1,00,000
	Cost	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000		
Plantation in quarried out top benches and approach road	No. of sapling	Approach Road			Quarried out top Benches								
		50	50	50	50	50	50	50	50	50	50		50,000
	Cost	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000		
Wire Fencing for 950 Mtrs length		285000	-	-	-	-	-	-	-	-	-	Rs. 300 Per Meter	2,85,000
Garland Drain with settling tanks for 800 Mtrs length		240000	-	-	-	-	-	-	-	-	-	Rs. 300 Per Meter	2,40,000
Total													**6,75,000**

12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

This Mining plan for Rough stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Concerned Department.

Prepared by

S. ILAVARASAN, M.Sc.,
Recognised Qualified person
RQP/MAS/253/2013/A

Place: Salem
Date: 19.11.2021

DONATE RED
SPREAD GREEN
SAVE BLUE

RoC.No 169/2021 (Mines) Date. 07-12-2021
This Mining plan is approved based on instruction / Guidelines given by the Commissioner of Geology and Mining, Chennai vide Letter No. 13868/MV/2012 Dated 19.11.2012 and additional data by the District Collector, Dindigul in precise area Communication Letter Ror No. 169/2021/(Mines). /(Mines) dated 22.11.2021.

Assistant Director,
Geology and Mining
Dindigul.

07/12/21

377A

ANNEXURE I

அனுப்புநர்

வெ.சசிகுமார், எம்.எஸ்.சி.,
உத்வி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
திண்டுக்கல்

பெறுநர்

தி/ள்.அடையார் கிராணைட்ஸ்,
பதிவு எண்.15/113-2, கேபிசி காம்பளக்ஸ்,
லைக்காடு, பெருனை அஞ்சல்,
சங்கனாச்சேரி, கோட்டயம்,
கேரளா - 686102

ந.க.எண்.169/2021 (கனிமம்), நாள்: 11.10.2021

பொருள்: கனிமங்களும் சுரங்கங்களும் - சிறுவகைக் கனிமம் - திண்டுக்கல் மாவட்டம் - திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிபட்டி கிராமம் பட்டா புல எண்.3/1 (1.56.5 ஹெக்டேர்), 3/2 (1.20.0 ஹெக்டேர்) மற்றும் 4/1 (1.75.5 ஹெக்டேர்) ஆகியவற்றில் 4.52.0 ஹெக்டேர் பரப்பில் சாதாரண கல் மற்றும் கிராவல் குவாரி செய்ய அனுமதி கோரி அடையார் கிராணைட்ஸ் மேனேஜிங் பார்ட்னர் திரு.எம்.சாஜீ என்பவர் விண்ணப்பித்தது - புலத்தணிக்கை மேற்கொள்ளப்பட்டது - குத்தகை உரிமம் வழங்க உகந்த புலம் (Precise Area) என தீர்மானித்து ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் மாநில அளவிலான சுற்றுப்புறச் சூழல் தாக்க மதிப்பீட்டு ஆணையம் சான்றிதழ் சமர்ப்பிக்க கோருதல் - தொடர்பாக.

பார்வை:
1. திரு.எம்.சாஜீ, மேனேஜிங் பார்ட்னர், தி/ள்.அடையார் கிராணைட்ஸ், எண்.15/113-2, கேபிசி காம்பளக்ஸ், பெருனை அஞ்சல், கோட்டயம், கேரளா என்பவரது மனு நாள்: 05.04.2021
2. இவ்வலுவலக இதே எண்ணிட்ட கடிதம் நாள்:20.04.2021 (திண்டுக்கல் வருவாய் கோட்டாட்சியருக்கு முகவரியிடப்பட்டது)
3. திண்டுக்கல் வருவாய் கோட்டாட்சியர் கடித ந.க.எண். 2571/2021/அ4 நாள்: 17.09.2021
4. உதவி இயக்குநர் (கனிமம்) திண்டுக்கல் புலத்தணிக்கை அறிக்கை நாள்: 13.10.2021
5. அரசாணை எண்: 79, தொழில் (எம்.எம்.சி1)துறை, நாள்: 6.4.2015
6. அரசாணை எம்.எஸ்.எண்.169, தொழில்(எம்.எம்.சி1) துறை நாள்: 04.08.2020
7. அரசாணை எம்.எஸ்.எண்.208, தொழில்(எம்.எம்.சி1) துறை நாள்: 21.09.2020

பார்வை 1-ல் அடையார் கிராணைட்ஸ் மேனேஜிங் பார்ட்னர் திரு.எம்.சாஜீ என்பவர் 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதி எண்.19(1)ன்படி நிலக்கோட்டை வட்டம், விராலிபட்டி கிராமம் பட்டா புல எண்.3/1 (1.56.5 ஹெக்டேர்), 3/2 (1.20.0 ஹெக்டேர்) மற்றும் 4/1 (1.75.5 ஹெக்டேர்) ஆகியவற்றில் 4.52.0 ஹெக்டேரில் சாதாரண கல் மற்றும் கிராவல்மண் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி வழங்கக் கோரி விண்ணப்பதாரர் விண்ணப்பக்கட்டணம் ரூ.1500/- செலுத்தி இணைத்து விண்ணப்பித்துள்ளார்.

மேற்படி விண்ணப்பத்தின் மீது திண்டுக்கல் வருவாய் கோட்டாட்சியரிடம் பார்வை 2-ல் காணும் கடிதத்தில் பரிந்துரை அறிக்கை கோரப்பட்டதை தொடர்ந்து பார்வை 3-ல் காணும் கடிதத்தில் திண்டுக்கல் வருவாய் கோட்டாட்சியர் விண்ணப்பதாரருக்கு குத்தகை உரிமம் வழங்குவது குறித்து தனது பரிந்துரை அறிக்கையினை பின்வருமாறு சமர்ப்பித்துள்ளார்.

சிதைவடைந்த பாறைகள் (Weathered Rock) மற்றும் 2.5 மீ கீழே சார்னோகைட் வகையைச் சார்ந்த பாறைகள் மெல்லிய இணைப்புகளுடன் காணப்பட்டது என்றும், விண்ணப்ப புல எண்.3/1, 3/2-ல் குறைவழுத்த கம்பியுடன் கூடிய 3 மின்கம்பங்களும், புல எண்.4/2-ல் குறைவழுத்த கம்பியுடன் கூடிய 2 மின்கம்பங்களும் அமைந்துள்ளது புலத்தணிக்கையில் கண்டறியப்பட்டது என்றும், மேற்படி மின்கம்பங்கள் மற்றும் மின்கம்பிகளை அகற்றி [illegible] கொள்வதாக தெரிவித்துள்ளார் என்றும், அதன்படி மின்கம்பங்கள் மற்றும் மின்கம்பிகளை அகற்றி புகைப்படம் சமர்ப்பித்துள்ளார் என்றும், விண்ணப்ப புலங்களைச் சுற்றி 300 மீட்டர் சுற்றளவில் குடியிருப்புகள், வீட்டுமனைகள், வழிபாட்டுதலங்கள், புராதான சின்னங்கள் ஏதும் இல்லை. 50மீட்டர் சுற்றளவில் வண்டிப்பாதை, ஓடை எதுவும் இல்லை என்றும், எனவே, விண்ணப்ப புலமானது ஏற்கனவே குவாரி குத்தகை உரிமம் ஏதும் வழங்கப்படாத புதிய இனம் என்பதால் அரசாணை (எம்.எஸ்) எண்.208, தொழில்(எம்.எம்.சி1) துறை நாள்: 21.09.2020-ன்படி 10 ஆண்டுகளுக்கு அடையார் கிரானைட்ஸ் மேனேஜிங் பார்ட்னர் திரு.எம்.சாஜீ என்பவருக்கு திண்டுக்கல் மாவட்டம், நிலக்கோட்டை வட்டம், விராலிபட்டி கிராமம் பட்டா புல எண்.3/1 (1.56.5 ஹெக்டேர்), 3/2 (1.20.0 ஹெக்டேர்) மற்றும் 4/1 (1.75.5 ஹெக்டேர்) ஆகியவற்றில் பரப்பு 4.52.0 ஹெக்டேரில் 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் விதி எண்.19(1) மற்றும் 20-ன்படி சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க 10 ஆண்டுகளுக்கு கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

நிபந்தனைகள்:

1. விண்ணப்ப புலங்களின் அருகில் உள்ள பட்டா மற்றும் புறம்போக்கு நிலங்களுக்கு முறையே 7.5 மீட்டர் மற்றும் 10 மீட்டர் பாதுகாப்பு இடைவெளி விடவேண்டும்.
2. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக் கூடாது.
3. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியினை சுற்றி முள்கம்பிவேலி (Wire Fencing) அமைத்து குவாரிப்பணி தொடங்கவேண்டும்.
4. முறைப்படியும் விஞ்ஞானப்பூர்வமாகவும் குவாரிப்பணி செய்யவேண்டும்
5. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிபொருட்கள் பயன்படுத்த வேண்டும்.
6. சான்றிதழ் பெறப்பட்ட போர்மென், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்யப்பட வேண்டும்.
7. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.

இந்நேர்வில் பார்வை 5-ல் காணும் அரசாணையில் சிறுகனிமக் குவாரிகளுக்கு 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் விதி எண்: 41-ன்படி வரைவு சுரங்கத்திட்ட அறிக்கை மற்றும் 42-ன்கீழ் குத்தகை உரிமம் வழங்கும் முன் மேற்படி குத்தகை உரிமம் கோரிய புலத்தில் குவாரிப்பணி செய்வதால் சுற்றுப்புறச் சூழலுக்கு மாசுபடுதல் தொடர்பாக, மாநில அளவிலான சுற்றுப்புறச் சூழல் தாக்க மதிப்பீடு ஆணையத்தின் தடையின்மைச் சான்று பெற்று குவாரி குத்தகை உரிமம் வழங்க வேண்டும் என அறிவுறுத்தப்பட்டு நடைமுறையில் செயல்படுத்த தெளிவுரை வழங்கப்பட்டுள்ளது.

நிபந்தனைகள்:-

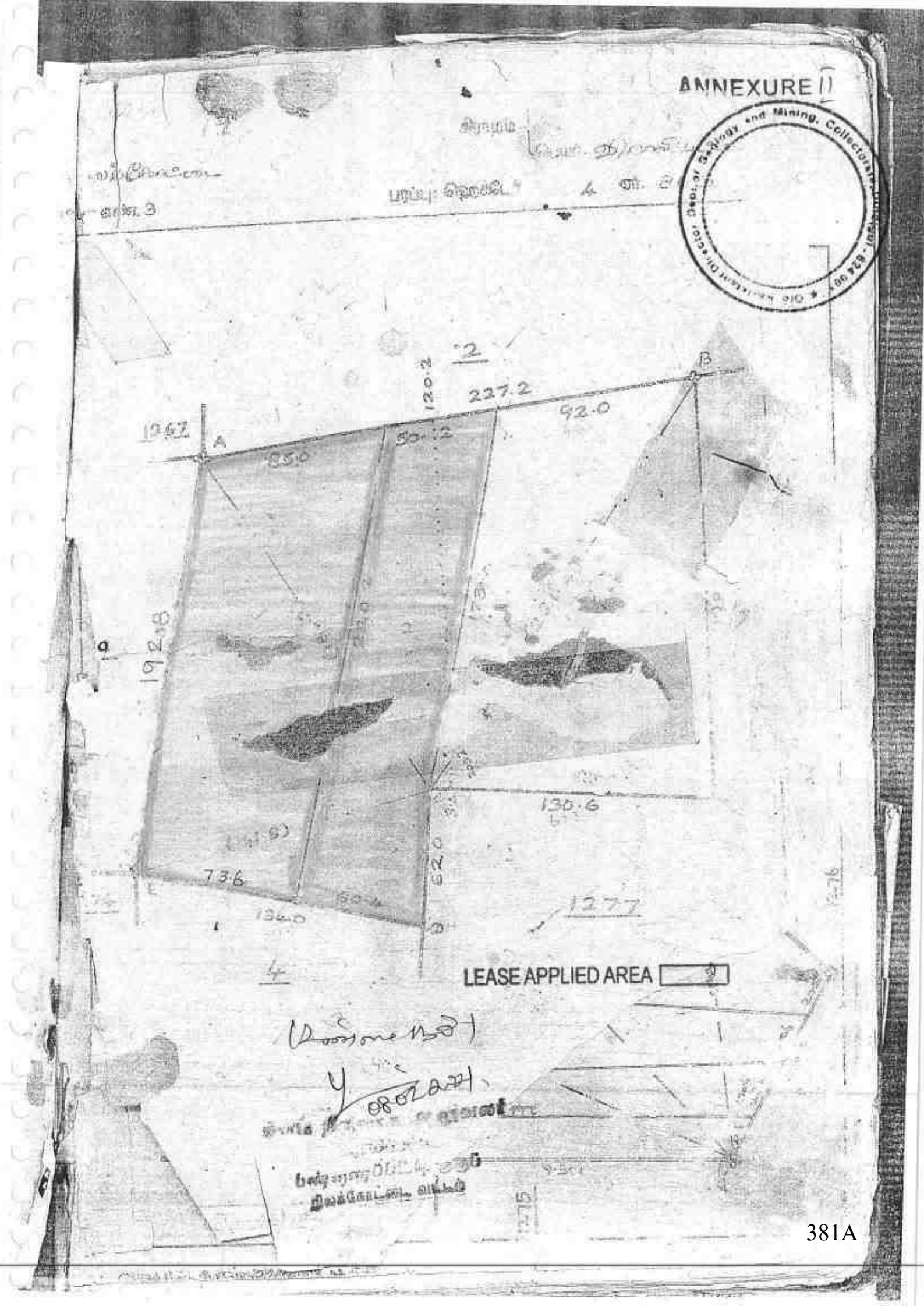
1. விண்ணப்ப புலங்களின் அருகில் உள்ள பட்டா மற்றும் புறம்போக்கு நிலங்களுக்கு முறையே 7.5 மீட்டர் மற்றும் 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு வேண்டும்.
2. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக் கூடாது.
3. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியினை சுற்றிலும் முள்கம்பிவேலி (Wire Fencing) அமைத்து குவாரிப்பணி தொடங்கவேண்டும்.
4. முறைப்படியும் விஞ்ஞானப்பூர்வமாகவும் குவாரிப்பணி செய்யவேண்டும்
5. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிபொருட்கள் பயன்படுத்த வேண்டும்.
6. சான்றிதழ் பெறப்பட்ட போர்மென், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்யப்பட வேண்டும்.
7. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
8. 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் விதி எண். 36(1)-க்குட்பட்ட அனைத்து விதிகளும் பொருந்தும்.
9. மாநில அளவிலான சுற்றுப்புறச் சூழல் தாக்க மதிப்பீடு ஆணையத்தின் வழிமுறைகள் படி சுரங்கதிட்டம் சமர்ப்பிக்கப்பட வேண்டும்.
10. மாநில அளவிலான சுற்றுப்புறச் சூழல் தாக்க மதிப்பீடு ஆணையத்திடமிருந்து தடையில்லா சான்று பெற்று சமர்ப்பிக்கப்பட வேண்டும்.

மேலும் மேற்குறிப்பிட்ட விண்ணப்ப புலத்திற்கு வரைவு சுரங்கத்திட்ட அறிக்கையை இக்கடிதம் கிடைக்கப்பெற்ற நாளிலிருந்து மூன்று மாத காலத்திற்குள் தவறாது தாக்கல் செய்யப்படவேண்டும் மற்றும் ஏற்பளிக்கப்பட்ட வரைவு திட்ட அறிக்கை கிடைக்கப்பெற்ற பின்னர் மாநில அளவிலான சுற்றுப்புறச் சூழல் செயல் விழைவு மதிப்பீடு தடையில்லாச் சான்று பெற்று உரிய காலத்திற்குள் சமர்ப்பிக்க குத்தகைதாரர் கேட்டுக் கொள்ளப்படுகிறார். தவறும்பட்சத்தில் உரிய விதிகளின்படி இறுதி முடிவு எடுக்கப்படும்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
திண்டுக்கல்

நகல்:-
இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
கிண்டி, சென்னை - 32.

ANNEXURE II



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Department of Geology and Mining, Collectorate, Dindigul - 624 001

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ாவட்டம் : திண்டுக்கல்

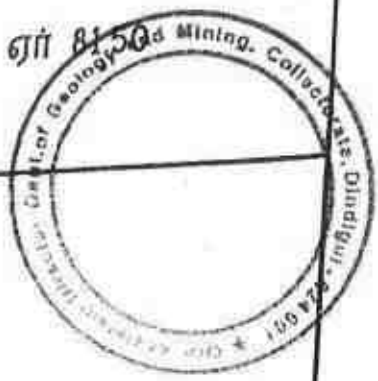
: நிலக்கோட்டை [12]

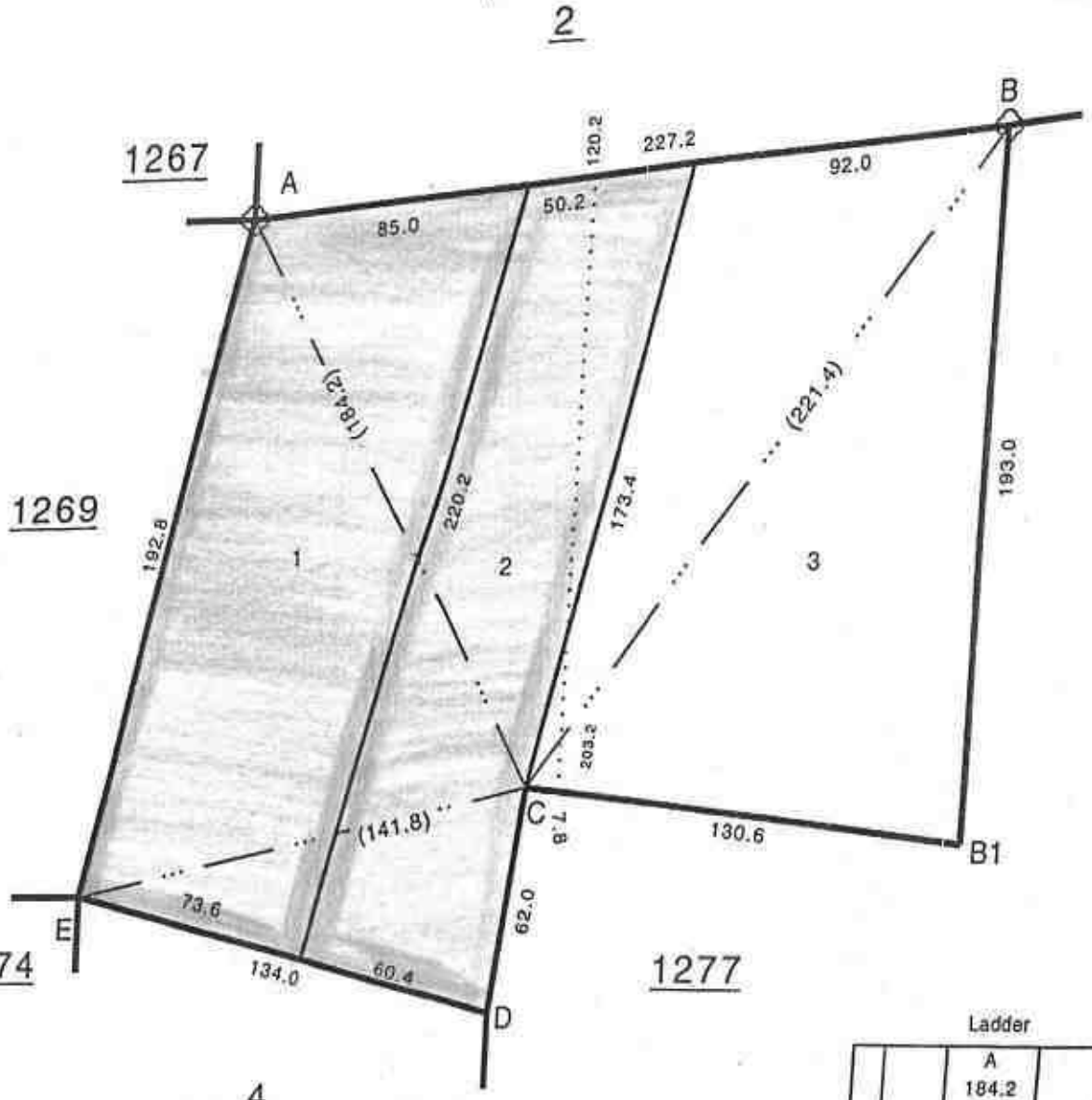
ராமம் : விராலிபட்டி [6]

புல எண் : 3

பரப்பளவு : எக்டர் 04 ஏர் 81.50

அளவு : 1 : 2000





LEASE APPLIED AREA

Ladder

A	
184.2	
C	
141.8	
E	
192.8	
A	
227.2	
B	
221.4	
C	
130.6	
B1	
193.0	
B	
C	
62.0	
D	

ராம நிருவாக அலுவலர்
விராலிப்பட்டி
பஞ்சாயுப்பட்டி குரூப்
நிலக்கோட்டை வட்டம்

வட்டம் : திண்டுக்கல்

ட்டம் : நிலக்கோட்டை [12]

ராமம் : விராலிபட்டி [6]

புல எண் : 4

பரப்பளவு : எக்டர் 02 ஏ 45.00

அளவு : 1 : 2000

Chief Controller of Geology & Collectorate, Dindigul - 624 001

3

1269

1277

1282

1274

5

A

B

C

F

G

E

D

134.0

30.6

(142.8)

119.6

(143.6)

(132.4)

85.4

187.0

57.2

85.6

65.2

(119.8)

100.6

85.4

1

2

LEASE APPLIED AREA

Ladder

A	
134.0	
B	
30.6	
C	
142.8	
A	
143.6	
F	
132.4	
C	
187.0	
D	
119.8	
F	
65.2	
E	
85.4	
D	
A	
119.6	
G	
57.2	
F	

கிராம நிருவாக அலுவலர்
விராலிப்பட்டி
பன்னைபட்டி குரூப்
நிலக்கோட்டை வட்டம்

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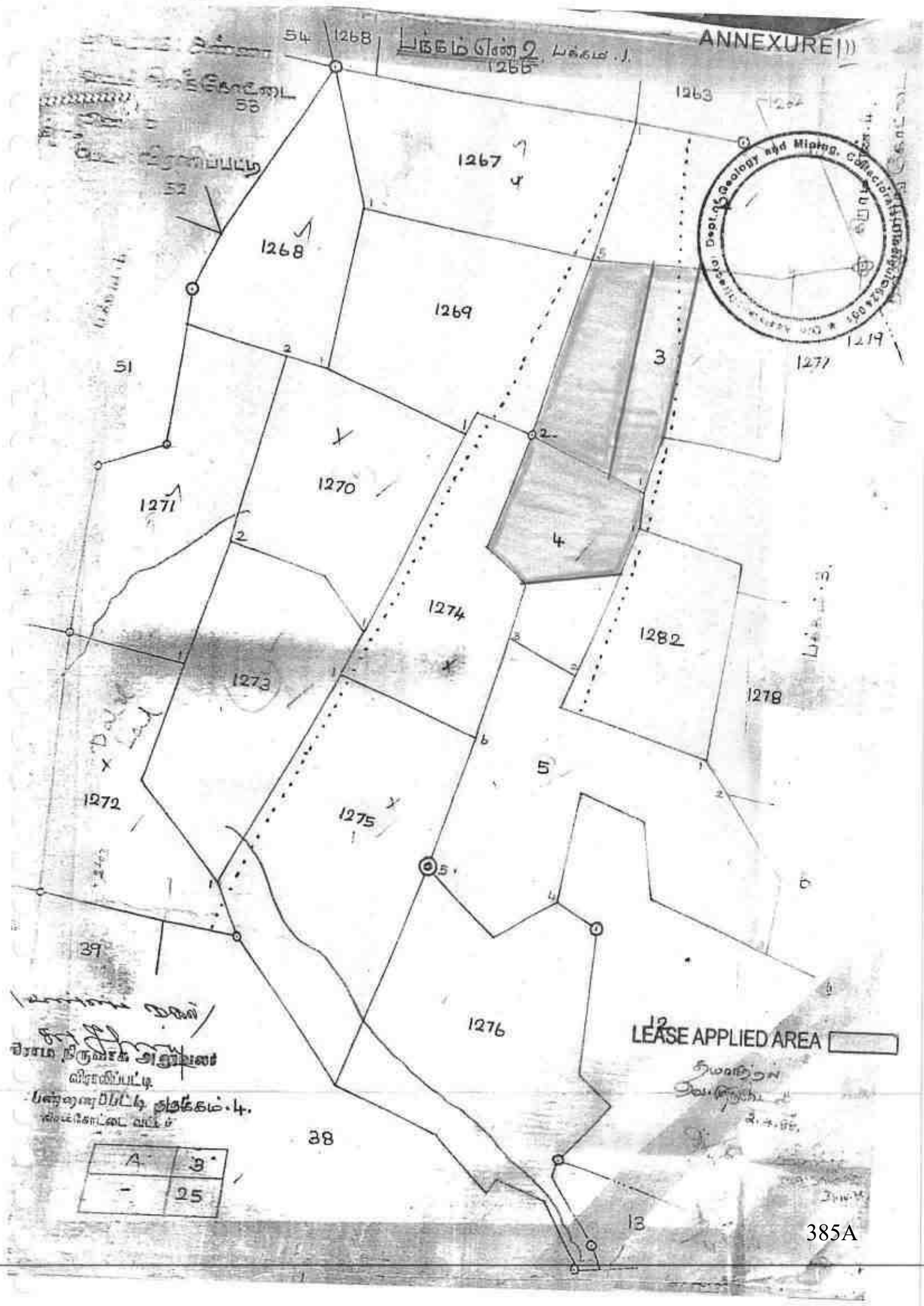
National Informatics Centre


ANNEXURE III
1268
1263
1267
1269
1270
1271
1274
1273
1272
1275
1276
1282
1278
1219
1271
LEASE APPLIED AREA
Dept. of Geology and Mining, Collectorate
A 3
- 25

ANNEXURE IV

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

உரிமையாளர்கள் பெயர்

1. -.. மிரோனேஸ் பில்டர்ஸ் அன்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
1255	1	1 - 8.50	2.36	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1269	3	1 - 37.00	2.95	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1276	1B2	0 - 40.00	0.86	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1274	2	1 - 57.00	3.38	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1266	2	3 - 34.00	7.18	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1276	1B3	0 - 10.00	0.22	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1255	2	2 - 2.50	4.39	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103/13/071671- -- -- 28-02-2019
1276	1B4	0 - 5.00	0.11	--	--	--	--	2019/0103/13/071671-

		21 - 45.00	46.26				-- -- 28-02-2019

குறிப்புகள்:

	1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணையதளத்தில் **13/12/006/05265/60678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
	2. இத் தகவல்கள் 01-04-2021 அன்று 06:01:29 PM நேரத்தில் அச்சடிக்கப்பட்டது.
	3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

District:Dindigul Taluk:NILAKOTTAI Village:Viralipatty

புல எண்	உட்பிரிவு எண்	பழைய புல எண் - உட்பிரிவு எண்	பகுதி	அரசு - ரயத்துவாரி	நிலத்தின் வகை	பாசன ஆதாரம்	இரு போகமா	மண் வயனமும் ரகமும்	மண் தரம்	தீர்வை - ஹெக்		பரப்பு		மொத்த தீர்வை		பட்டா எண்	குறிப்பு
										ரூ	பை	ஹெக்	எர்	ரூ	பை		
1	1	1-1		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	1.00	2	18	2561-ராஜாமணி மற்றும் 2 நபர்(கள்)	
1	2	1-2		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	59.50	1	28	3305-ஒச்சம்மாள்	
1	3	1-3		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	92.50	2	00	4693-ஆறுமுகம் மற்றும் 1 நபர்(கள்)	
1	4	1-4		அரசு	புஞ்சை	0		8 - 2	5	2	15	0	29.00	0	63		தி.வி.பட்டதரசு
1	5	1-5		ரயத்துவாரி	புஞ்சை	1		8 - 2	5	2	15	0	72.50	1	55	4001-கிராஸ் லேண்ட் (பி)லிட்	
						TOTAL FOR SURVEY NUMBER- 1				10	75	3	54.50	7	64		
2	1	2-1		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	76.50	3	83	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
2	2	2-2		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	60.00	3	48	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
						TOTAL FOR SURVEY NUMBER- 2				4	30	3	36.50	7	31		
3	1	3-1		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	56.50	3	37	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
3	2	3-2		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	20.00	2	58	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
3	3	3-3		அரசு	புஞ்சை			8 - 2	5	2	15	2	5.00	4	40		தி.வி.பட்டதரசு
						TOTAL FOR SURVEY NUMBER- 3				6	45	4	81.50	10	35		
4	1	4-2		ரயத்துவாரி	புஞ்சை	1		8 - 2	5	2	15	1	75.50	3	78	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
4	2	4-2		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	69.50	1	50	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
						TOTAL FOR SURVEY NUMBER- 4				4	30	2	45.00	5	28		
5	1A	5-1	P	ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	48.50	1	04	3551-சகிலா	
5	1B	5-1	P	ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	50.00	1	09	3551-சகிலா	
5	1C	5-1	P	ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	87.50	1	87	3551-சகிலா	
5	2	5-2		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	0	52.50	1	13	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	
5	3	5-3		ரயத்துவாரி	புஞ்சை	0		8 - 2	5	2	15	1	54.00	3	31	3454-லூக்கோஸ் குடகுத்தியில் ஜாக்கோ	

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ANNEXURE V

3/9/2016 11:52 AM

ANNEXURE VI

கிராமக் கணக்கு

1430- ஆம் பசலியில் திண்டுக்கல் மாவட்டம் கொடைக்கானல் வட்டம் 6 ஜாகாபிடம்

நில வரித் திட்டத்தின்படி புலன்களின் விபரம்.						சாகுபடியாளரின் பெயர்.	முதல் போகம்.				
நில அளவை எண்.	உட்பிரிவு எண்.	பரப்பு.	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.	கைப்பற்று தாரருடைய பெயரும் எண்ணும் அல்லது அனுபோக தாரருடைய பெயர்.	நிலத்தின் எந்த பகுதி யாரது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதா.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிராள / அறுவடையான பரப்பு.	உண்மையான பாய்ச்சல் ஆதாரம்.	வினைச்சல் அளவு விழுக்காடு.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3	1	1.565	3.37	5265	மிதாகனல்		7	மா	1.500	கிண	
					மண்டல் அஞ்சல்						
					டவலப்மெண்ட்						
					ஸ்தாபன எல்லை						
3	2	1.200	2.58	5265	-ம்-		7	மா	1.200	கிண	
4	1	1.715	3.78	5265	-ம்-		7	மா	1.700	கிண	
					12 வாய்க்கால்						

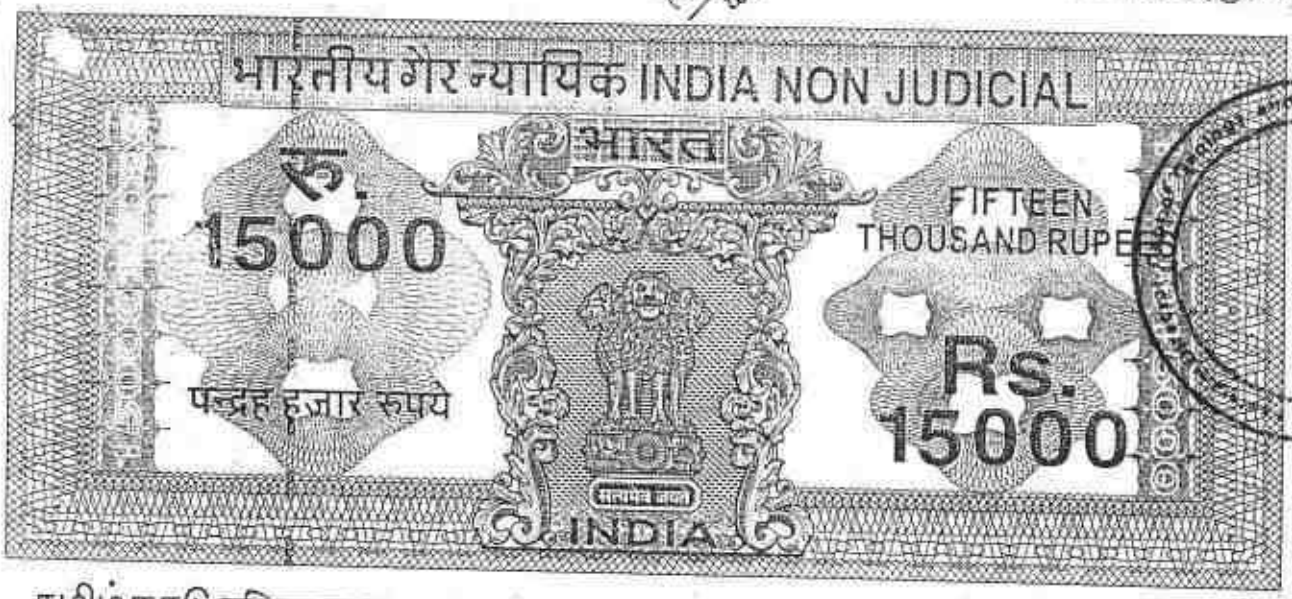
கிராம நிருவாக அலுவலர்
விராலிப்பட்டி
பன்னைப்பட்டி குரூப்
இலக்கோட்டை வட்டம்

Director of Geology and Mining, Collectorate, Dindigul-624 004

380/18-RF III-A-10-20,00,000- Cps.-GBP.-MDU.-7-2019.

1028/2021

ANNEXURE VII



தமிழ்நாடு तमिलनाडु TAMILNADU

A 536086

M/s ADAYAR GRANITES

Changanacherry

சி.அக்பர்	தமிழ்நாடு
முத்திரைத்தாள் விற்பனையாளர்	ம.எண். —
L.No.20/81/2015	நாள். 10.3.2021
வத்தலக்குண்டு-624 202	ரூபாய் 1500

LEASE DEED

This **Lease Deed** is made on this 11th day of March, 2021 at Batlagundu, Dindigul (Tamilnadu).

By and between:

M/s.MIRONES BUILDERS AND DEVELOPERS PRIVATE LTD., (PAN – AAGCM9459A – CIN No : U70101KL2009PTC025255) having its Registered Office at Room No.2, K.B.C.Complex, Opp K.B.C.Garden, Laikkad, Changanacherry, Kerala State - 686 101. by its Managing Director **Mr.LUKOSE KUDAKUTHIYIL CHACKO** (PAN - AKEPC2878A –Mobile No.09446065353) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Changanacherry Village, Changanacherry Taluk, Perunna (Post), Kottayam District, Kerala State - 686101, hereinafter referred to as the "**First Party**" (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include themselves and their legal heirs, successors, executors, administrators and permitted assigns) of the **FIRST PART.**

FIRST PART

SECOND PART

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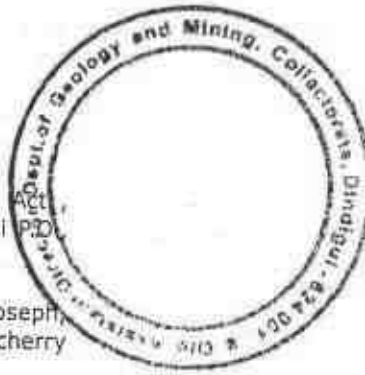
.....1.....Contains.....2.....Sheets.....1.....Sheet

Registering Officer



AND

M/S. ADAYAR GRANITES a company incorporated under the Companies Act, 1956 and having its registered office at 15/113-2, KBC Complex, Laikkadu, Perunal P.O., Changanacherry, Kottayam District, Kerala – 686 102 through its Partners

1. **Mr.LUKOSE K.C.** (Aadhaar No.4083 3773 4727) Age 66 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

2. **Mr.THOMASKUTTY K.C.** (Aadhaar No.2447 5470 4601) Age 46 years, S/O.Mr.Chacko Joseph, residing at KBC Gardens, Laikad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala State – 686 101.

3. **Mr.SAJU M.C.** (Aadhaar No.9699 3310 1800) Age 44 years, S/O.Mr.M M Chacko, residing at Milakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State – 685 587.

4. **Mr.CHERIAN JOSEPH** (Aadhaar No.7049 7366 0427) Age 46 years, S/O.Mr. N.M. Joseph, residing at Nellariyil House, Vazhappally P.O., Changanacherry, Kottayam District, Kerala State – 686 103.

5. **Mr.SIJU GEORGE** (Aadhaar No.4889 3853 5566) Age 48 years, S/O.Mr. K.A. Varkey, residing at Kattarath House, Near L.P. School, Thekkumkutty, Krmaranallur, Alli, Kozhikode District, Kerala State – 673 602.

The Partnership deed dated on 12.02.2021 hereinafter referred to as the "Second Party"/Company (which expression shall unless repugnant to or inconsistent with the context or meaning thereof mean and include its legal representatives, administrators, successors and permitted assigns) of the **SECOND PART**.

The First Party and Second Party may be hereinafter individually referred to as the "**Party**" and collectively as the "**Parties**".

WHEREAS:

A. The First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of land admeasuring right got from First Part **P.R.Doc.No.2404/2018** Lands in **29.12 Acres** situated, lying and being In Dindigul Registration District Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, Viralipatti Village in the State of Tamilnadu and more particularly described in the **Schedule-1** annexed to this Agreement (hereinafter referred to as the "**Land Parcel**"). The Land Parcel is clearly shown asper the map annexed hereto as **Annexure-2**.

B. The Second Party is desirous of taking the Land Parcel on lease for Fifteen years (**15**) for the purpose of setting up and operating the ADAYAR GRANITES and shall be the subject matter of the present Agreement.

C. The First Party has represented that there are no legal or other proceedings pending against the First Party which prohibit the First Party from giving the Land Parcel on rent to the Second Party on the terms and conditions as agreed herein between the Parties.

FIRST PART

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D. The First Party has offered to provide the Land Parcel on rent for 15 (Fifteen) years to the Second Party and the Second Party based on the representation and warranties made by the First Party has agreed to take the same on rent for 15 (Fifteen Years) years on the mutual understanding and assurance that both the Parties shall continue to comply with all terms and conditions as set out hereinafter.

NOW THEREFORE, the First Party and the Second Party have agreed to enter into this Agreement upon the terms & conditions set forth herein below:

1. That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of commercial /operational office, switch yard and other related facilities as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon.

2. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the First Party has good, marketable and a valid title of the Land Parcel, has full power and authority to enter into this Agreement and to handover the vacant and peaceful possession of the Land Parcel as contemplated herein to the Second Party for the term of this Agreement. The First Party further represent(s) and warrant(s) that the First Party is seized and possessed of and otherwise absolutely, lawfully, well and sufficiently entitled to all that piece or parcel of the Land Parcel and have taken all steps necessary to ensure that the Second Party gets full rights to enjoy the peaceful possession, required usage of the Land Parcel and the rights granted herein to the exclusion of any third party including withdrawal of any previous consents, permissions and licenses given in respect of the Land Parcel to any third party other than the Second Party .

The First Party has assured that the Land Parcel has not been sold, assigned, transferred, encumbered, acquired or surrendered in any manner whatsoever. The First Party has further assured that its right title or interest in the Land Parcel or any part thereof are free from any mortgage, charge, lien, etc. of any nature whatsoever.

3. That this Agreement shall be valid and enforceable for the period of 15 (Fifteen) years (**"Agreement Period"**) commencing from the date of execution of this agreement (**"the Agreement Commencement date"**) and can be further extended in writing with the mutual consent of the parties after expiry of the Agreement Period. The tenure of the present agreement can further be extended at the option of the Second Party.

4. That the annual rent for the Land Parcel shall be at the rate of Rs.1,00,000/- (Rupees One Lac only) (**Rent**), starting from the date of execution of this agreement. The payment of Rent shall be made to the First Party, as per their respective ownership of the Land Parcel as defined in Schedule **1**. The rent shall be paid annually and be paid within 30 days from the date when it becomes due, (**"appointed day"**) failing which the First Party will have the right to charge interest at the rate of 12% per annum for the period payment is delayed by the Second Party . It is made clear that the payment of rent as well as interest amount is subject to deduction of applicable TDS in accordance with the prevailing Tax Laws.

FIRST PART

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The First Party acknowledges the receipt of the rent amount of **Rs.1,00,000/-** (Rupees One Lac Only) for lease period commencing from the date of execution of this agreement as per the details mentioned in **ANNEXURE-3**.

5. That Second Party shall not sub-let the Land Parcel or any part of it without the written permission of the First Party

6. That the Second Party shall, at the end of the Agreement Period or any extended period, hand over to the Land Parcel to the First Party in its original condition.

7. That the First Party shall, at the end of the Agreement Period, offer to renew the Agreement with the Second Party, on mutually agreeable terms and conditions.

8. That the Second Party shall be entitled to use irrigation facilities as are existing on the said Land Parcel by using the existing bore well, if any, by installing their own equipment, if so necessary in addition to the right of installing and maintaining any other water generating resource. But there shall be no deduction in rent.

9. That the Second Party shall be removed by it on expiry of the Agreement Period or any extension thereof, in accordance with the terms and conditions of this Agreement and shall be entitled to fence the said entire Land Parcel with barbed fencing or with permanent wall as required.

10. That the First Party shall provide a passage/way free from any kind of encumbrances to the Second Party for access to the Land Parcel and also assure(s), confirm(s) and warrant(s) the Second Party that the First Party has cleared all statutory or other dues, utility charges including water and electricity charges, liens, loans and any other encumbrances etc. on the Land Parcel, if any, till the date of delivery of actual physical possession of the Land Parcel.

11. That the Second Party shall be responsible for the payments of water and power consumption charges, if and when applicable, charges levied for change in land use or any other charges, taxes or levies imposed by the Central, State, Local or other Authorities in respect of the use of the land for the Project in excess of the charges, taxes or levies so levied on agricultural land, if any. However, the First Party shall be liable to pay the revenue charges, ground rent or the property tax and the taxes on the income from the Rent received under this Agreement, if any. Applicable Service Tax if any payable on the present Agreement shall be borne by the Second Party subject to producing documentary evidence by the First Party reflecting the proof of deposit of the said service tax with Govt. Authorities.

12. The First Party acknowledge(s) that the Second Party shall be free to deposit land revenue or other taxes if any levied on the Land Parcel in the event of the failure of the First Party to timely deposit the same under intimation to the First Party and shall be entitled to adjust the same from the Rent payable by it to the First Party under this Agreement. However, primarily the liability and responsibility to pay land related revenue taxes with respect to the Land Parcel. shall be that of the First Party only.

FIRST PART

SECOND PART

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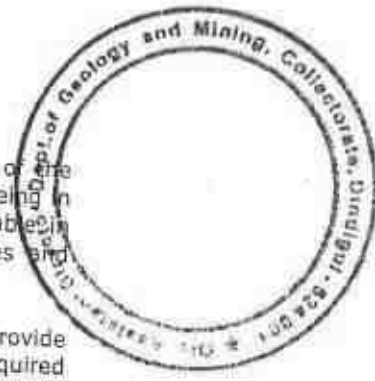

13. That the Second Party shall pay the stamp duty as per relevant provisions of the Indian Stamp Act, as applicable to state of Tamilnadu or any other law time being in force in the State of Tamilnadu and registration charges as would be payable in respect of this Agreement (if not exempted) and also other legal expenses and charges payable in connection with this Agreement.

14. That the First Party hereby agree(s) and undertake(s) that First Party shall provide all or any kind of assistance to the Second Party/ to the Project that may be required from the First Party for the setting up and operation of the Solar Power Project on the Land Parcel.

Further it has been agreed that the First Party shall not be entitled to terminate or suspend the Agreement in any condition, except in the event of failure of the Second Party to make payments of the rent within 30 days from the Appointed Day however, the parties hereby agreed that this period of 30 days can further be extended automatically by another period of three months ("**Extended Date**").

15. That the Second Party hereby agrees to keep indemnified the First Party from and against all actions, demands, claims, liabilities, losses, damages, costs, expenses and other liabilities whatsoever brought against, suffered or incurred by the First Party that results from or by reason of any breach of this Agreement on the part of the Second Party.

16. That the Second Party shall maintain the Land Parcel in good condition at its own expense and on expiry of the Agreement Period deliver the same to First Party as far as practicable in a condition as it was handed over to the Second Party , except for normal wear and tear and Second Party shall be fully entitled to remove all its equipment, solar panels and other wirings etc. from the said Land Parcel in every possible manner. It is made absolutely clear and understood between the parties that the equipment(s) is and shall be absolutely owned and possessed by the Second Party and First Party shall have no right or lien thereupon in any manner on account of any reason whatsoever.

17. That the First Party agree(s), warrants and covenants that the Second Party shall at all times during the term of this Agreement hold and enjoy the Land Parcel and the rights specified in this Agreement without any interruption or disturbance by the First Party or any person lawfully claiming through, under or in trust to the First Party or by Title, or any third party, including without limitation, any government instrumentality.

During the term of this Agreement, the First Party shall not take or cause any action or engage in any activities that will unnecessarily interfere with the operation of the Project.

FIRST PART

SECOND PART

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18. That the First Party shall not, during the terms of this Agreement, transfer or otherwise dispose off or in any manner encumber the Land Parcel or its interest therein or otherwise grant or convey any right or interest in the Land Parcel to any third party without the consent of the Second Party in a manner that would adversely affect the rights transferred to the Second Party under this agreement. However, the First Party may sell the Land Parcel or any part thereof to any person subject to condition that the purchaser of the Land Parcel shall be bound by the terms and conditions of this Agreement and deliver a deed of adherence/ ratification to this effect to the satisfaction of the Second Party and any stamp duty, registration or any other government fee, cesses, charges etc. of the new Agreement shall be carried out at the sole cost and expense of the subsequent purchaser.

19. That the First Party hereby represent(s), warrant(s) and assure(s) the Second Party that the Land Parcel is free from any title defects, duly complies in all respects with the laws of land, and no condition exists at, on or under the Land Parcel that would constitute a violation of the laws or give rise to any right or authority of any government instrumentalities to require the First Party or the Second Party to take any action or to refrain from taking any action with respect to the Land Parcel, or creates any liability or obligation on the First party / Second Party (other than an obligation to pay taxes at statutorily applied rates) with respect to the Land Parcel.

20. That the First Party hereby agrees to keep the Second Party indemnified from and against all actions, demands, claims, defect in title of land, liabilities, losses, damages, cost, expenses and other liability whatsoever brought against, suffered or incurred by the Second Party resulting from or by reason of any breach of any representation or warranty of the First Party provided herein and/ or any violation, non-observance or non-performance by the First Party of any of its obligations under this Agreement . The First Party shall promptly pay all such dues and duties of whatsoever natures relating to Land Parcel as may be determined by any Government Department or by a court of competent jurisdiction at any time and ensure that no disturbance is created by anyone for peaceful enjoyment of the Land Parcel by the Second Party under this Agreement.

21. That keeping in view the nature of Solar Power Project and the investment thereon, the First Party shall not be entitled to terminate this Agreement before its expiry except in the event of non-payment of Rent as defined hereinbefore by giving notice for a period of six months. The Second Party shall have a right to terminate this Agreement at any time by giving an advance written notice of six months without assigning any reason.

22. Any notice, demand, communications or other requests to be given or made under this Agreement shall be only in writing and all such notices etc. shall be delivered by hand, airmail, postage (prepaid), by any national or international reputed courier company. The said notice shall also be deemed to have been delivered in case the same is sent on the last known e mail id of the other party and the same shall be sent on the address as stated in the header of the present Agreement.

FIRST PART

SECOND PART

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23. That the invalidity or un-enforceability of any part of this Agreement shall not prejudice or affect the validity or enforceability of the other provisions contained in this Lease Agreement. Such invalid or un-enforceable provision of the Agreement shall be severed from the Agreement and the remaining provisions shall remain fully enforceable and binding on the Parties but the same shall not be against the provision of the Contract Act.

24. That, in the event of any dispute, difference or question arises out of or in respect of this Agreement or the commission of any breach of any terms thereof or compensation payable thereunder or in any manner whatsoever in connection with it and not settled by mutual consultation within thirty (30) days, the same shall be referred for arbitration under the Arbitration and Conciliation Act, 1996. The arbitration tribunal shall consist of sole arbitrator who shall be appointed by the Second Party. The decision or award so given shall be binding on the parties hereto. The seat and place of arbitration shall be at Delhi. It is made clear that the provision of Arbitration & conciliation Act, 1996 shall be applicable for resolving the disputed matter.

25. That all the annexures to this Lease Agreement shall be treated as an integral part of this Lease Agreement.

26. That the present Agreement shall be executed in one part wherein the original copy thereof shall be kept and held by the Second Party and a true copy thereof shall be kept with First Party.

27. That notwithstanding anything contained in this Lease Agreement, the following Clauses shall prevail,

a) That the ownership of the Land Parcel shall remain with the First Party and shall not change as a result of this Lease.

b) That the First Party hereby agrees that the Second Party is permitted to use the Land Parcel for establishing and operating a solar power plant and other related activities thereto restricted and associated with Solar power generation /plant and shall include setting up of one commercial /operational office, switch yard as well on the said Land Parcel for all other lawful activities which are necessary and ancillary thereof including raising of structures thereon. The utility of Land Parcel shall not be disturbed.

c) No Advance amount of this Lease Agreement.

d) That the First Party hereby agrees, confirm and declare that the Second Party in order to secure the debt whether availed by itself or its affiliates, parent or group company from any person, bank and/or financial institution (hereinafter referred to as Lenders) shall have full rights to assign or to create security only with regard to leasehold rights on the land as mentioned in Schedule 1 in favour of the Lenders without requiring any consent/NOC from the Lessors.

e) That the Second Party shall at any point of time during the lease period, have the right to purchase the schedule land on payment of market price (Agreed Price) of the land, the amount of Paid Rent will be adjusted in the cost of the land on prorate basis.

f) That in case any dispute arises, this Agreement shall be governed by the laws applicable in India and the Courts at Periyakulam and Theni (Tamilnadu) shall have the jurisdiction over it.

FIRST PART

SECOND PART

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SCHEDULE OF PROPERTIES

1. In Dindigul Registration District, Batlagundu Sub Registration District, Dindigul District, Nilakottai Taluk, **Viralipatti Village,** Patta No.5265, Survey No.**2/1** an extent of **1-76.5** Hectares or equal to **4 Acres 35 Cents** of punja land.

2. **Viralipatti Village,** Patta No.5265, Survey No.**3/1** an extent of **1-56.5** Hectares or equal to **3 Acres 86 Cents** of punja land.

3. **Viralipatti Village,** Patta No.5265, Survey No.**3/2** an extent of **1-20.0** Hectares or equal to **2 Acres 96 Cents** of punja land.

4. **Viralipatti Village,** Patta No.5265, Survey No.**4/1** an extent of **1-75.5** Hectares or equal to **4 Acres 33 Cents** of punja land.

5. **Viralipatti Village,** Patta No.5265, Survey No.**4/2** an extent of **0-69.5** Hectares or equal to **1 Acres 71 Cents** of punja land.

6. **Viralipatti Village,** Patta No.5265, Survey No.**1269/3** an extent of **1-37.0** Hectares or equal to **3 Acres 38 Cents** of punja land.

7. **Viralipatti Village,** Patta No.5265, Survey No.**1274/1** an extent of **1-68.5** Hectares or equal to **4 Acres 16 Cents** of punja land.

8. **Viralipatti Village,** Patta No.5265, Survey No.**1274/2** an extent of **1-57.0** Hectares or equal to **3 Acres 87 Cents** of punja land.

9. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2C** an extent of 0-46.5 Hectares or 1 Acre 14 Cents on **Western Side 0-10.5** Hectares or equal to **25 Cents** of punja land.

10. **Viralipatti Village,** Patta No.5266, Survey No.**1282/2D** an extent of 0-41.0 Hectares or 1 Acre 01 Cents on **Western Side 0-10.25** Hectares or equal to **25 Cents** of punja land.

FIRST PART

SECOND PART

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Above 1 & 10 items Total or **Acres 29 Cents 12** of Punja Lands Bounded On:

North : Road.

South : Land in Survey No.1275.

West : Land in Survey Nos.1275, 1270, 1273, 1268, 1264, 1265, 1264/2.

East : Template Trading and Contracting Pvt.ltd land.

The property situated within the limit of Viralipatti Village Panchayat.

FIRST PART

SECOND PART

WITNESSES :

1. S. Arockiasamy S/o A. Silvai Raj

2. S/. Skaria kuriyan. 6/687 chinnupatti
Puthenparampil Kottayam Kerala Viralipatti (P.O) Natham (T.K)

Drafted by : (B.Gopalan),
S/O.V.C.Baluchamy, Batlagundu.
State Document Writer License No: A / 414 / DGL /99
Renewal Closing Date: 31.12.2023.

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தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திண்டுக்கல் வட்டம் : நிலக்கோட்டை

வருவாய் கிராமம் : விராலிபட்டி பட்டா எண் : 5265

Director Dept.of Geology and Mining, Collectorate, Madurai - 625 020

உரிமையாளர்கள் பெயர்

1. -.. மிரோனேஸ் மில்டர்ஸ் அண்ட் டெவலப்பர்ஸ் பிரைவேட் லிமிடெட்

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	
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1274	1	1 - 68.50	3.62	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1276	1B2	0 - 40.00	0.86	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
2	1	1 - 76.50	3.83	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	1	1 - 75.50	3.78	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
4	2	0 - 69.50	1.50	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
5	4	1 - 41.50	3.05	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
3	2	1 - 20.00	2.58	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
5	2	0 - 52.50	1.13	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019
1264	3	0 - 90.50	1.95	--	--	--	--	2019/0103 /13/071671--- -- 28-02-2019

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1266	2	3 - 34.00	7.18	--	--	--	--	2019/0103/13/071671---28-02-2019
1276	183	0 - 10.00	0.22	--	--	--	--	2019/0103/13/071671---28-02-2019
1255	2	2 - 2.50	4.39	--	--	--	--	2019/0103/13/071671---28-02-2019
3	1	1 - 56.50	3.37	--	--	--	--	2019/0103/13/071671---28-02-2019
1276	184	0 - 5.00	0.11	--	--	--	--	2019/0103/13/071671---28-02-2019
		21 - 45.00	46.26					

குறிப்பு2 :

1.	மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **13/12/006/05265/60678** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2.	இத் தகவல்கள் 11-03-2021 அன்று 03:19:58 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3.	கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.

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Document No: 1028 of 2021 of Book 1
Contains 22 Sheets & 2 Sheet

Registering Officer

Director, Dept. of Geology and Mining, Collectorate, Chadapuri - 624 001

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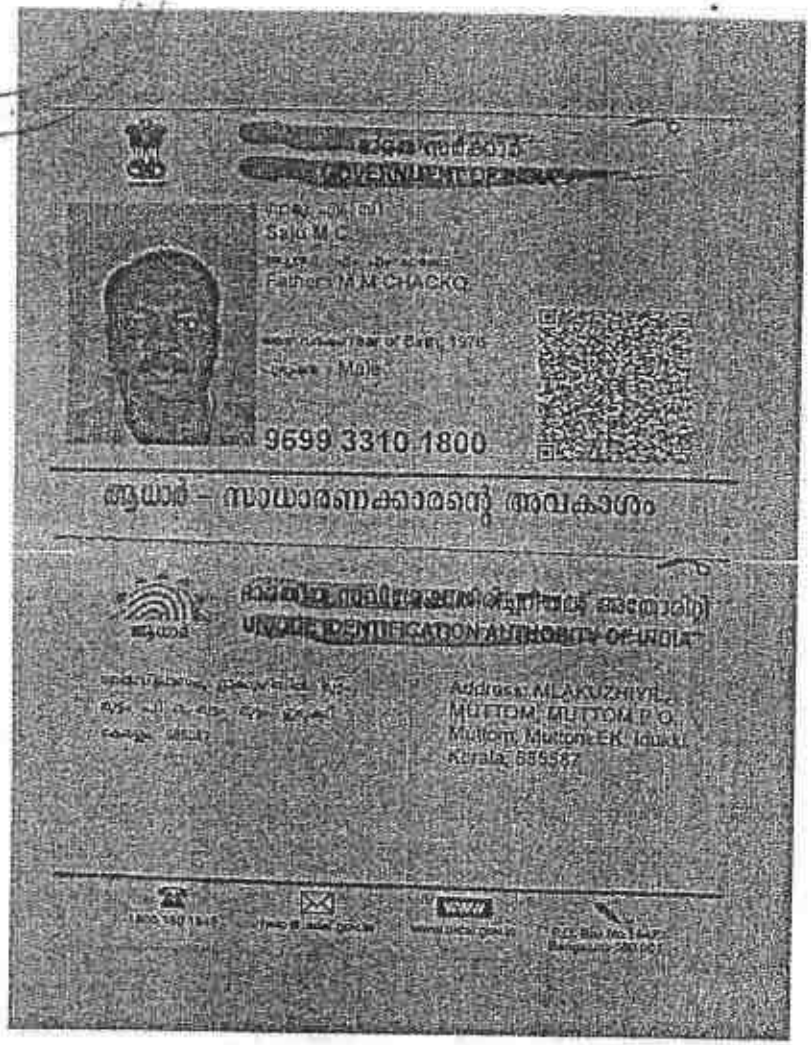
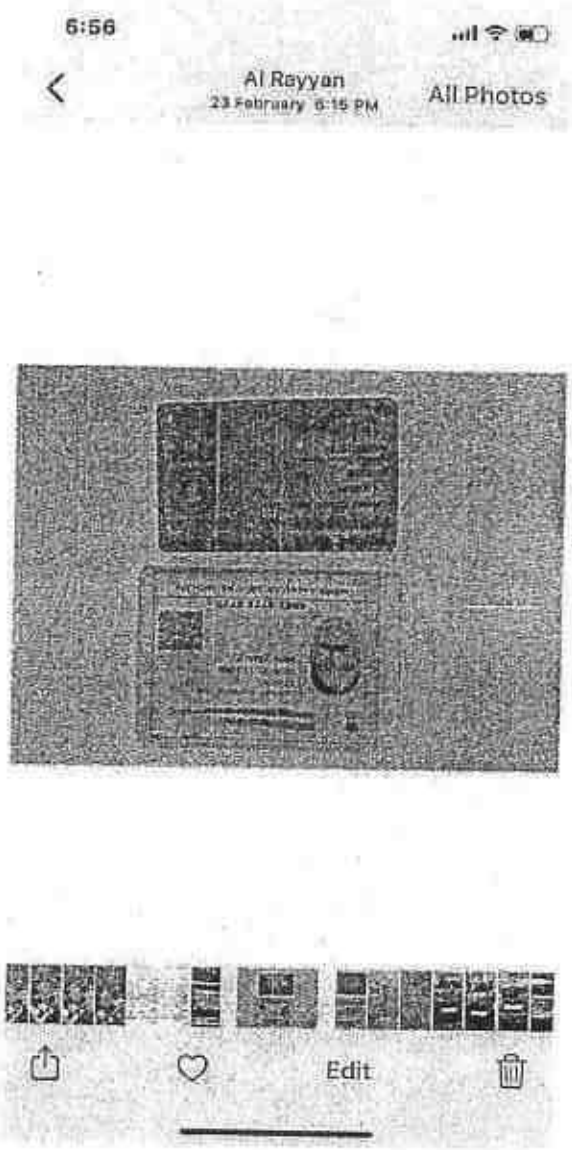
Department of Geology and Mining, Collectorate, Dindigul - 624 001





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Registering Officer

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Geology and Mining, Collectorate, Dindigul - 624 001.

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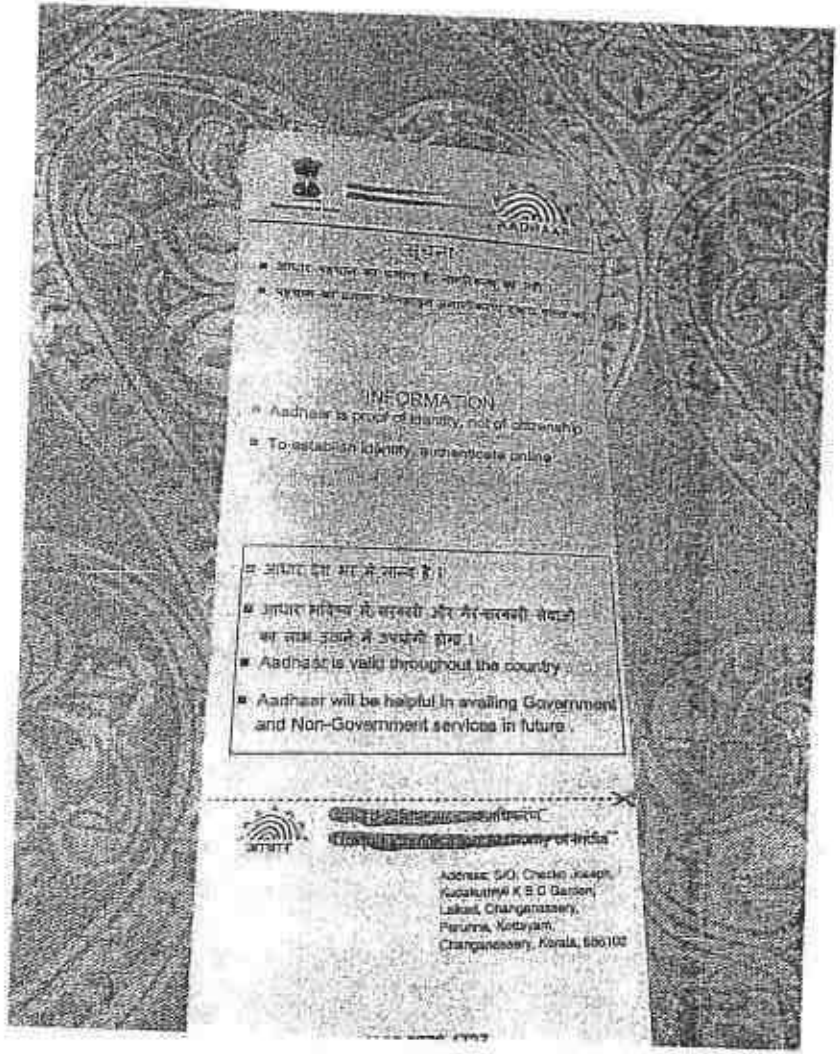

INFORMATION

- Aadhaar is proof of identity, not of citizenship.
- To establish identity, authenticate online.

- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

Address: S/O: Chacko Joseph, Kudakuthra K S D Garden, Lakkal, Changanassery, Perunna, Kottayam, Changanassery, Kerala, 686102

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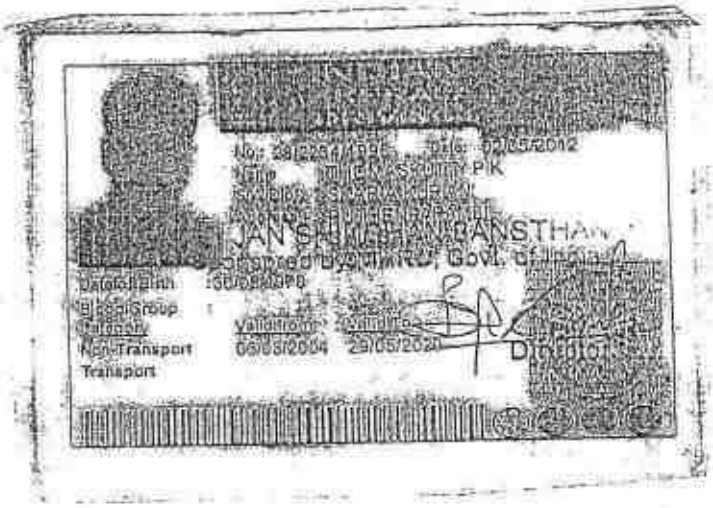
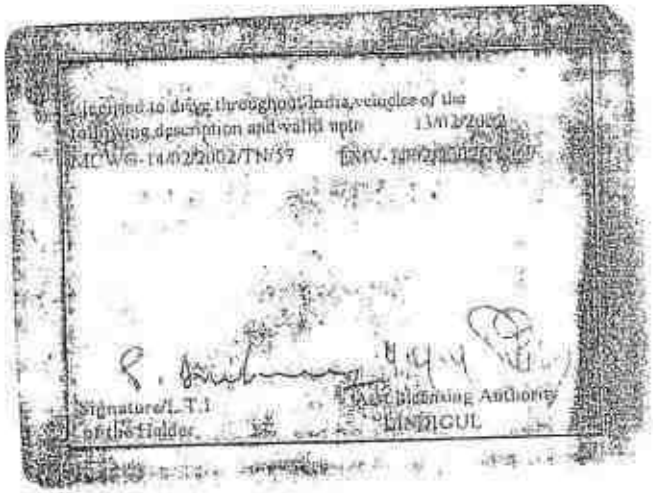
Document No. 1612 of 2021 of Book 1 Contains 2 Sheets No. Sheet

Document No: 1028 of 2021 of Book
1 Contains 20 Sheets 17 Sheet

Registering Officer





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Registering Officer

தமிழ்நாடு அரசு
பதிவுத்துறை
ஒப்புகைச்சீட்டு

பார்வைக்குறிப்பு விவரங்கள்

சார்பதிவாளர் அலுவலகப் பெயர்	வத்தலக்குண்டு
விண்ணப்ப எண்	S01LANDVV202103119851910
பரிவர்த்தனை எண்	REG202103118776451
பரிவர்த்தனை நாள்	11/03/2021

விண்ணப்ப விவரங்கள்

விண்ணப்பதாரர் பெயர்	chidamparam
சேவை வகை	சார்பதிவாளர் அலுவலகத்தில் ஆவண்ப் பதிவு (புதியது)
முத்திரைத்தீர்வை (₹)	2700/-
பதிவுக் கட்டணம் (₹)	17700/-
கணினிக் கட்டணம் (₹)	250/-
குறுந்தகடுக் கட்டணம் (₹)	100/-

தொகை செலுத்திய விவரங்கள்

வங்கியின் பெயர்	பாரத ஸ்டேட் வங்கி
வங்கிக்குறிப்பு எண்	IK0BAKRLE3
பணம் செலுத்திய விதம்	இணைய வழி
செலுத்தப்பட்ட தொகை (₹)	20750/-
தொகை செலுத்தும் நிலைப்பாடு	வெற்றி
தொகை செலுத்திய நாள்	11/03/2021

ஏதேனும் சந்தேகங்கள்/குறைகள் இருப்பின் கீழ்க்கண்ட வழிமுறைகளில் தெரிவிக்கலாம்

கட்டணமில்லா தொலைபேசி எண்	1800 102 5174
மின்னஞ்சல் முகவரி	helpdesk@tnreginet.net

Document No:1023 of 2021 of Book 1 Contains 2 Sheets 1 to 1 Sheet
Registering Officer

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R/வத்தலக்குண்டு/புத்தகம்-1/1028/2021

1899ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான சான்று

2021ம் ஆண்டு வரிசை எண் 287

KBC Gardens, Lalkad, Perunna P.O., Changanacherry Village, Changanacherry Taluk, Kottayam District, Kerala, கேரளா, இந்தியா, 686101-ல் வசிக்கும் திரு லூக்காஸ் என்பவரிடமிருந்து ₹ 2,700/- (ரூபாய் இரண்டாயிரத்து எழுநூறு மட்டும்) இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 41வது பிரிவின் படி குறைவாயிருந்த முத்திரைக் கட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் சான்றளிக்கிறேன்.

Sub-Registrar Office
BATALAGUNDU.

சார்பதிவாளர் : வத்தலக்குண்டு

நாள்: 11/03/2021

SUB-REGISTRAR
BATALAGUNDU.

சார்பதிவாளர் மற்றும் இந்திய முத்திரைச் சட்டம் பிரிவு 41ன் படி ஆட்சியர்

2021 ஆம் ஆண்டு மார்ச் மாதம் 11ம் தேதி பி.ப. 04:40 மணியளவில் வத்தலக்குண்டு சார்பதிவாளர் அலுவலகத்தில் தாக்கல் செய்து கட்டணம் ₹ 18,050/- செலுத்தியவர்.

இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதி வாங்கியதாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

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Document No:1028 of 2021 of Book 1
Contains 22 Sheets & 20 Sheet

ANNEXURE VIII

കേരളം केरल KERALA

A 767536

DEED OF PARTNERSHIP

THIS DEED OF PARTNERSHIP executed on this the 12th day of February, 2021 amongst:-

1. LUKOSE K.C., son of Mr. Chacko Joseph, aged 64 years, residing at Kudakuthiyil K B C Garden, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN - 686 102 on the First Part (hereinafter referred to as the First Party)

2. THOMASKUTTY K.C., son of Mr. Chacko Joseph, aged 46 years, residing at Kudakuthiyil K B C Enclave, Laikad, Perunna P.O., Changanacherry, Kottayam District, Kerala State, PIN - 686 102 on the Second Part (hereinafter referred to as the Second Party),

3. SAJU M.C., son of Mr. M.M. Chacko, aged 44 years, residing at Mlakuzhiyil House, Muttom P.O., Thodupuzha, Idukki District, Kerala State, PIN - 685 587 on the Third Part (hereinafter referred to as the Third Party),

VERIFIED DOCUMENT NUMBER: SUB REGISTRAR VATHALAPPANDU

(Contd...2)

DATE

First Party	: LUKOSE K.C.
Second Party	: THOMASKUTTY K.C.
Third Party	: SAJU M.C.
Fourth Party	: CHERIAN JOSEPH
Fifth Party	: SIJU GEORGE

No. 29243 Date 12/2/2021
Sold to Saju M.C. Mlakuzhiyil Muttom

1

M. ARUN
For M. K. Murali
Stamp Vendor
Thodupuzha

SUB TREASURY PIN-685 584 THODUPUZHA
- 8 FEB 2021

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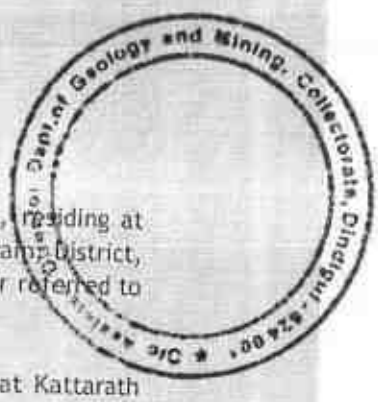

4. CHERIAN JOSEPH son of Mr. N.M. Joseph, aged 46 years, residing at Nellariyil House, Vazhappally P.O., Changanacherry, Kottayam District, Kerala State, PIN - 686 103 on the Fourth Part (hereinafter referred to as the Fourth Party)

5. SIJU GEORGE son of K.A. Varkey, aged 48 years, residing at Kattarath House, Near L.P. School, Thekkumkutty, Kumaranalloor, Alli, Kozhikode District, Kerala State, PIN - 673 602 on the Fifth Part (hereinafter referred to as the Fifth Party) AND

WHEREAS the parties hereto are desirous of forming a partnership (hereinafter collectively referred to as 'the Firm') with the intention to commence business in the name and style "ADAYAR GRANITES" AND WHEREAS the parties are desirous of reducing the terms and conditions of the partnership to writing,

WITNESSES AND it is hereby mutually agreed that the parties shall become partners upon the following terms, conditions and covenants.

1) NAME:
The name of the Partnership Business shall be "ADAYAR GRANITES".

2) DATE OF COMMENCEMENT OF PARTNERSHIP:
The partnership shall shall commence with effect from 12th February, 2021 (12-02-2021) and to be a Partnership at Will.

3) REGISTERED OFFICE:
The Registered Office of the partnership shall be at Building No. 15/113-2, KBC Complex, Laikkadu, Perunnai P.O., Changanacherry, Kottayam District, Kerala - PIN - 686 102 and the same can be changed to any place as the partners mutually decide from time to time. The firm may open branch/branches anywhere in India.

(Contd...3)

First Party : LUKOSE K.C.
Second Party : THOMASKUTTY K.C.
Third Party : SAJU M.C.
Fourth Party : CHERIAN JOSEPH
Fifth Party : SIJU GEORGE

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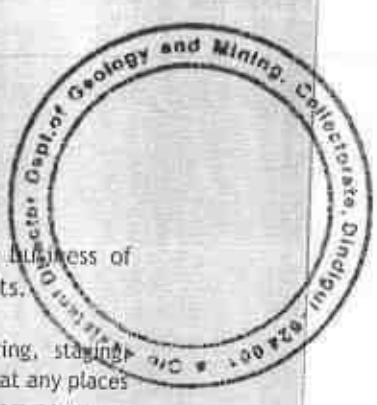

4) NATURE OF BUSINESS:

To primary object of the partnership firm is to carry on business of quarrying, mining, processing and setting up metal crushing units.

The firm may also carry on the business of fabricating, storing, stacking, marketing and selling granite stones and other stone products etc. at any places or locations as may be decided. The firm may carry on the business as quarry masters and to purchase, take on lease or in exchange or acquire by quarrying sets or licence, concession, grant or otherwise any lands, quarries, quarrying rights, easement rights and privilege and other effect of stones, chalks, clay, metals, other stones or deposits. The firm may also carry on the business of setting up an industrial metal crushing unit to manufacture aggregates, m-sand and similar products and similar nature activities and for the purpose to acquire and/or construct land and building, machineries, equipment and vehicles etc.

The parties may at any time discontinue any of the above business or start any fresh line of business though not mentioned herein, as would be decided between them, from time to time.

5) CAPITAL:

The capital of the partnership shall be the amounts lying to the credit of the parties from time to time and the parties may further contribute to the capital in such proportion as they may decide in accordance with the requirement of the business.

6) DRAWINGS :

The parties are at liberty to make withdrawals from the capital of the Firm in such manner as agreed among them.

7) MANAGING PARTNER:

The third party Mr. SAJU M.C. shall be the Managing Partner of the firm and may represent the firm before any Civil, Judicial or Revenue authorities and is authorized to deal with other parties for any matter concerned with the business of the firm.

(Contd...4)

First Party	: LUKOSE K.C.
Second Party	: THOMASKUTTY K.C.
Third Party	: SAJU M.C.
Fourth Party	: CHERIAN JOSEPH
Fifth Party	: SIJU GEORGE

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8) WORKING PARTNERS:

Party of the fifth part Mr. Siju George shall be the working partner of the firm at present. The working partners shall attend to all the day to day transactions and matters relating to the affairs of the firm. They shall arrange to keep proper accounts, vouchers and records relating to the firm's business and affairs. The working partners shall be entitled to an annual remuneration. The partners of the firm, by way of a duly convened meeting and by passing a proper resolution in this regard, can appoint any other person as the working partner.

9) INTEREST:

The Capital, Current and Loan account of the partners shall carry a maximum interest of 12% per annum , however, the partners may mutually decide to reduce the rate of interest or waive the payment of interest at any later date. The interest shall be payable on the daily balances of the account, up to 31st March or such other date as may be prescribed by the Government of India as the financial year ending date every year.

10) SALARY OR REMUNERATION:

After debiting all the relevant expenses as per the usual custom and usage of trade, salaries or remuneration may be payable to the working partners. The total salary or remuneration payable shall be computed in the manner and limits as prescribed U/S 40(b) of the Income Tax Act 1961 as amended from time to time.

11) BOOKS OF ACCOUNTS:

Proper books of accounts as are usual in this line of trade shall be maintained and the partners are at liberty to inspect the same and extract copies therefrom at all reasonable times. That once in a year, on the THIRTY FIRST day of March or such other date as may be prescribed by the Government of India as the financial year ending date, the accounts of the firm shall be closed and a Profit and Loss Account and a Balance Sheet shall be prepared.

12) BANK ACCOUNTS:

The partners jointly may open accounts with any Bank for and on behalf of the firm. The bank accounts shall be operated by the Managing Partner along with any other partner jointly.

(Contd...5)

First Party : LUKOSE K.C.

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : SIJU GEORGE

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13) PROFIT SHARING RATIO:

After debiting all the relevant expenses as per custom and usage of trade and after debiting interest and salary as per clause 9, and 10 as mentioned above, the Net Profit or Loss as the case shall be distributed among them as partners as under:

Party of the First Part	:-	22.50% of the profit or loss
Party of the Second Part	:-	22.50% of the profit or loss
Party of the Third Part	:-	22.50% of the profit or loss
Party of the Fourth Part	:-	22.50% of the profit or loss
Party of the Fifth Part	:-	5.00% of the profit or loss

The working partner of the firm is entitled for the balance 5% of profit or loss.

14) RETIRMENT/ RESIGNATION OF PARTNERS:

That if any one of the partner decides to retire, he may do so by submitting his resignation. In such case financial statements upto the date of retirement shall be prepared and capital/current/loan standing to his name on the date of retirement shall be arrived at. The dues to the retiring partner shall be paid within 6 months from the date of retirement or such other period as decided by the partners mutually. However, the partnership business shall not be dissolved on this count. The remaining partner/s are free to carry on the business by themselves in the manner in which they decide and no goodwill shall be paid to the retiring / resigning partner.

15) DEATH OF A PARTNER:

That in the event of the death of the partner the partnership shall not be dissolved and the firm shall continue. The legal representative/s of the deceased partner/s has right to become a partner with immediate effect in the partnership business. Otherwise the deceased partner shall be treated as a partner who has resigned.

16) BORROWING POWERS:

The Managing partners have the power to borrow funds for and on behalf of the firm. They will have to affix their signatures on the documents required for borrowing funds.

(Contd...6)

First Party : LUKOSE K.C.

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : SIJU GEORGE

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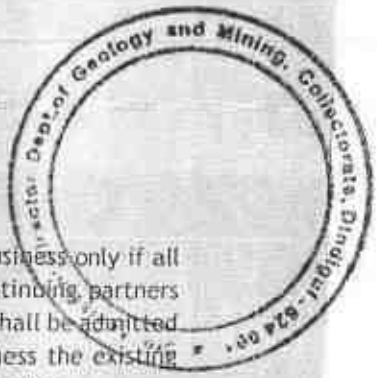

17) ADMISSION OF PARTNER:

That a new partner can be brought into the partnership business only if all the continuing partners agree to the above. All the continuing partners together should decide the terms on which the new partner shall be admitted and in the event of reconstitution of the partnership business the existing partners and the new partner/s shall sign the reconstitution deed.

18) GOOD WILL:

That in the event of dissolution of the firm the goodwill if any shall be divided by the partners in accordance to their profit-sharing ratio.

19) ARBITRATION:

That in case of any dispute between the partners the same shall be referred to private arbitration and the award of such arbitration shall be final and binding on all the partners to this deed.

20) DISSOLUTION :

If all the partners mutually agree in writing to dissolve the firm, then the partnership firm can be dissolved.

21) DUTIES AND OBLIGATION OF PARTNERS:

a. That all the partners shall diligently attend to the business of the partnership and faithfully engage himself therein.
b. That all the partners shall be just and faithful to the other partners in all transaction relating to partnership and at all times give to the other partners full information and truthful explanation and account on all matters relating to the affairs of the partnership and afford every assistance in his power in carrying on the business of the partnership for their mutual advantage.
c. All the partners have the right to engage or dismiss any employee of the partnership.
d. That all the original deeds, cheques, documents and other important matters relating to business shall be kept at the registered office of the partnership business.

(Contd...7)

First Party : LUKOSE K.C.
Second Party : THOMASKUTTY K.C.
Third Party : SAJU M.C.
Fourth Party : CHERIAN JOSEPH
Fifth Party : SIJU GEORGE

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e. That all the partners shall actually pay their separate private debts if any, with out in any way interfering with the partnership and indemnify the other partners and the firm against the same and all expenses on account there of.

f. That all the partners shall forthwith pay all monies, cheques negotiable instruments and other received by him on account of the firm into the firm's bank account only.

g. That all the partners shall sign all the necessary forms, declaration, documents etc. as may be required for filing the same with the goods and service tax, income tax, registrar of firms, customs and other authorities like sub registrar office etc.

b) That all the partners shall carry on the business of the firm to the greatest common advantage, be just and faithful to each other and to render true accounts and full information of all things affecting the firm to all the partners to their legal representative.

c) It is specifically mentioned here that no similar business activity shall be carried out by any partner/s while he is a partner of the firm so as to compete with the business of the firm. The partnership name shall not be used under any circumstances for any business activity without information and consent of all the partners.

That no partner shall without the (previous written) consent of the others;

a. Give any security or promise for payment of money or assets on account of the firm.

b. Assign, mortgage or charge his share in the partnership or the assets or profits of the firm or any part thereof or make any other person a partner with him therein.

c. Compromise or compound or in any way part (except upon payment thereof in full) release or discharge any debt due to the partnership.

(Contd...8)

First Party : LUKOSE K.C.

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : SIJU GEORGE

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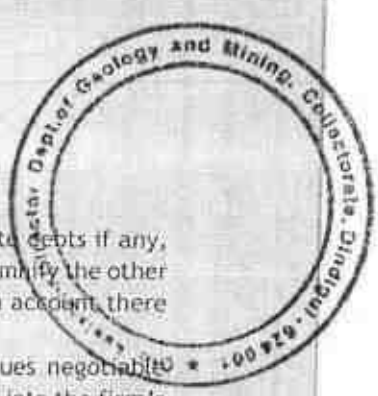

e. That all the partners shall actually pay their separate private debts if any, with out in any way interfering with the partnership and indemnify the other partners and the firm against the same and all expenses on account there of.

f. That all the partners shall forthwith pay all monies, cheques negotiable instruments and other received by him on account of the firm into the firm's bank account only.

g. That all the partners shall sign all the necessary forms, declaration, documents etc. as may be required for filing the same with the goods and service tax, income tax, registrar of firms, customs and other authorities like sub registrar office etc.

b) That all the partners shall carry on the business of the firm to the greatest common advantage, be just and faithful to each other and to render true accounts and full information of all things affecting the firm to all the partners to their legal representative.

c) It is specifically mentioned here that no similar business activity shall be carried out by any partner/s while he is a partner of the firm so as to compete with the business of the firm. The partnership name shall not be used under any circumstances for any business activity without information and consent of all the partners.

That no partner shall without the (previous written) consent of the others;

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b. Assign, mortgage or charge his share in the partnership or the assets or profits of the firm or any part thereof or make any other person a partner with him therein.

c. Compromise or compound or in any way part (except upon payment thereof in full) release or discharge any debt due to the partnership.

(Contd...8)

First Party : LUKOSE K.C.

Second Party : THOMASKUTTY K.C.

Third Party : SAJU M.C.

Fourth Party : CHERIAN JOSEPH

Fifth Party : SIJU GEORGE

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22) GENERAL CLAUSE

a) That the terms of this partnership deed may be altered, added, substituted, or varied by the mutual consent of the partners in writing.

b) That, wherever no specific provision are made in this deed, the provisions of Indian Partnership Act, 1932 as amended from time to time and up to date shall apply.

IN WITNESS WHERE OF, WE THE PARTNERS TO THIS PARNTNERSHIP DEED HAVE SET OUR RESPECTIVE HANDS ON THIS DAY, MONTH AND YEAR AS HERE IN ABOVE MENTIONED.

First Party	: LUKOSE K.C.
Second Party	: THOMASKUTTY K.C.
Third Party	: SAJU M.C.
Fourth Party	: CHERIAN JOSEPH
Fifth Party	: SIJU GEORGE

WITNESS

1.

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ANNEXURE IX

ഭാരത സർക്കാർ
GOVERNMENT OF INDIA

സാജു എം സി
Saju M C

അച്ഛൻ: എം എം ചാക്കോ
Father : M M CHACKO

ജനന വർഷം/Year of Birth: 1976
പുരുഷൻ / Male

9699 3310 1800

ആധാർ - സാധാരണക്കാരന്റെ അവകാശം

ഭാരതീയ സവിശേഷ തിരിച്ചറിയൽ അതോറിറ്റി
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

മേൽവിലാസം: മ്ലാക്കുഴിയിൽ, മുട്ടം
മുട്ടം പി ഒ, മുട്ടം, ഇടുക്കി
കേരളം, 685587

Address: MLAKUZHIYIL,
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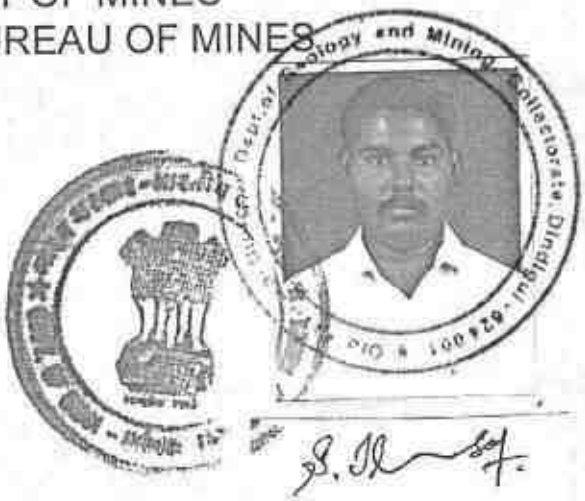
ANNEXURE X

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES



अर्हताप्राप्त व्यक्ति के रुप में मान्यता 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. इलवरसन, पिता यू. सनंतानम, 7सी, मेट्टु स्ट्रट, भीमा नगर, तिरुची - १, तमिलनाडू, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोषजनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हताप्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri S.Ilavarasan, S/o.U.Santhanam, 7C, Mettu Street, Beema Nagar, Tridhy -1, Tamilnadu, 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.

उनकी पंजीयन संख्या है
His registration number is

RQP /MAS/253/2013/A

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 27.08.2023 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 27.08.2023

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 : 28.08.2013.

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines
भारतीय खान ब्यूरो / Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region

GLOBAL LAB AND CONSULTANCY SERVICES LLP
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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

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TC-6060

TEST REPORT

ULR-TC606025000006563F

Report Number : GLCS/TR00141/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00141/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	-	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'13.65"N** **77°45'5.46"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	08.40	39.7	51.1	48.39
2	09.40	38.7	50.6	47.86
3	10.40	36.3	52.6	49.69
4	11.40	37.1	51.3	48.45
5	12.40	36.6	50.9	48.05
6	13.40	37.4	56.3	53.35
7	14.40	35.2	53.3	50.36
8	15.40	34.9	52.8	49.86

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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E-Mail: lab@glcs.in; Web: www.glcs.in

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TC-6060

TEST REPORT

ULR-TC606025000006563F

Report Number : GLCS/TR00141/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00141/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	-	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'13.65"N** **77°45'5.46"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	16.40	36.6	52.1	49.21
10	17.40	35.6	53.3	50.36
11	18.40	33.9	49.5	46.61
12	19.40	36.6	45.7	43.19
13	20.40	33.0	45.6	42.82
14	21.40	34.9	42.3	40.02
15	22.40	33.5	40.1	37.95
16	23.40	34.2	39.5	37.61

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006563F

Report Number : GLCS/TR00141/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00141/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	-	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'13.65"N** **77°45'5.46"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	00.40	35.5	39.1	37.66
18	01.40	34.1	38.8	37.06
19	02.40	33.3	38.5	36.64
20	03.40	34.9	37.2	36.20
21	04.40	33.3	38.5	36.64
22	05.40	34.5	38.2	36.73
23	06.40	34.9	38.8	37.27
24	07.40	36.2	39.5	38.16
		Day Mean dB(A)		**46.5**
		Night Mean dB(A)		**37.1**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Industrial Area)				**Day Time : 75 dB (A)** **Night Time : 70 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000006564F

Report Number : GLCS/TR00142/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00142/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	08.00 - 08.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 6'58.21"N** **77°44'59.57"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	09.00	42.1	54.6	51.83
2	10.00	40.3	55.9	53.01
3	11.00	41.5	57.6	54.70
4	12.00	40.7	58.6	55.66
5	13.00	40.1	55.3	52.42
6	14.00	39.3	52.3	49.50
7	15.00	40.9	56.1	53.22
8	16.00	39.5	49.5	46.90

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006564F

Report Number : GLCS/TR00142/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00142/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	08.00 - 08.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 6'58.21"N** **77°44'59.57"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	17.00	40.3	48.8	46.36
10	18.00	36.6	49.2	46.42
11	19.00	37.1	52.8	49.91
12	20.00	36.3	51.9	49.01
13	21.00	34.4	50.6	47.69
14	22.00	35.5	45.1	42.54
15	23.00	33.6	42.9	40.37
16	00.00	34.1	43.6	41.05

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006564F

Report Number : GLCS/TR00142/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00142/2025-26
Location Name	Core Zone - Project Area	**Date of Analysis**	29-05-2025
Sampling Hours	08.00 - 08.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 6'58.21"N** **77°44'59.57"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	01.00	33.9	44.9	42.22
18	02.00	33.4	39.4	37.36
19	03.00	34.1	38.7	36.98
20	04.00	33.9	39.3	37.39
21	05.00	33.7	39.2	37.27
22	06.00	34.5	43.6	41.09
23	07.00	37.9	47.1	44.58
24	08.00	38.6	49.7	47.01
		Day Mean dB(A)		**49.4**
		Night Mean dB(A)		**39.2**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Industrial Area)				**Day Time : 75 dB (A)**
				Night Time : 70 dB (A)

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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ULR-TC606025000006565F

Report Number : GLCS/TR00143/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00143/2025-26
Location Name	Kurumbapatty	**Date of Analysis**	29-05-2025
Sampling Hours	08.35 - 08.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'36.69"N** **77°44'52.36"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	09.35	40.8	54.3	51.48
2	10.35	42.3	58.1	55.20
3	11.35	41.3	56.3	53.42
4	12.35	40.3	55.3	52.42
5	13.35	39.8	54.7	51.83
6	14.35	40.3	55.6	52.72
7	15.35	39.8	52.9	50.10
8	16.35	38.1	52.2	49.36

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006565F

Report Number : GLCS/TR00143/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00143/2025-26
Location Name	Kurumbapatty	**Date of Analysis**	29-05-2025
Sampling Hours	08.35 - 08.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'36.69"N** **77°44'52.36"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	17.35	37.4	51.1	48.27
10	18.35	35.8	51.7	48.80
11	19.35	37.9	50.3	47.53
12	20.35	36.6	52.3	49.41
13	21.35	35.5	53.7	50.75
14	22.35	36.9	51.1	48.25
15	23.35	35.8	45.6	43.02
16	00.35	34.5	41.3	39.11

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006565F

Report Number : GLCS/TR00143/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00143/2025-26
Location Name	Kurumbapatty	**Date of Analysis**	29-05-2025
Sampling Hours	08.35 - 08.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 7'36.69"N** **77°44'52.36"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	01.35	35.9	39.5	38.06
18	02.35	33.6	36.6	35.35
19	03.35	33.9	35.8	34.95
20	04.35	34.1	37.2	35.92
21	05.35	34.9	38.8	37.27
22	06.35	33.2	43.3	40.69
23	07.35	35.9	48.8	46.01
24	08.35	37.5	52.7	49.82
		Day Mean dB(A)		**50.3**
		Night Mean dB(A)		**39.0**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)** **Night Time : 45 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000006566F

Report Number : GLCS/TR00144/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00144/2025-26
Location Name	Viruvidu	**Date of Analysis**	29-05-2025
Sampling Hours	09.10 - 09.10	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 4'43.28"N** **77°46'45.76"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.10	42.1	54.2	51.45
2	11.10	43.9	51.6	49.27
3	12.10	40.8	52.6	49.87
4	13.10	40.3	52.1	49.37
5	14.10	42.5	50.5	48.13
6	15.10	40.9	53.4	50.63
7	16.10	42.8	55.2	52.43
8	17.10	41.7	53.1	50.39

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006566F

Report Number : GLCS/TR00144/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00144/2025-26
Location Name	Viruvidu	**Date of Analysis**	29-05-2025
Sampling Hours	09.10 - 09.10	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 4'43.28"N** **77°46'45.76"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.10	40.3	50.6	47.98
10	19.10	39.5	52.5	49.70
11	20.10	38.4	48.1	45.53
12	21.10	35.6	43.5	41.14
13	22.10	34.2	41.6	39.32
14	23.10	33.9	40.3	38.19
15	00.10	31.7	42.3	39.65
16	01.10	32.2	39.1	36.90

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006566F

Report Number : GLCS/TR00144/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00144/2025-26
Location Name	Viruvidu	**Date of Analysis**	29-05-2025
Sampling Hours	09.10 - 09.10	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 4'43.28"N** **77°46'45.76"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.10	31.9	39.5	37.19
18	03.10	30.6	36.1	34.17
19	04.10	33.5	36.6	35.32
20	05.10	34.8	39.1	37.46
21	06.10	36.1	40.5	38.83
22	07.10	40.4	50.7	48.08
23	08.10	43.2	52.3	49.79
24	09.10	42.6	55.8	52.99
		Day Mean dB(A)		**48.5**
		Night Mean dB(A)		**38.4**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)** **Night Time : 45 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000006602F

Report Number : GLCS/TR00145/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00145/2025-26
Location Name	Kombaipatty	**Date of Analysis**	29-05-2025
Sampling Hours	09.35 - 09.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 8'12.05"N** **77°47'39.20"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.35	40.9	51.4	48.76
2	11.35	42.3	53.3	50.62
3	12.35	42.8	52.5	49.93
4	13.35	40.7	50.2	47.65
5	14.35	44.3	52.9	50.45
6	15.35	39.1	51.9	49.11
7	16.35	40.7	52.1	49.39
8	17.35	39.1	50.9	48.17

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000006602F

Report Number : GLCS/TR00145/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00145/2025-26
Location Name	Kombaipatty	**Date of Analysis**	29-05-2025
Sampling Hours	09.35 - 09.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 8'12.05"N** **77°47'39.20"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.35	38.7	53.1	50.24
10	19.35	36.6	51.9	49.02
11	20.35	35.5	48.1	45.32
12	21.35	35.1	44.3	41.78
13	22.35	36.4	41.9	39.97
14	23.35	33.3	39.5	37.42
15	00.35	34.8	39.1	37.46
16	01.35	33.6	39.5	37.48

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
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Technical Manager

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TEST REPORT

ULR-TC606025000006602F

Report Number : GLCS/TR00145/2025-26 **Report Date** : 30-05-2025

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00145/2025-26
Location Name	Kombaipatty	**Date of Analysis**	29-05-2025
Sampling Hours	09.35 - 09.35	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 8'12.05"N** **77°47'39.20"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.35	33.9	40.5	38.35
18	03.35	34.1	42.9	40.43
19	04.35	33.3	44.6	41.90
20	05.35	32.9	47.2	44.35
21	06.35	34.1	50.6	47.69
22	07.35	36.6	51.6	48.72
23	08.35	37.1	53.5	50.59
24	09.35	38.4	54.1	51.21
		Day Mean dB(A)		**48.2**
		Night Mean dB(A)		**40.6**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)** **Night Time : 45 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000006603F

Report Number : GLCS/TR00146/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00146/2025-26
Location Name	Povampatty	**Date of Analysis**	29-05-2025
Sampling Hours	10.00 - 10.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 5'11.02"N** **77°42'12.35"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.50	40.6	53.6	50.80
2	11.50	41.9	53.4	50.69
3	12.50	42.3	54.6	51.84
4	13.50	41.7	52.2	49.56
5	14.50	40.3	51.5	48.81
6	15.50	39.8	50.9	48.21
7	16.50	37.1	49.5	46.73
8	17.50	36.6	45.5	43.02

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006603F

Report Number : GLCS/TR00146/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00146/2025-26
Location Name	Povampatty	**Date of Analysis**	29-05-2025
Sampling Hours	10.00 - 10.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 5'11.02"N** **77°42'12.35"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.50	37.0	46.3	43.77
10	19.50	35.5	49.1	46.28
11	20.50	34.9	41.2	39.10
12	21.50	35.6	43.3	40.97
13	22.50	34.1	44.8	42.14
14	23.50	33.9	39.6	37.62
15	00.50	34.6	38.5	36.97
16	01.50	33.9	39.1	37.24

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006603F

Report Number : GLCS/TR00146/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00146/2025-26
Location Name	Povampatty	**Date of Analysis**	29-05-2025
Sampling Hours	10.00 - 10.00	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 5'11.02"N** **77°42'12.35"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.50	34.2	39.5	37.61
18	03.50	34.7	38.7	37.15
19	04.50	34.5	38.9	37.23
20	05.50	33.9	37.7	36.20
21	06.50	33.6	39.2	37.25
22	07.50	36.6	45.1	42.66
23	08.50	38.7	48.1	45.56
24	09.50	39.6	52.3	49.52
		Day Mean dB(A)		**46.2**
		Night Mean dB(A)		**37.8**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)**
				Night Time : 45 dB (A)

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000006604F

Report Number : GLCS/TR00147/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00147/2025-26
Location Name	Vattalagundu	**Date of Analysis**	29-05-2025
Sampling Hours	10.40 - 10.40	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 9'11.65"N** **77°44'14.63"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	11.40	41.3	52.6	49.90
2	12.40	42.2	53.7	50.99
3	13.40	40.3	54.3	51.46
4	14.40	39.6	50.3	47.64
5	15.40	41.4	52.3	49.63
6	16.40	39.6	51.1	48.39
7	17.40	38.9	47.6	45.14
8	18.40	36.2	45.9	43.33

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006604F

Report Number : GLCS/TR00147/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00147/2025-26
Location Name	Vattalagundu	**Date of Analysis**	29-05-2025
Sampling Hours	10.40 - 10.40	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 9'11.65"N** **77°44'14.63"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	19.40	36.1	46.3	43.69
10	20.40	35.9	42.8	40.60
11	21.40	34.5	41.9	39.62
12	22.40	33.8	40.7	38.50
13	23.40	33.3	41.5	39.10
14	00.40	34.2	38.9	37.16
15	01.40	33.6	37.1	35.69
16	02.40	34.2	36.9	35.76

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000006604F

Report Number : GLCS/TR00147/2025-26 **Report Date** : 30-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam-686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District-**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0052/2025-26	**Sampled by**	Laboratory
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Sampling Method**	GLCS/SOP/N/014
Sampling Description	-	**Sample Code**	GLCS/00147/2025-26
Location Name	Vattalagundu	**Date of Analysis**	29-05-2025
Sampling Hours	10.40 - 10.40	**Date of Completion**	29-05-2025
Sampling Date	01-04-2025 - 02-04-2025	**Sampling Receipt Date**	03-04-2025
Location Co-ordinates		**10° 9'11.65"N** **77°44'14.63"E**	

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	03.40	32.9	35.9	34.65
18	04.40	34.4	37.1	35.96
19	05.40	36.5	39.7	38.39
20	06.40	39.4	38.5	38.97
21	07.40	38.6	49.2	46.55
22	08.40	40.8	51.2	48.57
23	09.40	41.5	52.3	49.64
24	10.40	42.6	53.9	51.20
		Day Mean dB(A)		**46.6**
		Night Mean dB(A)		**36.9**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)** **Night Time : 45 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007387F

Report Number : GLCS/TR01571/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 1	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01571/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 7'13.14"N** **77°45'3.51"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	476.7
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	46.3
3	Boron	USEPA-6010D:2014	mg/kg	15.69
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.06
5	Cadmium	USEPA-6010 D-2014	mg/kg	7.1
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	52.8
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	4.8
8	Chromium	USEPA-6010D-2014	mg/kg	19.6

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000007387F

Report Number : GLCS/TR01571/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 1	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01571/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 7'13.14"N** **77°45'3.51"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL (DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	3.5
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	2.3
12	Iron	USEPA-6010 D-2014	mg/kg	20.83
13	Lead	USEPA-6010D-2014	mg/kg	2.5
14	Manganese	USEPA-6010 D-2014	mg/kg	3.9
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.40
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.69

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007387F

Report Number : GLCS/TR01571/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 1	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01571/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 7'13.14"N** **77°45'3.51"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	7.96
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	1.24
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	364
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	3.4
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	25.88
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	39.80
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	34.32
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	54

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007387F

Report Number : GLCS/TR01571/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 1	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01571/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 7'13.14"N** **77°45'3.51"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	34.3

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007388F

Report Number : GLCS/TR01572/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 2	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01572/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.55	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 6'59.27"N** **77°44'57.22"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	526.8
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	27.6
3	Boron	USEPA-6010D:2014	mg/kg	10.0
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.1
5	Cadmium	USEPA-6010 D-2014	mg/kg	4.32
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	45
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	5.6
8	Chromium	USEPA-6010D-2014	mg/kg	12.73

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007388F

Report Number : GLCS/TR01572/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 2	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01572/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.55	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 6'59.27"N** **77°44'57.22"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	5.7
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	2.6
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.9
12	Iron	USEPA-6010 D-2014	mg/kg	40.7
13	Lead	USEPA-6010D-2014	mg/kg	3.4
14	Manganese	USEPA-6010 D-2014	mg/kg	5.7
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.69
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	1.2

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007388F

Report Number : GLCS/TR01572/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 2	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01572/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.55	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 6'59.27"N** **77°44'57.22"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	8.06
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	2.15
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	514
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	3.5
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	27.5
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	36.5
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	36
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	46

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007388F

Report Number : GLCS/TR01572/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 2	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01572/2025-26
Location Name	CORE ZONE	**Date of Analysis**	03-05-2025
Sampling Hours	11.55	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 6'59.27"N** **77°44'57.22"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	14.3

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007389F

Report Number : GLCS/TR01573/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 3	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01573/2025-26
Location Name	VIRUVIDU VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	12.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 4'43.56"N** **77°46'45.36"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	602
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	30.8
3	Boron	USEPA-6010D:2014	mg/kg	9.2
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.12
5	Cadmium	USEPA-6010 D-2014	mg/kg	5.4
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	47.2
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	3.8
8	Chromium	USEPA-6010D-2014	mg/kg	13

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007389F

Report Number : GLCS/TR01573/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 3	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01573/2025-26
Location Name	VIRUVIDU VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	12.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 4'43.56"N** **77°46'45.36"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	3.3
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	2.9
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.7
12	Iron	USEPA-6010 D-2014	mg/kg	54.5
13	Lead	USEPA-6010D-2014	mg/kg	1.5
14	Manganese	USEPA-6010 D-2014	mg/kg	5.7
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.85
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	1.47

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007389F

Report Number : GLCS/TR01573/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 3	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01573/2025-26
Location Name	VIRUVIDU VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	12.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 4'43.56"N** **77°46'45.36"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	7.56
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	1.6
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	410
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	4.3
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	28.68
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	33.80
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	37.52
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	44.8

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007389F

Report Number : GLCS/TR01573/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 3	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01573/2025-26
Location Name	VIRUVIDU VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	12.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 4'43.56"N** **77°46'45.36"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	19.3

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TEST REPORT

ULR-TC606025000007390F

Report Number : GLCS/TR01574/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 4	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01574/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.20	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 8'6.90"N** **77°47'36.97"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	464
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	23.1
3	Boron	USEPA-6010D:2014	mg/kg	9.56
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.14
5	Cadmium	USEPA-6010 D-2014	mg/kg	3.2
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	41.6
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	4.3
8	Chromium	USEPA-6010D-2014	mg/kg	8.6

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000007390F

Report Number : GLCS/TR01574/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 4	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01574/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.20	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 8'6.90"N** **77°47'36.97"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL (DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.8
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	2.2
12	Iron	USEPA-6010 D-2014	mg/kg	35
13	Lead	USEPA-6010D-2014	mg/kg	BDL (DL:0.5)
14	Manganese	USEPA-6010 D-2014	mg/kg	4.9
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.47
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.81

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007390F

Report Number : GLCS/TR01574/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 4	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01574/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.20	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 8'6.90"N** **77°47'36.97"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	7.69
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	1.36
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	378
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	2.3
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	22.0
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	35.70
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	42.30
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	42

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007390F

Report Number : GLCS/TR01574/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 4	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01574/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.20	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 8'6.90"N** **77°47'36.97"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	8.1

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007391F

Report Number : GLCS/TR01575/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 5	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01575/2025-26
Location Name	POVAMPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 5'10.36"N** **77°42'12.16"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	451.6
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	18.2
3	Boron	USEPA-6010D:2014	mg/kg	7.8
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.06
5	Cadmium	USEPA-6010 D-2014	mg/kg	6.5
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	51.2
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	6.2
8	Chromium	USEPA-6010D-2014	mg/kg	20.76

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For Global Lab and Consultancy Services LLP

Authorised Signatory
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Technical Manager

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TEST REPORT

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Report Number : GLCS/TR01575/2025-26 **Report Date** : 17-06-2025

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 5	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01575/2025-26
Location Name	POVAMPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 5'10.36"N** **77°42'12.16"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	5.1
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	2.1
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.7
12	Iron	USEPA-6010 D-2014	mg/kg	55.8
13	Lead	USEPA-6010D-2014	mg/kg	1.1
14	Manganese	USEPA-6010 D-2014	mg/kg	21.7
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.87
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	1.50

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000007391F

Report Number : GLCS/TR01575/2025-26 **Report Date** : 17-06-2025

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 5	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01575/2025-26
Location Name	POVAMPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 5'10.36"N** **77°42'12.16"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	8.24
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	1.44
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	623
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	3.3
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	24.20
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	40.30
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	35.50
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	48

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007391F

Report Number : GLCS/TR01575/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 5	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01575/2025-26
Location Name	POVAMPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.50	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 5'10.36"N** **77°42'12.16"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	10.9

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007392F

Report Number : GLCS/TR01576/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 6	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01576/2025-26
Location Name	VATTALAGUNDU	**Date of Analysis**	03-06-2025
Sampling Hours	02.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 9'12.40"N** **77°44'14.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	577
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	20.8
3	Boron	USEPA-6010D:2014	mg/kg	8.2
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.18
5	Cadmium	USEPA-6010 D-2014	mg/kg	5.5
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	41.2
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	5.3
8	Chromium	USEPA-6010D-2014	mg/kg	14.2

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007392F

Report Number : GLCS/TR01576/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 6	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01576/2025-26
Location Name	VATTALAGUNDU	**Date of Analysis**	03-06-2025
Sampling Hours	02.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 9'12.40"N** **77°44'14.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	1.2
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.6
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.8
12	Iron	USEPA-6010 D-2014	mg/kg	40.4
13	Lead	USEPA-6010D-2014	mg/kg	1.2
14	Manganese	USEPA-6010 D-2014	mg/kg	7.7
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.9
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	1.55

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007392F

Report Number : GLCS/TR01576/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 6	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01576/2025-26
Location Name	VATTALAGUNDU	**Date of Analysis**	03-06-2025
Sampling Hours	02.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 9'12.40"N** **77°44'14.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	7.84
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	1.64
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	514
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	4.1
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	24.45
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	36.20
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	39.35
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	50

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007392F

Report Number : GLCS/TR01576/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0543/2025-26	**Sampled by**	Laboratory
Sample Name	SOIL - 6	**Sampling Method**	GLCS/SOP/S/014
Sampling Description	Powder	**Sample Code**	GLCS/01576/2025-26
Location Name	VATTALAGUNDU	**Date of Analysis**	03-06-2025
Sampling Hours	02.30	**Date of Completion**	17-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	- °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	- %
Location Co-ordinates		**10° 9'12.40"N** **77°44'14.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	19.7

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000005605F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	04-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007348F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.013
2	Ammoniacal Nitrogen as NH3-N	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.11
5	Biochemical Oxygen Demand (BOD) at 27°C for 3 Days	IS 3025 (Part 44): 2023	mg/l	BDL (DL;2.0)
6	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
7	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
8	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	100

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TC-6060

TEST REPORT

ULR-TC606025000007348F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 17-06-2025

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chemical Oxygen Demand (COD)	IS 3025 (Part 58): 2023	mg/l	30
10	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	290
11	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Color	IS 3025 (Part 4): 2021	CU	<1
13	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
14	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
15	Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (Reaffirmed 2019)	mg/l	5.0
16	Electrical Conductivity	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1788

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007348F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Fluoride as F-	GLCS/SOP/W/015; Issue no :02: 2024	mg/l	0.62
18	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
19	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	0.28
20	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
21	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	61
22	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
23	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
24	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007348F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
26	Odor	IS 3025 (Part 5): 2018	-	Agreeable
27	pH	IS 3025 (Part 11): 2022	-	7.86
28	Phenols	IS 3025 PART 43 SECTION 1: 2022	mg/l	BDL (DL;0.1)
29	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
30	Sulphate as SO4	IS 3025 (Part 24) SECTION 1: 2022	mg/l	132
31	Sulphide as S (Iodometric Method)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
32	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	430

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007348F

Report Number : GLCS/TR01577/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01577/2025-26
Location Name	VAIGAI RIVER	**Date of Analysis**	03-05-2025
Sampling Hours	03.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.3 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50 %
Location Co-ordinates		**10° 6'16.24"N** **77°45'31.62"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	1162
34	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	470
35	Total Suspended Solids	is 3025 part 17: 2022	mg/l	26
36	Turbidity	IS 3025 (Part 10): 2023	NTU	6
37	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000005604F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	04-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007349F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.017
5	Biochemical Oxygen Demand (BOD) at 27°C for 3 Days	IS 3025 (Part 44): 2023	mg/l	BDL (DL;2.0)
6	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
7	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
8	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	72

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007349F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chemical Oxygen Demand (COD)	IS 3025 (Part 58): 2023	mg/l	BDL (DL;10.0)
10	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	190
11	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Color	IS 3025 (Part 4): 2021	CU	<1
13	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
14	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
15	Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (Reaffirmed 2019)	mg/l	5.1
16	Electrical Conductivity	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1345

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
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Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007349F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 17-06-2025

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Fluoride as F-	GLCS/SOP/W/015; Issue no :02: 2024	mg/l	0.47
18	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
19	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	0.21
20	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
21	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	44
22	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
23	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
24	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007349F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
26	Odor	IS 3025 (Part 5): 2018	-	Agreeable
27	pH	IS 3025 (Part 11): 2022	-	7.43
28	Phenols	IS 3025 PART 43 SECTION 1: 2022	mg/l	BDL (DL;0.1)
29	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
30	Sulphate as SO4	IS 3025 (Part 24) SECTION 1: 2022	mg/l	155
31	Sulphide as S (Iodometric Method)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
32	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	280

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007349F

Report Number : GLCS/TR01578/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	SURFACE WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01578/2025-26
Location Name	VEERAKUDUMBAN LAKE	**Date of Analysis**	03-05-2025
Sampling Hours	03.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'55.05"N** **77°44'49.27"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	874
34	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	360
35	Total Suspended Solids	is 3025 part 17: 2022	mg/l	BDL (DL;2.0)
36	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
37	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000005603F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	07-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Present

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007350F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.012
5	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	112
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	215

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007350F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1510
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.42
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
16	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	BDL (DL;0.1)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007350F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	68
19	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.68

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007350F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL;0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	125
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	360
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	980
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	560
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	BDL (DL;2.0)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000007350F

Report Number : GLCS/TR01579/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01579/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.05	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.2 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	50.0 %
Location Co-ordinates		**10° 6'51.30"N** **77°44'41.38"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000005602F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	07-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Present

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007351F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
5	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	72
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	325

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Salem – 636 016. Tamil Nadu. India.
Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

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TC-6060

TEST REPORT

ULR-TC606025000007351F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1664
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.39
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
16	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	0.14

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007351F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	51
19	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.28

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TEST REPORT

ULR-TC606025000007351F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL;0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	91
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	340
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	1080
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	390
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	BDL (DL;2.0)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007351F

Report Number : GLCS/TR01580/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	WELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01580/2025-26
Location Name	KOMBAIPATTY	**Date of Analysis**	03-05-2025
Sampling Hours	01.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.4 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 8'21.89"N** **77°47'28.07"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000005601F

Report Number : GLCS/TR01581/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	07-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Present

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
5	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	140
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	290

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Authorised Signatory
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Technical Manager

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	2068
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.39
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
16	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	BDL (DL;0.1)

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Authorised Signatory
L.Sudha Priya
Technical Manager

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Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	90
19	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.69

Note : BDL - Below Detection Limit, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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ULR-TC606025000007352F

Report Number : GLCS/TR01581/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL;0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	126
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	480
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	1340
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	720
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	BDL (DL;2.0)

Note : BDL - Below Detection Limit, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007352F

Report Number : GLCS/TR01581/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 1	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01581/2025-26
Location Name	NEAR PROJECT AREA	**Date of Analysis**	03-05-2025
Sampling Hours	12.30	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.1 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 7'27.42"N** **77°44'53.34"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.019

Note : BDL - Below Detection Limit, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000005600F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 09-05-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/M/SOP/05
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	07-05-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Present

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

*****End of Report*****

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TC-6060

TEST REPORT

ULR-TC606025000007353F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL;1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
5	Boron as B	IS 3025 (Part 57): 2021	mg/l	BDL (DL;0.1)
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	124
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	245

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007353F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL;0.02)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1560
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.47
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL;1.0)
16	Iron as Fe	IS 3025 (Part 53): 2024	mg/l	0.13

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007353F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	78
19	Manganese as Mn	IS 3025 (Part 59): 2023	mg/l	BDL (DL;0.1)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL;2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	6.96

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007353F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL;0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	110
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL;1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	300
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	1010
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	630
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	BDL (DL;2.0)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606025000007353F

Report Number : GLCS/TR01582/2025-26 **Report Date** : 17-06-2025

Issued To : **Tvl.ADAYAR GRANITES** Thiru.saju M.C, No:15/113-2,KBC Complex, Laikkadu, Perunal Post, Changanacheery **Kottayam 686102**		**Site Address:** **Tvl.ADAYAR GRANITES** ROUGH STONE QUARRY Lease Area:3.13.50Ha, SF.No:2/1 & 1269/3, Lease Area:3.95.00Ha, SF.No:4/2, 1274/1 & 1274/2, Viralipatty Village, Nilakottai Taluk **Dindigul District**	
Attention	-	**Sample Condition**	Good
TRF No.	TRF/0544/2025-26	**Sampled by**	Laboratory
Sample Name	BOREWELL WATER - 2	**Sampling Method**	GLCS/SOP/W/028
Sampling Description	Liquid	**Sample Code**	GLCS/01582/2025-26
Location Name	POVAMPATTY VILLAGE	**Date of Analysis**	03-05-2025
Sampling Hours	02.00	**Date of Completion**	16-06-2025
Sampling Date	29-04-2025	**Avg Temperature**	25.5 °C
Sampling Receipt Date	03-05-2025	**Avg Humidity**	51.0 %
Location Co-ordinates		**10° 5'11.90"N** **77°42'11.90"E**	

Sl.No	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL;0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

*****End of Report*****

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Certificate of Accreditation

Geo Exploration & Mining Solutions, Salem

No. 17, Advaitha Ashram Road, Fairlands, Salem – 636 004, Tamilnadu, India.

*The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S.No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals opencast only	1	1 (a) (i)	A
2	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
3	Building and construction projects	38	8(a)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Jan 06, 2023 and posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/2684 dated Feb 20, 2023. The accreditation needs to be renewed before the expiry date by Geo Exploration & Mining Solutions, Salem following due process of assessment.

Sr. Director, NABET
Dated: Feb 20, 2023

Certificate No.
NABET/EIA/2225/RA 0276

Valid up to
August 06, 2025

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