DRAFT EIA / EMP REPORT

FOR

ROUGH STONE AND GRAVEL QUARRY

Extent	1.58.0 Ha
Land Type	Own Patta Land
Production for 5 years	Roughstone – 1,13,585 m3 Gravel – 20,403m3 Top Soil – 13,602 m3
Depth	30 m bgl
Lease Period	5 years

SURVEY NO -43/1A,1B(P) & 45/1A1, 1A2(P)

VILLAGE – APPAINAICKENPATTI, TALUK – VEMBAKOTTAI TALUK,

DISTRICT – VIRUDHUNAGAR, STATE – TAMILNADU.

- Terms of Reference issued by SEIAA, Tamil Nadu vide SEIAA-TN/F.No.10319/SEAC/ToR 1590/2023 dated 06.10.2023
- Baseline Monitoring Period – Winter Season (December 2021 to February 2022)

PROJECT PROPONENT

THIRU. S. SUBBURAJ

SEVELPATTI POST, THIRUVENGADAM TALUK, TENKASI DISTRICT

CONSULTANT

CREATIVE ENGINEERS & CONSULTANTS

NABET ACCREDITED CONSULTANCY, NABL ACCREDITED TESTING LAB

9B/4, Bharathwajar Street, East Tambaram, Chennai-600059.

Ph: 044-22395170, Cell: 09444133619 Email : cecgiri@yahoo.com,

JANUARY 2024

REVISIONS OF EIA/EMP REPORT

Revision number	Report Status	Date of submission
00/JAN/24	Draft EIA /EMP Report	22.01.2024

Environmental Impact Assessment & Environmental Management Plan Report for Rough Stone and Gravel Quarry of Thiru. S. Subburaj, at Survey No. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) over an area of 1.58.0 hectares in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu was prepared by Creative Engineers & Consultants and authorized for submission by Mr. P.Giri, EIA Coordinator & CEO of Creative Engineers & Consultants on 22.01.2024 after due review by the personnel and consultation with Thiru. S. Subburaj. Current Revision number of the EIA/EMP report is 00/JAN/24, signifying as per the revision mentioned in the above table that this is a draft EIA/EMP report.

PROJECT PROPONENT DECLARATION

I, Thiru. S. Subburaj received ToR under EIA Notification 2006 from SEIAA, Tamil Nadu vide their SEIAA-TN/F.No.10319/SEAC/ToR/1590/2023 dated 06.10.2023 for mining lease for Rough Stone and Gravel Quarry of Thiru. S. Subburaj, at Survey No. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) over an area of 1.58.0 hectares in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu.

I have entrusted the EIA study to M/s. Creative Engineers & Consultants (CEC), Chennai who have been accredited by the National Accreditation Board for Education & Training (NABET), Quality Council of India with their accreditation valid upto 23.03.2024.

The Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) have been prepared as per the generic structure proposed in the EIA notification 2006, ToR issued by SEIAA, Tamil Nadu. The prescribed ToR along with compliance is also incorporated in the EIA/EMP Report.

This report is prepared based on the information and data obtained from the Mining Plan and other records and the field study carried out by the consultant. The data given in the EIA/EMP report are factually correct to the best of my knowledge.

Thiru. S. Subburaj

EIA Consultant Undertaking

[In compliance with MoEF Office Memorandum No. J-11013/41/2006-IA.II (I) dated 04.08.2009]

Creative Engineers & Consultants (CEC) is an NABL accredited testing Laboratory, and also NABET accredited Category–A environment consultancy organization for preparing EIA/EMP reports for the sectors Mining of minerals, Thermal power plants, Mineral Beneficiation & Cement plants.

CEC has been accredited by the National Accreditation Board for Education & Training (NABET), Quality Council of India for empanelment of EIA Consultants. The Certificate of Reaccreditation vide No – NABET/EIA/2023/RA 0187 dated 18.12.2020 is issued with validity up to 23.03.2024.

Thiru. S. Subburaj received ToR under EIA Notification 2006 from SEIAA, Tamil Nadu vide their SEIAA-TN/F.No.10319/SEAC/ToR 1590/2023 dated 06.10.2023 for mining lease for Rough Stone and Gravel Quarry over an extent of 1.58.0 Ha of Thiru. S. Subburaj, at S.F.No. 43/1A,1B(P) & 45/1A1,1A2(P) (Patta Land) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu

The prescribed TOR is complied with and incorporated in the EIA Report and submitted. This report is based on the information and data obtained from Approved Mining Plan, other records and data from the field study by CEC. The data generated and given in the EIA/EMP Report are factually correct. The sample analyses are carried out through CEC's laboratory.

(P. Giri)
Chief Executive & EIA Coordinator
Creative Engineers & Consultants

Annexure – VII

Declaration by Experts contributing to the EIA Report for

Rough Stone and Gravel Quarry over an extent of 1.58.0 Ha of Thiru. S. Subburaj, at S.F.No. 43/1A,1B(P) & 45/1A1,1A2(P) (Patta Land) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu

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

EIA coordinator:

Name: **P.Giri**

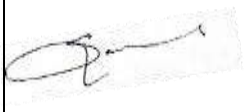
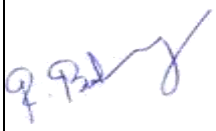
Signature and Date: 

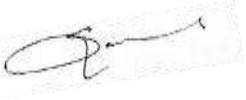
Period of involvement: **December 2021 onwards**

Contact information: **09444133619, 044-22395170**

Functional area experts:

S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and date
1	AP*	**P.Giri**	• **Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards.** • **Identification of sources of air pollution comprising dust, gaseous emission due to mining & other activities** • **Identification of Impacts & suggestion of mitigation measures** **Period: December 2021 onwards**	
		B.Swamynathan	• **Data interpretation of Micro meteorological data for wind rose.** • **Identification of polluting source and suggestion of suitable mitigation measures.** **Period: March 2022 onwards**	
2	WP*	**V.Sivaranjani**	• **Study of the monitored data with respect to the applicable standards.** • **Identification of Water requirement & Source** • **Preparation of water balance diagram** • **Identification of Water polluting sources** • **Impact of the project on the water quality, both**	

			surface and groundwater • Suggestion of Mitigation measures to control water pollution **Period:** July 2022 onwards	
		G.Sandhya- FAA	• Assisting FAE with identification of impact of the project on the water quality and suggestion of suitable mitigation measures. • Associated with FAE in preparation of sections relevant to WP functional area in the EIA/EMP report. **Period:** July 2022 onwards	
3	SHW*	P.Giri	• Quantification of mineral & waste from mining operation • Waste disposal method evaluation • Providing dump management plan • Providing Surface Runoff Management Structure Requirements. • Identification of Hazardous waste and its details of disposal **Period:** December 2021 onwards	
4	SE*	R.Baburaj	• Identification of villages in the study area and finalization of demographic profile of the villages within the study area. • Preparation of sections relevant to SE functional area in the EIA/EMP report **Period:** March 2022 onwards	
5	EB*	B.Swamynathan	• Perusal of existing data relevant to this project. • Studying the details of flora and fauna, separately for core, buffer zone and forest area based on primary field survey. • Identification of species , Indicating the Schedule of the fauna present in the study area • Assessment of impact on Biological environment and suggestion of mitigative measures • Collecting & providing details of existing and proposed Green belt development /plantation in the core zone **Period:** March 2022 onwards	
6	HG*	K.Shankar	• Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures	

			• **Perusal of site specific ground water table details for the core zone and the study area.** • **Studied the hydrological aspects of surface and groundwater in study area** • **Study about impact on the hydrology due to mining operation** • **Suggesting mitigative measures like RWH for enhancement of ground water level** **Period: March 2022 onwards**	
7	GEO*	**K.Shankar**	• **Study of geology of the ML area and the surrounding areas.** • **Provide details about Mineral composition** **Period: March 2022 onwards**	
8	SC*	**B.Swamynathan**	• **Study of soil profile** • **Assessment of Impact on soil and suggesting plantation scheme.** **Period: March 2022 onwards**	
9	AQ*	**V.Sivaranjani**	• **Quantification of emission particulars** • **Air quality modelling for post project impact on the air quality prediction of the study area.** **Analysis of the Isopleth generated** • **Arriving at the post project concentration at the AAQ monitoring locations** **Period: July 2022 onwards**	
		G.Sandhya-FAA	• **Assisting FAE calculation of the emission rates** • **Preparation of meteorological data in suitable form for input into the model** • **Simulation of model for generation of Isopleth and data interpretation.** • **Studying the impact on AAQ monitoring locations due to the generated emissions.** • **Associated with FAE in preparation of sections relevant to AQ functional area in the EIA/EMP report.** **Period: July 2022 onwards**	
10	NV*	**P.Giri**	• **Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards.** • **Predict the noise level and vibration level due to proposed mining operation based on scientific evaluation.**	

			• **Suggesting the Mitigation measures to control noise pollution, Suggesting the Mitigation measures to control ground vibration** **Period: December 2021 onwards**	
11	LU	**B.Swamynathan**	• **Collection of Remote sensing satellite data to study the land use pattern.** • **Primary field survey and limited field verification** • **Preparation of Land use map using Satellite data of the project area separately for the core zone and the buffer zone and providing the land use pattern.** **Period: March 2022 onwards**	
12	RH*	**K.Shankar**	• **Identified Major risks involved in the project Mitigation measures suggested to avoid risk.** • **Preparation of onsite and offsite emergency management plan** **Period: March 2022 onwards**	

*One TM against each FAE may be shown
**Please attach additional sheet if required

Declaration by the Head of the accredited consultant organization/ authorized person

I, **P.Giri** hereby,confirm that the above mentioned experts prepared the EIA report for **Rough Stone and Gravel Quarry over an extent of 1.58.0 Ha of Thiru. S. Subburaj, at S.F.No. 43/1A,1B(P) & 45/1A1,1A2(P) (Patta Land) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu**

I also confirm that EIA Coordinator (EC) has gone through the report, and the consultant organization shall be fully accountable for any misleading information. It is certified that no unethical practices, plagiarism involved in carrying out the work and external data / text has not been used without proper acknowledgement while preparing this EIA report.

Signature: 

Name: **P.Giri**

Designation: **Chief Executive**

Name of the EIA consultant organization: **Creative Engineers & Consultants, Chennai – 59**
NABET Certificate No. & Issue Date: **No- NABET/EIA/2023/RA 0187 & date Dec 18th, 2020**

QCI/NABET/ENV/ACO/23/3074 Dec 19, 2023

Creative Engineers and Consultants
9B/4, Bharathwajar street, East Tambaram
Chennai, Tamil Nadu

Sub.: Extension of Validity of Accreditation till March 18, 2024 – regarding
Ref.. 1. Certificate no NABET/EIA/2023/SA 0187
2. Request mail Dec 10, 2023

Dear Sir/Madam

This has reference to the accreditation of your organization under QCI-NABET EIA Scheme, the validity **Creative Engineers and Consultants** is hereby extended till March 18, 2024 or completion of the assessment process, whichever is earlier.

The above extension is subject to the submitted documents/required information with respect to your application and timely submission and closure of NC/Obs during the process of assessment.

You are requested not to use this letter after the expiry of the above-stated date.

With best regards.

(A K Jha)
Sr. Director, NABET

QUALITY COUNCIL® OF INDIA
Creating an Ecosystem for Quality

National Accreditation Board for Education and Training

Certificate of Accreditation

Creative Engineers and Consultants,

9B/4, Bharathwajar street, East Tambaram,Chennai, Tamil Nadu

\The organization is accredited as ***Category-A*** *under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast/ underground mining	1	1 (a) (i)	A
2	Thermal power plants	4	1 (d)	A
3	Mineral beneficiation	7	2 (b)	A
4	Cement Plants	9	3 (b)	A

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated Oct 4, 2022 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/23/2653 *dated January 30, 2023. The accreditation needs to be renewed before the expiry date by Creative Engineers and Consultants, following due process of assessment.*

Sr. Director, NABET
Dated: January 30, 2023

Certificate No.
NABET/EIA/2023/SA 0187

Valid up to
December 23, 2023

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

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सत्यमेव जयते

THIRU.DEEPAK S. BILGI, I.F.S.
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
Fax No. 044-24359975

TERMS OF REFERENCE (ToR)

Lr.No.SEIAA-TN/F.No.10319/SEAC/1(a)ToR- 1590/2023, Dated: 06.10.2023.

To

Thiru. S. Subburaj,

S/o. Sri. Shunmugaraj,

7/112, Kundampatti Village,

Sevelpatti Post, Thiruvengadam Taluk,

Tenkasi District - 626140.

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Proposed Rough Stone and Gravel quarry lease over an extent of 1.58.0 Ha at S.F.Nos. 43/1A, 1B(P) & 45/1A1, 1A2(P) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu by Thiru. S. Subburaj- under project category – "B1" and Schedule S.No.1(a) "Mining of Minerals Projects" – **ToR issued along with Public Hearing**- preparation of EIA report – Regarding.

Ref: 1. Online proposal No.SIA/TN/MIN/439326/2023, Dated: 07.08.2023.

2. Your application submitted for Terms of Reference dated: 16.08.2023.

3. Minutes of the 409th SEAC meeting held on 21.09.2023.

4. Minutes of the 660th SEIAA meeting held on 06.10.2023.

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

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The proponent, Thiru. S. Subburaj has submitted an application for Terms of Reference (ToR) on 16.08.2023, for Proposed Rough Stone and Gravel quarry lease over an extent of 1.58.0 Ha at SF.Nos. 43/1A, 1B(P) & 45/1A1, 1A2(P) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District,Tamil Nadu.

Discussion by SEAC and the Remarks: -

The proposal was placed for appraisal in this 409th SEAC meeting held on 21.09.2023. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

1. The project proponent, Thiru. S. Subburaj has applied for Terms of Reference for the Proposed Rough Stone and Gravel quarry lease over an extent of 1.58.0 Ha at S.F.Nos. 43/1A, 1B(P) & 45/1A1, 1A2(P) of Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu.
2. The project/activity is covered under Schedule 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. Earlier EC obtained vide Lr.No.SEIAA-TN/F.No.5631/1(a)/EC.No:3698/2016 Dated: 06.09.2016 for a production quantity of 74,270 cu.m. of rough stone and 6,264 cu.m of weathered rock and 6,600 cu.m of Gravel for a depth of 32m.

Now, the proposal was placed in the 409th SEAC meeting held on 21.09.2023. Based on the presentation made by the proponent SEAC recommended grant of Terms of Reference (TOR) with Public Hearing, subject to the following TORs as per the **Annexure I** of this minute, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. The proponent shall obtain Certified Compliance Report from IRO, MoEF&CC, Chennai for the Environmental clearance obtained earlier from the SEIAA and submit the actions taken report along with EIA Report.
2. The proponent shall complete the fencing in the other existing abandoned quarries located nearby and shall submit photographic/videographic evidence along with EIA Report.
3. The proponent shall ensure that boundary pillar stones shall be erected in all the corners and further pillars shall be erected along the effective mining area with suitable colour differentiating the mine lease boundary and effective mining area and photographic/videographic evidence shall be submitted along with EIA Report.

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4. The proponent shall study in detail regarding the impacts due to quarrying activities on the residential college which is located in the south eastern direction with respect to noise, dust, and vibration and shall furnish mitigation measures along with EIA report.
5. For securing the safety of persons employed in the mine, the PP shall carry out the scientific studies to assess the slope stability of the benches and existing quarry high walls, by involving anyone of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, IIT-Madras, IIT (ISM)/Dhanbad and Anna University Chennai-CEG Campus, etc. A copy of such scientific study report detailing the slope stability action plan & stabilization measures shall be submitted to the SEIAA along with EIA/EMP.

ANNEXURE I

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
   (i) Original pit dimension
   (ii) Quantity achieved Vs EC Approved Quantity
   (iii) Balance Quantity as per Mineable Reserve calculated.
   (iv) Mined out Depth as on date Vs EC Permitted depth
   (v) Details of illegal/illicit mining
   (vi) Violation in the quarry during the past working.
   (vii) Quantity of material mined out outside the mine lease area
   (viii) Condition of Safety zone/benches
   (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.

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SEIAA-TN

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 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,

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SEIAA-TN

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

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SEIAA-TN

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.

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SEIAA-TN

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.
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.

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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.

Appendix -I
List of Native Trees Suggested for Planting

No	Scientific Name	Tamil Name	Tamil Name
1	*Aegle marmelos*	Vilvam	விலவம்
2	*Adenaanthera pavonina*	Manjadi	மஞ்சாடி, ஆனைக்குன்றிமணி
3	*Albizia lebbeck*	Vaagai	வாகை
4	*Albizia amara*	Usil	உசில்
5	*Bauhinia purpurea*	Mantharai	மந்தாரை
6	*Bauhinia racemosa*	Aathi	ஆத்தி
7	*Bauhinia tomentos*	Iruvathi	இருவாத்தி
8	*Buchanania axillaris*	Kattuma	காட்டுமா
9	*Borassus flabellifer*	Panai	பனை
10	*Butea monosperma*	Murukkamaram	முருக்கமரம்
11	*Bobax ceiba*	Ilavu, Sevvilavu	இலவு
12	*Calophyllum inophyllum*	Punnai	புன்னை
13	*Cassia fistula*	Sarakondrai	சரக்கொன்றை
14	*Cassia roxburghii*	Sengondrai	செங்கொன்றை
15	*Chloroxylon sweitenia*	Purasamaram	புரசு மரம்
16	*Cochlospermum religiosum*	Kongu, Manjalllavu	கோங்கு, மஞ்சள் இலவு
17	*Cordia dichotoma*	Naruvuli	நருவுளி
18	*Creteva adansoni*	Mavalingum	மாவிலங்கம்
19	*Dillenia indica*	Uva, Uzha	உசா
20	*Dillenia pentagyna*	SiruUva, Sitruzha	சிறு உசா
21	*Diospyro sebenum*	Karungali	கருங்காலி
22	*Diospyro schloroxylon*	Vaganai	வாகனை
23	*Ficus amplissima*	Kalltchi	கல் இச்சி
24	*Hibiscus tiliaceou*	Aatrupoovarasu	ஆற்றுப்பூவரசு
25	*Hardwickia binata*	Aacha	ஆச்சா
26	*Holoptelia integrifolia*	Aayili	ஆயா மரம், ஆயிலி
27	*Lannea coromandelica*	Odhiam	ஓதியம்
28	*Lagerstroemia speciosa*	Poo Marudhu	பூ மருது
29	*Lepisanthus tetraphylla*	Neikottaimaram	நெய் கொட்டை மரம்
30	*Limonia acidissima*	Vila maram	விலா மரம்
31	*Litsea glutinos*	Pisinpattai	அரம்பா, பிசின்பட்டை
32	*Madhuca longifolia*	Illuppai	இலுப்பை
33	*Manilkara hexandra*	UlakkaiPaalai	உலக்கை பாலை
34	*Mimusops elengi*	Magizhamaram	மகிழமரம்
35	*Mitragyna parvifolia*	Kadambu	கடம்பு
36	*Morinda pubescens*	Nuna	நுணா
37	*Morinda citrifolia*	Vellai Nuna	வெள்ளை நுணா
38	*Phoenix sylvestre*	Eachai	சாச்சமரம்
39	*Pongamia pinnat*	Pungam	புங்கம்

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40	*Premna mollissima*	Munnai	முன்னை
41	*Premna serratifolia*	Narumunnai	நறு முன்னை
42	*Premna tomentosa*	Malaipoovarasu	மலை பூவரசு
43	*Prosopis cinerea*	Vanni maram	வன்னி மரம்
44	*Pterocarpus marsupium*	Vengai	வேங்கை
45	*Pterospermum canescens*	Vennangu, Tada	வெண்ணாங்கு
46	*Pterospermum xylocarpum*	Polavu	புலவு
47	*Putranjiva roxburghi*	Karipala	கறிபாலா
48	*Salvadora persica*	Ugaa Maram	ஊகா மரம்
49	*Sapindus emarginatus*	Manipungan, Soapukai	மணிப்புங்கன் சோப்புக்காய்
50	*Saraca asoca*	Asoca	அசோகா
51	*Streblus asper*	Piray maram	பிராய் மரம்
52	*Strychnos nuxvomic*	Yetti	எட்டி
53	*Strychnos potatorum*	Therthang Kottai	தேத்தான் கொட்டை
54	*Syzygium cumini*	Naval	நாவல்
55	*Terminalia belleric*	Thandri	தான்றி
56	*Terminalia arjuna*	Ven marudhu	வெண் மருது
57	*Toona ciliate*	Sandhana vembu	சந்தன வேம்பு
58	*Thespesia populnea*	Puvarasu	பூவரசு
59	*Walsuratrifoliata*	valsura	வால்சுரா
60	*Wrightia tinctoria*	Veppalai	வெப்பாலை
61	*Pithecellobium dulce*	Kodukkapuli	கொடுக்காப்புளி

Discussion by SEIAA and the Remarks:-

The subject was placed in 660th Authority meeting held on 06.10.2023. The authority noted that the subject was appraised in 409th SEAC meeting held on 21.09.2023.

Based on the presentation and documents furnished by the project proponent, SEAC after detailed deliberations, decided to **recommend the proposal for the grant of Terms of Reference (ToR).**

After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions in addition to the following conditions and the conditions mentioned in 'Annexure B' of this minute:

Annexure 'B'

Cluster Management Committee

1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.
2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,
3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.

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4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.
5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.
6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.
7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.
8. The committee shall furnish the Emergency Management plan within the cluster.
9. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.
10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.
11. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.

Impact study of mining

12. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
    a) Soil health & soil biological, physical land chemical features.
    b) Climate change leading to Droughts, Floods etc.
    c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
    d) Possibilities of water contamination and impact on aquatic ecosystem health.
    e) Agriculture, Forestry & Traditional practices.
    f) Hydrothermal/Geothermal effect due to destruction in the Environment.
    g) Bio-geochemical processes and its foot prints including environmental stress.
    h) Sediment geochemistry in the surface streams.

Agriculture & Agro-Biodiversity

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

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14. Impact on soil flora & vegetation around the project site.
15. Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.
16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.
17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.

Forests

19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
20. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
21. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
22. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.

Water Environment

23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
24. Erosion Control measures.
25. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.

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27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.
28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.
29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
30. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.

Energy

31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.

Climate Change

32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.
33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.

Mine Closure Plan

34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

EMP

35. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.
36. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.

Risk Assessment

37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

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Disaster Management Plan

38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in &around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.

Others

39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.
40. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.
41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic &microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

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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

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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.

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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

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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

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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:-

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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).

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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.

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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

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(NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 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 willtakefurther 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.

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Copy to:

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. Monitoring Cell, IA Division, Ministry of Environment, Forests &CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
5. The District Collector, Virudhunagar District.
6. Stock File.

TOR COMPLIANCE

S. No	ToR Points	Reply	Pg.No
A. ToR in Addition to Standard ToR			
A. Annexure			
1.	**The proponent shall obtain Certified Compliance Report from IRO, MoEF&CC, Chennai for the Environmental clearance obtained earlier from the SEIAA and submit the actions taken report along with EIA Report.**	Under Progress	**--**
2.	**The proponent shall complete the fencing in the other existing abandoned quarries located nearby and shall submit photographic/videographic evidence along with EIA Report.**	Under Progress.	**2-7**
3.	**The proponent shall ensure that boundary pillar stones shall be erected in all the corners and further pillars shall be erected along the effective mining area with suitable colour differentiating the mine lease boundary and effective mining area and photographic/videographic evidence shall be submitted along with EIA Report.**	Under Progress	**2-6**
4.	**The proponent shall study in detail regarding the impacts due to quarrying activities on the residential college which is located in the south eastern direction with respect to noise, dust, and vibration and shall furnish mitigation measures along with EIA report.**	A detailed study is given in para 4.4.2.1 of Chapter-IV.	**4-14**
5.	**For securing the safety of persons employed in the mine, the PP shall carry out the scientific studies to assess the slope stability of the benches and existing quarry high walls, by involving anyone of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, IIT-Madras, IIT (ISM)/Dhanbad and Anna University Chennai-CEG Campus, etc. A copy of such scientific study report detailing the slope stability action plan & stabilization measures shall be submitted to the SEIAA along with EIA/EMP.**	A detailed study is given in Chapter-VII	

B. Annexure			
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:** **a) Original pit dimension** **b) Quantity achieved Vs EC Approved Quantity** **c) Balance Quantity as per Mineable Reserve calculated.** **d) Mined out Depth as on date Vs EC Permitted depth** **e) Details of illegal/illicit mining** **f) Violation in the quarry during the past working.** **g) Quantity of material mined out outside the mine lease area** **h) Condition of Safety zone/benches** **i) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.**	Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019 with the proceeding no. KV1/11925/2015 dated 17.10.2015. Environmental clearance for the earlier lease area obtained from SEIAA – TN vide letter no Lr.No. SEIAA-TN/F.No.5631/EC/1(a)/3698/2016 dated 06.09.2016 for Rough stone quarrying at SF no 43/1B(P), 45/1A2(P), Appainaickanpatti village, Vembakottai taluk, Virudhunagar District, Tamil Nadu over 1.45.0 Ha of the lease area. (Refer Annexure-IV of Mining plan report). The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 (Annexure-3 of EIA EMP Report)	**--**
2.	**Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.**	VAO certificate regarding the location of habitations within 300m radius from the periphery of the site was obtained and given in Annexure No. 9 of AMP.	**A-298**
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.**	A detailed study is given in Table No. 2.6 of Chapter-II	**2-14**
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**	A detailed study is provided under section 3.6 of Chapter-III	**3-46**

	quarry.		
5.	**The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.**	An ecological survey of the study area was conducted by NABET FAE with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III	**3-37**
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.**	Under Progress	**--**
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.**	Under Progress	**--**
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.**	Agreed	**--**
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.**	Agreed	**--**

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.**	Agreed	**--**
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.**	Agreed	**--**
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,**	Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019 with the proceeding no. KV1/11925/2015 dated 17.10.2015. Environmental clearance for the earlier lease area obtained from SEIAA – TN vide letter no Lr.No. SEIAA-TN/F.No.5631/EC/1(a)/3698/2016 dated 06.09.2016 for Rough stone quarrying at SF no 43/1B(P), 45/1A2(P), Appainaickanpatti village, Vembakottai taluk, Virudhunagar District, Tamil Nadu over 1.45.0 Ha of the lease area. (Refer Annexure-IV of Mining plan report). The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 (Annexure-3)	**--**
13.	**What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?**	Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019. The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 (Annexure-3 of EIA EMP Report)	

<table>
<tr>
<td>14.</td>
<td>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.</td>
<td>Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019 with the proceeding no. KV1/11925/2015 dated 17.10.2015. Environmental clearance for the earlier lease area obtained from SEIAA – TN vide letter no Lr.No. SEIAA-TN/F.No.5631/EC/1(a)/3698/2016 dated 06.09.2016 for Rough stone quarrying at SF no 43/1B(P), 45/1A2(P), Appainaickanpatti village, Vembakottai taluk, Virudhunagar District, Tamil Nadu over 1.45.0 Ha of the lease area. (Refer Annexure-IV of Mining plan report). The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 (Annexure-3)
Existing Pit Dimensions
<table>
<tr><th>Pit No.</th><th>Length in(m)</th><th>Width in (m)</th><th>Depth in (m)</th></tr>
<tr><td>1</td><td>86</td><td>64</td><td>15.0</td></tr>
</table>
</td>
<td>--</td>
</tr>
<tr>
<td>15.</td>
<td>All comer 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).</td>
<td>• Satellite imagery with corner coordinates of the project area is provided in Figure 2.4, Chapter-II.
• Toposheet of the lease area and buffer zone is provided in Figure 3.1, Chapter-III.
• Geology, Geomorphology, Lithology map of the lease area and buffer zone is provided in Figure 3.21, 3.22 and 3.23, Chapter-III.</td>
<td>2-6
3-2
3-48 & 3-50</td>
</tr>
<tr>
<td>16.</td>
<td>The PP shall carry out Drone video survey covering the cluster, Green belt, fencing etc.,</td>
<td>Agreed</td>
<td>--</td>
</tr>
<tr>
<td>17.</td>
<td>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.</td>
<td>Agreed</td>
<td>--</td>
</tr>
</table>

18.	**The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.**	• The details of geological and mineable reserves are provided in **Table 2.4, Chapter-II.** • The production schedule during the plan period is provided in **Table 2.7, Chapter-II.** • The working methodology is detailed under **Section 2.8, Chapter-II.** • Anticipated impacts of mining operations on surrounding environment is provided under **Chapter-IV.**	**2-12** **2-15** **2-14** **4-1**
19.	**The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.**	The organization chart is provided as **Figure No.10.1, Chapter-X.**	**10-3**
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.**	Agreed	**--**
21.	**The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.**	The baseline data on micro-meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna are collected during **Winter Season (December 2021 to February 2022)** and detailed in **Section 3.3 to 3.5 of Chapter-III.** The details of Traffic Study is provided under **Section 4.9, Chapter-IV.**	**3-12 & 3-37** **4-28**
22.	**The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the**	• The details of the quarries located within the 500m radius of the project	**A-4**

	specific environment in terms of air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	is given vide **Annexure-3.** • A cumulative impact study has been carried out and furnished in **Para 7.6, Chapter-VII.** • Environmental Management Plan is provided under Chapter-X.	**7-6** **10-1**
23.	**Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.**	Water requirement for this project is 10 KLD. The required water will be procured initially from outside agencies. Later Rain water harvested in the mine sump can also be used.	**2-18**
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.**	• The land use of the study area was studied to demarcate various LULC categories and its details are provided under section 3.4, Chapter-III. • The land use pattern at present and at the end of the quarrying period has been provided under section 4.5.1, Chapter-IV. • The post mining land use has been provided in Table No. 4.14. .The post mining land use plan showing afforestation and water body is shown in Figure No- 4.7	**3-31** **4-21** **4-25**
25.	**Delails 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.**	There is no waste generation anticipated in this quarry. As such there are no OB dumps involved.	**--**
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	**--**
27.	**Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.**	• The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. Towards surface	**4-9**

		runoff management, a garland drain of length 490m m will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. The surface runoff management structures diagram is given in Figure No 4.4, Chapter-IV. • Details of rainwater harvesting are provided under Section 4.3.4.2, Chapter-IV.	**4-11**
28.	**Impact on local transport infrastructure due to the Project should be indicated.**	• From this quarry the entire output will be transported to the crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. • About 2 trips per hour of transport is envisaged. The existing road can easily absorb this traffic due to this project. The details of various mitigative measures towards logisitical system is elaborated under **Section 4.9, Chapter-IV.**	**4-28**
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.**	An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III.	**3-37**
30.	**A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.**	Details of Mine Closure Plan is provided under section 7.5, Chapter-VII.	**7-6**
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.**	Agreed	**--**
32.	**The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated,**	Agreed	**--**

	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 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**	Agreed	**--**
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.**	The disaster management plan has been provided under section 7.4.1, Chapter-VII.	**7-4**
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.**	Various risks likely to arise due to mining activities are detailed under section 7.3, Chapter-VII.	**7-1**
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.**	Details of occupational health and safety aspects are given under the subsections of Para 4.8, Chapter-IV.	**4-27**
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.**	Details of the socio-economic survey conducted in the buffer zone has been provided in Para 3.2.4, Chapter-III. Public health facilities will be further aimed to be developed through CER activities wherein periodic health checkups, medical camps for the locals will be conducted.	**3-9**
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**	Nearby villages were visited for conducting study to know about socio-economic conditions, including aspirations and requirements of the people for a better living and collected	**3-9**

	indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	relevant data. The details are provided under section 3.2.4, Chapter-III.	
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.**	There is no litigation pending against the 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.**	The Rough stone and Gravel Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, improved social welfare facilities in respect of education, health, infrastructural etc. Direct employment to about 18 people and 50 people indirect employment to scores of people. By means of carrying out the socio-economic development activities, local community development is expected. Towards the same, the proponent has planned to allocate Rs.5 Lakhs for various activities under CER for all the three projects together. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.	**8-1**
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.**	Agreed.	**--**
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.**	Will be submitted.	**--**
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.**	Agreed	**--**
A. Annexure-B			
<u>Cluster Management Committee</u>			
1.	**Cluster Management Committee shall be framed which must include all the proponents in the**	Details of the cluster management committee is provided under **Section**	**10-3**

	cluster as members including the existing as well as proposed quarry.	**10.2.2, Chapter-X.**	
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.,**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
3.	**The List of members of the committee formed shall be submitted to AD/lt4ines before the execution of mining lease and the same shall be updated every year to the AD/Mines.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
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.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
5.	**The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
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.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
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.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
8.	**The committee shall furnish the Emergency Management plan within the cluster.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
9.	**The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
10.	**The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
11.	**The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.**	Details of the cluster management committee is provided under **Section 10.2.2, Chapter-X.**	**10-3**
Impact Study of Mining			

12.	**Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following:** **a) Soil health &soil biological, physical land chemical features** **b) Climate change leading to Droughts, Floods etc.** **c)Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.** **d) Possibilities of water contamination and impact on aquatic ecosystem health** **e) Agriculture, Forestry & Traditional practices.** **f) Hydrothermal/Geothermal effect due to destruction in the Environment.** **g) Bio-geochemical processes and its loot prints including environmental stress** **h) Sediment geochemistry in the surface streams**	• As such the production from this lease is very low to cause any appreciable impact. • No adverse impact on the surrounding environment is envisaged since the number of equipment's to be used to achieve this small production is very less and the magnitude of operation is of very small level. • Besides, as is it a mining project, no adverse generation of heat is envisaged. • Certified vehicles with low carbon emissions will only be used. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 800 number of plants will be planted in and around the lease area. • Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. • There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact. • It will be ensured that mining will be carried out adhering to all the statutory rules and regulations and maintaining the environmental quality within the prescribed standards by effective implementation of varioius mitigative measures. • These mitigative measures will be continued for the entire lease period ensuring no impact on the	**4-23**

		environment. • As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people ,loss of Agriculture, Forestry and Traditional Practices is not envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.	
Agriculture & Agro-Biodiversity			
13.	**Impact on surrounding agricultural fields around the proposed mining Area.**	Due to poor soil condition and non-availability of perineal water source, no major agricultural activity is carried out in and around the lease area. Only patches of plantation are observed in few places in the monsoon season based on water availability.	**4-23**
14.	**Impact on soil flora & vegetation around the project site.**	The impact of mining on biological environment is provided under **Table 4.15, Chapter-IV.**	**4-21**
15.	**Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.**	The details of flora in the core zone is provided in **Table 3.23, Chapter-III.** There is no major clearance of vegetation or transplantation involved.	**3-39**
16.	**The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.**	An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under **Section 3.5.1, Chapter-III.**	**3-37**
17.	**Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.**	The post mining land use has been provided in **Table No. 4.14.** The post mining land use plan showing afforestation and water body is shown in **Figure No- 4.7.**	**4-21** **4-25**
18.	**The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.**	Due to poor soil condition and non-availability of perineal water source, no major agricultural activity is carried out in and around the lease area. Only patches of plantation are observed in few places in the monsoon season based on water availability.	**4-23**

Forests			
19.	**The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.**	There are no reserve forest in the proximity of the lease area.	**3-2**
20.	**The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.**	An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III.	**3-37**
21.	**The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.**	Replied in point 20. Above	**--**
22.	**The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks. Corridors and Wildlife pathways. near project sire.**	There are no national parks or corridors in the 10k radius. There are no reserve forest in the proximity of the lease area.	**3-3**
Water Environment			
23.	**Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.**	Details of hydrogeological scenario of this project is provided under section 3.6, Chapter-III.	**3-46**
24.	**Erosion Control Measures**	• Since the entire material from the quarry face will be directly dispatched to the consumers, there will not be any stockpiles. There are no waste dumps in this quarry. As such there will not be any wash out due to stock pile or waste dumps. • Towards surface runoff management, a garland drain of length 490m will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users	**4-9**
25.	**Detailed study shall be carried out in regard to impact of mining around the proposed mine lease**	Agreed	**--**

	area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.		
26.	**The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.**	There is no major perennial waterbody in close proximity of the lease area.	**3-3**
27.	**The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.**	The post mining land use has been provided in Table No. 4.14. The post mining land use plan showing afforestation and water body is shown in Figure No- 4.7.	**4-21** **4-25**
28.	**The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.**	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III. • The land use pattern details are provided under section 4.5.1, Chapter-IV.	**3-37** **4-21**
29.	**The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.**	• Soil samples were collected in 3 locations in the core and buffer zone to analyse the physiochemical characteristics of the soil in the area. The soil quality data is provided in Table No.3.18, Chapter-III.	**3-30**
30.	**The Environmental Impact Assessment should study on wetlands, water bodies, rivers steams, lakes and farmer sites.**	• The nearest major water bodies is provided in Table No.3.1, Chapter-III. • The mining area consists of hard compact rock, hence no major water seepage within the mine is expected from the periphery. The ultimate pit depth of mining is 30m. The ground water table in this area is below this level. Hence, ground water intersection in not envisaged and ground water will not be affected appreciably due to the quarrying operation.	**3-2** **4-10**
Energy			
31.	**The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.**	The dust control measures are listed under Table 4.1, Water pollution control measures under Section 4.3.2, and noise pollution control measures under	**4-2**

		Section 4.4.1.2, Chapter-IV. Besides, energy consumption in this project will be optimum and as per requirement.	**4-14**
Climate Change			
32.	**The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.**	Certified vehicles with low carbon emissions will only be used. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 800 number of plants will be planted in and around the lease area.	**4-23**
33.	**The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.**	Replied in point no.32	**--**
Mine Closure Plan			
34.	**Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued**	Details of Mine Closure Plan is provided under section 7.6, Chapter-VII.	**7-6**
EMP			
35.	**Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.**	Detailed environmental management plan is provided under Chapter-X.	**10-1**
36.	**The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.**	Detailed environmental management plan is provided under Chapter-X.	**10-1**
Risk Assessment			
37.	**To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.**	Various risks likely to arise due to mining activities are detailed under **Section 7.3, Chapter-VII.**	**7-1**
Disaster Management Plan			
38.	**To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per**	The disaster management plan has been provided under **Section 7.4.1, Chapter-VII.**	**7-4**

	precise area communication order issued.		
Others			
39.	**The project proponent shall fumish 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.**	Given vide - Annexure No – 9 of AMP.	**A-144**
40.	**As per the MoEF& cc office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management plan.**	Agreed	**--**
41.	**The project proponent shall study and fumish 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.**	Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.	**4-30**
B. Standard ToR			
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.**	Agreed.	**---**
2.	**A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given**	Precise Area Communication letter received from the Assistant Director, Dep. of Geology & Mining, Virudhunagar Vide Roc.No:KV1/523/2019 -Mines Dated: 12.06.2022. **(Annexure-1)**	**A-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.**	The production capacity, quantity of waste, its management and mining technology in mine plan and EIA, etc., are compatible with one another.	**--**
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**	• Project coordinates superimposed in satellite imagery and given as **Figure No - 2.4 in Chapter – II.**	**2-6**

	Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	• The geology and geomorphology map is provided in **Figure No.3.21, 3.22**, Chapter-III. The Lithology map and Soil map are provided under **Figure No. 3.23, 3.24, Chapter-III.** • The 10km Radius Index plan showing buffer zone is given in **Figure No.3.1 in Chapter – III.**	**3-48 & 3- 51** **3-2**
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.**	Replied in Standard ToR point no.4	**--**
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.**	Not Applicable	**--**
7.	**It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.**	• The proponent will frame a well-planned environmental policy. Its details are provided under **Section 10.2.1, Chapter-X.** • The Mines Manager will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. The organizational chart for the same has been provided in **Figure No.10.1, Chapter-X.**	**10-1** **10-3**
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.**	Various risks likely to arise due to mining activities are detailed under **section 7.3, Chapter-VII**. This being an opencast mine, subsidence is not applicable. The impact due to ground vibrations due to blasting is given in **para 4.4.2, Chapter-IV.**	**7-1** **4-14**

9.	**The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.**	The study area chosen for collecting existing environmental status covers 10 km radial distance from the project periphery (Figure No - 3.1). Data given in the report is for the life of the mine.	**3-2**
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.**	• The land use of the study area was studied to demarcate various LULC categories and its details are provided under section 3.4, Chapter-III. • The land use pattern at present and at the end of the quarrying period has been provided under section 4.5.1, Chapter-IV. • The post mining land use has been provided in Table No. 4.14. .The post mining land use plan showing afforestation and water body is shown in Figure No- 4.7	**3-31** **4-21** **4-25**
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.**	There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. Besides, there is no proposal for overburden dump outside the lease area.	**2-15**
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.**	Not Applicable	**--**
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.**	There is no forest land in the lease area.	**--**

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	**--**
15.	**The vegetation in the RF / PF areas in the study area, with necessary details, should be given.**	There is no forest land in the lease area.	**--**
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.**	The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc.	**4-22**
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.**	Replied in Standard ToR point No.16	**--**
18.	**A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.**	A detailed study of flora and fauna composition in the core and buffer zone of the project has been made through primary field surveys. The details are furnished in para 3.5, Chapter III.	**3-37**
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.**	Not Applicable	**--**

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	**--**
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 he undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoml 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 shilling of village(s) including their R&R and socio-economic aspects should be discussed in the Report.**	The mining activities will be carried out within the mine lease areas only. The entire mine lease areas are patta land in proponent's possession. Hence, the question of R& R does not arise.	**7-3**
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.**	• The baseline data on micro-meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna are collected during **Winter Season (December 2021 to February 2022)** and detailed in para 3.3 to 3.5 of Chapter-III. • Monitoring stations were selected taking into account, wind direction and location of sensitive receptors. • Free silica composition in PM10 sample has been done and the values are found to be Below Detectable Limit (DL 0.05mg/m3) which is well within the prescribed limit of 5mg/m3.	**3-12 & 3-37**
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**	• Air quality modeling details are furnished in para 4.2.2 and its continuous sub paras in Chapter-IV of EIA report. • The impact on air quality due to the proposed project is estimated using	**4-3**

	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.	AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion. • The model simulations are done for the air pollutant arising from the mining operations, namely, PM10, PM2.5. Ground Level Concentration (GLC) have been computed using hourly meteorological data. • The Isopleths of PM10, PM2.5 concentrations for with control measures scenario have also been drawn and these are given in Figure No.4.1 and 4.2. • It can be seen that the resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM10 are within the statutory limits in each case.	**4-5**
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.**	The total water requirement for this project will be 10.0 KLD comprising 1.0 KLD for drinking water and domestic use, 8.0 KLD for dust suppression and 1.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose. The water balance diagram for the same is shown in **Figure No 4.3, Chapter-IV.**	**4-8**
25.	**Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.**	Not Applicable	**--**
26.	**Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.**	• The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. • Towards surface runoff management, garland drain will be constructed	**4-9**

		around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. The surface runoff management structures diagram is given in Figure No 4.4, Chapter-IV. • The methods for reducing water consumption and rainwater harvesting is provided in section 4.3.4, Chapter-IV.	
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.**	• The ultimate pit depth of mining is 30m. The ground water table in this area is below this level. Hence, ground water intersection in not envisaged and ground water will not be affected appreciably due to the quarrying operation.	**4-10**
28.	**Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.**	• The occurrence of groundwater mainly in the porous soil are weathered layers, very negligible amount of groundwater percolated through the poorly fractured layer, after that there is no existence of groundwater. Since the mining area consists of hard compact rock, no major water seepage within the mine is expected from the periphery. • The ultimate pit depth of mining is 30 m. The ground water table in this area is below this level. Hence, ground water intersection in not envisaged and ground water will not be affected appreciably due to the quarrying operation. • Details of hydro geological study are given in Para 3.6, Chapter – III.	**4-10** **3-46**
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.**	Replied above in Standard ToR point No.27.	**--**
30.	**Information on site elevation, working depth, groundwater table etc. Should be provided both in**	The ultimate pit depth of mining is 30m. The ground water table in this area is	**4-10**

	AMSL and bgl. A schematic diagram may also be provided for the same.	below this level.	
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. Phasc-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.**	In the lease area, safety barrier 7.5 m around the periphery is left. About 800 trees will be planted in and around the lease area. The details of proposed plantation is provided under **Table 4.17, Chapter-IV.**	**4-25**
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.**	From this quarry the entire output will be transported to the crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. Details of the traffic study is provided under section 4.9, Chapter-IV.	**4-28**
33.	**Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.**	Site services like mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.	**2-18**
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.**	The post mining land use has been provided in Table No. 4.14. The post mining land use plan showing afforestation and water body is shown in Figure No- 4.7.	**4-21** **4-25**
35.	**Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed**	Details of occupational health and safety aspects are given under the subsections of Para 4.8, Chapter-IV.	**4-27**

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**	• Details of the socio economic survey conducted in the buffer zone has been provided in Para 3.2.4, Chapter-III. • Public health facilities will be further aimed to be developed through CER activities wherein periodic health checkups, medical camps for the locals will be conducted.	**3-9**
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.**	Nearby villages were visited for conducting study to know about socio-economic conditions, including aspirations and requirements of the people for a better living and collected relevant data. The details are provided under section 3.2.4, Chapter-III.	**3-9**
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.**	Detailed environmental management plan is provided in Chapter-X.	**10-1**
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.**	• This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. • The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.	**7-1**
40.	**Details of litigation pending against the project, if any, with direction /order paced by any Court of Law against the Project should be given.**	There is no litigation pending against the 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.**	• The cost of the project is Rs. **48,56,305/** • The capital and recurring cost of the project is provided under Table No.10.1, Chapter-X.	**2-18** **10-8**
42.	**A Disaster management Plan shall be prepared and included in the EIA/EMP Report.**	The disaster management plan has been provided under section 7.4.1, Chapter-VII.	**7-4**
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.**	• The Rough Stone and Gravel Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, improved social welfare facilities in respect of education, health, infrastructural etc. • Direct employment to 18 person and 50 person indirect employment to scores of people. • By means of carrying out the socio economic development activities, local community development is expected. Towards the same, the proponent has planned to allocate Rs. 5 Lakhs for various activities under CER. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.	**8-1**

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CHAPTER 1
INTRODUCTION

1.1 PURPOSE OF THE REPORT:

Thiru. S. Subburaj proposes to operate a **Rough Stone and Gravel Quarry** at Survey No. 43/1A,1B(P) & 45/1A1,1A2(P) (Patta Land) over an area of 1.58.0 hectares in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu, for the production capacity of 1,13,585m^3 of Rough Stone, 20,403m^3 of Gravel and 13,602m^3 of Topsoil for the depth of 30 meter for 5 years and has initiated action towards obtaining environmental clearance.

Although the individual lease area of this project is less than 5 Ha, the other existing quarries within the 500m radius cluster along with this subject project works out to >5 Ha. Hence, this proposal is considered under Category – B1 and as per MoEF & CC notification necessitates preparation of EIA/EMP report and public hearing. The details of the quarries located within the 500m radius of the project is given vide **Annexure-12.** Besides, there are other mines in the cluster extension.

This draft EIA/EMP report pertains to the Rough Stone and Gravel Quarry of Thiru. S. Subburaj.

This EIA/EMP report is prepared based on standard and specific Terms of Reference issued by SEIAA, Tamil Nadu vide their letter No. **SEIAA-TN/F.No.10319/SEAC/ToR 1590/2023 dated 06.10.2023** and is in conformance of the generic structure prescribed by MOEF&CC in their notification of September 2006 and the approved mining plan.

1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT:

1.2.1 IDENTIFICATION OF PROJECT:

Table 1.1 Identification of project

1	**Project Name**	Rough Stone and Gravel Quarry of **Thiru. S. Subburaj**
2	**Extent**	1.58.0 Ha
3	**Production for five years**	Roughstone - 1,13,585 m3. Gravel - 20,403 m3. Top soil - 13,602 m3.
4	**Ultimate Depth**	30m for a period of 5 years.
5	**Land Classification**	It is own patta land.
6	**Location**	Survey no : 43/1A,1B(P) & 45/1A1, 1A2(P).
		Village: Appanayakkanpatti
		Taluk: Vembakottai
		District: Virudhunagar
		State: Tamil Nadu

Table 1.2: Identification of Project Proponent

1	**Proponent Name**	Thiru. S. Subburaj
2	**Address**	S/O. Sri. Shanmugaraj 7/112, Kundampatti Village, Sevelpatti Post, Thiruvengadam Taluk, Tenkasi District.
3	**Contact Number**	9344332251
4	**Email-ID**	ssubburaj@01@gmail.com

The Proponent can meet the requirement the financial requirement of this scheme and will ensure that the mining activities are carried out as per statutory requirements.

Table 1.3: Statutory Approvals

S.No	Approval	*Given by*	Letter Number and Date	Reference
1.	**Precise Area Communication Letter**	Assistant Director, Dep. of Geology & Mining, Virudhunagar	Roc.No:KV1/523/2019 - Mines Dated: 12.05.2022	**Annexure-1**
2.	**Mining Plan Approval**	Assistant Director, Dep. of Geology & Mining, Virudhunagar	Roc.No: KV1/523/2019 dated 02.09.2022.	**Annexure-2**
3.	**Details of other quarries within 500m radius**	Assistant Director Department of Geology & Mining Virudhunagar	Roc.No: KV1/523/2019 dated 02.09.2022.	**Annexure-2**

Based on the conditions of Precise Area Communication letter, 7.5m safety distance has been left for the adjoining patta lands.

1.3 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION & PROJECT IMPORTANCE

1.3.1 NATURE, SIZE AND LOCATION OF THE PROJECT:

Table 1.4: Brief Description of Nature of project

1.	**Sector**	1(a), Non-Coal Mining
2.	**Type**	Fresh Project
3.	**Category**	B1 (Cluster Situation)
4.	**Mineral Mined**	Rough stone, Gravel & Top soil
5.	**Major/Minor Mineral**	Minor
6.	**Mining method**	Opencast Mechanized Mining
7.	**End use**	The top soil & gravel will be supplied to needy customers. The mined out rough stone will be despatched to crushers/other buyers.

Location of the Project:

Table 1.5: Location of the project

S.No	Particulars	Details
1.	**Location**	Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamilnadu
2.	**Corner Coordinates**	**Latitude:** 9°17'52.8"N to 9°17'57.5"N **Longitude:** 77°41'49.9"E to 77°41'54.6"E
3.	**Toposheet Number**	58 G/11

Location details are further elaborated in Para **2.3, Chapter-II.**

1.3.2 IMPORTANCE TO THE COUNTRY AND REGION:

Rough stone and Gravel from this quarry will meet the domestic demand. The production and method of mining is planned considering the geological factors, availability of proven technology, demand for the material etc. Safety barriers as per State Government order is left in the planning stage itself. Systematic and scientific mining will be carried out. This project will give employment opportunities to 18 people. The proponent will carry out CER activities in which will help the surrounding villages to derive socio economic benefits. The activities will be customized based on local needs and prioritized. Hence, livelihood development and employment will arise due to this project.

1.4 SCOPE OF THE STUDY:

Particulars	Details
Proposal no	SIA/TN/MIN/439326/2023 dated 07.08.2023
File no	10319/2023
SEAC meeting for issue of TOR	409th Meeting held on 21.09.2023
SEIAA meeting for issue of TOR	660th Meeting held on 06.10.2023
Terms of Reference	SEIAA-TN/F.No.10319/SEAC/ToR-1590/2023 dated 06.10.2023.
Baseline Data Collection	Carried out by Creative Engineers & Consultants , Chennai for Winter Season (December 2021 to February 2022)

Based on the terms of reference, the Environmental Impact Assessment was carried out for the project area (core zone and the buffer zone (10km radius from the core zone)) and the following studies were covered:

- Collection of primary and secondary data relevant to the project.
- One-Season baseline monitoring for environmental parameters such as air, water, noise, soil, flora & fauna, etc. Analysis of parameters in in-house laboratory.
- Documentation of EIA/EMP report with inclusion of relevant studies conducted by other bodies into the EIA/EMP report.
- Identification of significant environmental parameters that are prone to get affected due to pollution. Namely, Air, Water, Noise, Soil, Biological and Land Environment.
- Evaluation and determination of suitable mitigation measures to reduce and control the said pollution.
- Prediction of post project concentration (baseline+incremental) with respect to air environment for core zone and buffer zone.
- Formulation of an Environmental Management plan including administrative aspects for proposed implementation of mitigative measures in time.
- Cumulative impact assessment for the quarries in cluster.

This draft EIA/EMP report will be submitted for public consultation, as per rules and procedures in this respect, as per the EIA notification 2006. The opinions, concerns and objections, if any, of the surrounding public and other stake holders connected, will be taken into consideration and compliance report thereon will be submitted to SEIAA, Tamil Nadu in the final EIA/EMP report.

****

CHAPTER 2

PROJECT DESCRIPTION

2.1 TYPE OF PROJECT:

This proposal involves quarrying of rough stone and gravel by **Thiru. S. Subburaj** using Mechanized opencast method for the lease period of 5 years.

2.2 NEED & JUSTIFICATION FOR THE PROJECT:

There is a good demand for construction material and the entire material produced from this quarry will be used in the local construction/ infrastructure sector.

Considering the following favorable factors it is practically possible to achieve the proposal within the planned period and this proposal is fully justified.

- Availability of good quality proved reserves
- Techno economic viability of the scheme
- Better approachability to the project and availability of logistic facility in proximity to the site
- Economic and Socio Economic Benefits to the region

2.3 LOCATION:

A brief description of the mining area, along with the location, coordinates, accessibility, etc. has been details below in Table No.2.1.

Table 2.1: Project site description

Location	Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamilnadu
Survey No.	43/1A,1B(P) & 45/1A1, 1A2(P)
Coordinates	**Latitude:** 9°17’52.8”N to 9°17’57.5”N **Longitude:** 77°41’49.9”E to 77°41’54.6”E
Nearest Village	Appayanaickenpatti Village – 470Km (NE)

Nearest Town	Kovilpatti – 25km (SE)
Nearest Railway Station	Kovilpatti RS – 25km - SE
Nearest Airport	Thoothukudi - 85km - SE
Topography	The area applied for mining lease is a gentle plain terrain. Part of the lease area has already been mined out
Accessibility	The lease area can be approached from Alamelumangaipuram – Thiruvengadam which leads to SH-44.
Drainage	There is no major water body in the core zone. There is a nadi- 90m-NW, Nikshopa Nadi - 330m- SW, Vaippar River - 150m –NE.

Location map& approachability map is provided in **Figure No.2.1 & 2.2 respectively.** Corner co-ordinates of the project area boundary in map and satellite imagery, village map are shown in **Figure No. 2.3 2.4 & 2.5** respectively.

Figure 2.1: Location Map

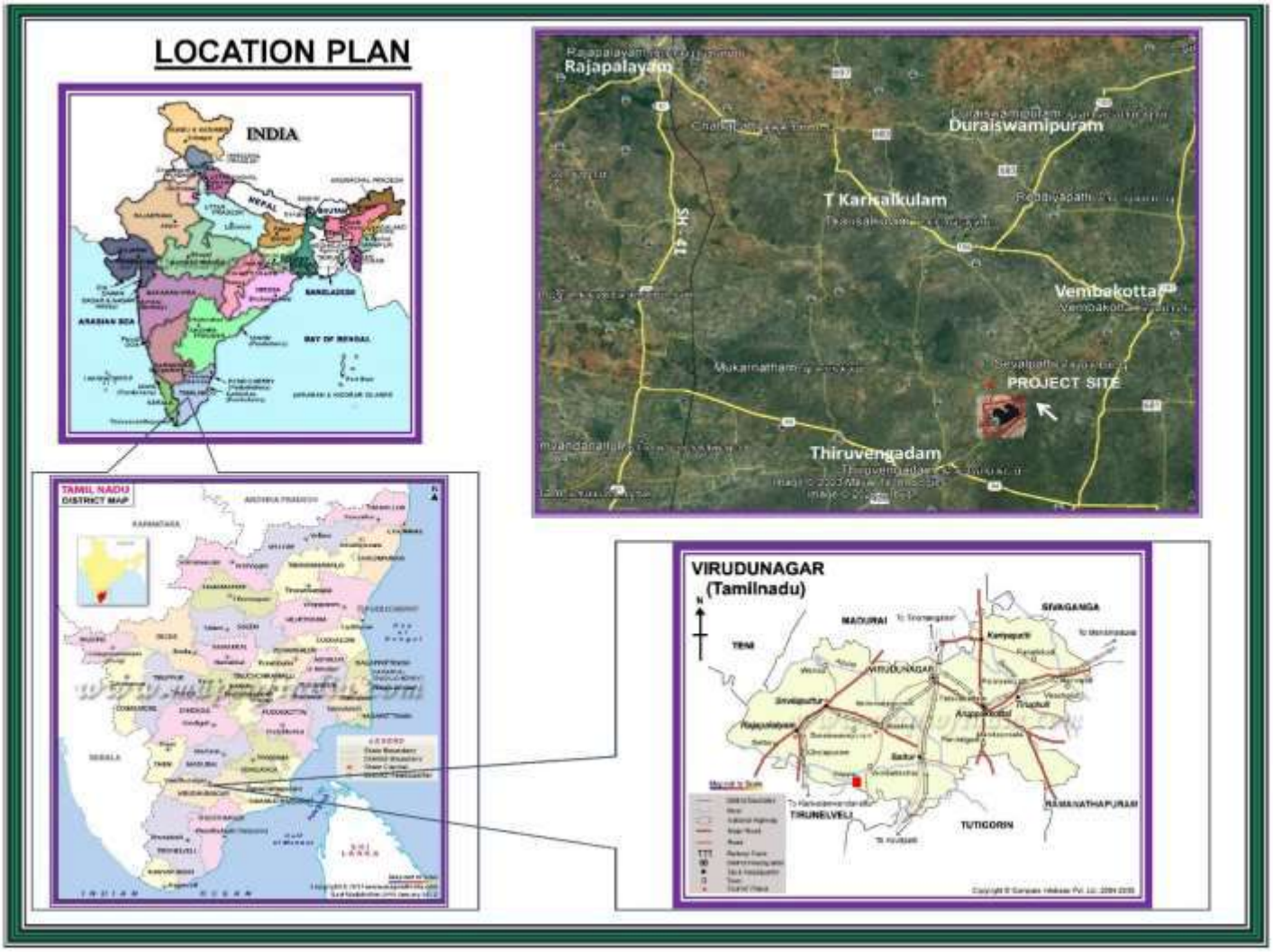


Figure 2.2: Approachability Map

Figure 2.3: Lease Plan

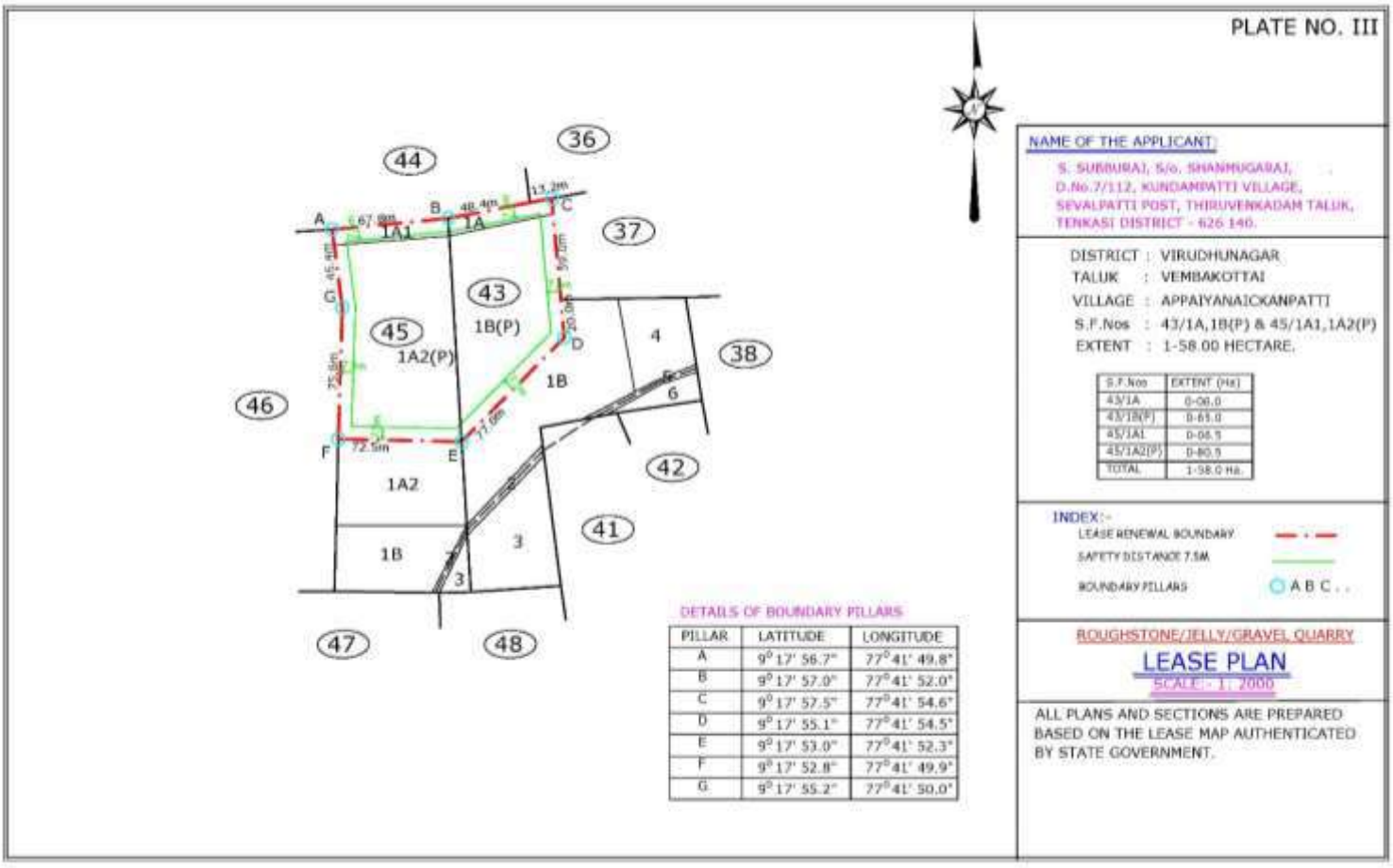
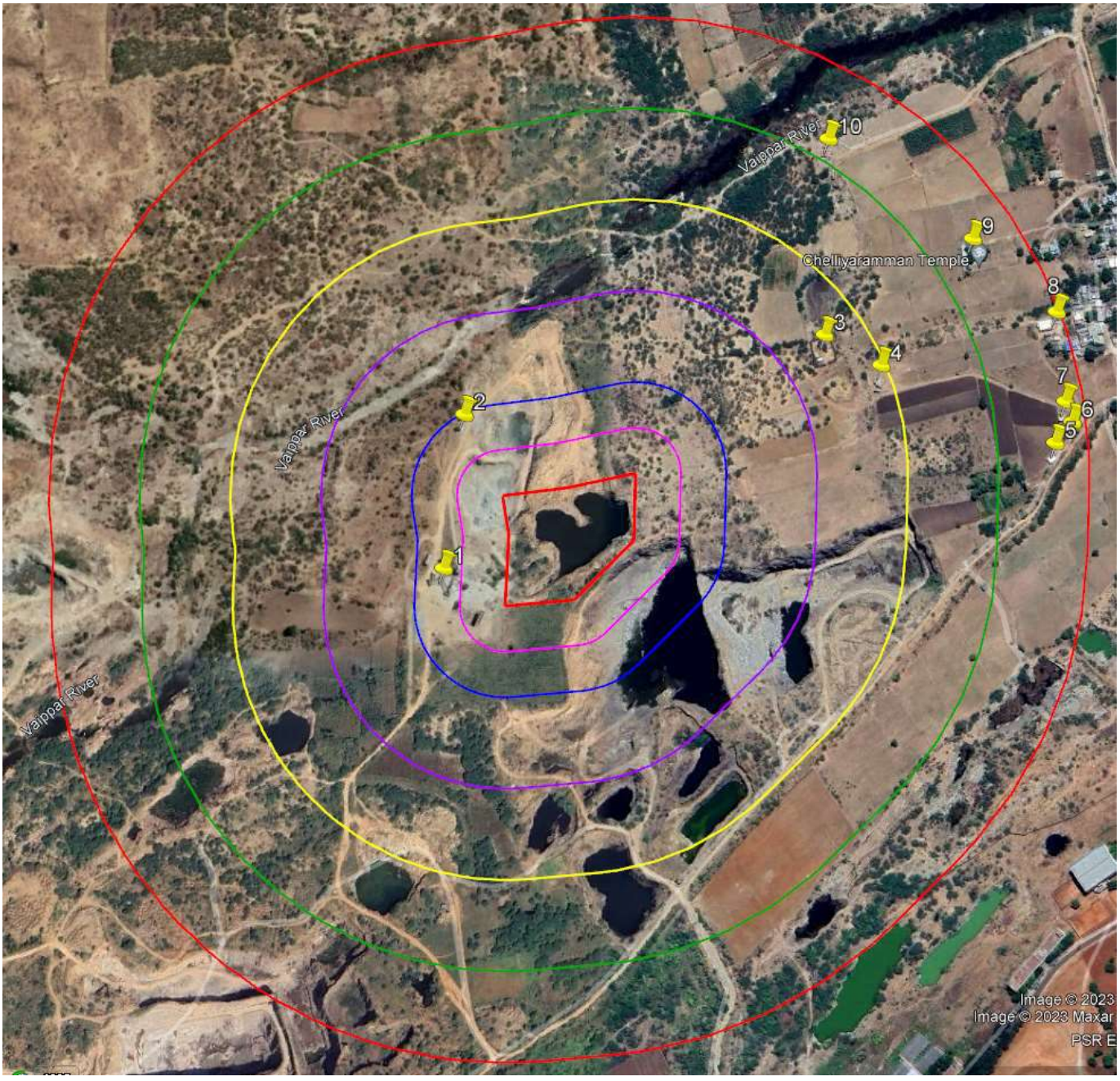


Figure 2.4 : Satellite Imagery Showing Corner Co-ordinates of the Project Area

SITE PHOTOGRAPH

Figure 2.5: Details of features within 500m radius

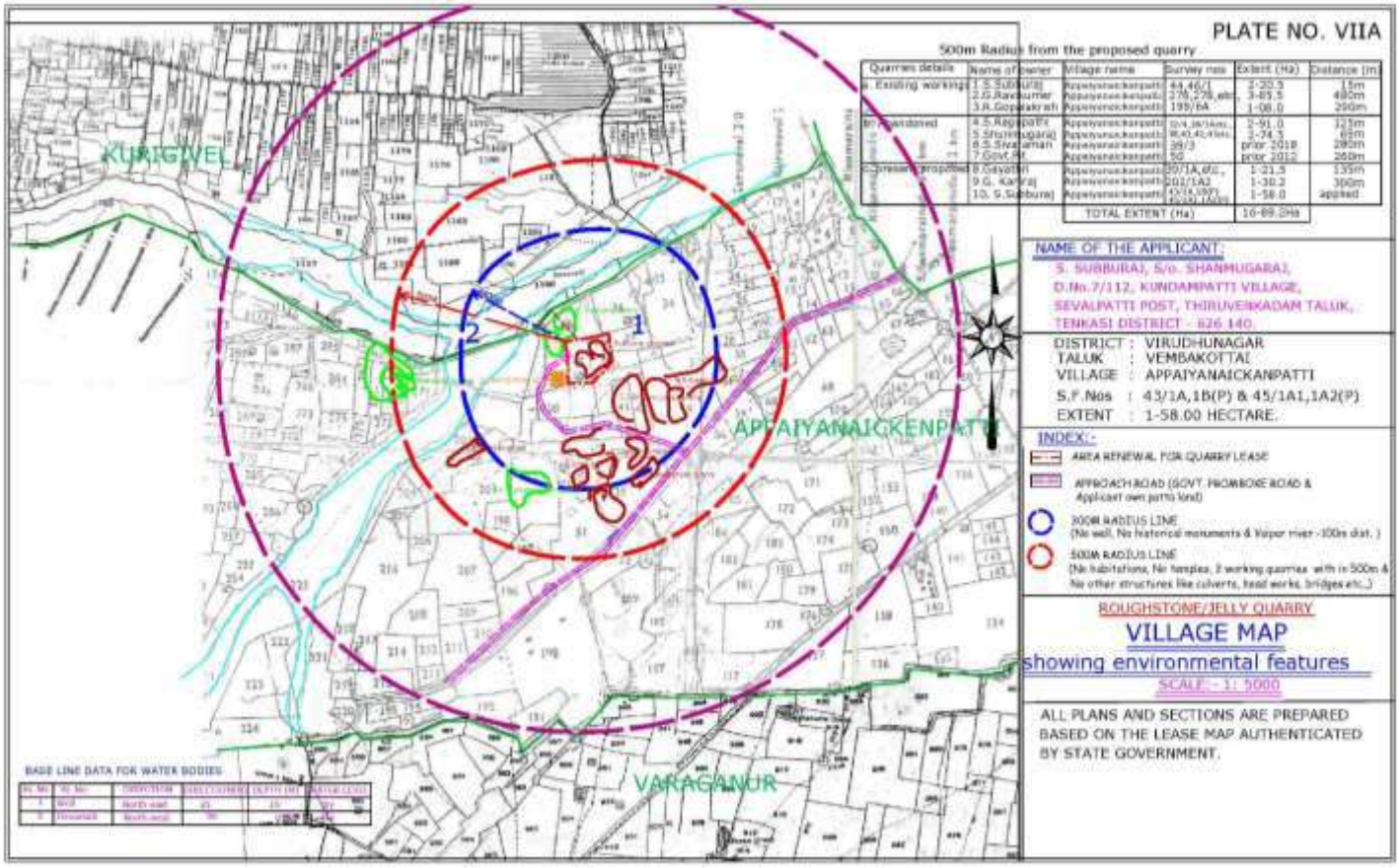


As per the conditions of the Terms of Reference, the details of structures located within the 50m, 100m, 200m, 300m, 400m and 500m radius are provided below.

Table 2.2: Features within 500m radius

S.No	Features	Distance
1	Crusher	70m-W
2	Unused Shed	80m-NW
3	Shed	235m-E
4	Small Temple	280m-E
5	Shed	456m-E
6	Shed	477m-E
7	Shed	469m-E
8	Shed	473m-NE
9	Small Temple	435m-NE
10	Shed	401m-NE

Figure 2.6: Village Map



2.4 LAND USE:

This lease area in S.F.Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) is a patta land in the name of applicant. The survey no. wise area breakup has been provided below:

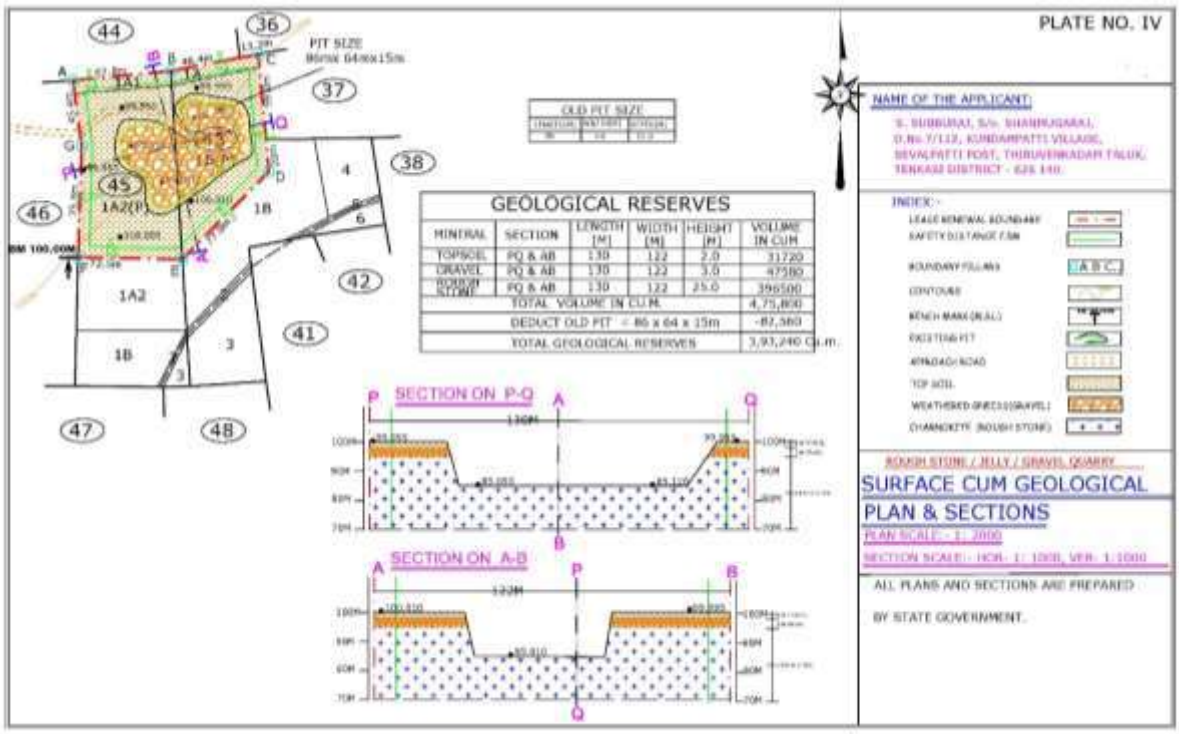
Table 2.3: Survey Number details

S.F.No	Area (Hectare)
43/1A	0.06.00
43/1B	0.65.0
45/1A1	0.06.50
45/1A2(P)	0.80.50
Total	**1.58.00**

2.5 GEOLOGY:

The rocks are medium to fine grained in nature and comprises minerals of blue quartz and ferro magnesium minerals. Mostly the rocks are leucocratic in natures with bindings and it results to hard and compact nature to the rock formation.

Figure 2.7: Geological Plan and Cross Section



2.6 SIZE AND MAGNITUDE OF THE OPERATION:

The details covered under this section can be summarized as follows:

- Total Mineral resources in the lease area is 1,47,590.
- The recoverable mineable reserves are 1,13,585m^3 of Rough Stone, 20,403m^3 of Gravel and 13,602m^3 of Topsoil for the depth of 30 meter bgl.
- The mining will be done by open cast mechanized mining method.
- Lease period is 5 years.
- No waste generation is expected from this quarry operation as all recoverable mineral reserves from this project will be used for construction purposes. Topsoil will be used for road formation, levelling, plantation & shall be marketed on payment of necessary Fees to Government.

2.6.1 RESERVES:

For computing mineable reserves, The topsoil formation is having thickness of 2m and below topsoil gravel formation is having a thickness of 3m. The total available geological and mineable reserves is given in the following table:

Table 2.4: Geological and Mineable Reserves (m^3)

S. No	Type of reserves	Topsoil +Gravel + Rough stone in Cub.m	Reserve category
1	Geological reserves	3,93,240 Cu.m.	Possible reconnaissance
2	Mineable reserves	1,47,590 Cu.m.	Possible reconnaissance
3	locked up reserves	2,45,650 Cu.m.	Possible reconnaissance

In the area applied for ML a boundary barrier of 7.5 other pattadhar lands

MINING METHOD:

Opencast Mechanized mining using jackhammer drilling, blasting, excavation through excavator & mineral transport through tippers will be carried out. The top gravel is soft and can be directly excavated. The rough stone below will be blasted and then excavated. Bench height of 5.0m & 5m width is considered.

During first year the mining operation will be commenced from south side of the old pit area to a strike length of 115m, width 74m. The topsoil and gravel formation will be removed up to 5m and below 5m depth, roughstone will be removed up to 5m depth to achieve the planned production quantity. During second year the mining operation will be further northern side up to safety barrier of the applied lease area on a strike length of 115m and width of 33m and a depth of 5m will be removed and below 5m roughstone will be removed up to 5m depth to achieve the planned production quantity. The third to fifth year the quarry advancement will be made below the first two years working make 3 benches of each 5m depth in rough stone will be removed to achieve the planned production quantity. During every year working the bench width will be maintained not less than the height of the bench with a bench slope of 60^0 for safe reversal and working of machinery and movement of trucks.

Table 2.5: Details Of Equipments

S. NO	NAME OF THE EQUIPMENT	CAPACITY	REQUIREMENT
1	Excavator	TATA HITACHI EX200	1
2	Tipper	10 Tonnes	2
3	compressor & drilling machine	175 CFM	1
4	Dewatering pump	5 Hp Diesel pump	1

2.7 PROPOSED SCHEDULE FOR APPROVAL AND IMPLEMENTATION:

The proponent will implement the production after obtaining all the statutory approvals such as CTE, CTO, etc. The proponent will comply with the EC conditions during mining operations. Expected project implementation schedule is provided below. This is a tentative schedule subject to various factor, hence unforeseen variations may occur

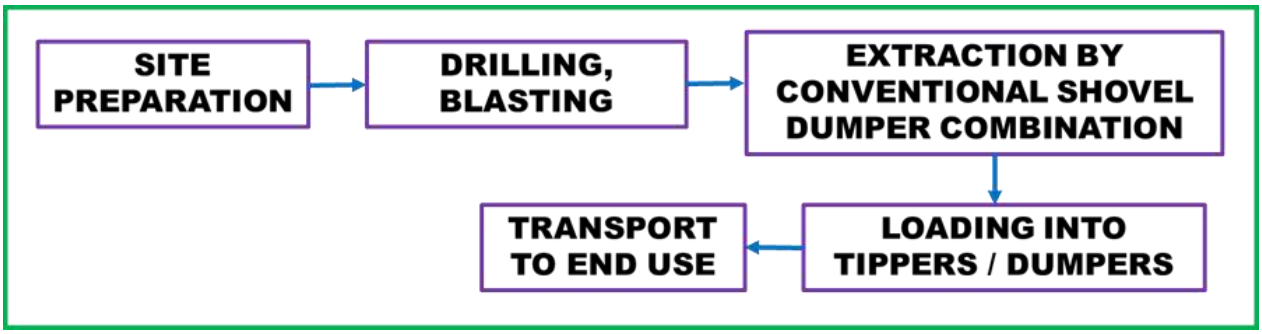
Table 2.6 : Proposed Schedule of Implementation

Activities	Months					
	Zero Date	1	2	3	4	5
Obtaining Environmental Clearance						
Obtaining Consent from State Pollution Control Board						
Lease Execution						
Equipment mobilization and Commencement of Mining activity after following all the Statutory Requirements						

2.8 TECHNOLOGY AND PROCESS DESCRIPTION:

The quarry operations involve drilling, blasting, excavation, loading and transportation of Roughstone to needy buyers. The production of Roughstone in this quarry involves drilling with wagon drill and controlled blasting. The primary boulders are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. The topsoil generated will be used for bund formation and plantation purposes. It is a conventional opencast semi mechanized method of mining. The process flow diagram of this project is provided below.

Figure 2.8: Process Flow Diagram



2.9 PROJECT DESCRIPTION:

2.9.1 PAST PRODUCTION:

Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019 with the proceeding no. KV1/11925/2015 dated 17.10.2015. Environmental clearance for the earlier lease area obtained from SEIAA – TN vide letter no Lr.No. SEIAA-TN/F.No.5631/EC/1(a)/3698/2016 dated 06.09.2016 for Rough stone quarrying at SF no 43/1B(P), 45/1A2(P), Appainaickanpatti village, Vembakottai taluk, Virudhunagar District, Tamil Nadu. (Refer Annexure-IV of Mining plan report). The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 **(Annexure-3)**

Table 2.7: Existing Pit Dimensions

Pit No.	Length in(m)	Width in (m)	Depth in (m)
1	86	64	15.0

2.9.2 PLAN PERIOD-PRODUCTION & WASTE DISPOSAL:

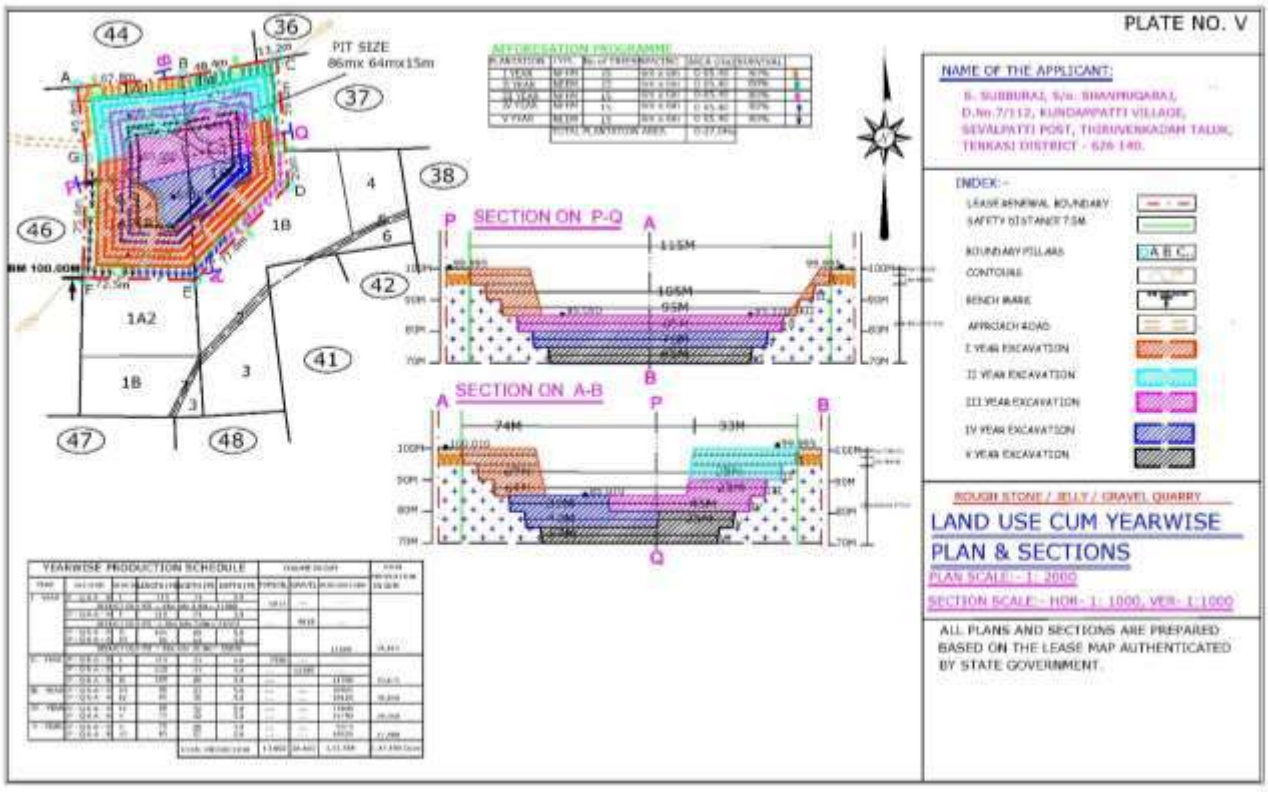
The year wise production details are provided below.

Table 2.8: Production Schedule During Plan Period

YEAR	ROUGHSTONE (m3)	GRAVEL (m3)	TOPSOIL (m3)
1	**11,585**	**9018**	**6012**
2	**14,700**	**11385**	**7590**
3	**30,050**	**----**	**----**
4	**29,350**	**----**	**----**
5	**27,900**	**----**	**----**
Total	**1,13,585**	**20,403**	**13,602**

Waste Disposal during Plan Period: There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Topsoil will be used for road formation, levelling, plantation & shall be marketed on payment of necessary Fees to Government. Gravel will be loaded into tipper and marketed to needy customers. The rough stone will be excavated and loaded into tipper to the needy customers for producing crusher aggregates, M Sand.

Figure 2.9: Production Plan and Cross Section



2.9.3 CONCEPTUAL STAGE:

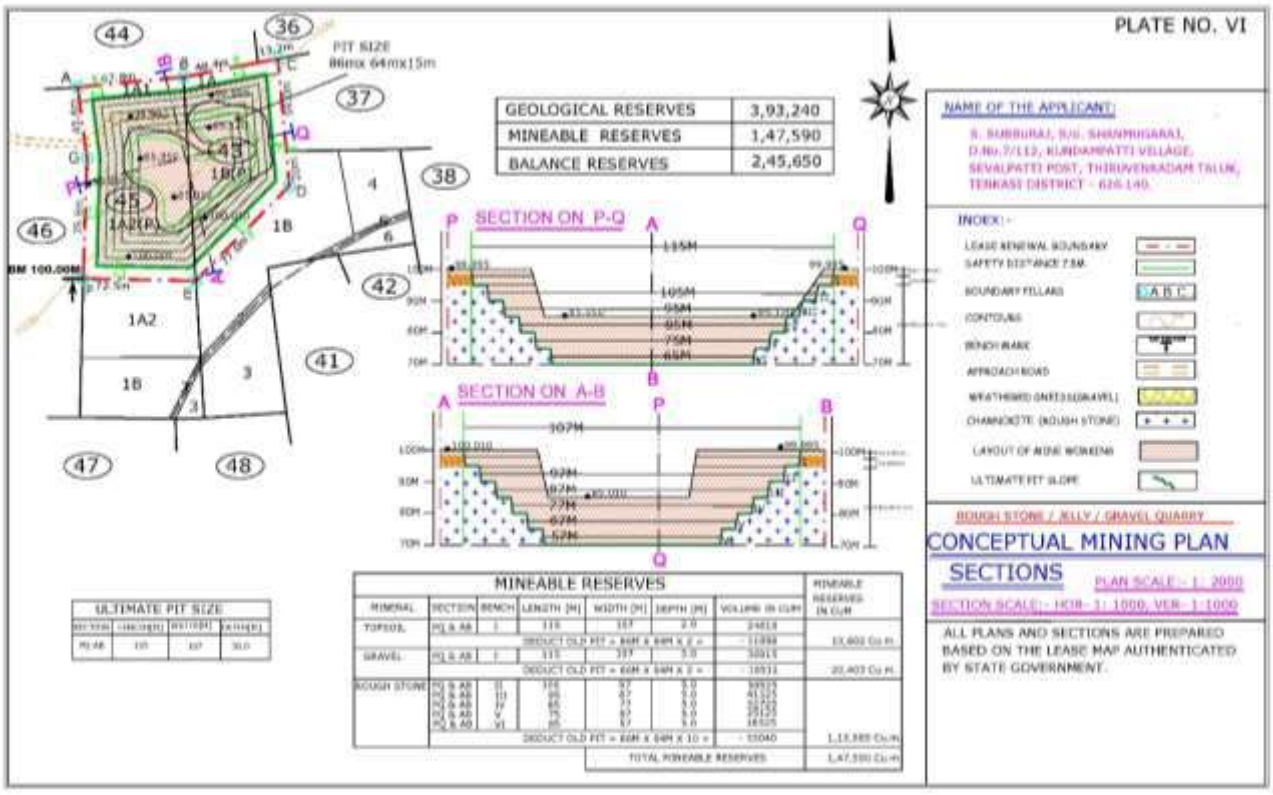
Since the lease period is 5 years, the 5 years plan period will be the conceptual stage. The ultimate depth of mining is 30 m. The conceptual pit dimensions is provided below:

Table 2.9: Ultimate Pit Dimensions

ULTIMATE PIT SIZE			
SECTION	**LENGTH(M)**	**WIDTH(M)**	**DEPTH(M)**
1	115	107	30.0

The ground water table on the surface in this area is ranging beyond this depth. Hence, ground water intersection in not envisaged. The Conceptual Plan & Cross section are shown in **Figure No. 2.9.**

Figure 2.10: Conceptual Plan and Cross Section



2.9.4 LAND DEGRADATION/UTILIZATION:

Major part of the lease area is mined out pit. The land use pattern at the end of the quarrying period has been provided below.

Table 2.10: Land Use Table

S.No	Land Use	Present Area (Hect)	Area in use End of the lease period(Ha)
1	Mining \Excavation	0.55.04	1.23.0
2	Infrastructure & Road	Nil	0.03.0
3	Afforestation (greenbelt & plantation)	Nil	0.27.0
4	Undisturbed/Others	0.6796	0.00.0
5	Fencing	Nil	0.05.0
	Total	**1.58.00**	**1.58.0**

In the post mining stage, entire 1.23.0 Ha of mined out area will be left as water body. 0.03.0 Ha is road & infrastructure, 0.27.0 ha will be under afforestation and 0.05.0 will be fencing.

2.9.5 PROJECT REQUIREMENTS:

Table 2.10 11: Project Requirements

<table>
<tr><td>Manpower</td><td>18 People directly and more than 50 people indirectly</td></tr>
<tr><td>Water Requirement and Source</td><td>Water Requirement: 10 KLD

<table><tr><th>Details</th><th>Quantity (KLD)</th></tr><tr><td>Drinking water and Domestic Use</td><td>1.0</td></tr><tr><td>Dust Suppression</td><td>8.0</td></tr><tr><td>Green belt</td><td>1.0</td></tr><tr><td>Total</td><td>10.0</td></tr></table>Source: The required water will be procured initially from outside agencies. Later Rain water harvested in the mine sump can also be used.</td></tr>
<tr><td>Power Requirement</td><td>No electricity needed for mining operation. The minimum power requirement for office, etc will be met from state grid.</td></tr>
<tr><td>Site Services</td><td>This is a proposed project. Site services like mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.</td></tr>
<tr><td>Project Cost</td><td>Rs. 48,56,305</td></tr>
<tr><td>Funds allocated for socio-economic development</td><td>Rs.5.0 Lakhs is allocated under CER budget.</td></tr>
</table>

2.10 DESCRIPTION OF MITIGATION MEASURES:

Scientific and systematic development of mines will be carried out by the project authorities for preserving as well as improving the environmental conditions in and around the mining lease area. Elaborate analysis on impacts and mitigation measures to be adopted on implementation of this project has been dealt in Chapter- IV.

2.11 ASSESSMENT OF NEW & UNTESTED TECHNOLOGY:

There is no new technology that is being implemented. Opencast method of mining which is the proposed method of mining is a proven technology which is technologically and economically viable. . No major technological failures are anticipated. A disaster management plan shall be put into place to take care of any unforeseen situation.

2.12 CONCLUSION:

As good environmental preservation is one of the prime motive of the project proponent. It is expected that the project activity will not have any major impact on environmental equilibrium in the study area.

* * * * * * * *

CHAPTER 3

DESCRIPTION OF ENVIRONMENT

3.1 GENERAL:

The existing environmental baseline data for the various environmental components were collected in the study area on a common basis for the purpose of assessing the impact on present environment due to the project activities.

Monitoring was carried out systematically and meticulously as per relevant IS codes, CPCB, MoEF&CC guidelines during **Winter Season (December 2021 to February 2022)** The details of the study are given in this chapter.

For the purposes of this study, the area has been divided into two zones, namely, core and buffer zones. The leases in the cluster area is considered to be the core zone while the buffer zone encompasses a 10km radius from the periphery of the core zone. The details of villages falling in the study area and other features are given in Index Plan in **Figure No - 3.1**

The primary data collection was done by means of field monitoring and the secondary data collection was obtained from published sources and government documents. The details of the baseline data collection which has been elaborated through the course of this chapter has been concised below:

Table 3.1: Type of Baseline Data

S.No	Studies	Parameters / Study	Location
1	Socio Economy	Demographic Data from Census 2011	Core and Buffer Zone
		Sample Survey	Buffer Zone
2	Micro Meteorology	Rainfall Data from IMD, Virudhunagar	Virudhunagar District
		Temperature, Humidity, Wind Speed, Wind Direction	1 Representative Location
3	Ambient Air Quality	PM10, PM2.5, SO2, NOx, CO	1 Core Zone, 5 Buffer Zone
4	Water Quality	Physical and Chemical Parameters	1 Core Zone, 5 Buffer Zone
5	Noise Levels	Ambient Noise	1 Core Zone,5 Buffer Zone
6	Soil Quality	Physical and Chemical Parameters	1 Core Zone, 2 Buffer Zone
7	Land Use and Land Cover	Land use pattern within 10km study area using RS Satellite	Buffer Zone
		Land use based on Census 2011	Core and Buffer Zone
8	Biological Environment	Flora and Fauna	Core Zone and Buffer Zone
9	Hydrology & Hydro Geology	Hydrogeological profile of the area	Core Zone and Buffer Zone

Figure 3.1: Study Area Map

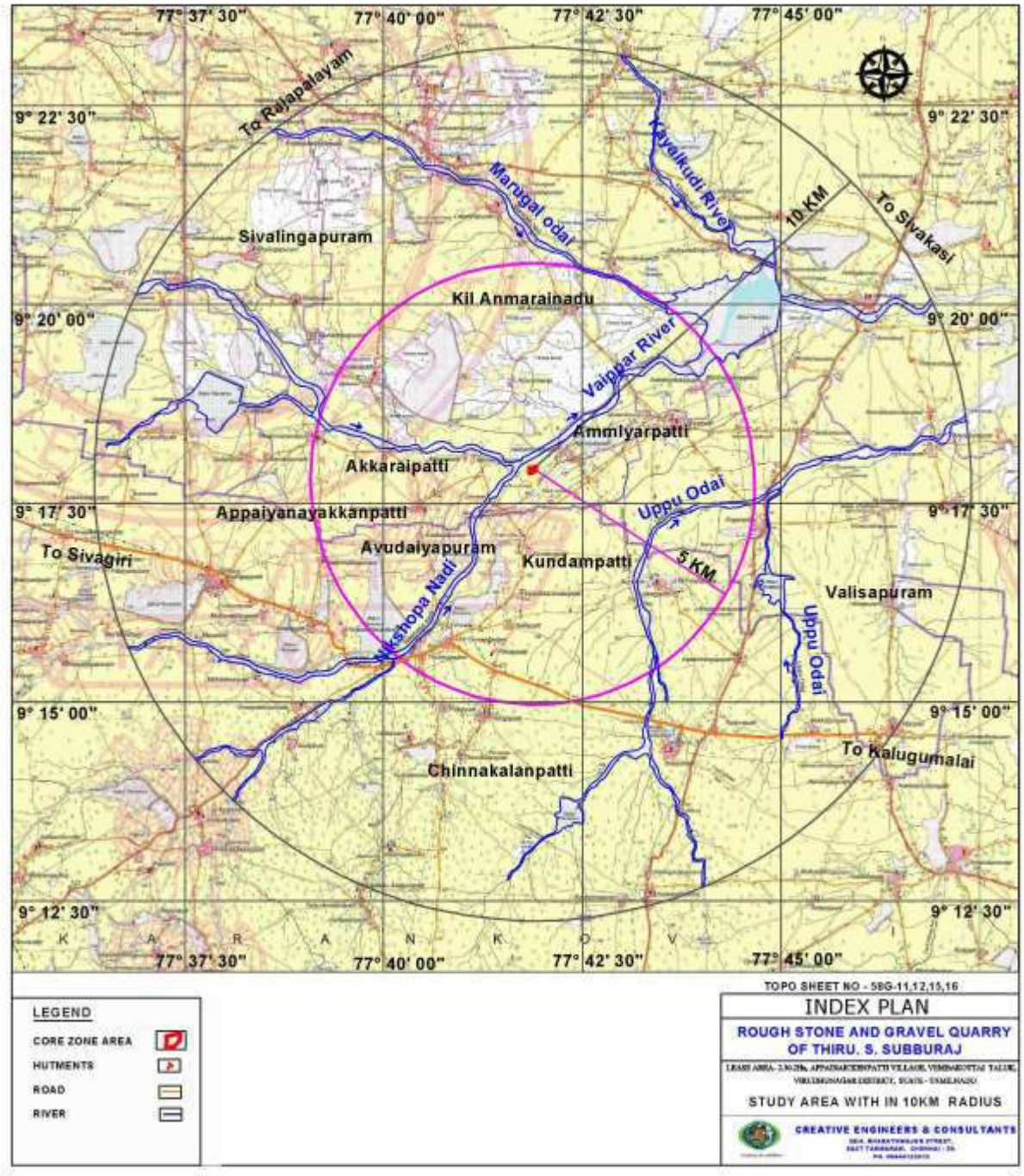


Table 3.2: Environmental Setting of the Study Area

S.No	PARTICULARS	DETAILS
1	Nearest highway	Kovilpatti – Thiruvengadam (SH-44)– 4.0km (SW)
2	Nearest Railway station	Kovilpatti RS – 25km - SE
3	Nearest Airport	Thoothukudi - 85km - SE
4	Nearest major water bodies	Nadi - 350m (W), Vaippar River-150m- (N), Uppu Odai – 3.0 km-(SE), Marugal Odai – 4.6 km – (NE), Kayalkudi River – 6.8 km – (NE).
5	Nearest town/City	Kovilpatti – 25km (SE)
6	Nearest villages	Sevalpatti – 3.3km (NE) Kundampatti – 1.4km (S) Appanayakkanpatti – 2.6Km (SW)
7	Hills / valleys	Nil within 10 km radius
8	Notified Archaeologically important places, Monuments	Nil within 10 km radius
9	Local Places of Historical and Tourism Interest	Nil within 10 km radius
10	Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Nil within 10 km radius
11	Reserved / Protected Forests	Nil within 10 km radius
12	Defence Installations	Nil within 10 km radius
13	Seismic Zone	Zone – II (Least Active)
14	Other Industries in the study area	Other than rough stone quarry & crushers there are no other major industries in the area.

3.2 SOCIO-ECONOMIC CONFIGURATIONS OF THE AREA:

3.2.1 GENERAL:

The Socio-Economic details of the study area are collected through:

- Identification of villages falling from the study area map with combined Taluk map.
- Collection of primary data through sample survey and discussion.
- Collection of the demographic pattern of villages falling in the area through NIC 2011 census data.
- Occupational structure of villages falling in the study area through NIC 2011 census data.
- Details of the amenities available in villages falling in the study area through NIC 2011 census data. The findings of the study are illustrated below:

3.2.2 SECONDARY DATA DESCRIPTION:

The proposed quarry is located in in Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District. Based on 2011 census data, in the 10km radius there are 35 Rural villages and five taluks namely Sivakasi, Rajapalayam, Sattur, Sankarankoil, Kovilpatti of 3 districts namely Virudhunagar, Tirunelveli and of Thoothukkudi District. The demographic profile of the study area is given below:

Table 3.3: Social, Economic and Demographic Profile of the Study Area

Details	Population	Percentage
A. Gender-wise distribution		
Male Population	49528	49.35
Female Population	50838	50.65
Total	**100366**	**100**
B. Caste-wise population distribution		
Scheduled Caste	23360	23.27
Scheduled Tribes	149	0.15
Other	76857	76.58
Total	**100366**	**100**
C. Literacy Levels		

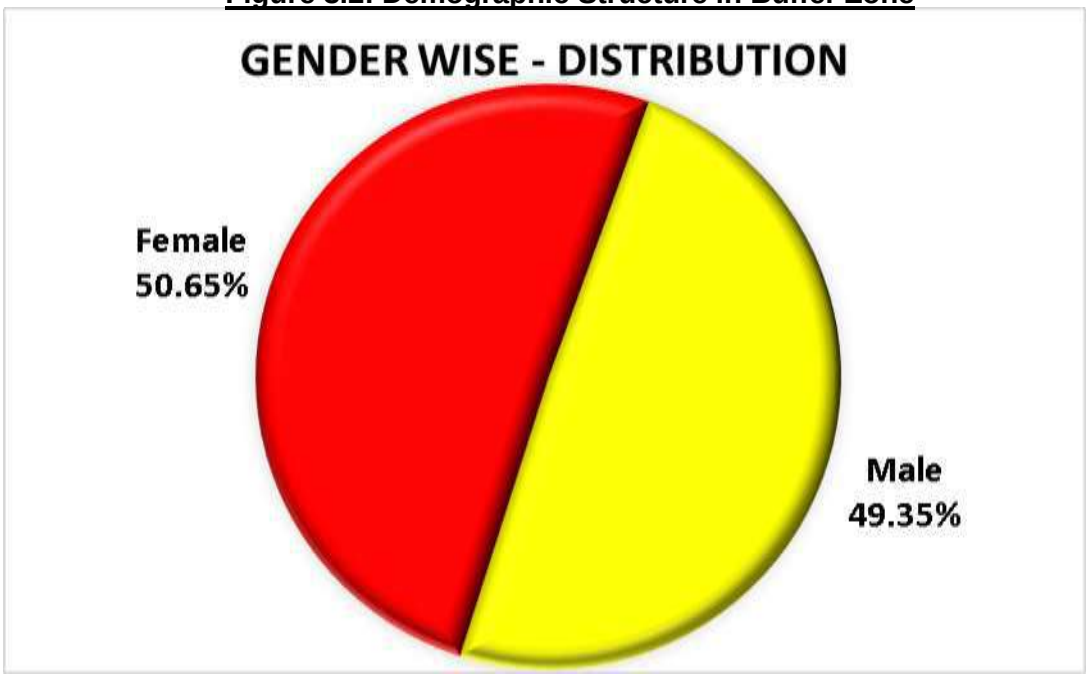
Details	Population	Percentage
Total Literate Population	69612	69.36
Others	30754	30.64
Total	**100366**	**100**
D. Occupational structure		
Main workers	49466	49.30
Marginal workers	5157	5.10
Total Workers	**54623**	**54.40**
Total Non-workers	**45743**	**45.60**
Total	**100366**	**100**

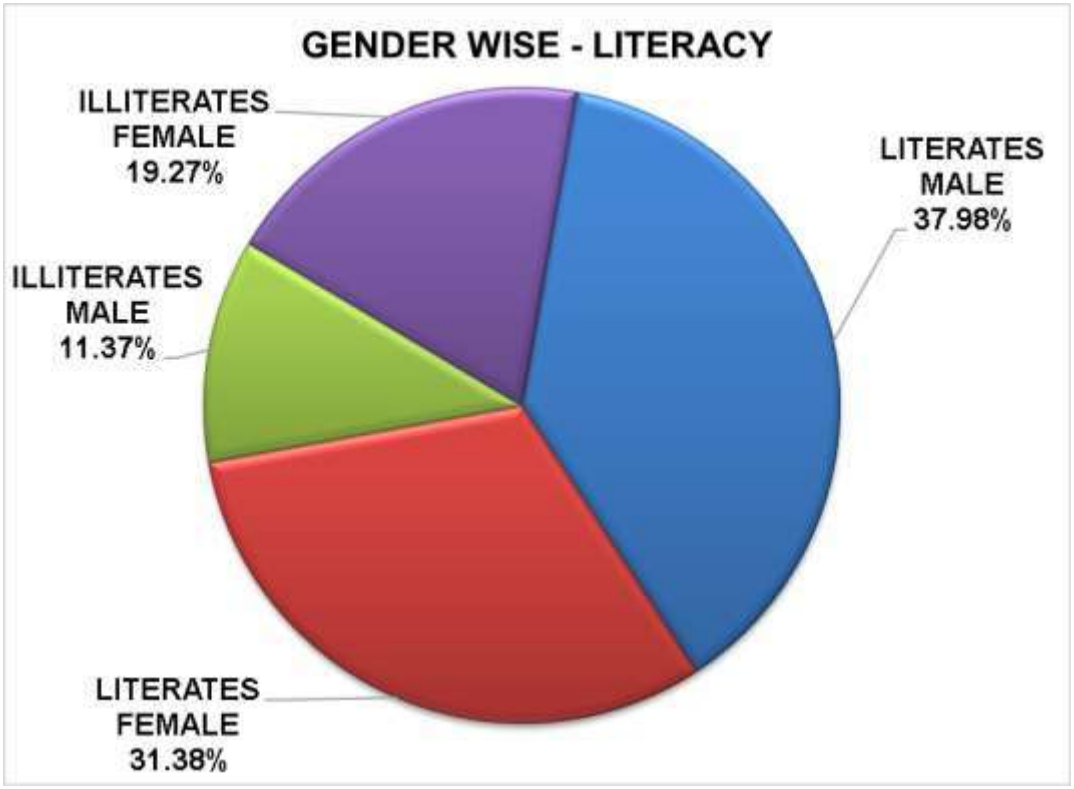
The total population of these 35 rural villages and 2 urban areas is 100366 in which the male population is 49528 (49.35%) and the female population is 50838 (50.65%). This shows that the male and female population ratio is almost equal. Among the total population 0.15% belong to Scheduled Tribes, 23.27% are Scheduled Caste and the balance 76.58% people belong to other castes. Among the total population, 69.36% of the people are literate.

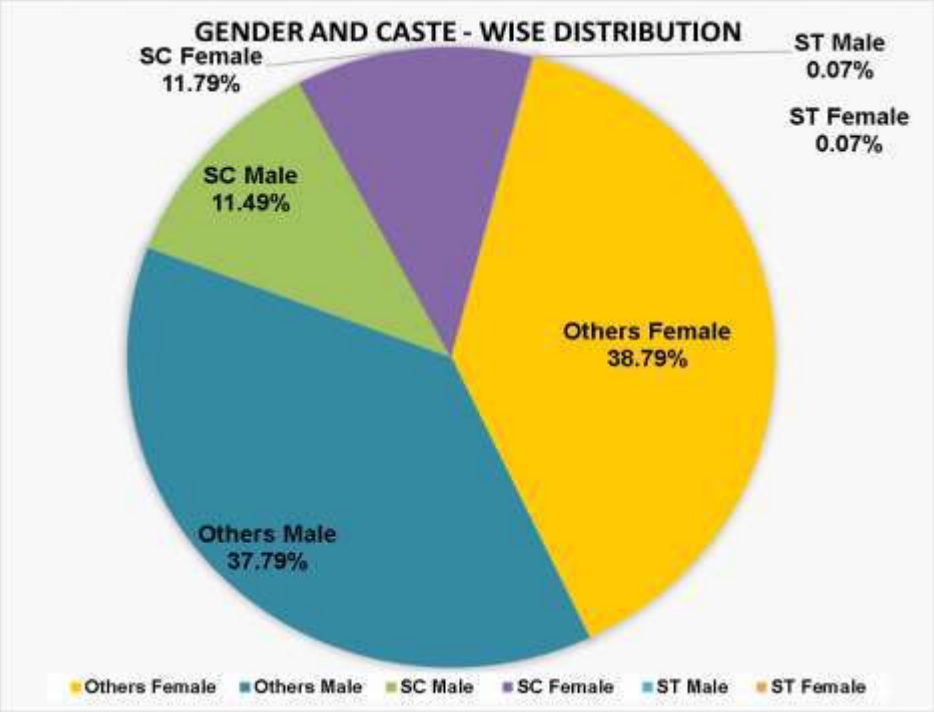
Among the total population, 54.75% are literate males and 45.25% are literate females. This shows that the male literates are slightly more than the female literates. Totally, the illiterate constitute 30.64% of which the female cover 62.89% and the male 37.11%. Illiteracy in women is more than in the male population.

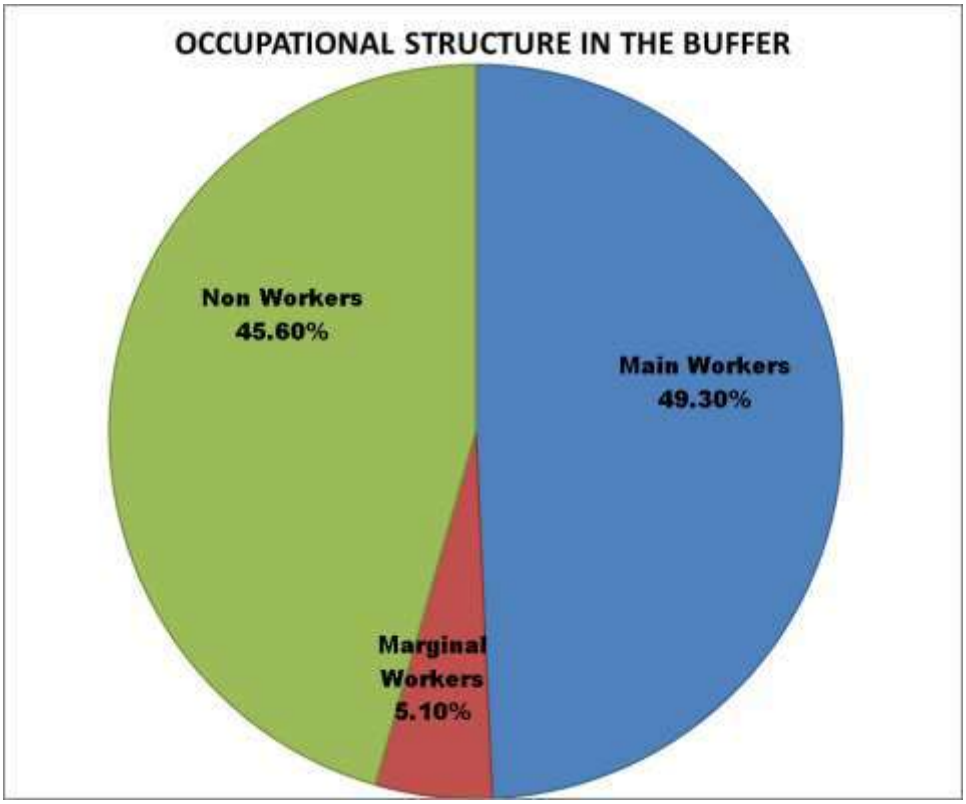
The village wise population, literacy levels and occupational structure details area given in **Annexures 4 and 5.** The demographic structure within the buffer zone is shown diagrammatically in **Figure No – 3.2.**

Figure 3.2: Demographic Structure in Buffer Zone






GENDER AND CASTE - WISE DISTRIBUTION
SC Female 11.79%
ST Male 0.07%
ST Female 0.07%
SC Male 11.49%
Others Female 38.79%
Others Male 37.79%
Others Female
Others Male
SC Male
SC Female
ST Male
ST Female


OCCUPATIONAL STRUCTURE IN THE BUFFER
Non Workers 45.60%
Main Workers 49.30%
Marginal Workers 5.10%

3.2.3 DETAILS OF AMENITIES:

Based on 2011 census data, regarding the educational facilities, there are totally 73 Primary Schools functioning in these 35 rural villages. 13 villages have 1 primary schools, 13 villages have 2 primary schools, 4 villages have 3 primary schools, 3 villages has 4 primary schools ,2 villages have 5 primary schools.

Table 3.4: Primary Schools in the Buffer Zone Rural Villages

S.No	No of Rural Villages	Number of primary schools	Totals
1	0	0	0
2	13	1	13
3	13	2	26
4	4	3	12
5	3	4	12
6	2	5	10
Total	**35**		**73**

Table 3.5: Education Facility Availability

PARTICULARS	Available in village
Govt Primary School	31
Govt Middle School	21
Govt Secondary School	8
Govt Senior Secondary School	6
Govt Arts and Science Degree College	0
Govt Engineering College	0
Govt Medicine College	0
Govt Management Institute	0
Govt Polytechnic	0
Govt Vocational Training School/ITI	0

Better and higher education facilties are available in nearby Vembakottai & sivakasi city corporation.

Table 3.6: Healthcare Amenities Availability

PARTICULARS	Available in village
Community Health Centre	1
Primary Health Centre	2
Primary Heallth Sub Centre	19
Maternity And Child Welfare Centre	4
TB Clinic	2
Hospital Allopathic	0
Hospiltal Alternative Medicine	0

Dispensary	2
Veterinary Hospital	4
Mobile Health Clinic	0
Family Welfare Centre	2

Better Healthcare facilties are available in nearby Vembakottai & sivakasi city corporation.

Table 3.7: Infrastructure Facilities

Particulars	Available in village
Tap Water-Treated	30
Covered Well	10
Hand Pump	20
Tube Wells/Borehole	28
Post office	3
bus services	33
Commercial Bank	4
Cooperative bank	10

The details of the educational, medical and infrastructural facilities available in the buffer zone is provided in **Annexures- 6-8..**

3.2.4 SAMPLE SURVEY:

Study of the nearby villages to know about socio-economic conditions, including aspirations and requirements of the people show the following:

- The study area is predominantly fallow land with thorny bushes.
- Reasonably better amenities like approach road bus facility, electricity, mobile phone connectivity, Public Distribution System , banks etc are available.
- Other allied activities livestock rearing and poultry farming are also found.
- Majority of the people are small farmers
- Agriculture is predominantly rainfed and the irrigation is available only during rainy period, during the rest of the time locals have less employment opportunities. Other occupations include Mining worker, construction workers, vendors, etc.
- Bore well is the main source for drinking water. There are OHT's, Ground level tanks, public taps are available. Predominantly the study area is rocky, dry, barren land with predominant mining and allied activites.
- Due to scanty rainfall, poor soil condition and less ground water availability, very little plantation and agriculture are observed in the area.

Anganwadi, Appanayakkanpatti

Community Hall,Ramalingapuram

Library, Appanayakkanpatti

OHT, Kundanpatti

Panchyat Office Appanayakkanpatti

Primary School , Appanayakkanpatti

Primary School, Kundanpatti

Primary School, Vadakanmarinadu

Sub Library, Appanayakkanpatti

Ration Shop, Appanayakkanpatti

3.3 EXISTING ENVIRONMENTAL QUALITY

3.3.1 MICRO-METEOROLOGY

3.3.1.1 General:

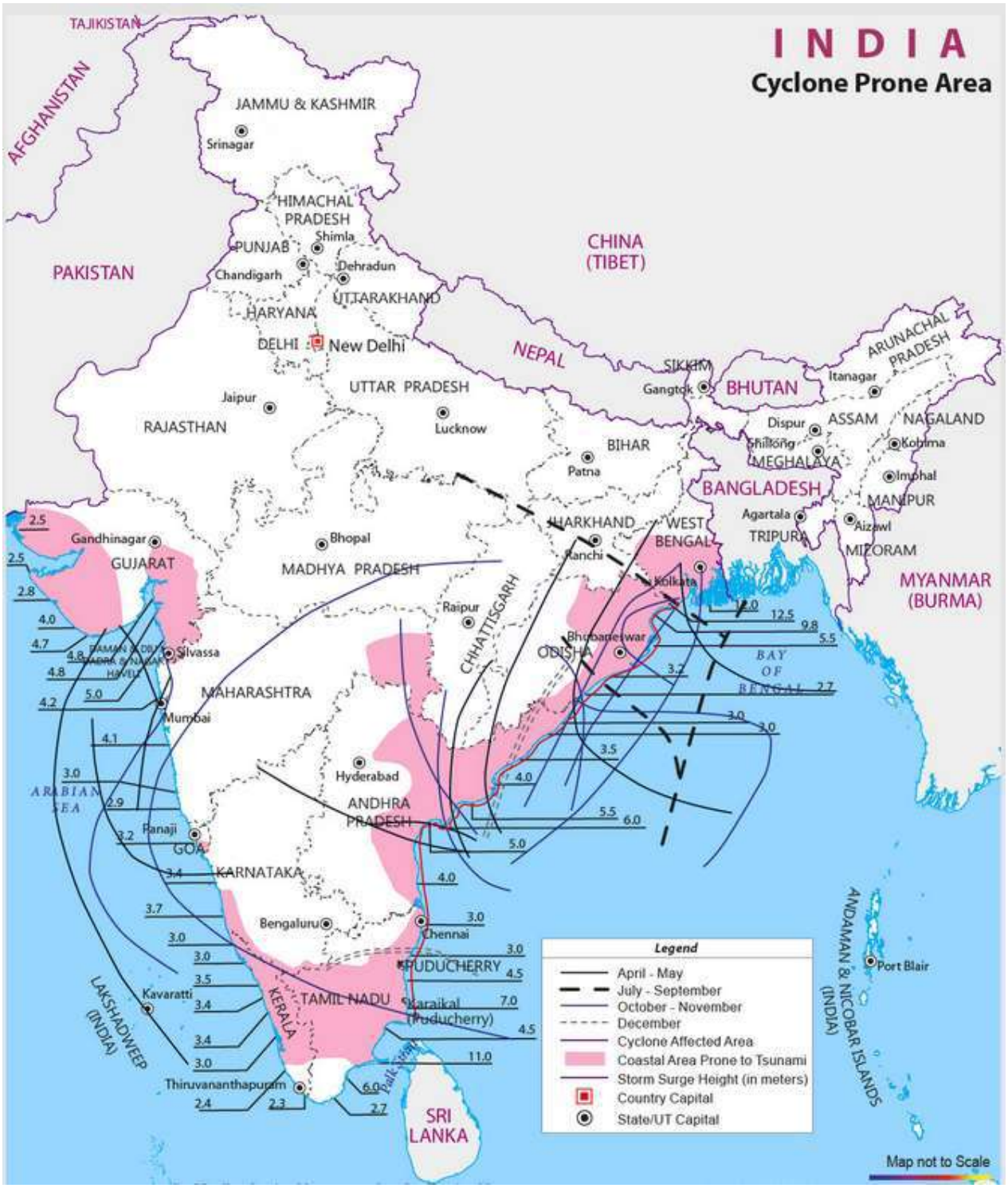
The meteorological conditions in an area regulate the dispersion of air pollutants being released into the atmosphere. The principal variables are horizontal convective transport i.e. wind speed and direction and vertical convective transport, i.e. mixing height, stability class and topography of the area.

3.3.1.2 Historical Meteorological Data:

A. Cyclones And Depressions

Cyclonic storms and depressions in Bay of Bengal affect the East Coast of India. Isolated ones, forming in January to March in the South Bay of Bengal move West-North-westwards and hit Tamil Nadu coast. In April and May, cyclonic storms and depressions form in the South and adjoining Central Bay and move initially to the Northwest, then North and then recurve to the Northeast striking the Arakan coasts in April and Andhra Pradesh (AP)-Orissa-West Bengal (WB) – Bangladesh coasts in May. Most of the monsoon (June – September) storms develop in the central and in the north bay and move west – north - westwards affecting AP – Orissa – WB coasts. Post monsoon (October – December) storms form mostly in the south and central Bay, recurve between 15^{o} and 18^{o} N affecting Tamil Nadu – AP – Orissa – WB – Bangladesh coasts. **Figure No - 3.3** depicts the history of cyclonic storms, which have struck the Indian coast during the months of October, November and December during the last 75 years. (**Source: Vulnerability Atlas of India series, above figure accessed from www.maps of india.com)**. East coast is prone to cyclonic storms round the year but mostly these occur prior to SW i.e., in May and after SW monsoon i.e., in October and November.

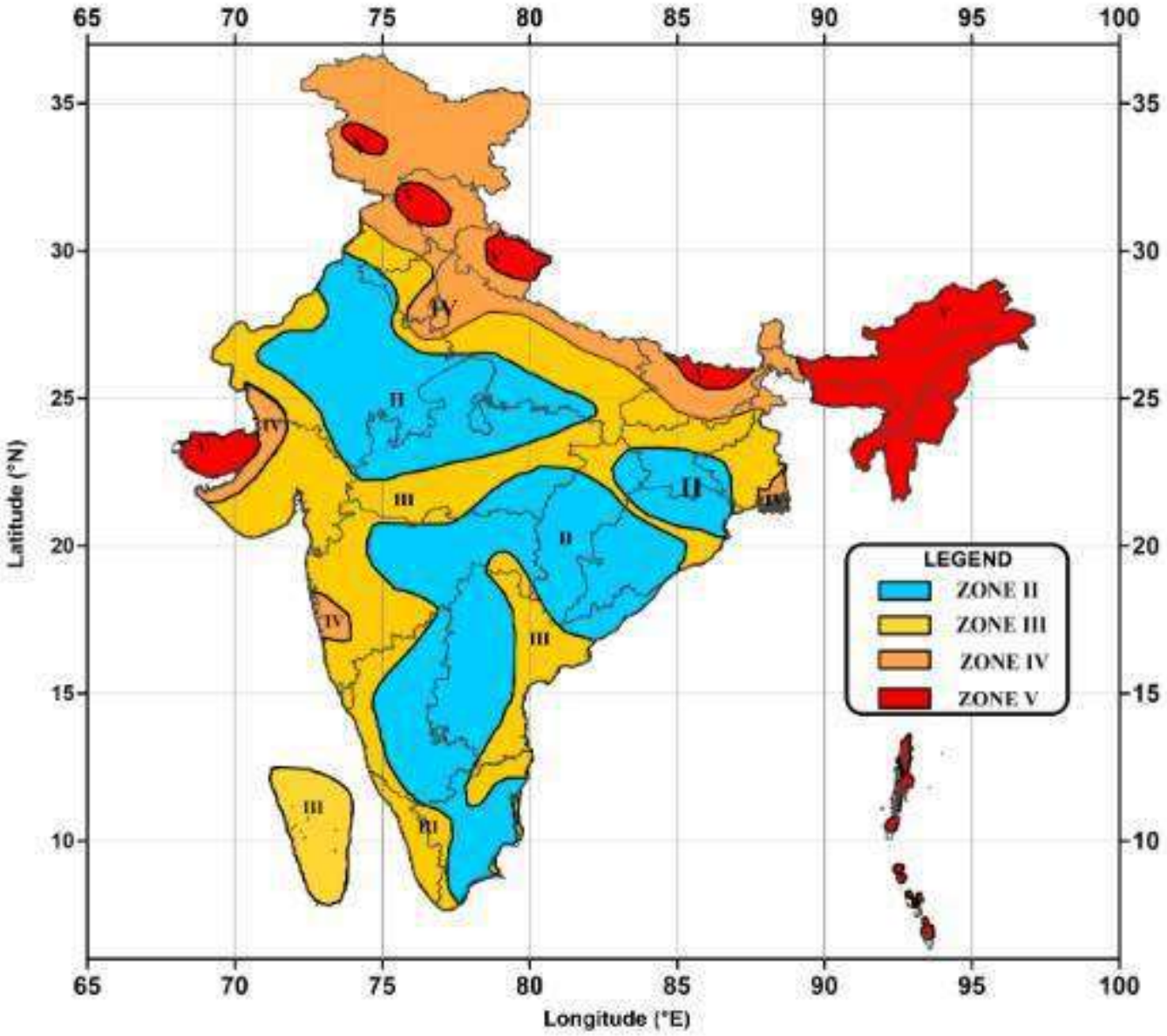
Figure 3.3: History of Cyclonic Storms



B. SEISMIC DATA

From the seismic zone map of India as depicted in the **Figure No** - **3.4,** it can be seen that the project site and study area falls in the Zone – II and is described as least active zone.

Figure 3.4: Seismic Zone Map of India



C. Climate and Rainfall Data:

Temperature: From the middle of February, temperature increases steadily. The weather is quite hot in May and June and the maximum temperature sometimes reaches 40°Celsius. With the onset of the southwest monsoon by the end of May or beginning of June, there is some drop in temperature.

Cloudiness: During the months of April and May, the skies become heavily clouded and threatening in the afternoons on many days when thunderstorms follow. In the southwest and northeast monsoon seasons, the sky is heavily clouded or overcast.

Winds: Generally light to moderate in strength and NW-SW and vice-versa. Between May and September winds are mainly north westerly or westerly. From October to February winds are mainly north easterly or northerly.

Rainfall data collected by Virudhu Nagar , IMD station for the period of 2011 to 2020 is given in **Table No.3.8** Rainfall histograms are presented in **Figure No - 3.5 and 3.6.**

Table 3.8: Average Annual Rainfall Data (2011-2020)

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Rainfall
2011	85.49	162.8	109.57	201.3	119.75	392.46	313.13	227.99	199.02	146.11	190.62	197.52	**2345.76**
2012	16.29	18.37	76.82	297.85	81.31	192.98	223.09	287.28	155.75	234.49	127.34	14.38	**1725.95**
2013	10.22	43.85	46.9	14.44	27.26	15.48	2.4	115.17	43.3	118.37	68.61	84.27	**590.27**
2014	11.2	2.25	7.42	14.03	187.33	9.68	9	78.69	65.2	217.23	146.17	55.08	**803.28**
2015	4.45	3.43	31.39	95.62	114.89	17.83	28.19	53.96	84.73	103.78	279.24	140.03	**957.54**
2016	0.24	0.03	1.71	5.88	85.2	16.88	69.79	39.75	47.21	66.65	49.6	60.33	**443.27**
2017	20.72	2.81	15.1	3.18	32.84	7.88	27.54	42.11	62.59	40.74	42.35	17	**314.86**
2018	0.74	1.28	11.62	21.13	66.02	14.49	33.67	41.94	47.92	134.91	68.92	7.28	**449.92**
2019	5.08	2.26	3.23	2.33	4.5	17.83	18.5	71.16	163.58	251.1	109.63	88.91	**738.11**
2020	3.87	0.48	0.11	24.2	69.81	32.41	40.51	45.93	94.14	138.83	241.45	139.88	**831.62**
NORMAL	**18.5**	**23.5**	**37.6**	**76.8**	**60.2**	**18.3**	**31.1**	**51.6**	**80.8**	**191**	**175.5**	**64.7**	**829.6**

Source – Virudhunagar District, IMD

Figure 3.5: Total Rainfall

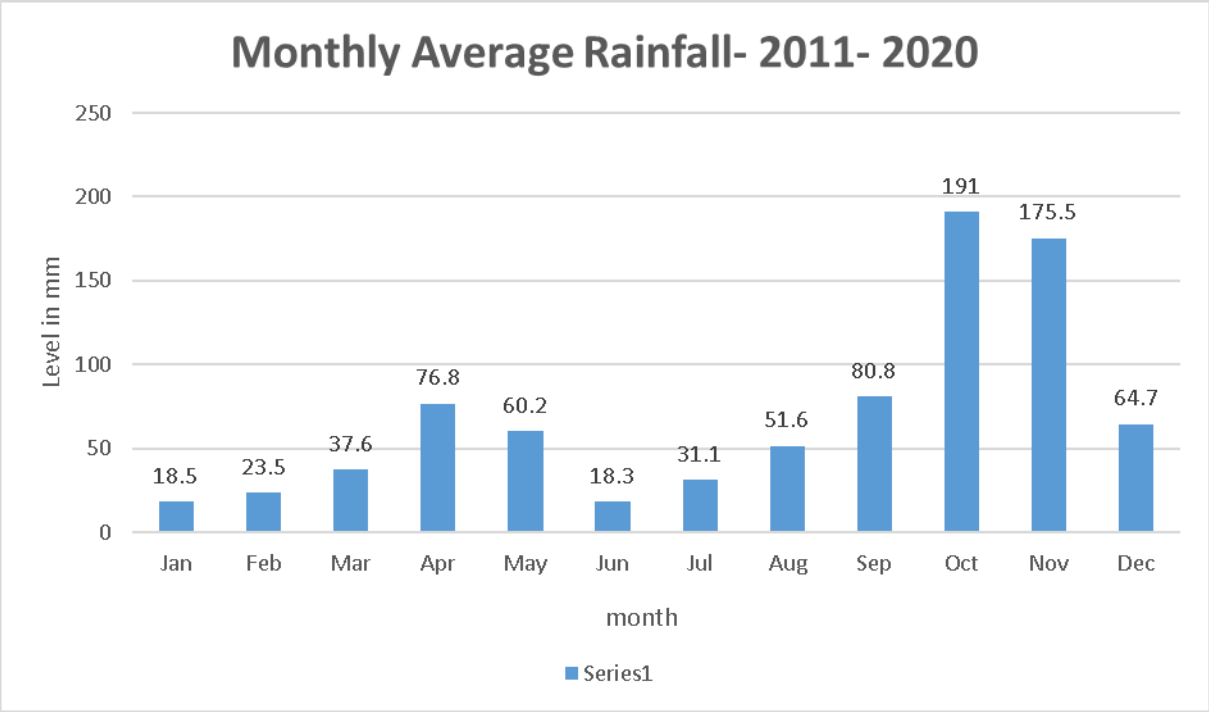
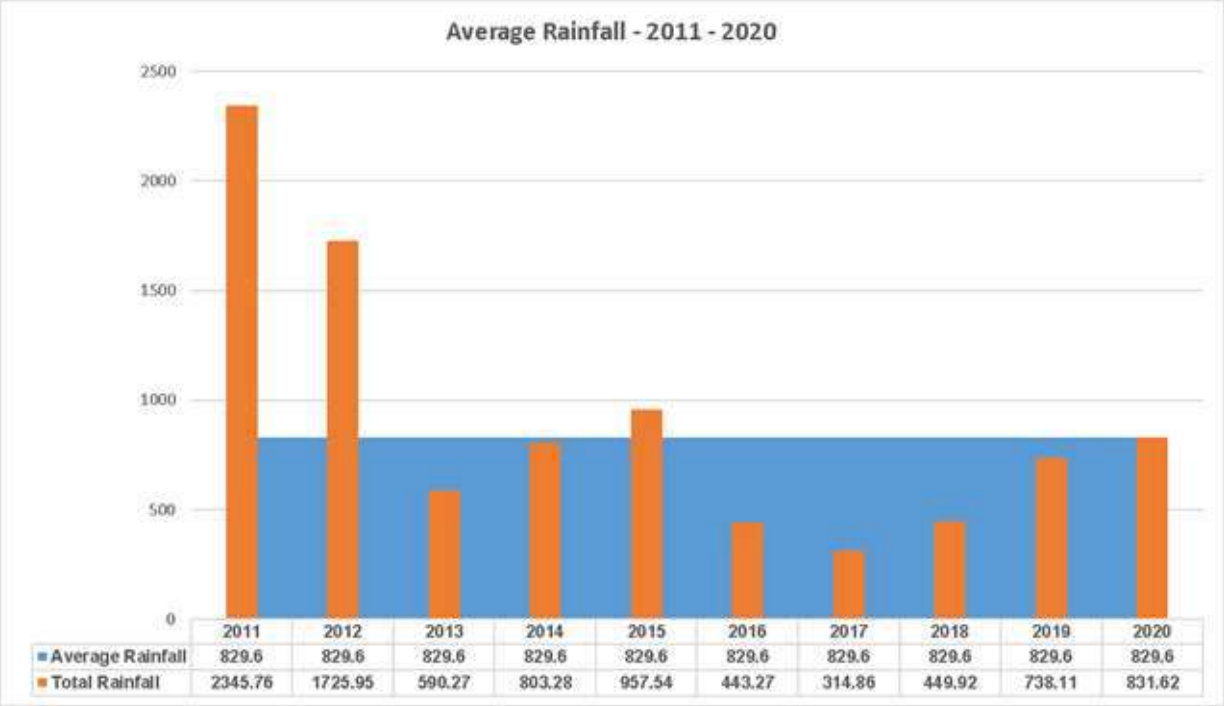


Figure 3.6: Average Annual Rainfall



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Average Rainfall	829.6	829.6	829.6	829.6	829.6	829.6	829.6	829.6	829.6	829.6
Total Rainfall	2345.76	1725.95	590.27	803.28	957.54	443.27	314.86	449.92	738.11	831.62

3.3.1.3 SITE SPECIFIC METEOROLOGICAL DATA:

Micrometeorology and microclimatic parameters of wind velocity, wind direction, ambient temperature, relative humidity, were collected throughout the monitoring period.

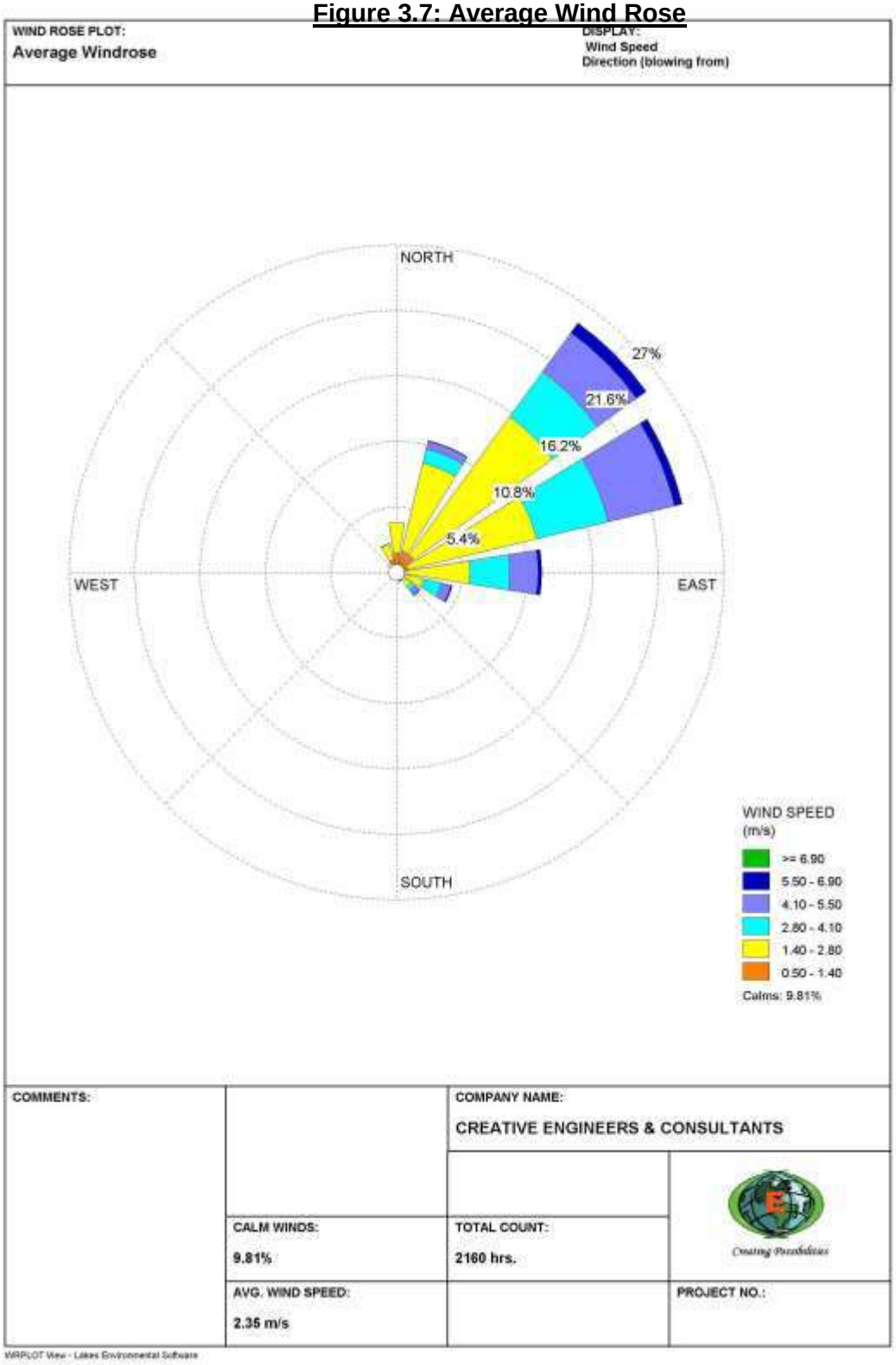
DATA ANALYSIS:

The temperature in the area during the study period ranged from 19.0ºC to 36.0ºC while the relative humidity varied between 21.8 - 99%. The wind speed during the study period ranged from <1.8 to 25.9 km/h. The predominant wind direction is from NE. The meteorological data are presented in **Table no – 3.9.** The average wind rose is depicted in **Figure No - 3.7.**

Table 3.9: Meteorological Data

Season: Winter Season (Dec 2021 to Feb 2022)			
S.NO	**PARAMETERS**	**MIN**	**MAX**
1	Temperature In ^{0}c	19.0	36.0
2	Humidity in %	21.8	99.0
3	Wind speed in km/hr	<1.8	25.9
4	Predominant wind direction from	NE	

Figure 3.7: Average Wind Rose



3.3.2 AMBIENT AIR QUALITY (AAQ):

Ambient Air quality has been assessed through a network of 6 ambient air quality stations. The following methodology has been considered for design of ambient air quality monitoring network in the area. Based on these criteria, 6 numbers of air sampling stations were selected in the area as shown below in Table No.3.10.

- Topography / terrain of study area.
- Populated areas within study area.
- Residential /sensitive areas within study area.
- Magnitude of surrounding industries.
- Representation of regional background levels.
- Representation of cross sectional distribution in down wind direction.
- Predominant wind direction and wind pattern.

Table 3.10: Air Quality Monitoring

1.	**Monitoring Period**	Winter Season (Dec 2021 – Feb 2022)
2.	**Monitoring Location**	The location map showing Ambient Air Quality study stations are shown in **Figure No- 3.8.**
3.	**Methodology**	
	Parameter	**Protocol**
	a. Particulate Matter (PM10)	Gravimetric (IS 5182: Part 23:2017)
	b. Particulate Matter PM2.5	Gravimetric (IS 5182: Part 24:2019)
	c. Sulphur Dioxide	Colorimetric (West & Gaeke Method) (IS 5182: Part 02: 2017)
	d. Nitrogen Dioxide	Colorimetric(Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2017)
	e. Carbon Monoxide	CO Monitor
	f. Silica	Colorimetric (Molybdate Method) NIOSH 7601 -2003
4.	**Monitoring Frequency**	2 days in a week, 4 weeks in a month for 3 months in a season.

Table 3.11: Air Quality Monitoring Locations

S.NO	LOCATION CODE	LOCATION	DISTANCE FROM CORE ZONE (KM)	DIRECTION
1	A1	Near Core Zone	-	-
2	A2	Appanayakkanpatti Village	2.6km	SW
3	A3	Akkaraipatti Village	1.5km	NW
4	A4	Kundampatti Village	1.4km	S
5	A5	Ammiyarpatti Village	0.9km	NE
6	A6	Avudaiyarpuram Village	2.8km	SW

Figure 3.8: Ambient Air Quality Study Stations

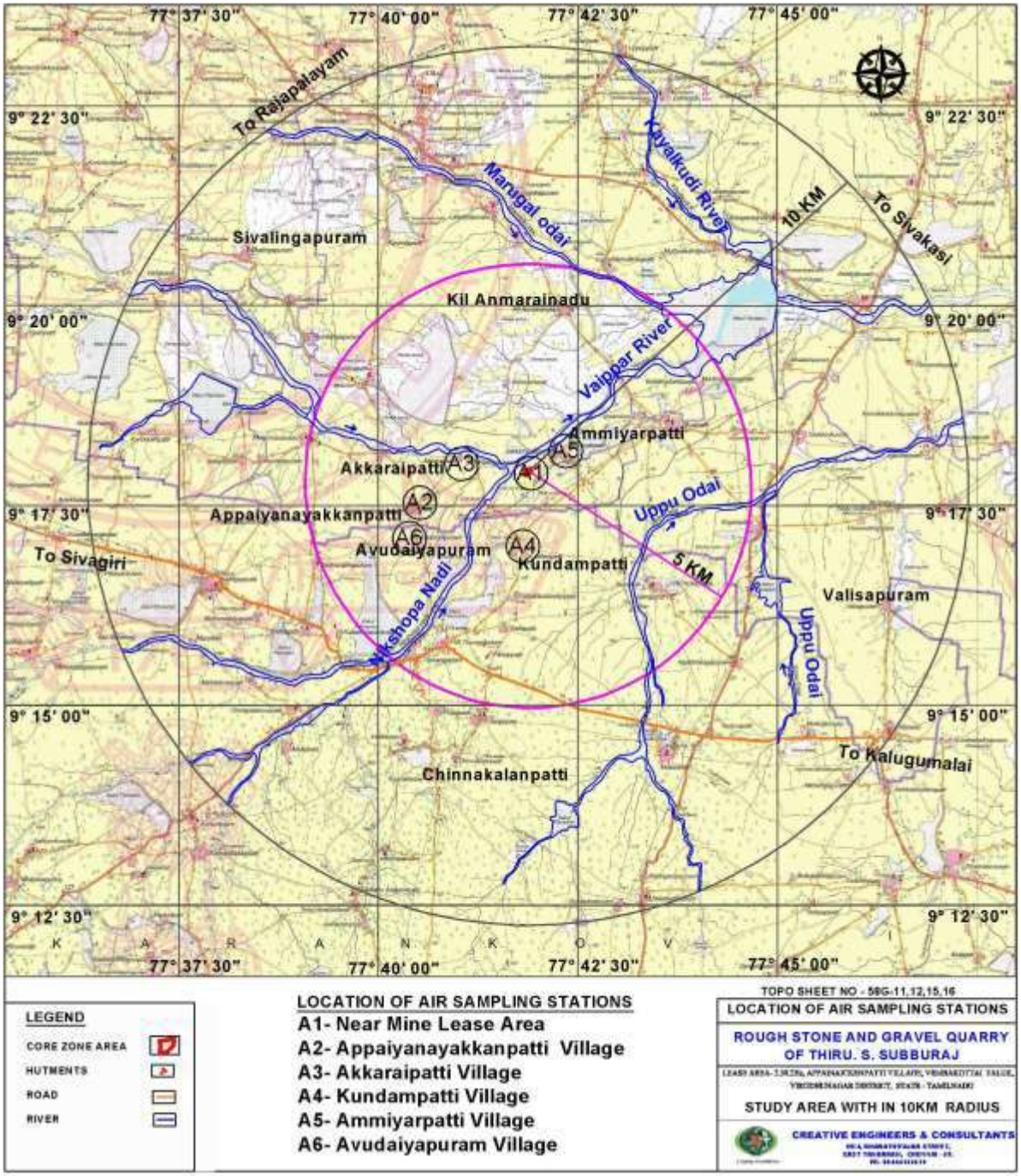


Table 3.12: Ambient Air Quality Data

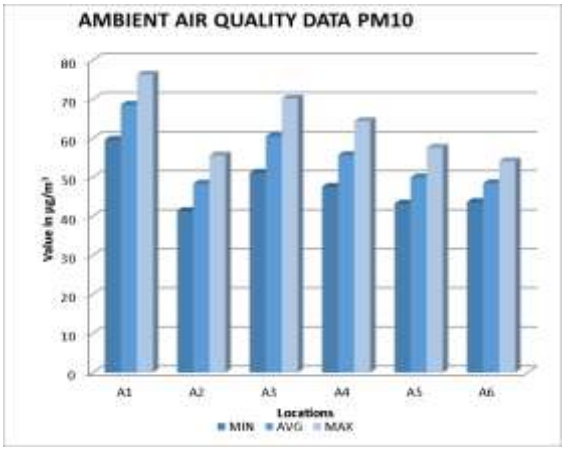
All Value in µg/m³

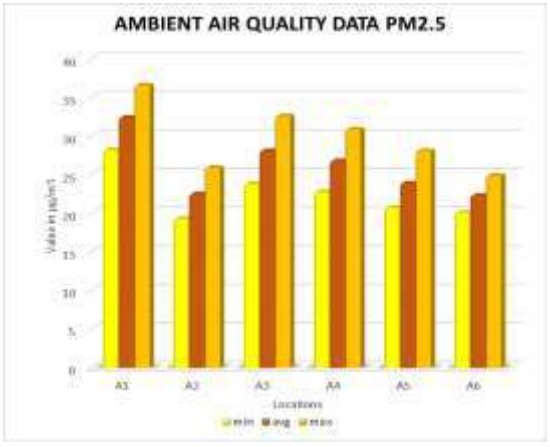
PARAMETERS	Cat.*	PM_{10}			$PM_{2.5}$			SO_2			NO_2		
LOCATIONS		**MIN**	**AVG**	**MAX**	**MIN**	**AVG**	**MAX**	**MIN**	**AVG**	**MAX**	**MIN**	**AVG**	**MAX**
A1- Near Core Zone	I	59.6	68.6	76.3	28.2	32.4	36.6	5.3	7.4	9.1	8.5	10.7	12.7
A2- Appanayakkanpatti Village	R	41.4	48.4	55.6	19.3	22.5	25.9	4.5	5.7	6.8	7.6	8.8	10.1
A3- Akkaraipatti Village	R	51.2	60.5	70.2	23.8	28.1	32.6	5.1	6.5	8.8	8.2	10.0	12.3
A4- Kundampatti Village	R	47.6	55.7	64.4	22.8	26.8	30.9	4.8	6.1	7.5	7.7	9.0	10.8
A5- Ammiyarpatti Village	R	43.3	50.0	57.6	20.7	23.9	28.1	4.6	5.9	7.2	7.1	8.4	10.6
A6- Avudaiyarpuram Village	R	43.7	48.5	54.1	20.1	22.3	24.9	4.1	5.4	6.9	7.3	8.6	9.9

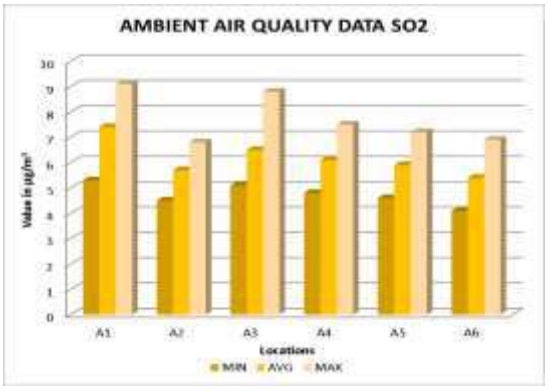
NAAQ Limits		PM_{10}	$PM_{2.5}$	SO_2	NO_2
	*	100	60	80	80
	**	100	60	80	80

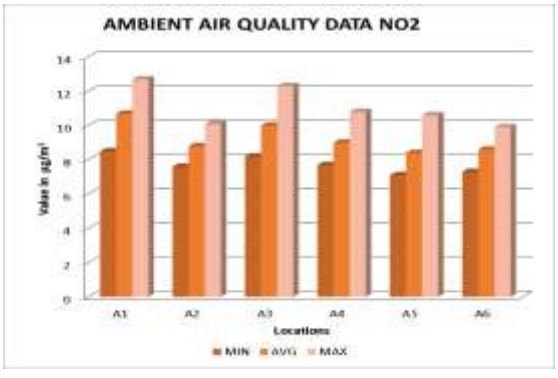
***Note:** Category: * - Industrial, Residential, Rural and other area, ** – Ecologically Sensitive Area (notified by Central Government)*

Figure 3.9: Ambient Air Quality Data









3.3.2.1 Results and Discussion:

The AAQ monitored data for all locations for above parameters are shown in **Table No - 3.12 and** in **Figure No - 3.9.** Ambient Air Quality data during the study period is given in **Annexure-9.** From the table it is seen that, in the ambient air, the PM_{10} values were in the range of 41.4-76.3 µg/m^3. $PM_{2.5}$ values were in the range of 19.3-36.6 µg/m^3. SO_2 levels were ranging from 4.1– 9.1 µg/m^3. NO_2 levels were ranging from 7.1-12.7 µg/m^3.

The existing Ambient Air Quality levels for PM_{10}, $PM_{2.5}$, SO_2 and NO_2, are within the NAAQ standards prescribed CPCB limits of 100 µg/m^3, 60 µg/m^3, 80 µg/m^3 & 80 µg/m^3. The CO values in all the locations were found to be below detectable limit. Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m^3)

3.3.3 WATER ENVIRONMENT:

Assessment of baseline data on water environment includes Identification of water resources, Collection of water samples and Analyzing water samples collected for physico-chemical parameters as per standards. The water sampling was carried out for 6 locations. Details of the same has been provided below:

Table 3.13: Water Quality Monitoring

1.	**Monitoring Period**		Winter Season (Dec 2021 – Feb 2022)		
2.	**Monitoring Location**		The location map showing water sampling locations are given in **Figure No.3.10.**		
	Code	**Location**	**Sample Type**	**Distance**	**Direction**
	W1	Near Core Zone	**Bore Well**	-	-
	W2	Appanayakkanpatti Village	Borewell	2.6km	SW
	W3	Akkaraipatti Village	Borewell	1.5km	NW
	W4	Kundampatti Village	Borewell	1.4km	S
	W5	Ammiyarpatti Village	Borewell	0.9km	NE
	W6	Avudaiyarpuram Village	Borewell	2.8km	SW
3.	**Methodology**		Sampling - IS 3025 Part - I		
			Analysis – IS 3025 relevant parts / APHA 23rd Edition		

Figure 3.10: Location of Water Sampling Stations

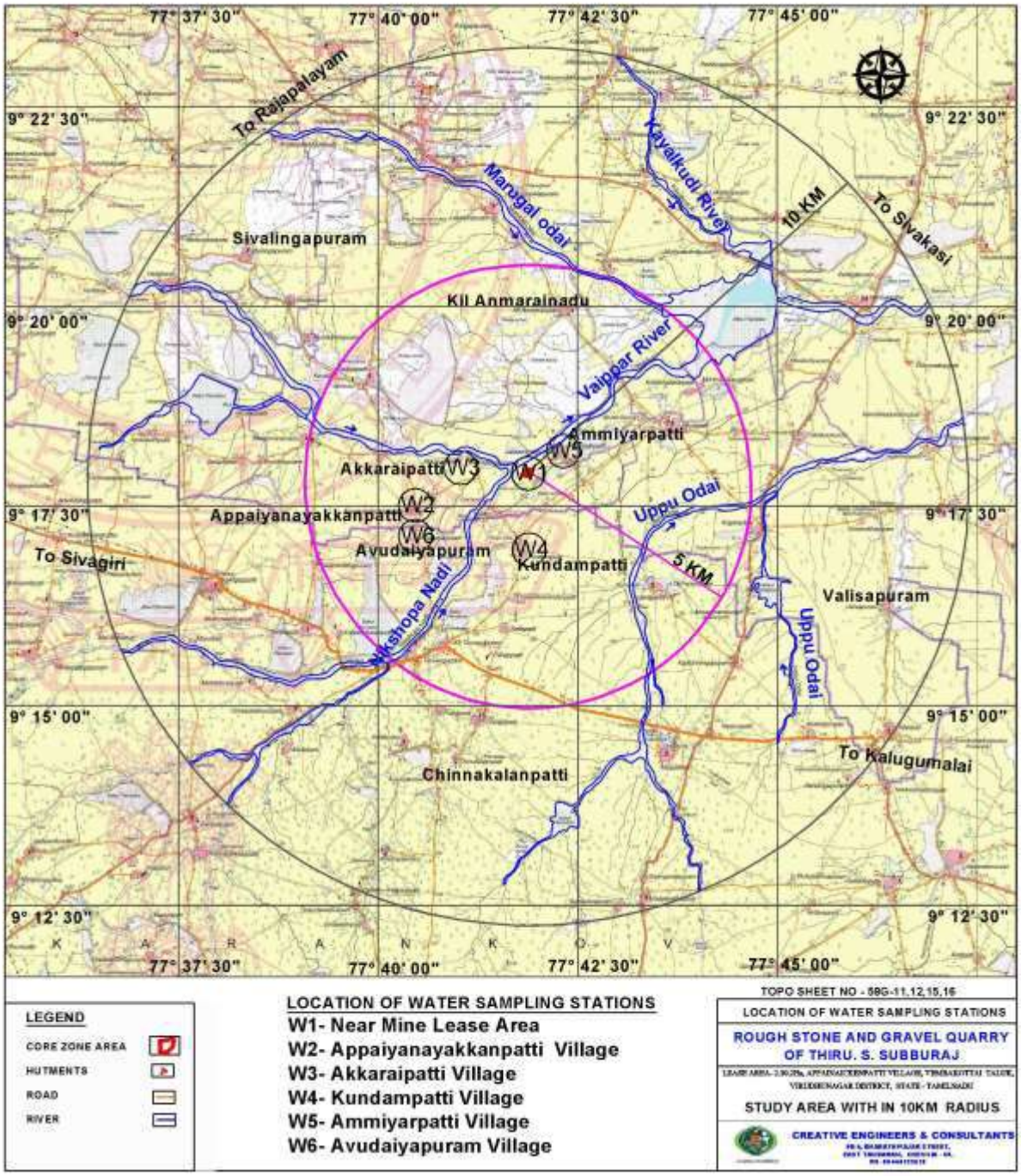


Table 3.14: Summary of Water Quality Data

Season	Winter Season (Dec 2021 – Feb 2022)	
Monitoring Locations	6 locations	
Parameters	**Range of values**	**Limits***
pH at 25 ˚C	7.29 – 7.69	**6.5-8.5**
Total Dissolved Solids, mg/L	296 – 590	**2000**
Chloride as Cl-, mg/L	38.5 – 162	**1000**
Total Hardness (as CaCO3), mg/L	190 – 395	**600**
Total Alkalinity (as CaCO3), mg/L	277– 310	**600**
Sulphates as SO42-, mg/L	15.20 – 186	**400**
Iron as Fe, mg/L	BDL(D.L - 0.01) – 0.07	**0.3**
Nitrate as NO3, mg/L	BDL(D.L – 1.0) – 5.45	**45**
Fluoride as F, mg/L	BDL(D.L – 0.1) – 0.53	**1.5**

3.3.3.1 Results and Discussion:

The results of the water sample analysis are shown in **Table No - 3.14.** The pH values were ranging in between 7.29 – 7.69 TDS values were in the range of 296 – 590mg/L. Chloride values were ranging from 38.5 – 162mg/L. Iron content was found to be in the range BDL(D.L - 0.01) – 0.07mg/L. The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications. The water quality data is provided in **Annexure-10.**

3.3.4 NOISE ENVIRONMENT:

Opearional phase of this project may lead to increase noise levels from the existing levels at least in and around the project area. As noise level beyond permissible limits will cause adverse impacts on the environment, it has become imperative to assess the noise levels in and around the mine area. Noise level measurements were taken at the 6 locations during the monitoring period. Details of the same are provided below:

Table 3.15: Noise Level Monitoring

1.	**Monitoring Period**	Winter Season (Dec 2021 – Feb 2022)		
2.	**Monitoring Location**	The location map showing noise monitoring locations are given in **Figure No.3.11.**		
	Code	**Location**	**Distance**	**Direction**
	N1	Near Core Zone	-	-
	N2	Appanayakkanpatti Village	2.6km	SW
	N3	Akkaraipatti Village	1.5km	NW
	N4	Kundampatti Village	1.4km	S
	N5	Ammiyarpatti Village	0.9km	NE
	N6	Avudaiyarpuram Village	2.8km	SW
3.	**Methodology**	Noise levels were measured using sound level meter manufactured by (Model No - SL- 4001, Make - Lutron). Sound Pressure Level (SPL) measurements were measured at all locations where ambient air quality monitored; one reading for every hour was taken for 24 hours.		
4.	**Monitoring Frequency**	Once during monitoring period		

Figure 3.11: Location of Noise Sampling Stations

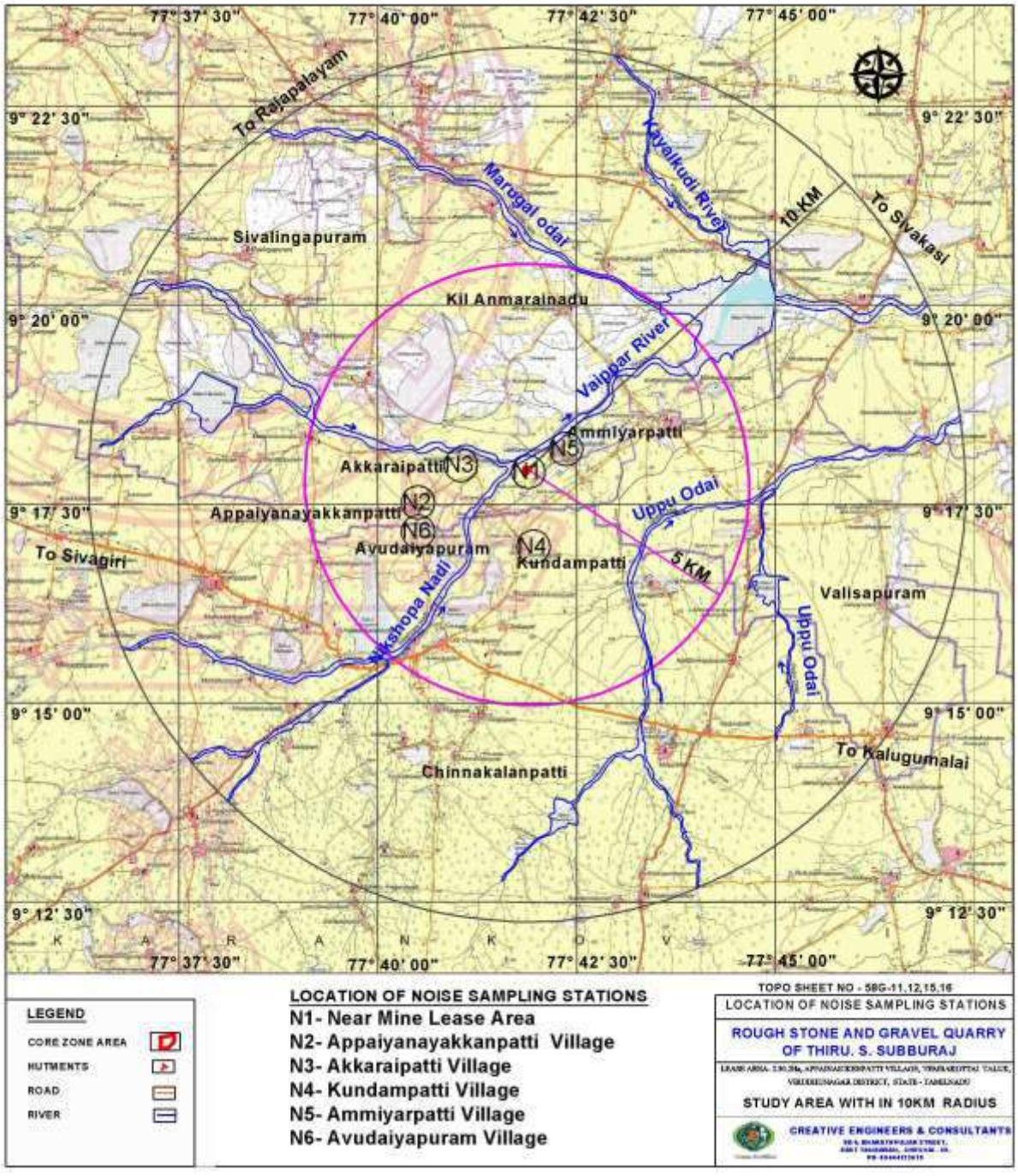
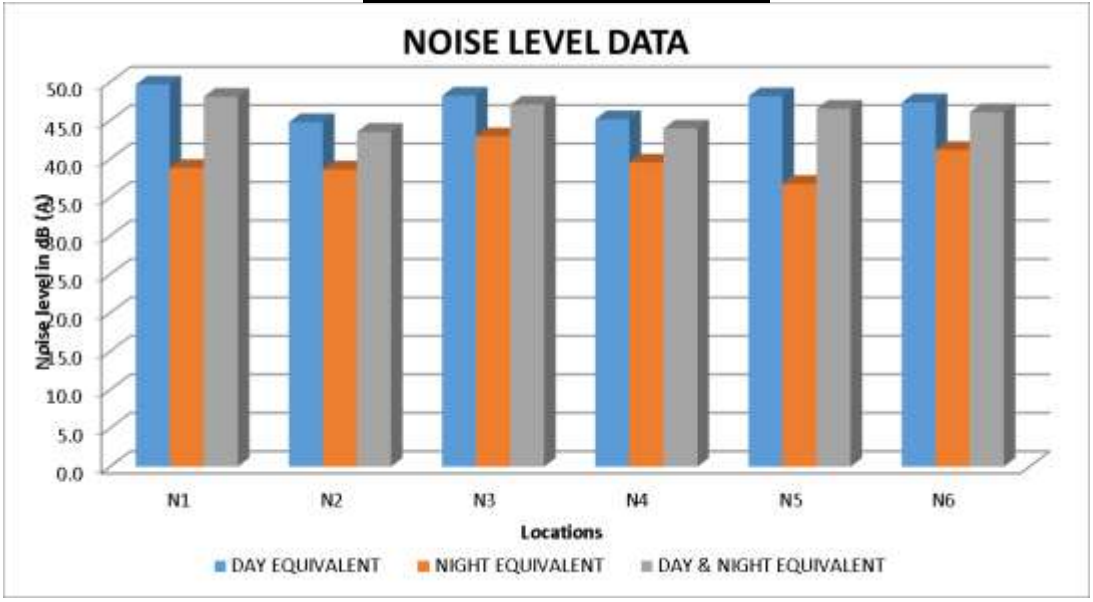


Table 3.16: Ambient Noise Level in dB (A)

Date and time of monitoring	N1	N2	N3	N4	N5	N6
Day Equivalent	49.7	44.8	48.2	45.2	48.2	47.4
Night Equivalent	38.8	38.6	42.9	39.5	36.7	41.2
Day & Night Equivalent	48.1	43.5	47.1	44.0	46.5	46.1
Limits: As per CPCB: Work zone Exposure in 8 hr - 90 dB(A) As per MoEF&CC: Residential: Day equivalent - 55 dB(A); Night equivalent - 45 dB(A)						

Figure 3.12: Noise Level Data



3.3.4.1 Results and Discussion:

The results of noise levels for all locations are given in **Table No-3.16**.The noise values for all above locations are shown in a comparative chart given in **Figure No - 3.12.** In the buffer zone, day Equivalent Noise (Leq-d) noise levels were ranging from 44.8 dB(A) to 49.7 dB(A) and night Equivalent Noise (Leq-d) levels ranged between 36.7 dB(A) to 42.9 dB(A). While comparing with the MOEF&CC Norm of 55 dB(A) for day time and 45 dB(A) for night time, the monitored ambient noise levels were within the limit values for Residential areas.

3.3.5 SOIL CHARACTERISTICS:

Soil samples were collected in 3 locations in the core and buffer zone to analyse the physiochemical characteristics of the soil in the area. Elaborate details of the same has been provided below.

Table 3.17: Soil Quality Monitoring

1.	**Monitoring Period**	Winter Season (Dec 2021 – Feb 2022)		
2.	**Monitoring Location**	The location map showing soil sampling locations are given in **Figure No.3.13.**		
	Code	**Location**	**Distance**	**Direction**
	S1	Near Core Zone	-	-
	S2	Kundampatti Village	1.4km	S
	S3	Ammiyarpatti Village	0.9km	NE
3.	**Methodology**	Composite soil samples using sampling augers and field capacity apparatus.		
4.	**Monitoring Frequency**	Once during monitoring period		

Figure 3.13: Location of Soil Sampling Stations

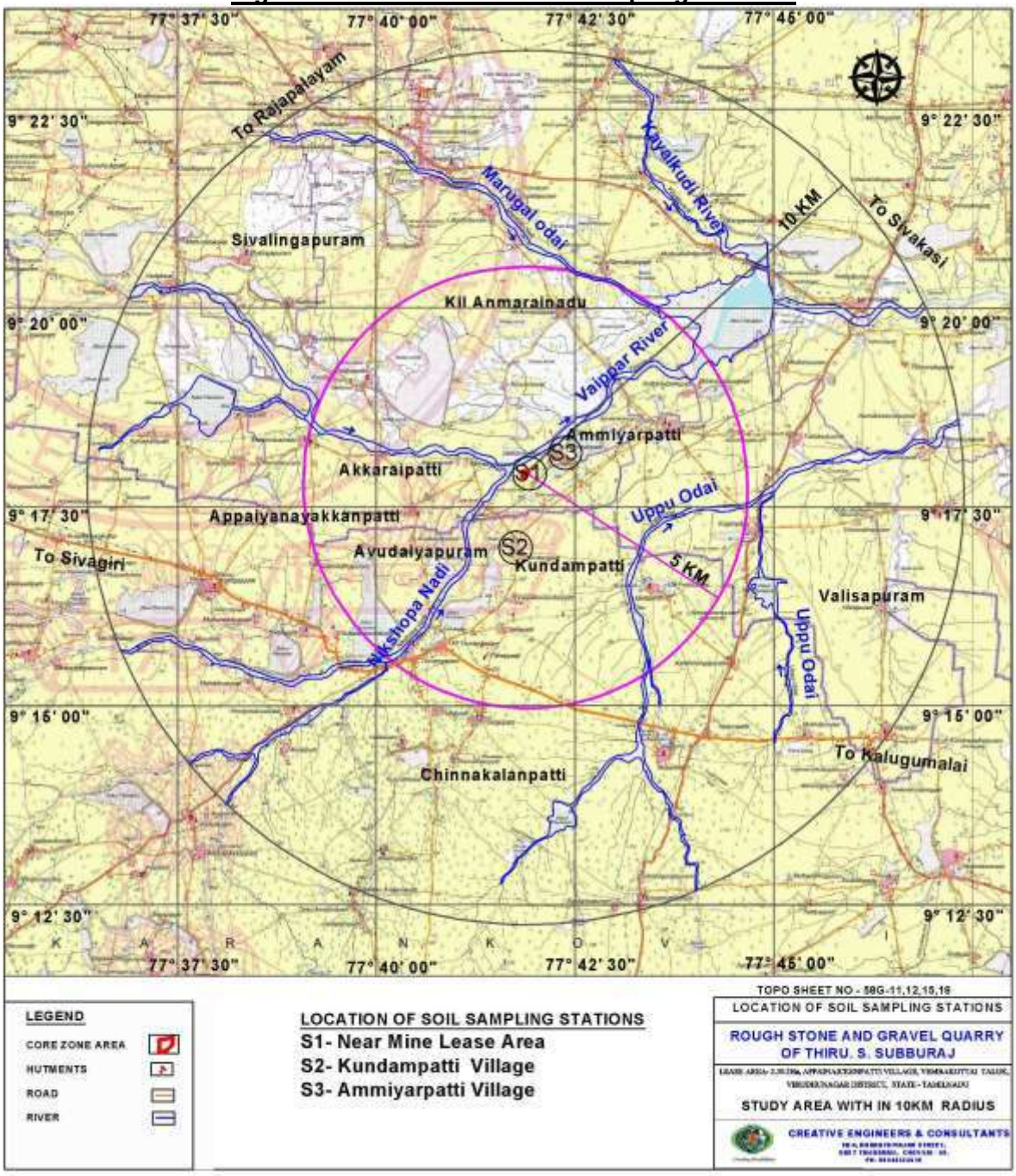


Table 3.18: Soil Quality Data

S.No	Parameters	Unit	S1	S2	S3
1	pH at 25°C	-	6.32	6.21	7.57
2	Electrical Conductivity	(µmhos/cm)	98.54	86.75	82.29
3	Dry matter content	%	95.47	92.68	98.54
4	Water Content	%	4.53	7.32	1.46
5	Organic Matter	%	2.86	2.45	3.21
6	Soil texture	-	Clay loam	Sandy clay loam	loam
7	Grain Size Distribution i. Sand	%	42.57	52.42	36.44
8	ii. Silt	%	28.94	20.57	39.45
9	iii. Clay	%	28.49	27.01	24.11
10	Phosphorous	µg/g	2.98	3.65	2.14
11	Sodium	mg/kg	1035	765	964
12	Potassium	mg/kg	776	610	648
13	Total Nitrogen	mg/kg	730	589	1020
14	Total Sulphur	%	BDL(D.L - 0.02)	BDL(D.L - 0.02)	BDL(D.L - 0.02)

3.3.5.1 Results and Discussion:

Results of the soil samples show that the pH values were ranging between 6.21 to 7.57 and Electrical Conductivity values were ranging between 82.29 – 98.54 µmhos/cm. Soils are generally sandy clay loam and loam type. Organic matter values were ranging between 2.45 – 3.21 %.

Total Nitrogen values were ranging between 589 - 1020 mg/kg. Phosphorus values were ranging between 2.14 – 3.65 µg/g. Potassium values were ranging between 610 -776 mg/kg. Sodium values were ranging between 765- 1035 mg/kg. Total Sulphur values were observed to be BDL. The soil quality data for the 3 samples collected and analyzed are provided in **Table No – 3.18.**

3.4 LAND ENVIRONMENT - LANDUSE & LAND COVER

For preparing an impact statement, aspects of the land conditions are covered under land use. An industrial project / mine can cause changes in land use, soil process in different intensities depending upon the size of the project and distance involved between the industries and the area. Here, land use status for a radius of 10 km has been studied.

3.4.1 DATA USED AND METHODOLOGY

For the present study on land use pattern of buffer area around the proposed stone and gravel quarry, an archived historical data of Sentinel-2 data shas been used as base data acquired on Feb 2022 **(Figure No.3.14)** has been used to generate the require landuse map showing their spatial pattern within the buffer area. The table showing data used for generation of information on landuse and subsequent GIS analysis is given below

Table 3.19: RS satellite image used for the present study

S.No	Type of Data	Date	Generated Map
1.	Sentinel-2	Feb 2022	Landuse (LU) Map showing 10 Km around the ML area

Interpretation of satellite image requires understanding of relationship between image elements and their respective terrain elements. Since, in the present study, the landuse information is obtained using visual interpretation, an interpretation key is generated. The image elements such as color, tone, texture, size, shape and associated elements have been used to delineate various landuse categories. The landuse categorization and nomenclature used in the present study is based on the national level landuse classification system, which is adopted for the entire country as recommended by NationaL Remote Sensing Centre (NRSC), Department of Space, Government of India.

Figure 3.14 : Sentinel-2 Satellite Data of the Study Area

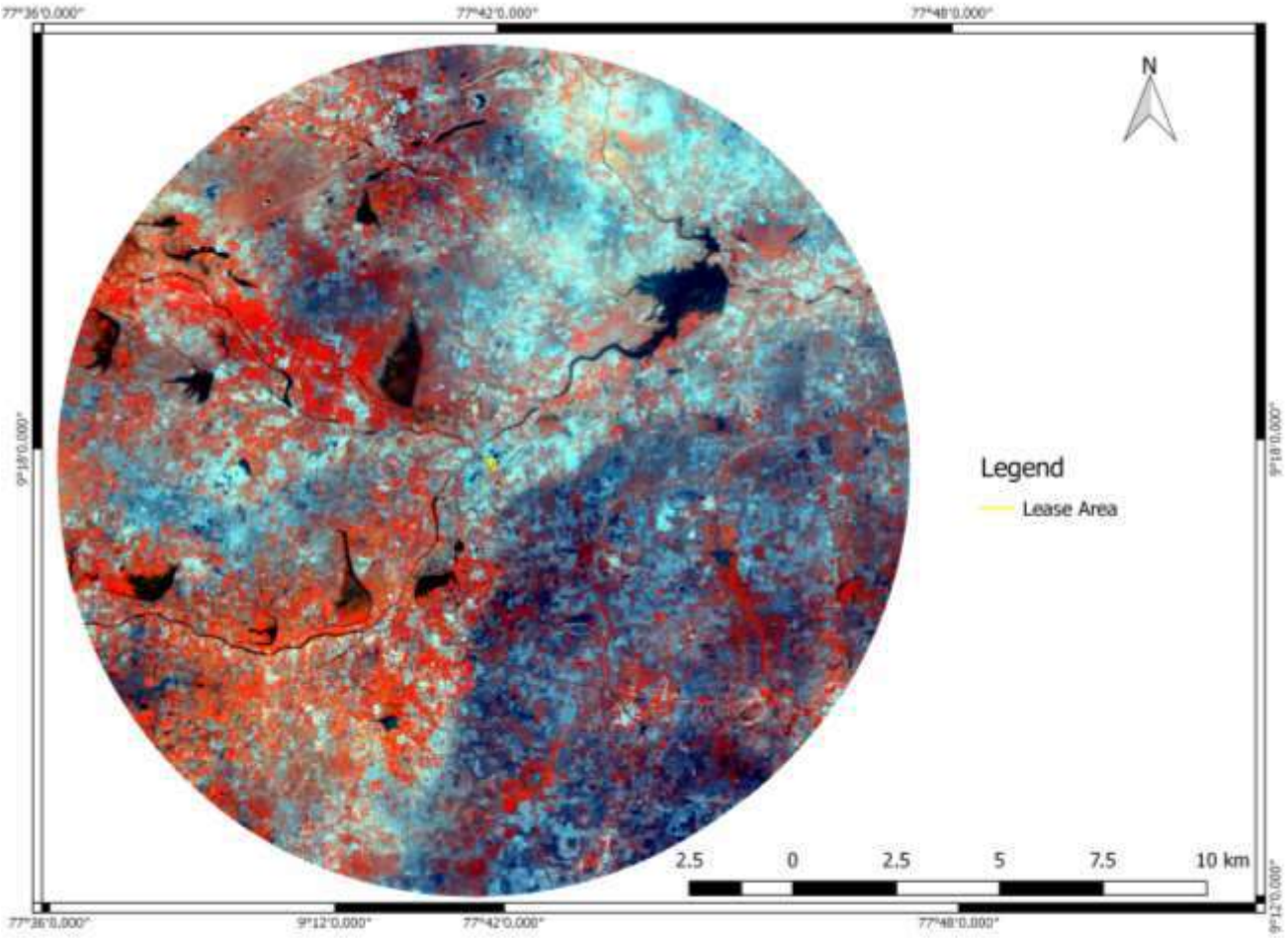
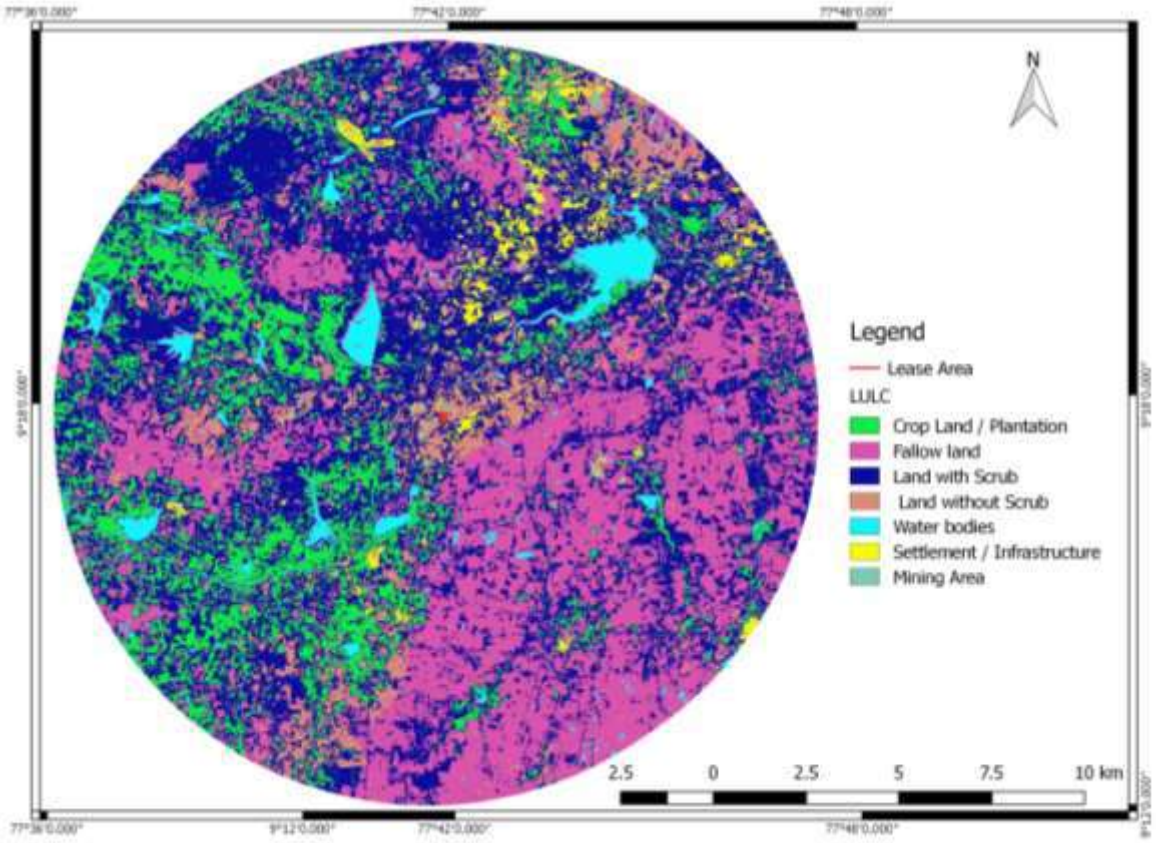


Table 3.20: Major Landuse Units of the Study Area

S.No	Major Category	Landuse unit
1	Built-Up Land	Village, Town, Industrial / Vacant Area
2	Agricultural Land	Crop Land Fallow Land Plantation Farm Land
3	Forest Land	Open Scrub Forest
4	Waste Land Mining Area	Land With Scrub/ Land Without Scrub Barren Rocky/ Stony Waste Quarries / Abandoned Quarries
5	Waterbodies	Tanks/ Rivers / Streams

Such LandUse and Land cover (LULC) categories have been verified using field check and identified sample sites within the buffer area, verified on field and transferred into gis geo-coordinates using observation coordinates received from hand held GPS (global positioning system) instrument. Thus, an interpreted final landuse map has been generated **(Figure No. 3.15)** using above such elaborate procedure and transformed into GIS environment for its spatial distribution and area estimation. Spatial nature and extent of various landuse categories within the buffer area is discussed is given below:

Figure 3.15: Map Showing Land Use Categories around 10km Buffer



Photograph showing Land use In Buffer Zone

Land without Scrub

Fallow Land

Plantation

Land with Scrub

Crop Land

Table 3.21: Area Estimation of Landuse Categories in Buffer Zone

S.No	Landuse Feature	Area (Sq.Km)	Percentage
1	Agriculture/ Plantation	48.72	14.56
2	Fallow Land	101.25	30.25
3	Land With Scrub	139.24	41.61
4	Land Without Scrub	25.36	7.58
5	Water bodies	9.79	2.93
6	Settlement	7.44	2.22
7	Mining Area/ Industries	2.86	0.85
	Total	334.65	100

From the above table it is seen that 14.56 % of the study area is agriculture land and 30.25 % are fallow land. Land with scrub constitutes 41.61 %, lands without scrub constitute 7.58% and waterbodies constitute 2.93% and remaining constitute 3.07 %

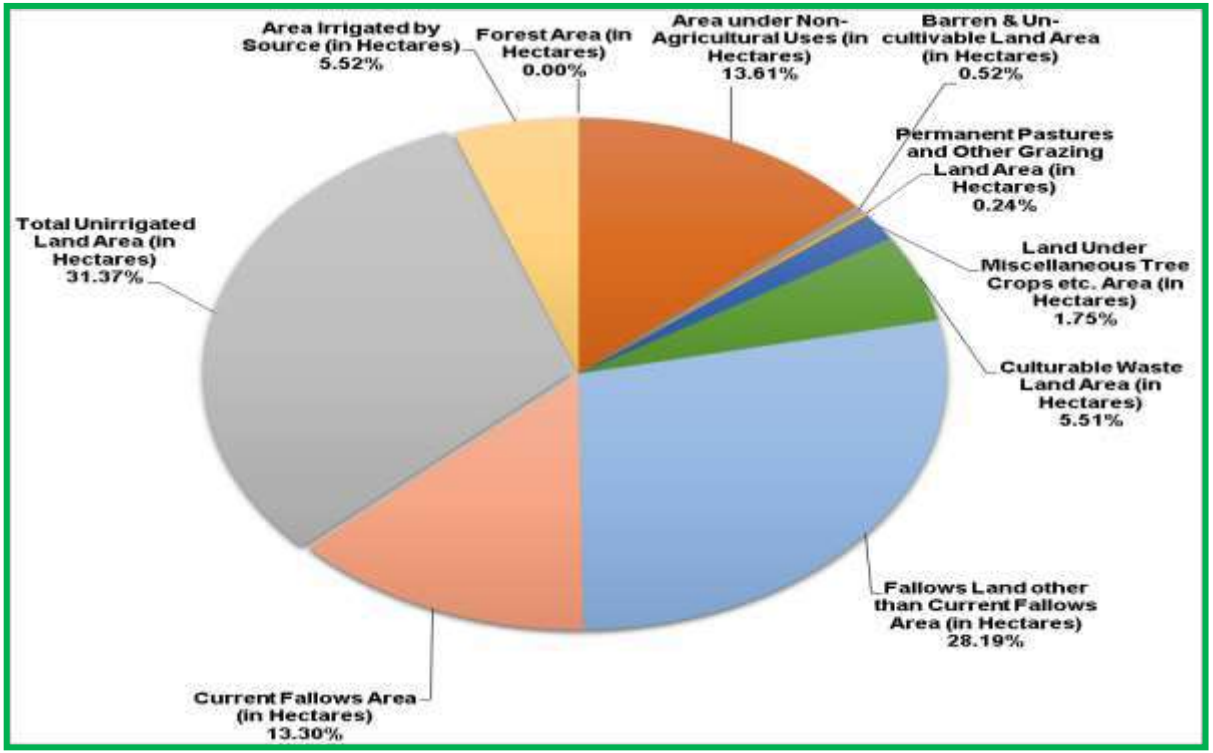
3.4.2 LAND USED BASED ON REVENUE RECORDS:

The lease area falls in Appanayakkanpatti Villae, Vembakottai Taluk, Virudhunagar District, Tamil Nadu state and the study area for the land use pattern (10 km radius) has been divided into four zones viz. Zone-I (0-2 km), Zone-II (2-5 km), Zone-III (5-10 km) and Zone-IV (0-10 km) respectively. The land use pattern of the study area falling within 10 km radius around the proposed project area is presented in **Table no - 3.22**. Village wise land use pattern is provided in **Annexure-11.**

Table 3.22: Land Use Pattern of the Study Area Falling Within 10 Km Area in (Ha)

VILLAGE NAME	Total Geographical Area	Forest Area	Area under Non-Agricultural Uses	Barren & Un-cultivable Land Area	Permanent Pastures and Other Grazing Land Area	Land Under Miscellaneous Tree Crops etc. Area	Culturable Waste Land Area	Fallows Land other than Current Fallows Area	Current Fallows Area	Total Un irrigated Land Area	Area Irrigated by Source
0- 2 KM	1582.78	0	206.49	14.57	4.18	0	3.88	0	633.33	416.45	303.88
2 - 5 KM	6360.3	0	1179.92	0.74	6	20	938.2	2376.68	87.91	1357.35	393.5
5-10 KM	29019.95	0	3643.29	176.69	77.89	627.2	1094.08	8042.57	4193.62	9820.41	1344.2
Total	**36963.03**	**0**	**5029.7**	**192**	**88.07**	**647.2**	**2036.16**	**10419.25**	**4914.86**	**11594.21**	**2041.58**

Figure 3.16: Landuse within the Buffer Zone Area



3.5 BIOLOGICAL ENVIRONMENT:

Study of the biological environment of any area comprises of well-planned ecological survey for the floristic and faunal composition of the areas through various scientifically planned techniques. Accordingly the ecological survey for the proposed quarry area including core and buffer zone were carried out to identify various species occurring in the area.

3.5.1 FLORA:

An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. The objective of the survey is as follows:

- ❖ Generate existing data from field observations of various terrestrial floristic occurrences.
- ❖ Collect secondary data from Government records as well as through discussion with Forest officials, knowledgeable public etc.,
- ❖ Compare the data with authentic past records to identify changes, if any.
- ❖ Identify the impact of project operations on the biological aspects.

To accomplish the above objectives, a general ecological survey covering an area of 10 km radius was conducted. The locations were identified for phyto-sociological aspects to assess the current status.

3.5.1.1 Sampling Methodology:

In order to provide representative ecological status for the study area, the 10-km radius buffer area has been divided into four quartiles for biodiversity sampling, i.e., NE (Q-1), NW (Q-2) SW (Q-3) and SE (Q-4). Each of the quartiles have been examined for representative flora on randomly sampled quadrats for trees (10x10 m), shrubs (5x5 m) and herbs (1x1 m) depending upon prevailing geographical conditions and bio-diversity aspects of study area.

Phyto-sociological Survey: Phyto-sociological parameters, viz., Abundance (i.e., density), average and minimum stems were measured to determine the distribution and ecological aspects of the species. Abundance is a measure of the density of distribution of an individual species within a given area. It is calculated by summed individuals of a species. Average species number is calculated for all quadrates; similarly, minimum number of individuals

represented is recorded at quadrats level. A total of 10 quadrats were laid down in core area and a total of 20 quadrats were laid out in four quartiles (5 each) of buffer area.

Quadrats method for flora : Quadrats of 10 × 10m were laid down randomly within core and 10kms buffer area; each quadrat was laid to assess the trees (>5 cm GBH) and 5 × 5 m sub-quadrat nested within the quadrat for shrubs and two plot 1 × 1 m for herbs . The quadrats were laid at a minimum distance of a kilometer apart to maximize the sampling efforts and minimize the species homogeneity, such as small stream area, trees in agricultural bunds, tank bunds, farm forestry plantations, natural forest area, avenue plantations, house backyards, etc. In each sample quadrate, individuals belonging to tree, shrub and herb species were recorded separately, and have been identified on the field. The prevailing land use and habitat quality has been noted down for each location on the field.

Vegetation Analysis using index: Species diversity will be calculated by using Shannon and Wiener (1963) formula as follows:

$$H' = -\sum_{i=1}^{R} p_i \ln p_i$$

Whereas,

H´ is Shannon index of general diversity,

p_i is often the proportion of individuals belonging to the ith species in the dataset of interest.

Evenness index was calculated as: E = H´/Hmax,

Whereas Hmax = log2 (number of species in the plot)

A.CORE ZONE:

The lease area is a non-forest, private land. Major part of lease area is partly mined out area and remaining area is barren land with thorny bushes & shrubs (Prosopis juliflora).The detailed list of plants found in the core zone are given in **Table no – 3.23.**

Table 3.23: List of Floristic Species in the Core Zone

Sl.No	Species Name	Common Name	Family
Trees			
1	*Azadirachta indica*	Meliaceae	Vembu
2	*Pongamia pinnata*	Fabaceae	Pungai
3	Prosopis juliflora	Fabaceae	Cimaikkaruvel
4	*Cassia fistula*	Fabaceae	Konrai
5	Acacia nilotica	Fabaceae	Karuvelan
Shrubs			
1	*Abutilon indicum*	Malvaceae	Thuthi
2	*Ricinus communis*	Euphorbiaceae	Amanakku
3	*Lantana camara*	Verbenaceae	Uni
4	*Calotropis gigantea*	Apocynaceae	Earukku
Herbs			
1	*Tridax procumbens*	Asteraceae	Vettukai poondu
2	*Anisomeles indica*	Lamiaceae	marutti
3	*Solanum nigrum*	Solanaceae	Manathakkali
4	*Sida acuta*	Malvaceae	Palambasi
5	*Acanthospermum hispidum*	Asteraceae	Gokul kanta
Grasses			
1	Cynodon dactylon	Poaceae	Arugampillu
2	Cyperus rotundus	Cyperaceae	Korai pullu

B. PROJECT IMPACT ZONE (PIZ-300m BUFFER FROM CORE ZONE):

The PIZ is a dry area and dominated with thorny bushes of Prosopis juliflora followed by mining and crusher plants. A total of 11 tree species from 7 families are recorded in the PIZ. From the above resut it is clearly shows the PIZ is disturbed and has less diversity. Hence it is important to improve the plantation of the study area. The list of plants found in the PIZ are given in **Table no – 3.24.** The detailed list of plants found in the PIZ is given below.

Table 3.24: Phyto-Sociological Survey Of Trees In PIZ

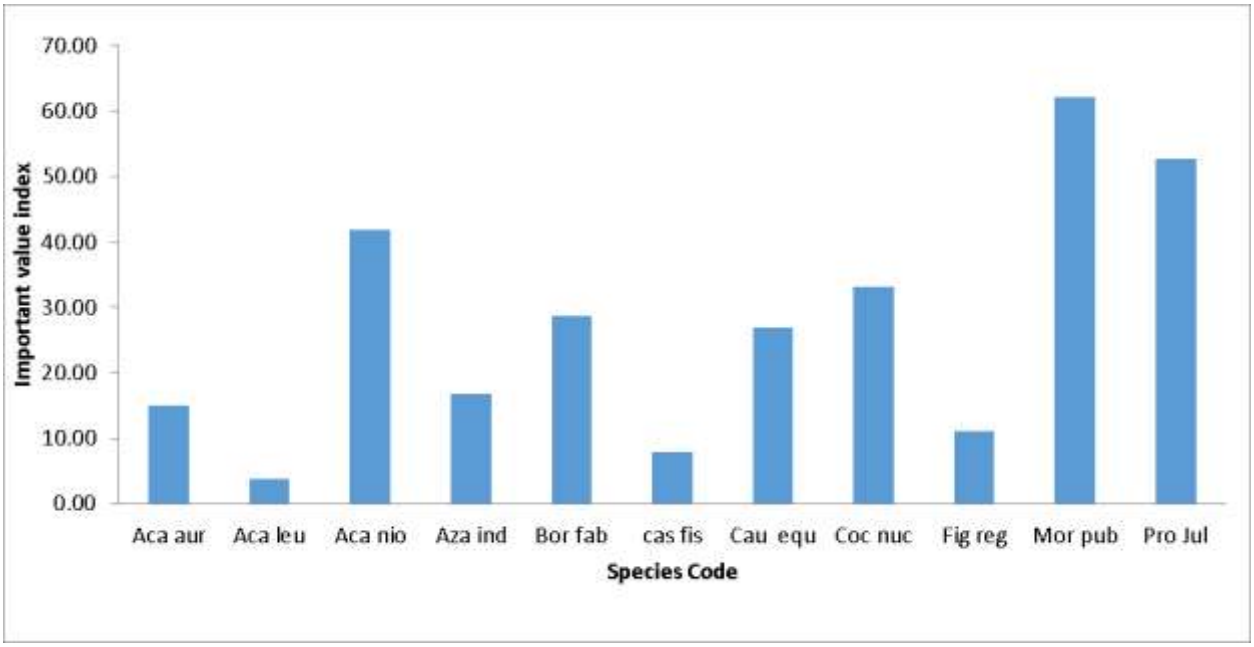
Species	Family	Density	Frequency	BA	Rd	Rdo	Rf	IVI
Acacia auriculiformis	Fabaceae	5	4	0.032245	4.42	4.6115	5.882353	14.92
Acacia leucophloea	Fabaceae	1	1	0.009753	0.88	1.3948	1.470588	3.75
Acacia nilotica	Fabaceae	15	10	0.096736	13.27	13.8346	14.70588	41.81
Azadirachta indica	Meliaceae	5	4	0.045541	4.42	6.5131	5.882353	16.82
Borassus flabelliformis	Arecaceae	9	7	0.073447	7.96	10.5040	10.29412	28.76
Cassia fistula	Fabaceae	2	2	0.022492	1.77	3.2167	2.941176	7.93
Casuarina equisetifolia	Casuarinaceae	9	5	0.08121	7.96	11.6142	7.352941	26.93
Cocos nucifera	Arecaceae	8	7	0.110669	7.08	15.8272	10.29412	33.20
Ficus religiosa	Moraceae	2	2	0.043989	1.77	6.2910	2.941176	11.00
Morinda pubescens	Rubiaceae	23	13	0.15914	20.35	22.7593	19.11765	62.23
Prosopis juliflora	Fabaceae	34	13	0.024007	30.09	3.4334	19.11765	52.64

Rd- Relitive Density, Rdo- Relative dominance, Rf – Relative Frequency, IVI – Importance Value Index

Table 3.25: Species Diversity index of trees in PIZ

A		Lower	Upper
Taxa	11	11	11
Individuals	113	113	113
Dominance	0.1719	0.1436	0.2159
Simpson	0.8281	0.7841	0.8564
Shannon	2.005	1.848	2.12
Evenness	0.6748	0.5773	0.7571
Fisher alpha	3.013	3.013	3.013
Berger Parker	0.3009	0.2301	0.3805

Figure 3.17: Species Important Value Index For Trees in PIZ



C.BUFFER ZONE:

The Dominated species are Prosopis juliflora, Azadirachta indica, Borassus flabellifer, Acacia nilotica, Albizia lebbeck, Acacia leucophloea, Acacia auriculiformis, etc. The detailed list of plants found in the Bufferzone is given in **Table no – 3.26.**

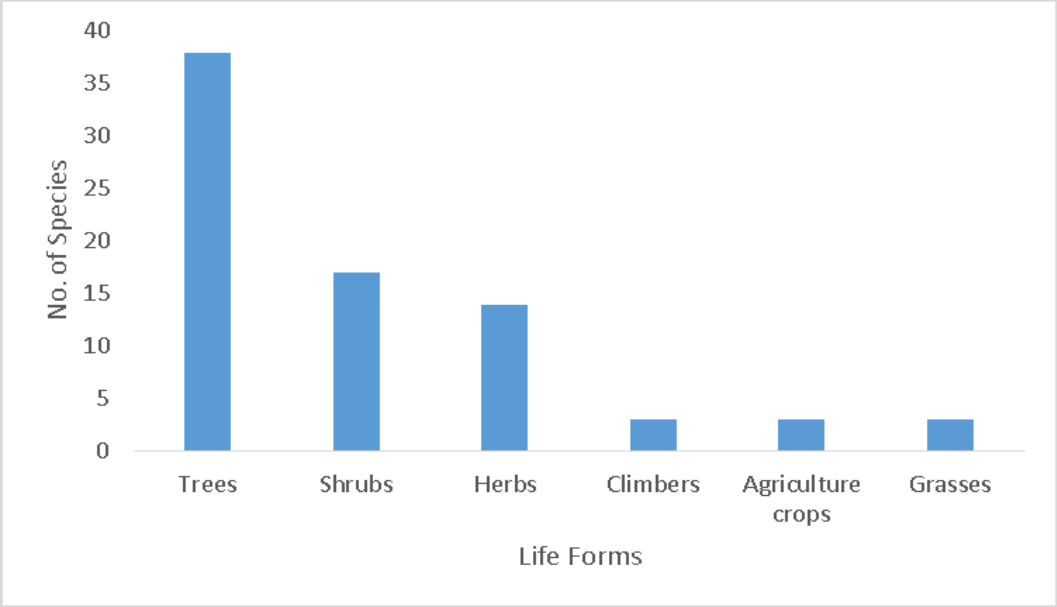
Table 3.26: List of Floristic Species in the Buffer Zone

Sl.No	Species Name	Family	Local Name
Trees			
1	*Aegle marmelos*	Rutaceae	Vilvamaran
2	*Sygygium cumuni*	Myrtaceae	Naval
3	*Delonix regia*	Fabaceae	Gulmohar
4	*Madhuca longifolia*	Sapotaceae	Iluppai
5	*Azadirachta indica*	Meliaceae	Vembu
6	*Bobax ceiba*	Malvaceae	Ilavu
7	*Pithecellobium dulce*	Fabaceae	Kodukkapuli
8	*Leucaena leucocephala*	Fabaceae	Subabul
9	*Tectona grandis*	Verbenaceae	Tekku
10	*Ficus religiosa*	Moraceae	Poarasamaram
11	*Pongamia pinnata*	Fabaceae	Pungai
12	*Gmelina arborea*	Lamiaceae	Kumalaamaram
13	*Musa paradisiaca*	Musaceae	Valzhlai
14	*Cassia fistula*	Fabaceae	Konrai

Sl.No	Species Name	Family	Local Name
15	*Peltophorum pterocarpum*	Fabaceae	Kilukiluppai
16	*Citrus limon*	Rutaceae	Lemon
17	*Tamarindus indica*	Fabaceae	Puli
18	*Borassus flabelliformis*	Arecaceae	Panna-maram
19	*Polyalthia longifolia*	Annonaceae	Nietilingam
20	*Prosopis juliflora*	Fabaceae	Seemai karuvel
21	*Mimusops elengi*	Sapotaceae	Magizhamboo
22	*Acacia nilotica*	Fabaceae	Karuvelan
23	*Terminalia arjuna*	Combretaceae	Marudha Maram
24	*Albizia lebbeck*	Fabaceae	Vagai
25	*Thespesia populnea*	Malvaceae	Puvarasu
26	*Carica papaya*	Caricaceae	Pappali
27	*Morinda pubescens*	Rubiaceae	Manjanathi
28	*Morinda tinctoria*	Rubiaceae	Nuna
29	*Casuarina equisetifolia*	Casuarinaceae	Savukku
30	*Acacia auriculiformis*	Fabaceae	Pencile tree
31	*Mangifera indica*	Anacardiaceae	Maamaram
32	*Cocus nucifera*	Arecaceae	Tennai
33	*Moringa oleifera*	Moringaceae	Murungai
34	*Ficus benghalensis*	Moraceae	Aalamaram
35	*Bauhinia purpurea*	Caesalpiniaceae	Mantharai
36	*Psidium guava*	Myrtaceae	Koyya
37	*Samanea saman*	Fabaceae	Amaivagai
38	*Acacia leucophloea*	Fabaceae	Valvelam
Shrubs			
1	*Lantana camara*	Verbenaceae	Uni
2	*Ziziphus jujuba*	Rhamnaceae	Elanthai
3	*Abutilon indicum*	Malvaceae	Thuthi
4	*Tecoma stans*	Bignoniaceae	Yellow trumpetbush
5	*Jatropha glandulifera*	Euphorbiaceae	Vellaikattukottai
6	*Ricinus communis*	Euphorbiaceae	Amanakku
7	*Justicia adhatoda*	Acanthaceae	Adathoda
8	*Ixora casei*	Rubiaceae	Idlipoo
9	*Nerium indicum*	Apocynaceae	Arali
10	*Lawsonia inermis*	Lythraceae	Maruthani
11	*Aloe vera*	Asphodelaceae	Chotthu kathalai
12	*Vitex negundo*	Verbinaceae	Vanili
13	*Hibiscus rosa-sinensis*	Malvaceae	Semparuthi
14	*Ipomoea carnea*	Convolvulaceae	Pink morning glory
15	*Sida cordifolia*	Malvaceae	Sida plant
16	*Cassia auriculata*	Fabaceae	Aavarampoo
17	*Calotropis gigantea*	Apocynaceae	Earukku

Sl.No	Species Name	Family	Local Name
Herbs			
1	*Leucas aspera*	Lamiaceae	Thumbai
2	*Parthenium hysterophorus*	Asteraceae	Parthenium
3	*Acalypha indica*	Amaranthaceae	Kupaimeni keeri
4	*Argemone mexicana*	Papaveraceae	Mexican poppy
5	*Anisomeles indica*	Lamiaceae	marutti
6	*Phyllanthus niruri*	Phyllanthaceae	Keelzhaneeli
7	*Tridax procumbens*	Asteraceae	Vettukai poondu
8	*Sida acuta*	Malvaceae	Palambasi
9	*Anisomeles malabarica*	Lamiaceae	Peyimarutti
10	*Cleome viscosa*	Cleomaceae	Naai velai
11	*Solanum xanthocarpum*	Solanaceae	Kandangkattari
12	*Sida rhombifolia*	Malvaceae	Kurundotti
13	*Acanthospermum hispidum*	Asteraceae	Gokul kanta
14	*Achyranthes aspera*	Amaranthaceae	Nayuruvi
Climber			
1	*Asparagus racemosus*	Asparagaceae	Tannir-vittan
2	*Cissus quadrangularis*	Vitaceae	Pirandai
3	*Abrus precatorius*	Fabaceae	Kundumani
Agricultures Crops			
1	*Gossypium hirsutum*	Malvaceae	Paruththi
2	*Sesbania grandiflora*	Fabaceae	Agati
3	*Musa paradisiaca*	Musaceae	Valzhai
Grasses			
1	*Cyperus rotundus*	Cyperaceae	korai pullu
2	*Chloris barbata*	Poaceae	Kodai pullu
3	*Cynodon dactylon*	Poaceae	Arugampillu

Figure 3.18: Flora species in the Buffer Zone



3.5.2 FAUNA:

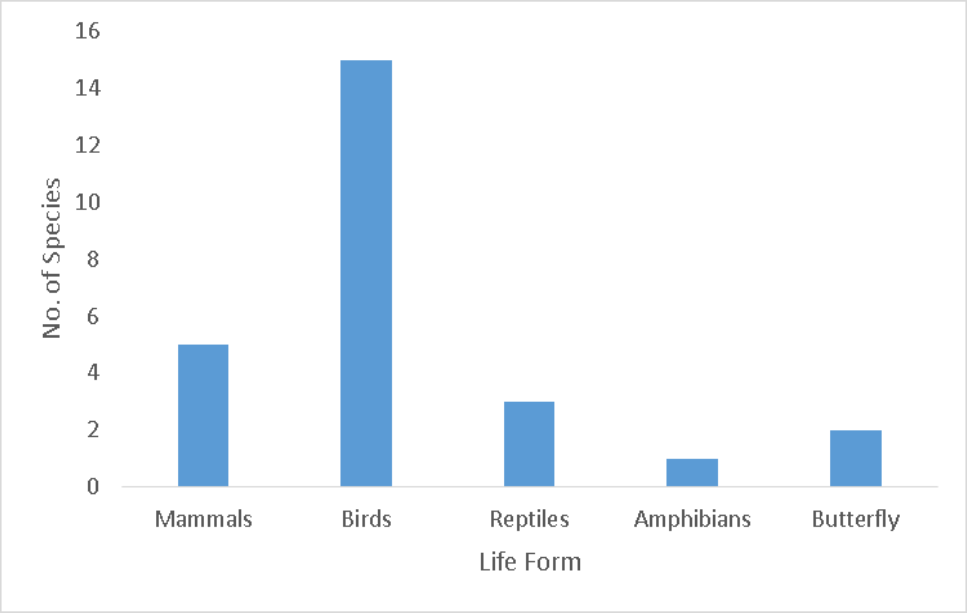
Methodology: Both direct and indirect observation methods were used to survey the fauna. Point Survey Method was used to study the Bird diversity. Besides, discussion with local villagers Collection secondary data from Government records, published reports as well as through discussion with Forest officials, knowledgeable public were used for the study.

Observation: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals are commonly found. The lease and 10 Km buffer zone does not fall in the Western Ghats ESA boundary. No wild mammalian species was directly sighted during the field survey. There is no Schedule I animals in the buffer zone area. The list of fauna within the study area is given in **Table No – 3.27**.

Table 3.27: List of Fauna in the Buffer Zone

S.No	Common Name	Scientific name	IWPA, Schedule
Mammals			
1	Indian Palm squirrel	Funambuus palmarum	IV
2	Wild Boar	Sus scrofa cristatus	III
3	Bonnet macaque	Macaca radiata	IV
4	Indian Grey Mongoose	Herpestes edwardsii	II
5	Common Indian Hare	Lepus ruficaudatus	IV
Birds			
1	Spotted Dove	Streptopelia chinensis	IV
2	Common Kingfisher	Alcedo atthis	IV
3	Common Myna	Acridotheres tristis	IV
4	Rose-ringed Parakeet	Psittacula krameri	IV
5	House Sparrow	Passer domesticus	IV
6	Black Drongo	Dicrurus macrocercus	IV
7	Common Crow	Corvus splendens	V
8	Red-vented Bulbul	Pycnonotus cafer	IV
9	Indian Cuckoo	Cuculus micropterus	IV
10	Little Cormorant	Phalacrocorax niger	IV
11	Purple-rumped Sunbird	Nectarinia zeylonica	IV
12	Little Egret	Egretta garzetta	IV
13	Common Quail	Coturnix coturnix	IV
14	Cattle Egret	Bubulcus ibis	IV
15	Common Babbler	Turdoides caudatus	IV
Reptiles			
1	Garden Lizard	Calotes versicolar	IV
2	Rat Snake	Ptyas mucosa	II
3	Common Indian krait	Bungarus caeruleus	II
Amphibians			
1	Common Indian toad	Bufo melanostictus	IV
Butterfly			
1	Common crow	Euploea core	IV
2	Lime butterfly	Papilio demoleus	IV

Figure 3.19: Fauna Diversity in the Buffer Zone



3.6 HYDROGEOLOGICAL STUDY:

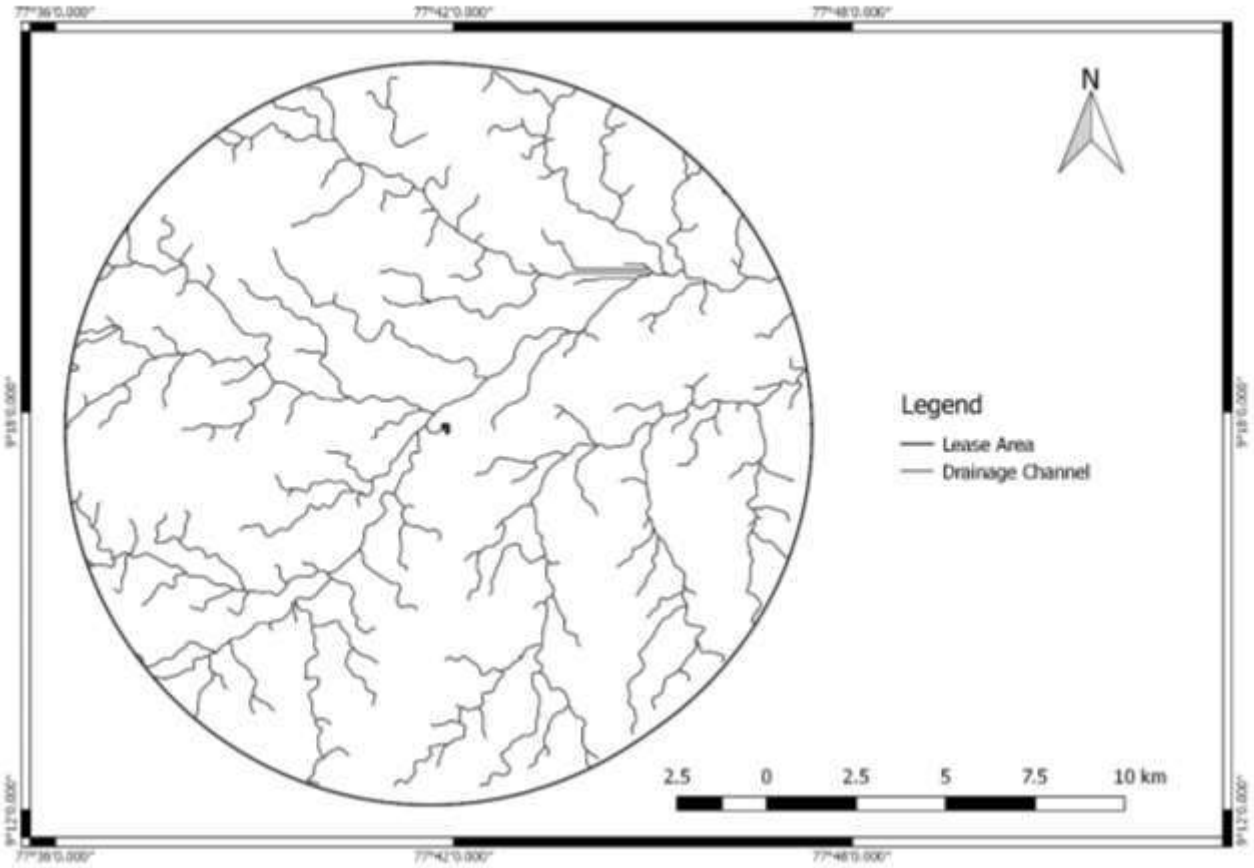
This section delves into the study of the hydrogeological scenario of the study area to evaluate the impact of mining activities on the nearby areas. The study area is located in Appanayakkanpatti Village, Vembakottai Taluk, Virudhunagar District is considered to understand the nature of the general hydrogeological conditions of the area.

3.6.1 PHYSIOGRAPHY AND DRAINAGE:

Physiography: The area applied for mining lease is a gentle plain terrain. Part of the lease area has already been mined out.

Drainage: There is no major water body in the core zone. Nikshopa Nadi – 150m (W) and Vaippar River at a distance of 350m (N).

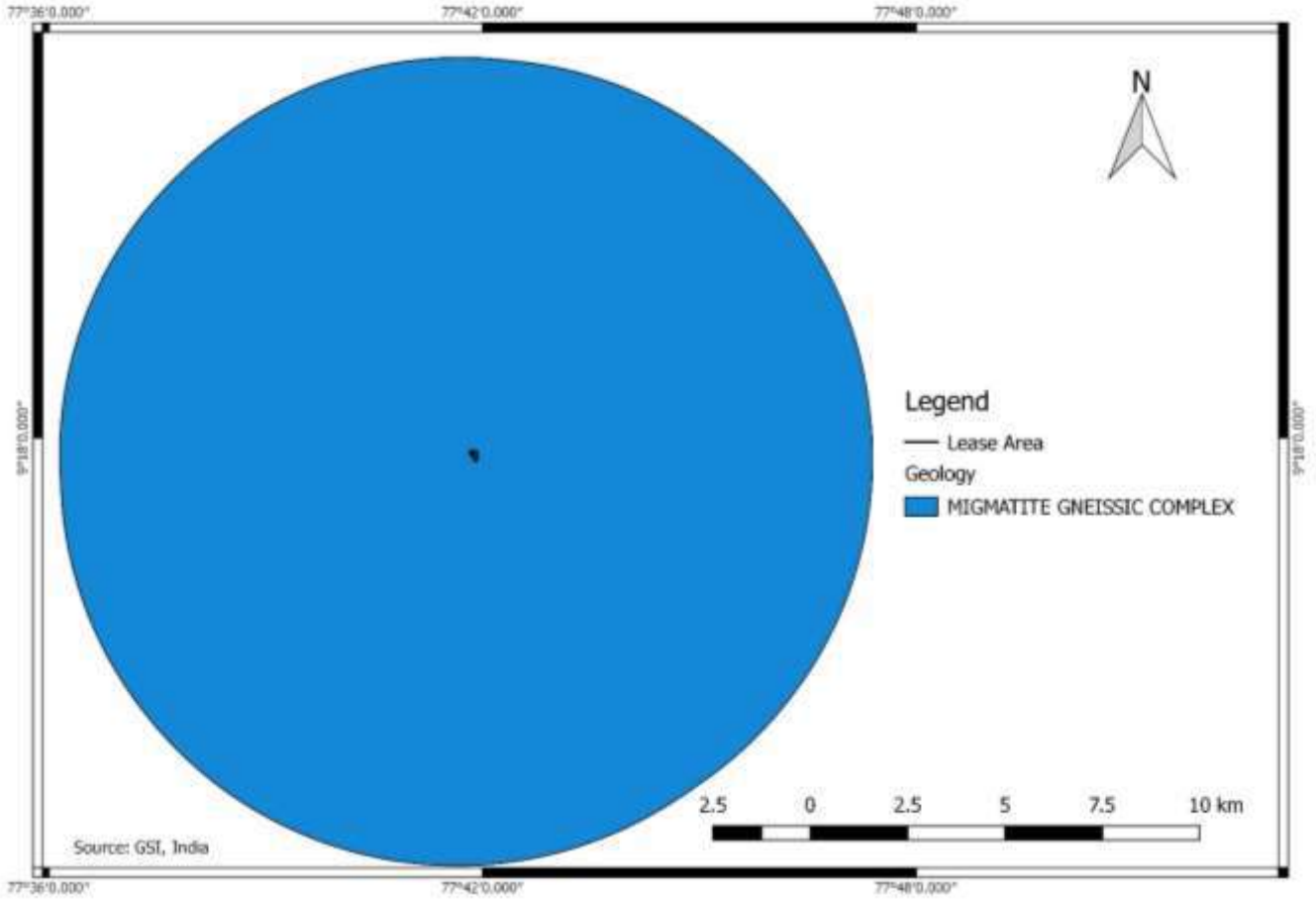
Figure 3.20: Drainage Map



3.6.2 GEOLOGY AND GEOMORPHOLOGY

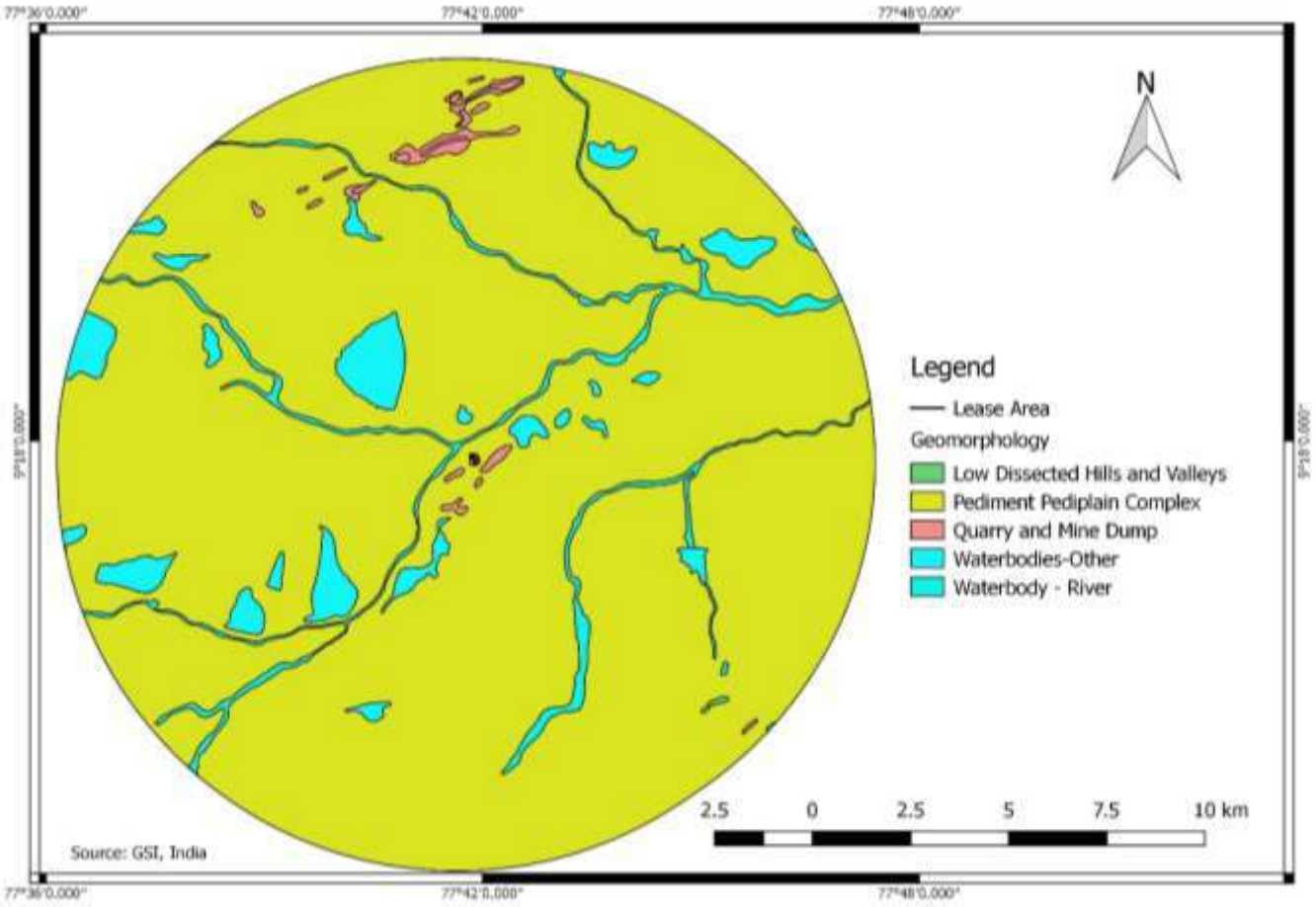
Geology: The type of rock formation in the core and buffered zone is composed of Migmatite Gneissic complex. The lease area falls under Migtmatite Gneissic complex category.

Figure 3.21: Geology Map



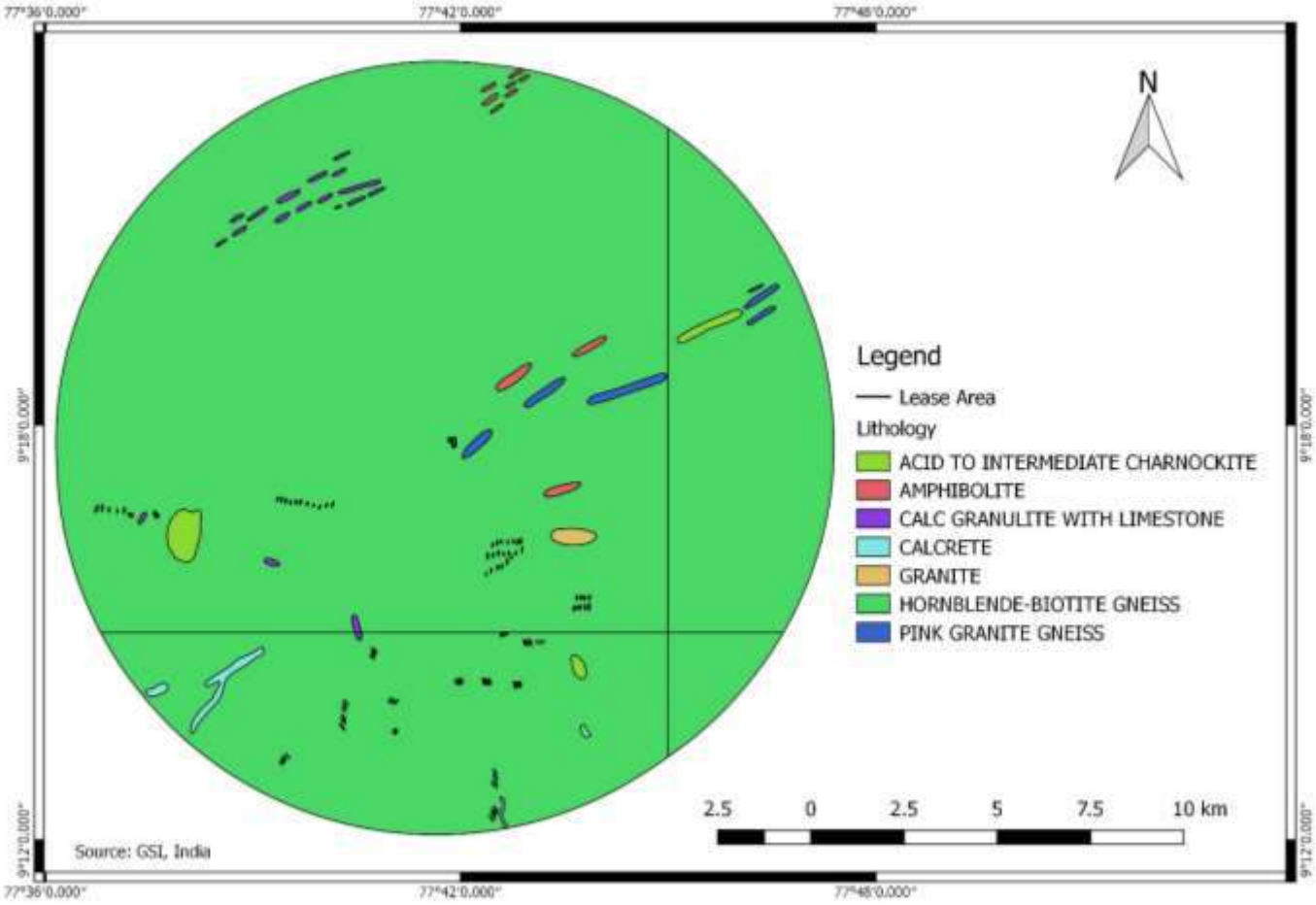
Geomorphology: The geomorphology map of the study derived from the satellite imagery using remote sensing and GIS technique. Predominantly the buffer zone is dominated by Pediment Pediplain complex, and it is the same catergory that the lease area also falls under.

Figure 3.22: Geomorphology Map



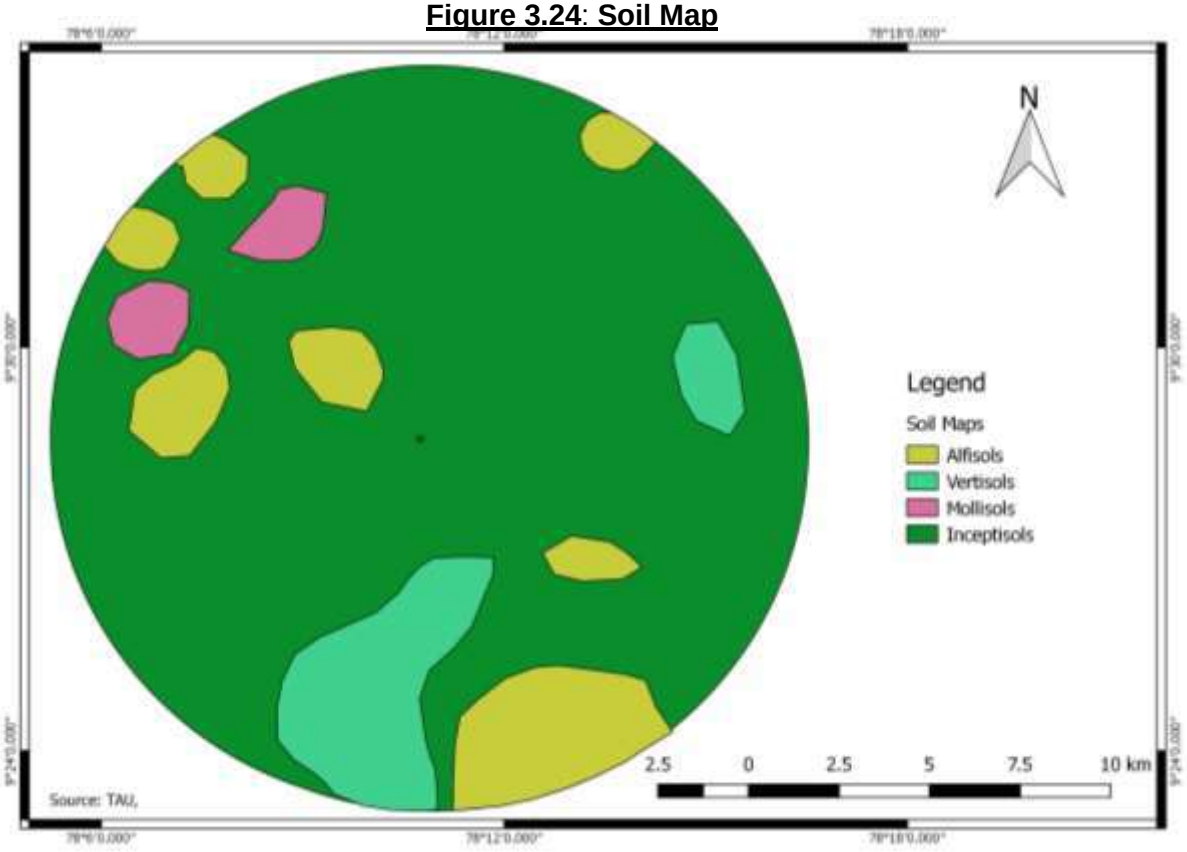
Lithology: The study area is mainly dominated by Hornblende-Biotite Geneiss. The lithology map has been provided below.

Figure 3.23: Lithology Map



Soil: The study area is characterized by Inceptisol, Vertisols and Alfisols. The project area is dominated with Inceptisol type of soil.

Figure 3.24: Soil Map



3.6.3 WATER TABLE OF THE AREA:

Based on the depth to water level data obtained from the India-WRIS, Department of Water Resources, Ministry of Jal Shakti for Aruppukottai Block, Viruthunagar District, Tamil Nadu the following is observed.

Table 3.28: General Trend of Depth to Water Level for Aruppukottai Block

Year	Depth to Water Level (m bgl)		Wells Monitored	
	Pre-Monsoon	Post-Monsoon	Pre-Monsoon	Post-Monsoon
2015	2.67 - 9.65	1.74 - 7.94	3	3
2016	3.5 - 7.66	4.07 – 9.9	4	3
2017	-	2.27- 4.88	-	2
2018	4.03-10.38	6.35-8.5	3	2

The premonsoon and post monsoon water levels are depicted **in Figure No.3.25, and 3.26** and they indicate that the depth to water level in project area ranges between 5.0 to 10.0 m bgl

during the pre-monsoon season(April) and 0.0 to 0.5 m bgl during the post monsoon season (November).

Figure 3.25: Pre-Monsoon Water Level

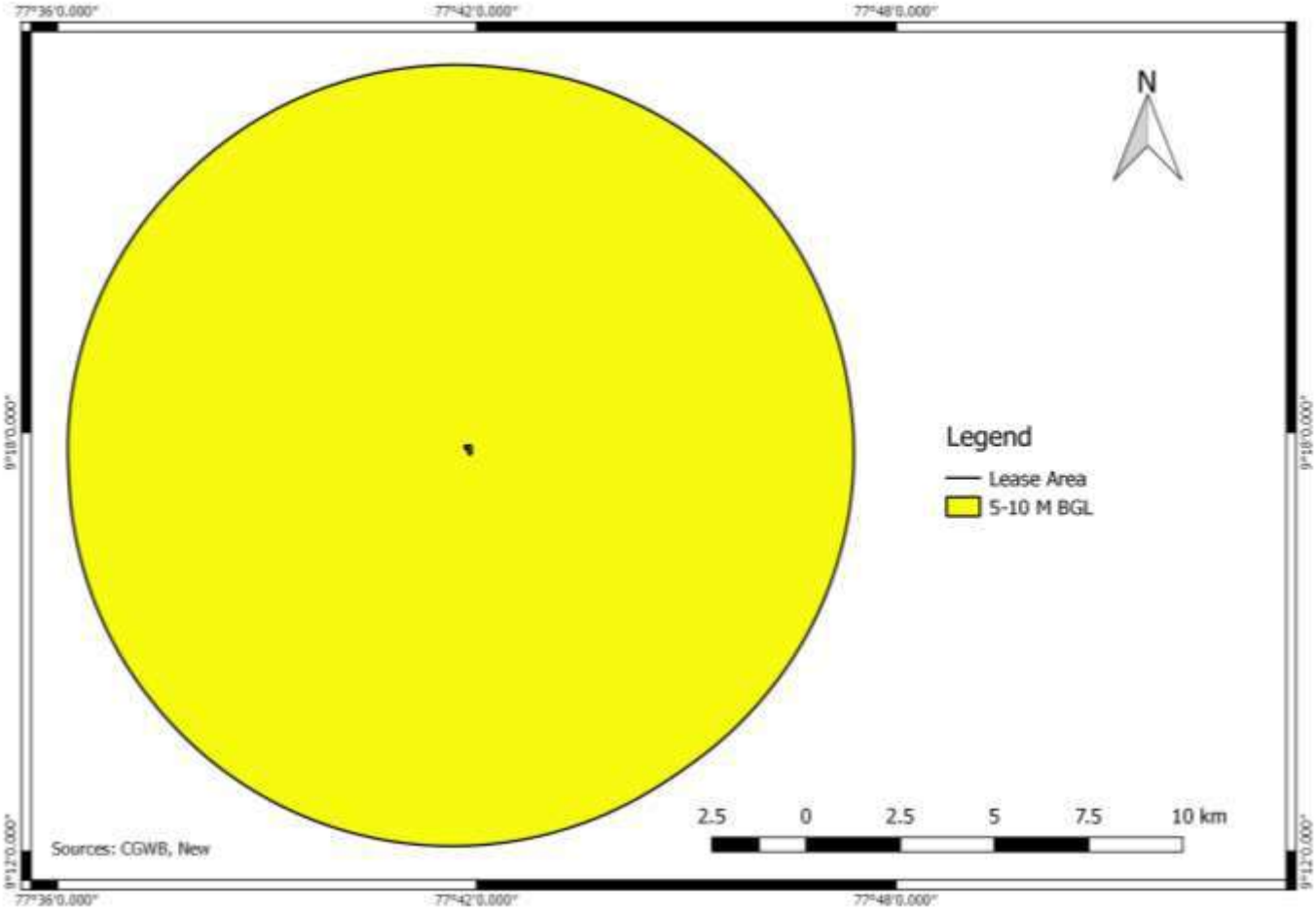
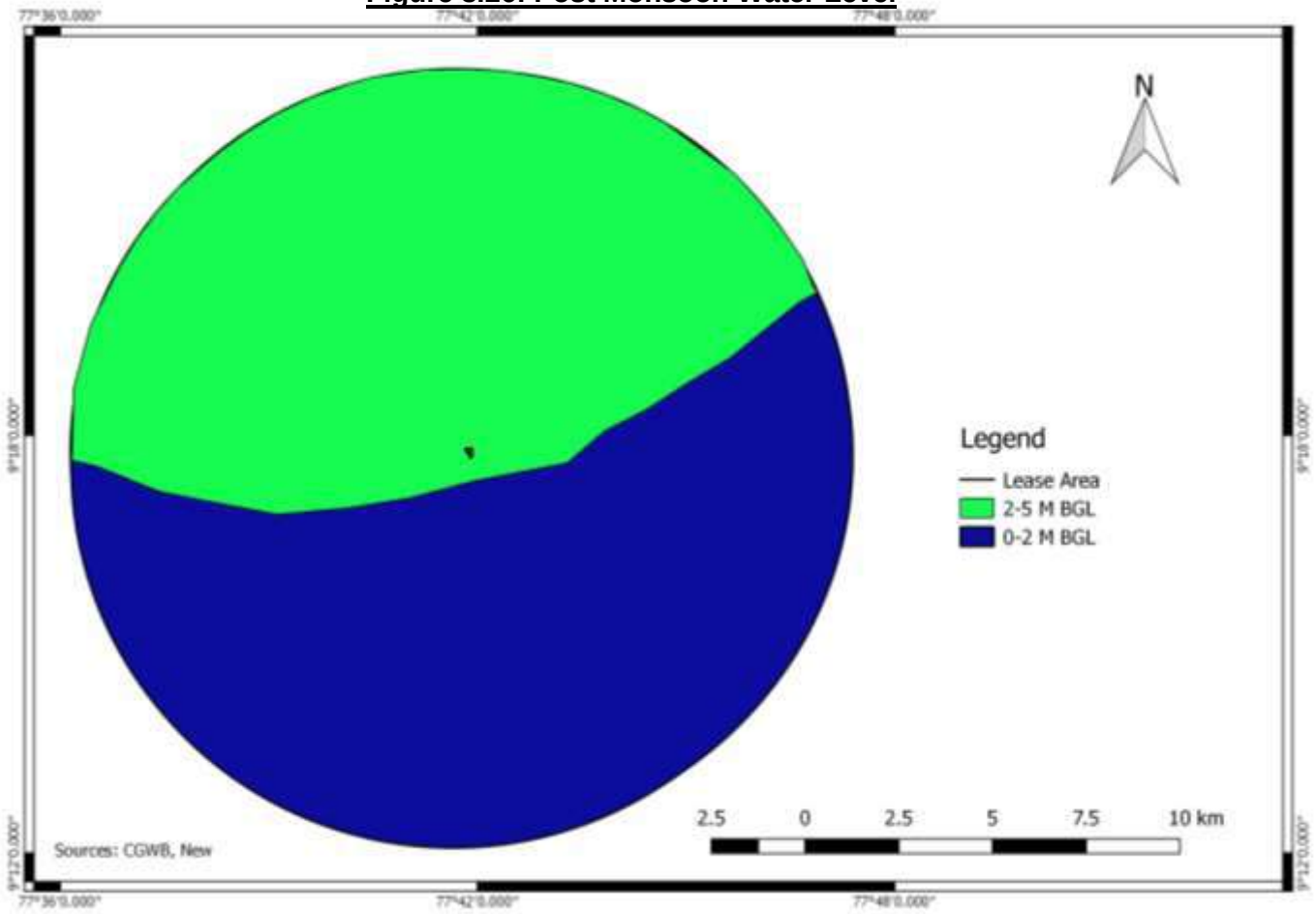


Figure 3.26: Post Monsoon Water Level



Based on the available information, it is concluded that the project area is considered to have poor groundwater potential. Productive aquifers are expected beyond depth of 60m BGL. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. There is no water seepage noticed in to the already quarried pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

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CHAPTER 4
ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 GENERAL

In this project Mechanized Open Cast mining will be carried out to quarry out Rough Stone and Top soil. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc., and the details of the same are elaborated in this chapter.

4.2 AIR ENVIRONMENT:

4.2.1 IMPACTS DUE TO PROJECT OPERATION:

The existing ambient air quality in the area has been described in Chapter-III. The proposed mining and allied operations may cause deterioration of air quality due to pollution arising from the project operation if prompt care is not taken. The principal sources of air pollution in general due to mining and allied activities will be:

- Excavation of material.
- Movement of HEMM such as Excavators, tippers etc.
- Loading and unloading operation
- Transportation

Besides, Gas emission will occur as a result of operation of diesel driven mining equipment, compressors, transporting vehicles, etc.

Particulate matter smaller than 10 microns, referred to as PM_{10}, can settle in the bronchi and lungs and cause health problems like Bronchitis, Emphysema, Bronchial Asthma, Irritation of mucus membranes of eyes, etc. Particles smaller than 2.5 micrometers ($PM_{2.5}$), tend to penetrate into the lungs and very small particles (<100 nanometers) may pass through the lungs to affect other organs.

Besides the above mentioned fugitive dust emissions, atmospheric pollution can occur as a result of emission of SO_2, NO_x, CO etc., from diesel driven mining equipment, generator sets, etc. Larger suspended particles are generally filtered in the nose and throat and do not cause problems. Higher concentration of SO2, NOx, CO may cause some health effect on the human beings

exposed to it. In case of this mine, the following measures will be adopted to control impact on the air quality due to mining operations in the lease area:

Table 4.1: Impact and Mitigation Measures – Air Environment

S.No	Activity	Consequence	Mitigation Measures
1	Drilling	Dust Emanation	Usage of Drill bits in good condition
			Covering of drill holes with wet cloth
			Usage of sharp drill bits for drilling of holes.
			Provision of dust filters / mask to workers working at highly dust prone and affected areas.
2	Blasting	Instantaneous dust emanation	Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.
			Use of appropriate explosives for blasting and avoiding overcharging of blast holes.
			Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
			Use of controlled blasting techniques with Nonel to keep the dust generation, noise as well as vibration level within the prescribed limits.
3	Excavation and Loading	Dust emanation, Gaseous Emission	HEMM will be operated as per the manufacturer's guidelines
			Enclosures for operator cabin.
			Imparting sufficient training to operators on safety and environmental parameters.
			Proper maintenance of hauling equipments.
			Avoiding overloading of dumpers.
4	Transportation	Dust emanation, Gaseous Emission	Regular wetting of transport road using mobile water tanker.
			Proper maintenance of haul road and other roads
			Setting up of tyre wash facility in the transport road.
			Avoiding overloading of tippers
			Covering of loaded tippers with tarpaulins during transportation
			Vehicular emissions will be controlled through regular and proper preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
5	Others	Dust emanation, Gaseous Emission	Development of greenbelt / barriers around mine in the safety zone and carrying out plantation within the lease area.
			Tin sheet will be erected on the southern side. Green netting will be carried out around the lease periphery on all other sides.

Due to adoption of all these measures, no major impact on air quality is envisaged due to this proposed opencast mining operation.

Considering that the quantum of production is less, only 1 excavator, 2 tippers will be engaged. These equipments will be properly and regularly maintained. Besides, as mentioned earlier, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 800 number of plants will be planted in and around the lease area.

The impact on air quality due to the proposed project is estimated using AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion. Details of the modeling study / estimation including the modeling technique and post project air quality values are elaborated in the following paras.

4.2.2 AIR QUALITY IMPACT PREDICTION:

The model simulations are done for the air pollutant arising from the mining operations, namely, PM_{10}, $PM_{2.5}$. **Ground Level Concentration** (GLC) have been computed using hourly meteorological data.

Table 4.2: Emission Sources

ACTIVITY	SOURCE TYPE
A. Mining operations	Open pit
B. Transportation	Line

4.2.2.1 Emission Factors

Quantification of particulate emissions has been carried out by the emission factor technique. Emission factor is a statistical average of the rate at which a pollutant is released during an activity. This factor when multiplied by the level of that activity in a given situation will give the overall effect. Fugitive emissions have been predicted by using standard equations given and suggested by AP-42, USEPA(1998), Coal S&T Project and for mining & allied activities and other factors. The modeling is done for the peak production to know the worst scenario. The details of the emission factors used for the same is provided below:

Table 4.3: Emission Factors

S.No	Activity	PM10	PM2.5	Unit
1	Ore Loading	1.5×10^{-3}	2.1×10^{-4}	Kg/T
2	OB Loading	1.4×10^{-4}	1.5×10^{-5}	Kg/T
3	Hauling inside lease area	0.19	0.019	g/VKT
4	Drilling	0.1	0.04	Kg/hole

4.2.2.2 Emission Rates:

Based on the emission factors, after adopting necessary control measures like dust suppression, Proper maintenance of HEMM, using better quality diesel, using latest equipment, proper maintenance of roads, etc. the expected emission rate due to various operations in this project is calculated and is given below:

Table 4.4: Emission Rate

ACTIVITIES/POLLUTANTS	PM_{10} (g/sec)	$PM_{2.5}$(g/sec)
Ore Loading	0.03	0.01
Drilling	0.13	0.05
Hauling inside lease area	0.13	0.02
Total	**0.29**	**0.08**

A. ***Emission Source Coordinates:*** The center of mine was assumed (0, 0) in the mathematical modeling.

B. ***Meteorological Conditions Used In Predictions:*** The hourly meteorological data has been generated for Winter Season (December 2021 to February 2022)and the same has been used in the predictions.

4.2.2.3 Results and Discussions

The results of the Peak GLC's for various environmental parameters with control measures are given below:

Table 4.5: Peak Incremental Concentration

S.no	Parameters	Peak incremental concentration µg/m^3
1	**PM_{10}**	1.99
2	**$PM_{2.5}$**	0.74

t is observed that the peak incremental concentration for PM_{10}, $PM_{2.5}$ occurring very near the source. At away from the source the values are getting reduced due to dispersion effects. The Isopleths of PM_{10}, $PM_{2.5}$ concentrations for with control measures scenario have also been drawn and these are given in **Figure No.4.1 and 4.2.** The incremental and predicted concentrations at the locations of ambient air quality have been discussed in the following section.

Figure 4.1: Isopleth of GLC Prediction for PM_{10}

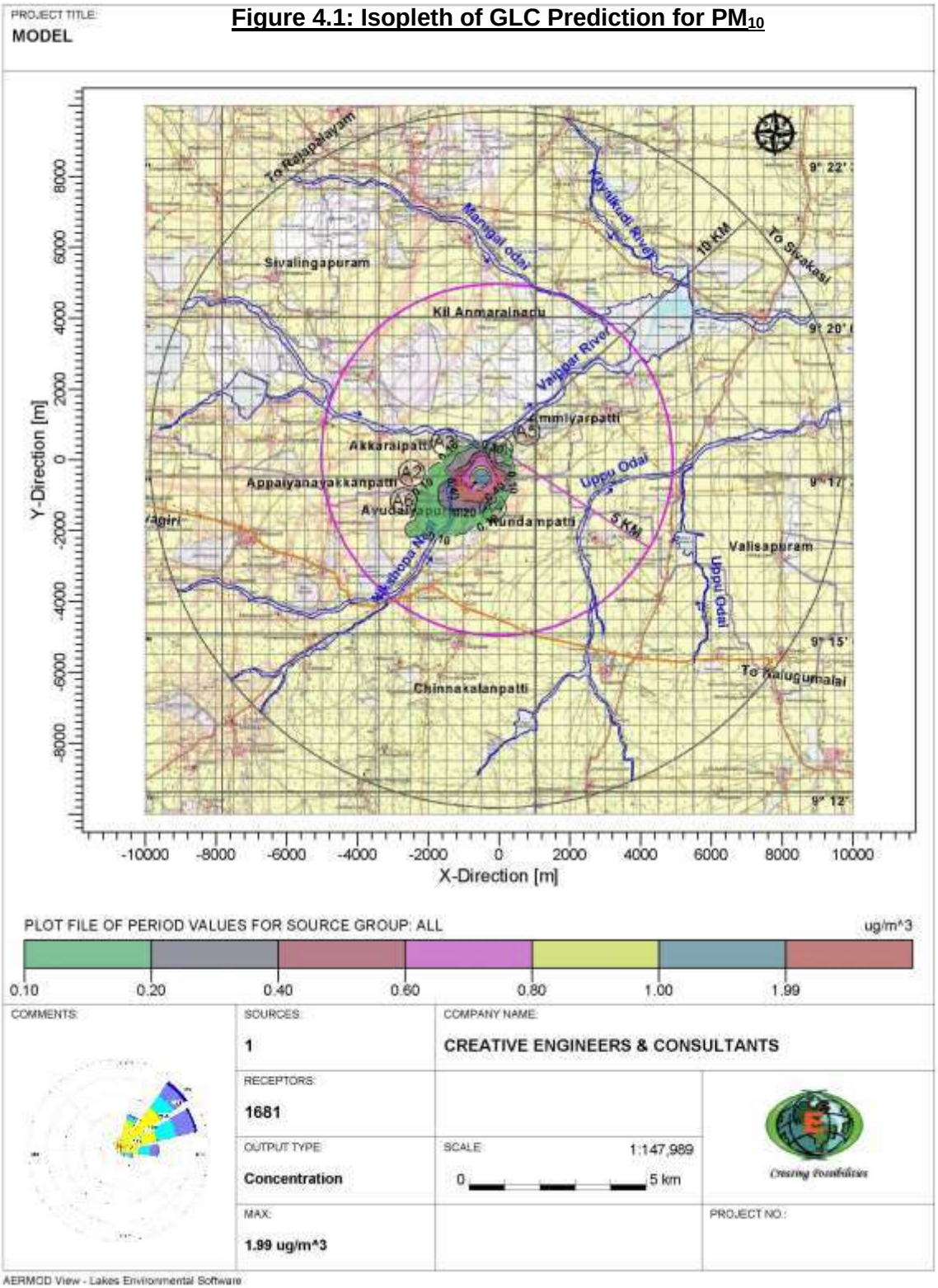
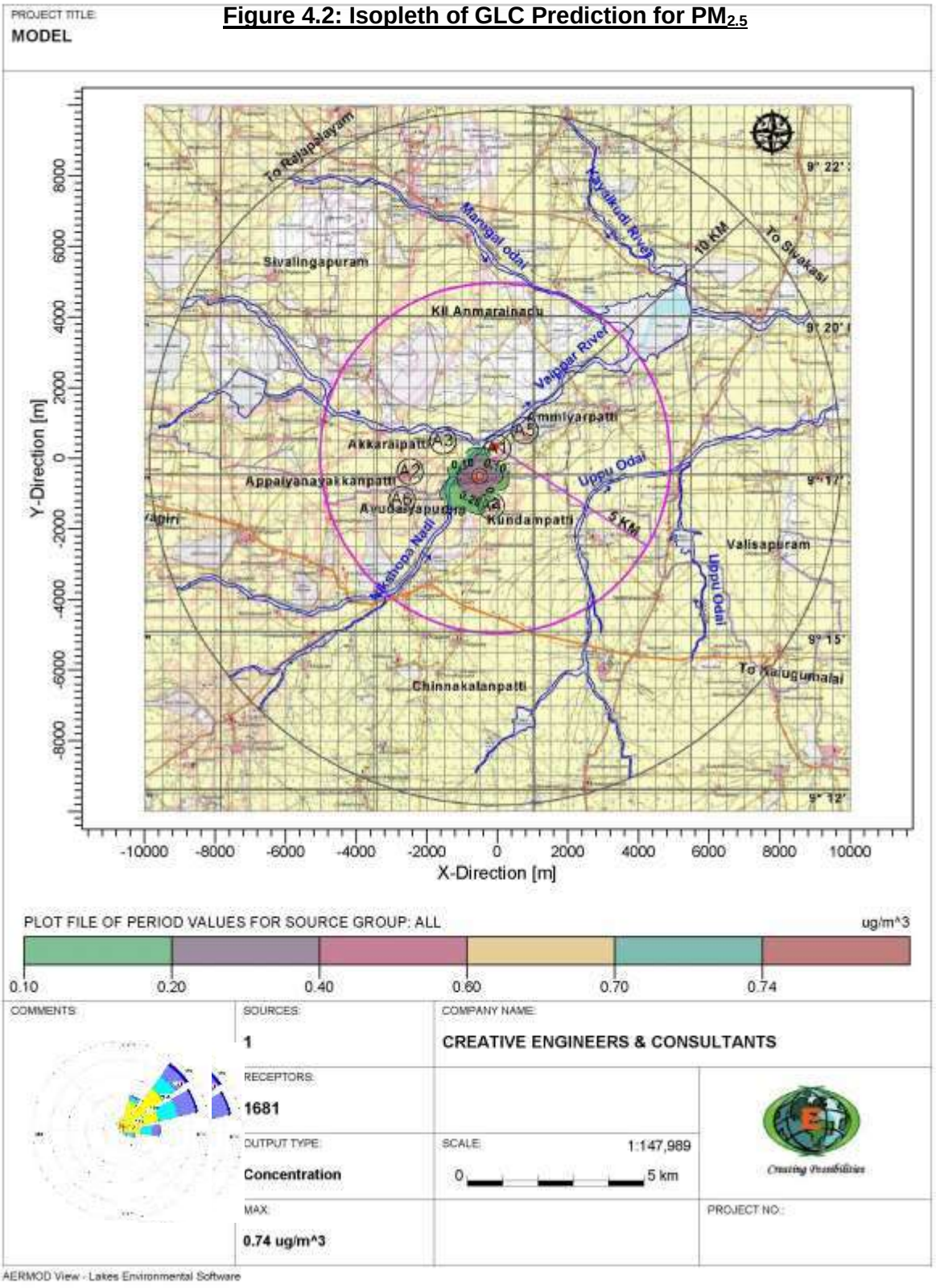


Figure 4.2: Isopleth of GLC Prediction for $PM_{2.5}$



4.2.2.4 Predicted Ambient Air Quality:

The post project Concentrations of PM_{10}, $PM_{2.5,}$ (GLC) (base line + incremental) after adopting necessary control measures is given in **Table No - 4.6 to 4.7.**

Table 4.6: Concentrations Of PM_{10} after Project Implementation

Values in μg/m³

S. No	Location	Background Concentration	Predicted Incremental Concentration	Post Project Concentration	Statutory Limits
1	Near Core Zone	76.3	1.9	78.2	-
2	Appanayakkanpatti Village	55.6	<1.0	56.6	100
3	Akkaraipatti Village	70.2	<1.0	71.2	
4	Kundampatti Village	64.4	<1.0	65.4	
5	Ammiyarpatti Village	57.6	<1.0	58.6	
6	Avudaiyarpuram Village	54.1	<1.0	55.1	

Table 4.7: Concentrations Of $PM_{2.5}$ after Project Implementation

Values in μg/m³

S. No	Location	Background Concentration	Predicted Incremental Concentration	Post Project Concentration	Statutory Limits
1	Near Core Zone	36.6	<1.0	37.6	-
2	Appanayakkanpatti Village	25.9	<1.0	26.9	60
3	Akkaraipatti Village	32.6	<1.0	33.6	
4	Kundampatti Village	30.9	<1.0	31.9	
5	Ammiyarpatti Village	28.1	<1.0	29.1	
6	Avudaiyarpuram Village	24.9	<1.0	25.9	

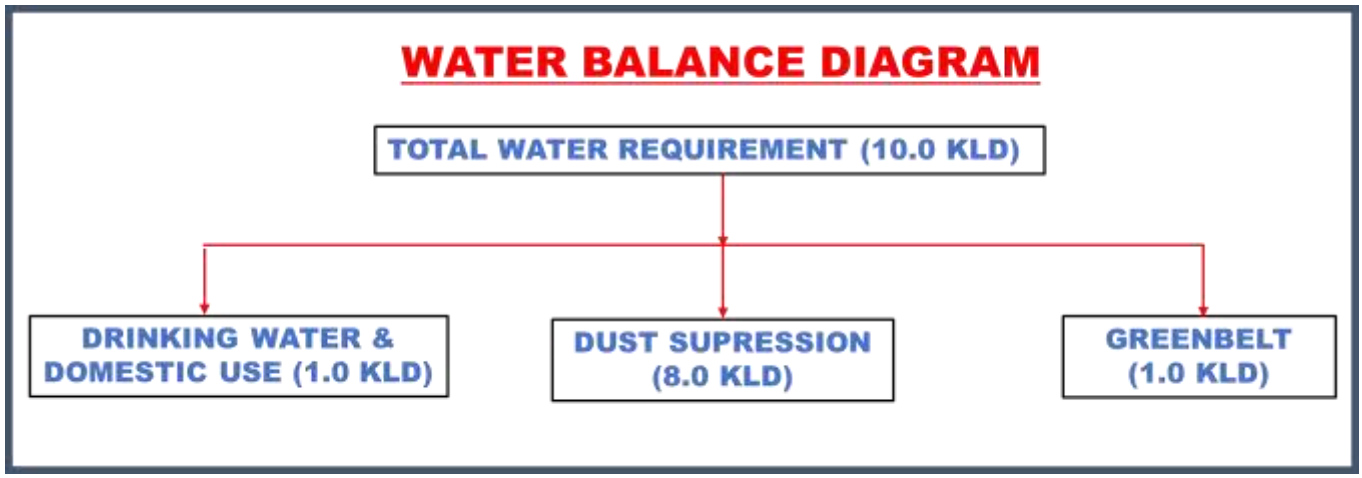
It can be seen that the resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM_{10} are in the range of 55.1 μg/m3 to 78.2 μg/m3 and with respect to PM2.5 are in the range of 25.9 μg/m3 to 37.6 μg/m3 which are within the statutory limits in each case. For preservation of environment in this mine strict enforcement of management schemes and regular air quality monitoring will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.

4.3 WATER ENVIRONMENT:

4.3.1 WATER REQUIREMENT:

The total water requirement for this project will be 10.0 KLD comprising 1.0 KLD for drinking water and domestic use, 8.0 KLD for dust suppression and 1.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose. The water balance diagram for the same is shown in **Figure No 4.3.**

Figure 4.3: Water Balance Diagram



4.3.2 SOURCES OF WATER POLLUTION:

The existing water environment showing water quality at different sampling stations in the area has been described in Chapter-III.

Direct impact on human beings due to poor water quality consequent to mining operation can lead to various water borne diseases like diarrhea, jaundice, dysentery, typhoid, etc. Besides, the polluted water may not be useful for animal or human consumption, vegetation and may affect aquatic life, if effluents are not properly treated to remove the harmful pollutants.

The major sources of water pollution normally associated due to mining and allied operations are:

a. Domestic effluent.
b. Washouts from stockpile if any.
c. Disturbance to drainage course in the project area
d. Generation of mine pit water pumped out from deeper workings if any.

4.3.3 TREATMENT SCHEME:

A. Generation of domestic effluent:

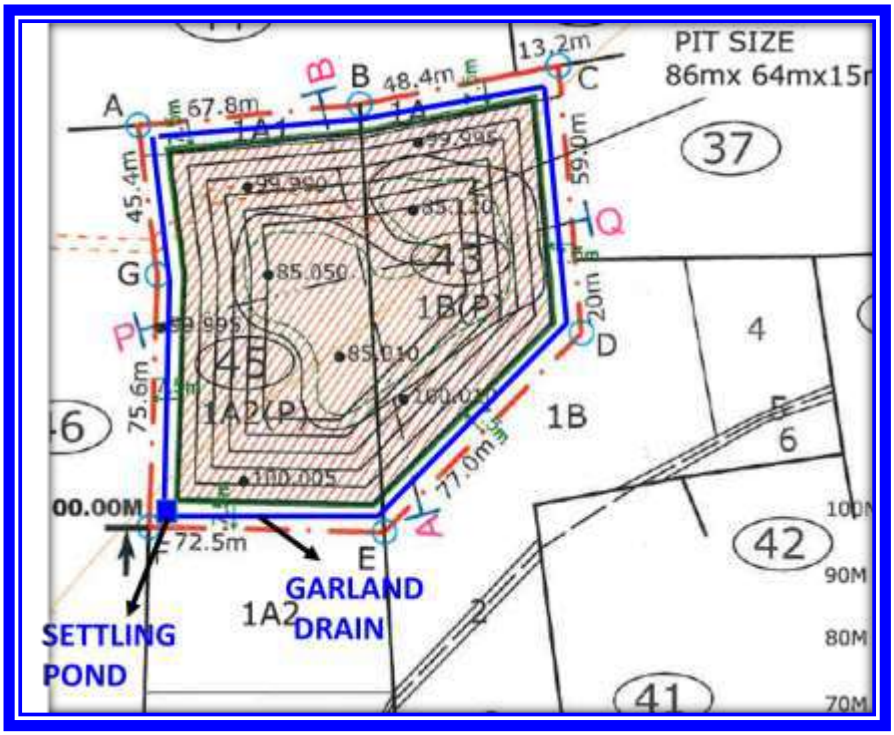
The domestic sewage to be generated from the project will be collected in septic tank with soak pits.

B. Washouts from overburden, ore stockpile, etc.

Since the entire material from the quarry face will be directly dispatched to the consumers, there will not be any stockpiles. There are no waste dumps in this quarry. As such there will not be any wash out due to stock pile or waste dumps.

The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. Towards surface runoff management, a garland drain of length 490m will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. The surface runoff management structures diagram is given in **Figure No 4.4.**

Figure 4.4: Surface Runoff Management Structures



C. Disturbance to drainage courses

There is no proposal to discharge any effluent into this water body. Non- perennial Vaippar river and its tributary Nadhi is located 150 meter (North) and 350 m (west) respectively from the lease area. Based on geophysical study there is no observation of fractured zone/ fissure vein up to depth of 60m in the study area. During the rainy time only surface water flow in Vaippar River is observed and in the remaining period it is almost dry. As such no major impact is envisaged on the nearby water bodies due to project operations.

D. Generation of mine pit water pumped out from deeper workings if any.

Based on the available information and the geophysical investigations it is observed that the project area is considered to have poor groundwater potential. Productive aquifers are expected beyond depth of 60m BGL. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. There is no water seepage noticed in to the already quarried pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

As mentioned earlier, the rainfall will be collected in the mine floor sump and advantageously used. Excess water if any in the sump will be pumped to settling pond for downstream users.

4.3.3.1 STAGE OF GROUNDWATER DEVELOPMENT

Details of hydrological scenario of the study area were given in para 3.6, Chapter – III. The groundwater resource data of Virudhunagar district was obtained from the data provided in the technical report of the Central Ground Water Board, South Eastern Costal Region – 'District groundwater brochure, Virudhunagar District.'

Table 4.8: Ground Water Resources Estimation– Vembakottai Taluk (M.Cum)

Net Groundwater Availability	Existing Gross Draft for Irrigation	Existing Gross Draft for Domestic and industrial water supply	Existing Gross Draft for all uses	Allocation for Domestic and Industrial Requirement supply upto next 25 years (2029)	Allocation for Domestic and Industrial Requirement supply upto next 25 years (2029)	Stage of Ground water Development (%)	Category of Block
26.82	13.14	23.7	15.51	24.7	11.22	58	Safe

From the table it is seen that the stage of groundwater development of Vembakottai where the study area falls is 58%. In view of this, this area can be categorized as 'Safe' from ground water development point of view. Thus there is scope for further ground water development.

4.3.4 REDUCING WATER CONSUMPTION OVER THE YEARS:

4.3.4.1 GENERAL METHODS:

Use of water will be monitored and used to the minimum required. Awareness will be spread to the employees about the importance of water conservation. Tap and showers will be turned off immediately after use and any leaks will be monitored and immediately controlled. Water requirement for greenbelt and dust suppression can be reduced by choosing the native plants/trees species with low water requirement and which can sustain in such conditions for greenbelt/ plantation and also optimum usage to the required minimum. While the dust suppression itself is an important method of pollution control for air pollution due to dust, the water consumption will be monitored strictly. The water tanker will be examined for any sources of leaks and if found will be immediately sealed so that water can be utilized for dust suppression effectively without loss.

4.3.4.2 RAINWATER HARVESTING PLAN

Since the lease proximate areas are with less water potential and the rainwater is the major source for replenishment of ground water, effective rainwater harvesting and other water augmentation measures are proposed in this project.

a) Development of garland drain around the quarry connected to settling tank.
b) Cleaning of drain periodically to prevent siltation
c) The supernatant clear water from the settling pond will drain into the nearby drainage on the western side of the lease.
d) Utilizing the rainwater harvested in the mine pit to meet the water requirement of the project.
e) Excess water, if any in consultation with local villagers and in line with government practices shall be provided to the downstream users.

4.4 NOISE AND VIBRATION:

4.4.1 NOISE ENVIRONMENT:

The ambient noise levels in the study area have been discussed in Chapter - III. The data shows that the existing noise levels are within statutory tolerable limits. The impact prediction and control measure for noise environment due to mining and allied activities is described below:

4.4.1.1 IMPACT PREDICTION DUE TO NOISE:

Noise is one of the inevitable causes of pollution in mining operations, largely due to the extensive mechanization adopted. Besides, other operations such as drilling, blasting, movement of vehicles, etc., also produce noise of considerable magnitude in mining operations. The main sources of noise and expected levels are given below in **Table no – 4.9.**

Table 4.9: Main Sources of Noise

Sl. No.	Source	Inside Cabin	Noise level at 10 m. from source dB(A)
1	Shovel	84-91	59-68
2.	Dumpers/Tippers	87-96	75-85
3.	Drill	88- 95	75-83

Prolonged exposure to a high noise level is harmful to the human auditory system and can create mental fatigue, rebellious attitude, annoyance and carelessness, which may lead to neglect of work and also result in accidents. The impact of noise level as per World Health Organization's 1986 notification is given below in **Table No - 4.10**.

Table 4.10: Impact of Noise Levels

NOISE LEVELS	ADVERSE EFFECTS
90-115 dB	Partial deafness and nervous irritability
> 115 dB	Permanent deafness
Impulsive noise (>90dB)	Frightens livestock grazing in the nearby areas

OSHA (Occupational Safety and Health Administration), USA and other similar organisations stipulate that noise level up to 90 dB(A) is acceptable for eight hours exposure Leq (Equivalent sound level) (8hrs) per day. The Directorate General of Mines Safety, in circular No. DG (Tech)/18 of 1975, has prescribed the noise level in mining occupations (TLV) for workers, in an 8 hour shift period with unprotected ear as 90 dB(A) or less.

The noise will be felt only near the active sources. There will be considerable reduction in the noise level due to the absorption factor, environmental surroundings and other attenuation factors. As far as absorption factor is concerned, If the ground cover is vegetated or has a soft texture, sound will decrease at the rate of 4.5 dB(A) every time the distance between the source and the observer is doubled. Besides, there will be shielding factor, which takes into account the environmental surroundings. With every 30m of dense land scape vegetation, 5 dB(A) of additional attenuation can be obtained up to a maximum of 10 dB(A). As such at away places the effect of noise will not be felt.

Anticipated noise levels resulting from operation of the various machineries like excavator, tippers, drill have been computed using point source model. Computation of cumulative noise levels at the nearby villages is made based on the assumption that there are no attenuation paths between the source and the boundary.

Noise modeling is carried out using the following formula:

Lp2 = Lp1 – 20 log R2/R1, Where, Lp1 and Lp2 are sound pressure levels at points located at distances R1 and R2 respectively from the source. The study results are as follows:

Table 4.11: Post Project Noise Levels

Sl.No	Location	Baseline Day Eq.in dB(A)	Post project noise Eq in dB(A)	Limit dB(A) as per MoEF&CC
1.	North West Corner	49.7	58.5	90
2.	North East Corner	49.7	60.9	90
3	South East Corner	49.7	61.2	90
4	South West Corner	49.7	59.6	90
5	Appanayakkanpatti Village	44.8	45.2	55
6	Akkaraipatti Village	48.2	48.6	55
7	Kundampatti Village	45.2	45.7	55
8	Ammiyarpatti Village	48.2	48.5	55
9	Avudaiyarpuram Village	47.4	47.7	55

From the studies, it is found that the predicted Noise Levels due to mining operations at the periphery of the mine lease itself will be less even without considering any attenuation factor. However, practically there will be attenuation due to vegetation etc., and as such there will not be any adverse noise propagation outside the lease boundary. Since the habitations are also away the effect of noise due to mining operations will not be felt at all in the surrounding villages.

4.4.1.2 CONTROL MEASURES FOR NOISE ENVIRONMENT:

Hence, by following mitigative measures for noise control, the impact on noise levels will be insignificant:

- Planting rows of native trees along roads, around mine area and other noise generating centers to act as acoustic barriers.
- Sound proof operator's cabin for equipments like shovel, tippers, etc.
- Proper and regular maintenance of equipments may lead to less noise generation.
- Providing in-built mechanism for reducing sound emissions.
- Providing earplugs to workers exposed to higher noise level.
- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.
- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.
- Provision of tin sheet on the southern side and green net along the lease periphery on the other sides.

Further green belt and afforestation will be planned and executed to abate noise and dust propagation in the area.

4.4.2 GROUND VIBRATIONAL DUE TO BLASTING EFFECTS:

Vibrations due to blasting may cause damage to nearby structures, if appropriate control measures are not adopted. Flyrock is another possible damage causing outcome of blasting.

To ensure no adverse impact is caused to the nearby structures blasting study is carried out and its details are given below:

4.4.2.1 Blasting Study:

'Scientific Study on Blast Induced Ground Vibration and Design of Controlled Blasting Parameters' was conducted by **Department of Mining Engineering, Anna University, Chennai** in the nearby working quarry. The present study has proposed a controlled blasting design based

on the available information and site inspections to find out the influence of blasting to be carried out in the proposed Gravel and Rough Stone Quarry and cluster quarry operations including the causeway on it and any sensitive structures in respect of blast-induced ground vibrations, fly-rock, airborne dust, and blasting fumes. Salient point of the study is given below.

Objectives of the Study:

- Site visit and collection of data.
- Submission of the detailed methodology for blasting including safety measures to be taken.
- Design trial blasts and to prescribe safe methodology for regular blasting operations.
- Carry out at least 10 controlled trial blasts and monitor blast-induced ground vibrations at least at 20 points under the supervision of the author of this report and their team.
- Develop a scaled distance equation for the site and determine the site constant which are site specific.
- Fine-tune the blast design, if required, which will restrict the blast-induced ground vibrations to the levels tolerable to the said site-specific the fly-rock and minimise their effect on the residents, traffic on the road, people working in the agricultural lands and effects on the dam.
- Training the people in carrying out the designed blast and blast vibration monitoring.
- Submit the report including suggesting a suitable methodology for carrying out regular drilling, controlled blasting operations in the quarry, and also appropriate safety measures to be taken to guard against blast-induced vibrations and fly-rock.

Figure 4.5: Location of the proposed quarry sites

Figure 4.6: Lease boundary of the proposed gravel and rough stone quarry

Control of Fly rock: Fly rock can be controlled by judicious selection of blast parameters mentioned above based on experience and calculations using certain empirical formulae developed from the site investigations. The fly rocks produced during the blasting can be controlled by adopting the following measures:

- Proper blast design and its implementation.
- Careful inspection of site before laying out blast holes and deciding the drilling pattern to be adopted based on the bench geometry.
- Drilling in accordance with the requisite blast design.
- Blast hole charging (using optimum charge factor).
- Maintaining the adequate stemming column.
- Use of proper stemming material
- Imparting adequate training to the blasting crew.

Blasting can certainly be carried out in the cluster rough stone and gravel quarries including that of Thiru.Subburaj, j in a very safe manner by resorting to controlled blasting techniques restricting the maximum charges per delay based on the distance of the structure to be protected from the blasting site and adopting proper initiation sequencing under the supervision of qualified and experienced Blaster as per the requirement of the statute.

Design of Controlled Blasting:

To minimize generation of blast-induced ground vibrations and thereby their adverse effects on the college, residential buildings and other structures, the blast vibration predictor equation for the cluster quarry area has been developed by determining the field constants (which are site-specific) by monitoring ground vibrations during all 15 trial blasts in the nearby working quarries. This monitoring was carried out by TWO numbers of seismographs by locating them at the shortest distance from the blasting cluster site. Based on the parameters like the maximum explosive charge per delay, measured peak particle velocities (PPV), distances of each of the blasting sites to the monitoring stations of that particular blast, predictor equations for the cluster area have been developed using regression analysis. This predictor equation was used to

calculate the maximum (safe) explosive charge per delay by substituting the distance of the blasting site from the nearest college and residential structures.

The predictor PPV for the proposed rough stone and gravel quarry site with constraint of allowable PPV limit is 2 mm/s at the distance of more than 250 m.

$$V = 4.49 * \left(D/Q^{1/2}\right)^{-0.338}$$

Table 4.12: Summary of PPV predicted

Distance (m)	Maximum charge per delay (kg)	Predicted PPV (mm/s)
50	25	2.06
100	25	1.63
150	25	1.42
200	25	1.29
250	25	1.19
300	25	1.13
350	25	1.07
400	25	1.02
450	25	0.98
500	25	0.95
550	25	0.92
600	25	0.89
650	25	0.87
700	25	0.85

Conclusion:

This scientific report has been prepared to determine the influence of ground vibrations and fly-rock generated due to blasting in the proposed and existing quarries associated as a cluster quarries on the surrounding sensitive structures, residential structures, village roads and any other structures not belonging to the owner. The report also addresses the associated environmental issues like noise, fly rock, etc. Based on the investigations, recommendations are made in this report to carry out controlled blasting in the said quarry in a safe manner without affecting the structures under consideration and the surrounding environment.

It is concluded that the controlled blasting using NONEL by limiting maximum explosive charge per delay, did not produce peak particle velocities (blast vibrations) greater than 2 mm/s well within 200m distance. Since the locations of the College building, Women's hostel building, residential and other buildings is more than 600 m , it implies that they are safe.

All the blasting face shall be chosen in the North-West direction that is working face away from the college building structures to avoid the propagation of ground vibration from the blasting site. In unavoidable condition, line drilling or muffle blasting technique shall be adopted in the blasting site facing along the North-East and South-East direction. If the blasting is conducted at the depth of 5 to 10 m from the surface, it is highly recommended to adopt the controlled blasting technique by mean of muffle blasting to avoid the fly rock.

Noise (air over pressure) pollution by blasting is impulsive in nature and that too for a very short duration during a specific period of the day when the blasting timings are restricted to a specific period of the day instead of spreading throughout the day and the same is also announced and declared. This air over pressure will not cause any structural damage to the College building, Women's hostel building, residential and other buildings. This problem can be reduced by restricting the timings of the blasting and also restricting the number of blasts per week.

Restricting the specific explosive charge, cleaning the top & near the toe of the bench thoroughly before drilling, charging & blasting and adopting V pattern of initiation, the fly-rock can be restricted to within the leasehold area. Avoiding overcharging, cleaning the top & near the toe of the bench thoroughly before drilling, charging & blasting, use of water as per the recommendations of this report would substantially control adverse effect. The recommendations of this report are site specific and can be effectively implemented only in the proposed quarry associated as a cluster quarry and not to the quarries outside the study area. However, blast induced ground vibrations can cause damage to the causeway, residential and other structures in the village, and fly-rock can endanger the surroundings, if indiscriminate blasting of multiple rows of drillholes are blasted with instantaneous detonators using huge charges of high explosives per delay (more than what has been recommended in this report per delay) is used.

It is highly recommended that the blasting operations shall be conducted as per the report suggestions and recommendations for the production blasts to be carried out in future.

By adoption of above measures, it will be ensured that the ground level vibration due to blasting are maintained within the limits prescribed by DGMS, Dhanbad at the mining areas vide Circular No. 7 dated 29 -08-1997 as given below

Table 4.13: Permissible Peak Particle Velocity (PPV) In Mining Areas

In mm/sec

Type of structure	Dominant excitation frequency Hz		
	<8 Hz	8-25 Hz	>25 Hz
A. Buildings/structures not belonging to owner			
Domestic houses /structures (Kuchha brick and cement)	5	10	15
Industrial buildings (RCC and framed structures)	10	20	25
Objects of historical importance and sensitive structures.	2	5	10
B. Building belonging to owner with limited span of life			
Domestic houses/structures (Kuchha brick and cement)	10	15	25
Industrial buildings (RCC and framed structures)	15	25	50

Besides, different blasting time for the projects in the vicinity is suggested and the timing is to be mentioned in the display board in the respective mines entrance. Since a cart track is passing near the lease area, though no vehicle movement is observed in this road, It is also suggested to carry out the following precautionary measures before blasting:

1) Post security guard / flagmen at least 300m from the mines on either side of the road.
2) Blasting flags (red flags) shall be displayed before blasting in the blasting zone before blasting.
3) Block movement of men or vehicle and ensure the entire stretch free from movement of men or animals.
4) To give a warning signal by way of long hooter / siren/whistle 5 minutes prior to blast.
5) To provide *"BLAST SIGNAL"* 1 minute before blast and also *"ALL CLEAR SIGNAL"* after inspection of the blasting site and ensuring proper blast by the blaster.
6) Restoring the movement only after getting *"ALL CLEAR SIGNAL"*
7) Carrying out blasting through DGMS qualified Blaster and following all the prescribed statutory rules for transportation, storage & handling of explosives .

4.5 LAND ENVIRONMENT:

This lease area is a patta land in the name of applicant. Part of the lease area is alredy minedout and present land use pattern, and the post mining land use pattern is shown below:

Table 4.14: Land Use Table

S.No	Land Use	Present Area (Hect)	Area in use End of the lease period(Ha)
1	Mining \Excavation	0.55.04	1.23.0
2	Infrastructure & Road	Nil	0.03.0
3	Afforestation (greenbelt & plantation)	Nil	0.27.0
4	Undisturbed/Others	0.67.96	0.00.0
5	Fencing	Nil	0.05.0
	Total	**1.58.0**	**1.58.0**

4.5.1 LAND RECLAMATION:

There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. In the post mining stage, entire 1.23.0 Ha of mined out area will be left as water body. 0.03.0 Ha is road & infrastructure, 0.27.0 ha will be under afforestation and 0.05.0 will be fencing.

Table 4.15: Land Use During Post Operational Period

S.No	Description	Land use (Ha.)			
		Plantation	Water body	Others	Total
1	Quarrying Pit	-	1.23.0	-	**1.23.0**
2	Infrastructure and Roads	0.03.0	-	-	**0.03.0**
3	Green Belt	0.27.0	-	-	**0.27.0**
4	Fencing	-	-	0.05.0	**0.05.0**
	TOTAL	**0.30.0**	**1.23.0**	**0.05.0**	**1.58.0**

Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined out void shall be utilized to meet the water requirement of the project.

4.6 BIOLOGICAL ENVIRONMENT:

4.6.1 EXISTING FLORA AND FAUNA:

The core zone area is a hard rock formation area, with barren patches. Details of flora/fauna pattern in core and buffer zones have been described in chapter - III.

4.6.2 IMPACT OF MINING ON BIOLOGICAL ENVIRONMENT:

The significance of impact on biological environment due to mining and allied activities on various fronts is described below:

Table 4.16: Impact on Biological Environment

S.No	ISSUES	OBSERVATIONS
1	Clearance of vegetation due to mining and allied activities	No clearance of major vegetation is involved since major part of the lease area is already mined and exposed with rock.
2	Retardation of tree growth, tip burning, etc, due to deposition of dust and the Particulate matter generated from the mining operation.	Necessary mitigative measures like dust suppression, proper maintenance of equipment's, roads will be carried out to prevent dust generation.
3	Proximity to national park/ wildlife sanctuary/reserve forest/mangroves/Coastline/estuary/ sea	The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc.
4	Release of effluents into water body that also supplies water to wildlife	There is no proposal to discharge any effluent into nearby water bodies.
5	Proposed project could increase siltation that would affect nearby biodiversity area	Surface runoff management structures like garland drain, settling pond etc. as explained above will be constructed and as such there will not be any appreciable impact on surface water quality which in turn can affect the bio diversity of the area.
6	Activities of the project affects the breeding/nesting sites of birds and animals	In the present ML area, there is no wetland. A migratory bird needs sufficient wetlands with sufficient food, shelter, roosting places and nesting places which is not possible here.
7	Located near an area populated by rare or endangered species	There are no Schedule 1 animals
8	Risk of fall/slip or cause death to wild animals due to project activities	In the post mining stage, barbed wire fencing is proposed all around the mined-out void to prevent falling of animals in the mine pits.
9	Project affects the forest-based livelihood/any specific forest product on which local livelihood depends	Not applicable
10	Project likely to affect migration routes	No migration routes are in the area.

11	Project likely to affect flora of an area, which have medicinal value	No such significantly important medicinal value species within the ML area and its nearby region.
12	The project likely to affect wetlands, fish breeding grounds, marine ecology	There are no any wetlands, fish breeding grounds, marine ecology nearby the ML area which will be affected due to this project.
13	Project affects the Agriculture, Forestry and Traditional Practices	Most of the study area remain uncultivated and only in patches of land away from the lease area, agricultural activities are carried during monsoon rainfall. Due to poor quality of the soil, inconsistent rainfall, water scarcity, high agricultural labor cost, manpower shortage and less yield are reason for very little agricultural activity in this region.
14	Impact on soil health and biodiversity	The lease area is covered with grasses and bushes only (Photograph of the site attached in Chapter-II). Besides, there is no waste generation, disposal or stacking involved in this project. As such no loss of soil health and Bio-diversity is expected.
15	Climate change leading to droughts, floods,etc.	• As such the production from this lease is very low to cause any appreciable impact. • No adverse impact on the surrounding environment is envisaged since the number of equipments to be used to achieve this small production is very less and the magnitude of operation is of very small level. • Besides, as is it a mining project, no adverse generation of heat is envisaged. • Certified vehicles with low carbon emissions will only be used. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 800 number of plants will be planted in and around the lease area. • Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. • There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact. • It will be ensured that mining will be carried out adhering to all the statutory rules and regulations and maintaining the environmental quality within the prescribed standards by effective implementation of varioius mitigative measures. • These mitigative measures will be continued for the entire lease period ensuring no impact on the environment. • As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people, loss of Agriculture, Forestry and Traditional Practices is not
16	Pollution leading to release of greenhouse gases (GHG) rise in temperature (Hydrothermal/Geothermal effect due to destruction in environment, Bio-geochemical processes and its foot prints including environmental stress) and livelihood of local people.	

		envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.
17	Possibilities of water contamination and impact on aquatic ecosystem health and impact on Sediment geochemistry in the surface streams	• This being a mining project no process effluent will be generated. • Water generation is expected to be due to ✓ Direct rainfall falling within the pit ✓ Rain water draining near the lease area. • Direct rain fall will be collected in the mine floor sump. Water from sump will be pumped to settling pond for downstream users. • Rainwater from the mine periphery will be collected through peripheral garland drain. Garland drain will be connected to a settling pond. Supernatant clear water from settling pond confirming to applicable limits will be let out to downstream users for agricultural or other purposes. • Due to above mentioned reasons and absence of perinnial water bodies nearby where in any marine ecosystem is observed, no effect on this front is expected.

There are no migratory corridors, migratory avian-fauna, rare endemic and endangered species. Therefore there shall be no impacts due to mining activity on them. Even though there are no adverse impact on bio diversity and flora/fauna status due to project operations, positive impacts will arise due to well-planned reclamation measures for restoration of land status in the area ultimately to productive land category with elaborately planned green belt development activities.

4.6.3 CONTROL MEASURES FOR BIOLOGICAL ASPECTS:

To reduce the adverse effects on flora/fauna status of the area due to deposition of dust generated from mining operations, mobile water tanker systems will be ensured in all dust prone areas to arrest dust generation. Methodical and well-planned plantation scheme will be carried out depending upon the immediate need, priority and availability of land. The plantation will be done along the lease boundary in a phased manner.

4.6.4 GREEN BELT & PLANTATION:

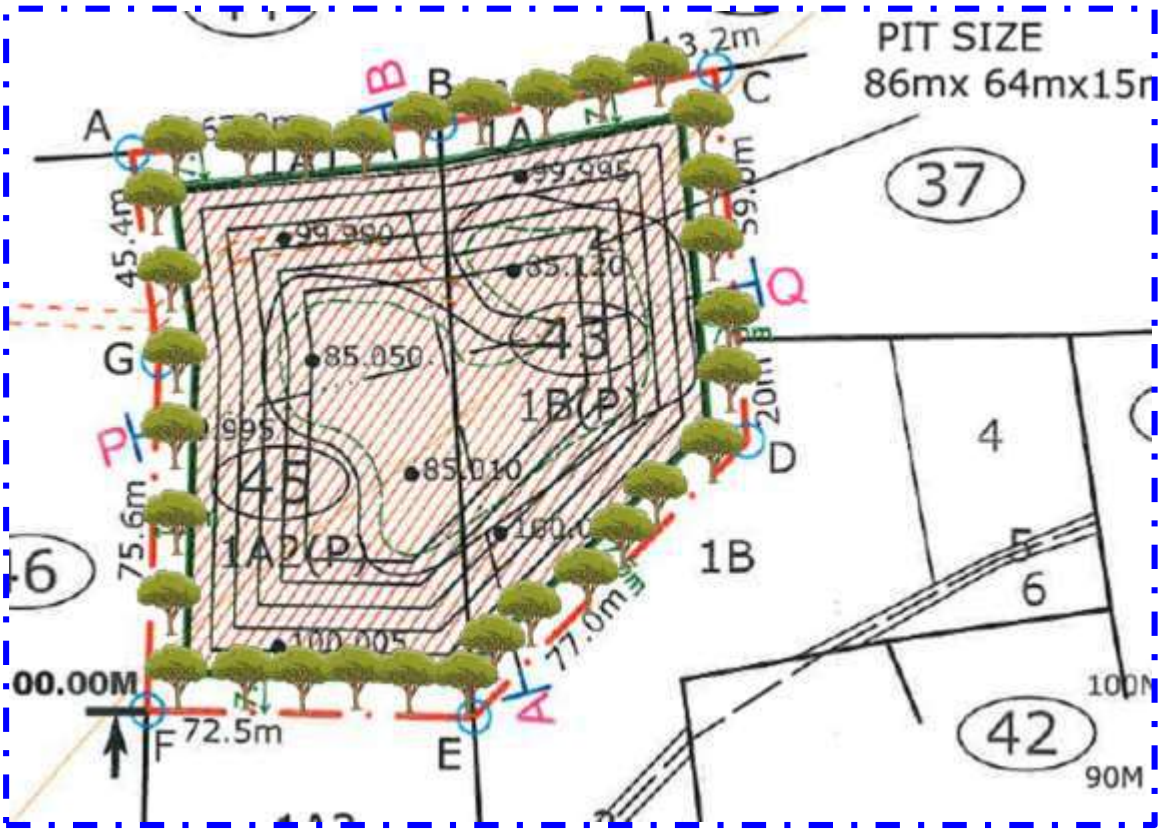
In the lease area, safety barrier 7.5m around the periphery. Greenbelt / Plantation will be carried out to enhance the vegetative growth and aesthetic in the safety zone area. About 800 trees will be planted in and around the lease area.

Table 4.17: Proposed Plantation

Year	No. of tress proposed to be planted	Name of the species
I	200	Albizia amara, Aegle marmelos, Albizia lebbeck, Bauhinia purpurea, Borassus flabellifer, Cassia fistula, Madhuca longifolia, Terminalia arjuna, etc.
II	200	
III	200	
IV	100	
V	100	
Total	800	

In the post mining stage, entire 1.23.0 Ha of mined out area will be left as water body. 0.03.0 Ha is road & infrastructure, 0.27.0 ha will be under afforestation and 0.05.0 will be fencing.The post mining land use plan showing afforestation and water body is shown in **Figure No- 4.7.**

Figure 4.7: Mine Closure Plan



4.7 SOCIO ECONOMIC ENVIRONMENT:

The entire lease area is in the proponent's possession. Hence, there are no habitations or hutments in the core zone area and no rehabilitation or resettlement problems will arise here. The cart track and seasonal odai in proximity to the lease area not be disturbed by the proponent and sufficient safety barrier and protective measures has also been considered.

The mining operations in the proposed mine will employ about 18 persons directly and about 50 persons on indirect basis through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and standards of living in the area through various service related activities connected with the project operations as shown under.

- Project related logistical operations for transport of Rough Stone, etc,
- Various trading services for consumer goods, spare parts, sundry items, etc.
- Contractual services connected with the project.
- Green belt and horticultural works in the project.
- Casual labor needs for various activities.

Besides, there will be improvement in the following aspects due to project operation:

- ❖ Improvement in infrastructural facilities, providing education aids etc. in nearby schools
- ❖ Betterment of drinking water facilities.
- ❖ Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc from this project directly and also indirectly.

From above details, it is clear that the project operations will have highly beneficial positive impact in the area.

Table 4.18: CER Cost

Project Cost (Rs.)	Rs. **48,56,305**/-
CER Cost Requirement (2% of the Project Cost) (Rs.)	Rs. 97,126.1/-
Actual CER cost allocated (Rs.)	Rs.5,00,000/-

However, towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner in provision of facilities in nearby Government School.

4.8 OCCUPATIONAL HEALTH AND SAFETY:

4.8.1 BASELINE STATUS:

Primary data collection through field survey conducted in the study area reveals that there is no reported incident of any occupational diseases in the area. Hazardous jobs like blasting, loading, etc. are planned to be executed safely and with all precautionary measures as prescribed in Metalliferrous Mines Regulations of 1961, so as to minimize hazards and incidences of health problems.

4.8.2 IMPACTS ON OCCUPATIONAL HEALTH DUE TO PROJECT OPERATIONS:

Anticipated occupational illness sequel to mining activities can be as follows:

- Dust related pneumonia
- Tuberculosis
- Rheumatic arthritis
- Segmental vibration
- Miner's Nystagamus

4.8.3 MITIGATIVE MEASURES FOR OCCUPATIONAL HEALTH:

To reduce pollution emanation from the project, following measures are being and will be taken:

- Water sprinkling on haul roads etc.
- Green belt creation to arrest dust and reduce noise propagation.
- Acceptance of good control measures for reducing air pollution, as mentioned earlier in the chapter.
- Control of noise levels through good preventive maintenance of machineries, green belt creation, provision of ear plug to workers, etc.

- In addition to above measures, the following remedial steps are being and will be enforced to ensure minimization of occupational health and safety problems.
- Medical examination of workers by qualified doctors, as per DGMS circulars.
- Regular awareness campaigns amongst staff and workers
- Staff will be provided with PPE to guard against excess noise levels, Dust generation and inhalation, etc., as per standards prescribed by DGMS.

4.8.4 MITIGATIVE MEASURES FOR SAFETY ASPECTS:

The following safety gadgets will be provided to the staff and workers based on their area of operation and work & requirement:

Sl No	Safety Equipments
1.	Helmets
2.	Shoes
3.	Goggles
4.	Dust Mask
5.	Hand Gloves
6.	Reflective Jackets
7.	Ear Muffs
8.	Signal Lights/Flags

A total budgetary provision of Rs.50,000 under capital cost and Rs.10,000 is allocated under recurring cost towards Occupational health and Safety Budget.

4.9 LOGISTICAL SYSTEM:

From this proposed quarry the entire output will be transported to the crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. The expected peak transport will be as follows:

A. **Present traffic scenario:** To know the present scenario, traffic survey is conducted by the PP at Kundampatti to Appayanaikenpatti Road. The details of the traffic survey is provided in Table No.4.19.

Table 4.19: Details of Transportation

Sl.no	Particulars of activity	Quantity
A	Maximum Material Transported (m3/year)	30050
B	No of days in a year	300
C	Transport hours per day	8
D	Truck capacity in T	20
	Trips per hour	2 Trips/hr

From the above table it is seen that there will be about 2 trips per hour. The existing road can absorb this traffic due to this project. However, the following mitigative measures are suggested:

Water sprinkling on material in the transport vehicles before transporting, so that no dust nuisance during transport will arise.

Plantation on either side of the transport road in consultation with the concerned department.

Proper maintenance of transport roads

Proper maintenance of transport vehicles.

Avoiding overloading of material

Covering of loaded vehicles with tarpaulins sheet if warranted.

Keeping traffic regulators at vulnerable locations.

Distribution of transport vehicles for avoiding choking of roads

Limiting of speed

Installation of barriers at vulunerable locations

Provision of tyre washing facility at the mine outlet

4.10 WASTE MANAGEMENT:

Solid Waste: Since the entire mined out material will be used there will not be any solid waste generation from this project.

Liquid waste: There is no process effluent generation from this mine. Hence no liquid waste is generated.

Hazardous waste management: In this project the following management practices will be followed:

- Ensuring availability of different colour bins for collection of different types of waste.
- Storing of Hazardous waste material in a separate storage area with impervious containers for waste oil, oil contaminated clothes, used lead acid batteries, scraps, tyre storage etc.
- Ensure that there are no leakages/spillages of hazardous wastes.
- Ensuring that the fire extinguisher system is available at hazardous material storage area.

The hazardous waste if any will be disposed through authorized recyclers or re-processors periodically. The hazardous wastes will be transported in accordance with the provisions of rules. By effective implementation of above said mitigation measures no major impact due to Hazardous waste is expected.

Plastic waste: Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

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CHAPTER 5

ANALYSIS OF ALTERNATIVES

5.1 ALTERNATE TECHNOLOGY:

This is a proposed Rough Stone and Gravel Quarry in which Mechanized Open Cast mining will be carried out. It involves drilling, blasting, excavation, loading and transportation of Rough stone to the crushing units. As this method is techno economically proven, consideration of an alternate technology is not warranted.

5.2 ALTERNATE SITE:

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

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CHAPTER 6

ENVIRONMENTAL MONITORING PROGRAMME

6.1 GENERAL

In this project, appropriate environmental monitoring programme are framed. Regular, systematic and sustained programme schedules for implementation and monitoring of various control measures are devised with clear cut guidelines of various concerned plans for keeping a continuous surveillance on the various environmental quality parameters in the area.

The monitoring schedules are planned to aim at regular and systematic study of various pollution levels with respect to air and water quality, noise levels etc., to ensure that they conform to the standards laid down by the Environment Protection Act, 1986 and various Central and State Pollution Control Board Limits.

The various methodologies and frequency of studies of all environmental quality parameters will be as per prescribed norms laid down by MOEF&CC and State Pollution Control Board. This being a small quarry operation, the Mines in-charge will take care of all the environmental related works also.

Environmental control measures include components like air, water and soil quality, noise levels, afforestation measures, etc. For monitoring of environment over the life of the mine, a set of stations for study of quality parameters are fixed as per the actual requirements and prevailing conditions of environmental factors, as dictated from time to time, depending on the prevailing pollution levels.

6.2 MONITORING SCHEDULES FOR VARIOUS PARAMETERS

The monitoring schedules are planned for systematic study of various pollution levels with respect to air and water qualities, noise levels, etc. to ensure that they conform to the standards laid down by Environmental Protection Act and various statutory Limits. However, based on the need and priority it may be suitably modified / improved in consultation with local authorities. The monitoring schedules to be adopted in this quarry are given below.

Table 6.1: Environmental Monitoring Schedule

S.No	Environmental Parameters	Parameters to be monitored	Monitoring area coverage /locations	Frequency of monitoring
1	Air Quality	Sulphur dioxide (SO_2), Oxides of Nitrogen (NO_2), Respirable Particulate Matter ($PM_{2.5}$ and PM_{10}).	2 locations in the buffer zone and 1 work zone locations.	Once in a year in each location.
2	Water Quality	General, Physical, and chemical parameters	Ground Water samples (around the project area) and Mine Pit water samples	Once in a year
3	Water Table Fluctuations	Water Levels	Nearby wells and Borewells	On yearly basis pre and post monsoon level
4	Noise	Leq. Lmax Lmin, Leq Day & Leq Night dB(A)	Work zone locations and buffer zone villages	Once in a year
5	Vibration	Peak Particle Velocity	Mine periphery	Once to arrive at optimum blasting parameters
6	Socio Economic Environment	Socio Economic Survey, Review of implementation of CER activities proposed	Buffer Zone	Yearly basis
7	Occupational Health	Occupational health survey to detect early incidence of diseases, Audiometry Test for workers in noise prone area and review of safety matters.	Staff and Workers involved in the project	Once in a year
8	Greenbelt	Maintenance	Within the lease area	Regularly

6.3 LEGISLATIVE AND REGULATORY FRAME WORK:

The project will have environmental policy declaring its responsibility and commitment to protect the environment and to ensure public safety. The existing policy will be available with all concerned officials of the plant. The following environmental standards as per methodologies prescribed, by MOEF/CPCB/TNPCB will be enforced in this project:

Table 6.2: Environmental Standards

Standards	Issued By	Reference
National Ambient Air Quality Standards	Central Pollution Control Board	Table No. 6.3
Water quality standards per IS 10500:2012	Bureau of Indian Standards	Table No.6.4
Noise Standards	CPCB / MoEF&CC	Table No.6.5
Permissible Peak Particle Velocity	DGMS, Dhanbad	Table No.6.6

Table 6.3: National Ambient Air Quality Standards

[भाग I] — खण्ड 4] भारत का राजपत्र : असाधारण 3

NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION
New Delhi, the 18th November, 2009

No. B-29016/20/90/PCI-L.—In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO_2), µg/m³	Annual*	50	20	- Improved West and Gaeke -Ultraviolet fluorescence
		24 hours**	80	80	
2	Nitrogen Dioxide (NO_2), µg/m³	Annual*	40	30	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
		24 hours**	80	80	
3	Particulate Matter (size less than 10µm) or PM_{10} µg/m³	Annual*	60	60	- Gravimetric - TOEM - Beta attenuation
		24 hours**	100	100	
4	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ µg/m³	Annual*	40	40	- Gravimetric - TOEM - Beta attenuation
		24 hours**	60	60	
5	Ozone (O_3) µg/m³	8 hours**	100	100	- UV photometric - Chemiluminescence - Chemical Method
		1 hour**	180	180	
6	Lead (Pb) µg/m³	Annual*	0.50	0.50	- AAS/ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
		24 hours**	1.0	1.0	
7	Carbon Monoxide (CO) mg/m³	8 hours**	02	02	- Non Dispersive Infra Red (NDIR) spectroscopy
		1 hour**	04	04	
8	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence -Indophenol blue method
		24 hours**	400	400	

(1)	(2)	(3)	(4)	(5)	(6)
9	Benzene (C_6H_6) $\mu g/m^3$	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m^3	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m^3	Annual*	06	06	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m^3	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman
[ADVT-III/4/184/09/Exty.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998.

Table 6.4: IS – 10500 :2012 Standards

Table 1 Organoleptic and Physical Parameters
(*Foreword* and *Clause* 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Colour, Hazen units, *Max*	5	15	Part 4	Extended to 15 only, if toxic substances are not suspected in absence of alternate sources
ii)	Odour	Agreeable	Agreeable	Part 5	a) Test cold and when heated b) Test at several dilutions
iii)	*p*H value	6.5-8.5	No relaxation	Part 11	—
iv)	Taste	Agreeable	Agreeable	Parts 7 and 8	Test to be conducted only after safety has been established
v)	Turbidity, NTU, *Max*	1	5	Part 10	—
vi)	Total dissolved solids, mg/l, *Max*	500	2 000	Part 16	—

NOTE — It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.

Table No – 6.2 contd.

Table 2 General Parameters Concerning Substances Undesirable in Excessive Amounts
(*Foreword* and *Clause* 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Aluminium (as Al), mg/l, *Max*	0.03	0.2	IS 3025 (Part 55)	—
ii)	Ammonia (as total ammonia-N), mg/l, *Max*	0.5	No relaxation	IS 3025 (Part 34)	—
iii)	Anionic detergents (as MBAS) mg/l, *Max*	0.2	1.0	Annex K of IS 13428	—
iv)	Barium (as Ba), mg/l, *Max*	0.7	No relaxation	Annex F of IS 13428* or IS 15302	—
v)	Boron (as B), mg/l, *Max*	0.5	1.0	IS 3025 (Part 57)	—
vi)	Calcium (as Ca), mg/l, *Max*	75	200	IS 3025 (Part 40)	—
vii)	Chloramines (as Cl_2), mg/l, *Max*	4.0	No relaxation	IS 3025 (Part 26)* or APHA 4500-Cl G	—
viii)	Chloride (as Cl), mg/l, *Max*	250	1 000	IS 3025 (Part 32)	—
ix)	Copper (as Cu), mg/l, *Max*	0.05	1.5	IS 3025 (Part 42)	—
x)	Fluoride (as F) mg/l, *Max*	1.0	1.5	IS 3025 (Part 60)	—
xi)	Free residual chlorine, mg/l, *Min*	0.2	1	IS 3025 (Part 26)	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be minimum 0.5 mg/l
xii)	Iron (as Fe), mg/l, *Max*	0.3	No relaxation	IS 3025 (Part 53)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xiii)	Magnesium (as Mg), mg/l, *Max*	30	100	IS 3025 (Part 46)	—
xiv)	Manganese (as Mn), mg/l, *Max*	0.1	0.3	IS 3025 (Part 59)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xv)	Mineral oil, mg/l, *Max*	0.5	No relaxation	Clause **6** of IS 3025 (Part 39) Infrared partition method	—
xvi)	Nitrate (as NO_3), mg/l, *Max*	45	No relaxation	IS 3025 (Part 34)	—
xvii)	Phenolic compounds (as C_6H_5OH), mg/l, *Max*	0.001	0.002	IS 3025 (Part 43)	—
xviii)	Selenium (as Se), mg/l, *Max*	0.01	No relaxation	IS 3025 (Part 56) or IS 15303*	—
xix)	Silver (as Ag), mg/l, *Max*	0.1	No relaxation	Annex J of IS 13428	—
xx)	Sulphate (as SO_4) mg/l, *Max*	200	400	IS 3025 (Part 24)	May be extended to 400 provided that Magnesium does not exceed 30
xxi)	Sulphide (as H_2S), mg/l, *Max*	0.05	No relaxation	IS 3025 (Part 29)	—
xxii)	Total alkalinity as calcium carbonate, mg/l, *Max*	200	600	IS 3025 (Part 23)	—
xxiii)	Total hardness (as $CaCO_3$), mg/l, *Max*	200	600	IS 3025 (Part 21)	—
xxiv)	Zinc (as Zn), mg/l, *Max*	5	15	IS 3025 (Part 49)	—

NOTES

1 In case of dispute, the method indicated by '*' shall be the referee method.

2 It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.

Table 6.5: Noise Level Standards

Area Code	Category of Area	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note :

1. Day time shall mean from 6 a.m. and 10.0 p.m.
2. Night time shall mean from 10.0 p.m. and 6 a.m.
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be average as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is energy mean of the noise level over a specified period.

Table 6.6: Permissible Noise For Industrial Workers As Laid Down By CPCB

Exposure time (in hr. per day)	Limit in dB(A)
8	**90**
4	**93**
2	**96**
1	**99**
½	**102**
¼	**105**
1/8	**108**
1/16	**111**
1/32	**114**

Table 6.7: Permissible Peak Particle Velocity (PPV) In Mining Areas

In mm/sec.

Type of structure	Dominant excitation frequency Hz		
	<8 Hz	I 8-25 Hz	I >25 Hz
A. Buildings/structures not belonging to owner			
Domestic houses /structures (Kuchha brick and cement)	5	10	15
Industrial buildings (RCC and framed structures)	10	20	25
Objects of historical importance and sensitive structures.	2	5	10
B. Building belonging to owner with limited span of life			
Domestic houses/structures (Kuchha brick and cement)	10	15	25
Industrial buildings (RCC and framed structures)	15	25	50

The above said monitoring location and the frequency of monitoring shall be suitably modified in consultation with the nodal agency as per the actual requirements and prevailing conditions of the mine and environmental factors, as dictated from time to time, depending on the prevailing pollution levels, if required.

6.4 ENVIRONMENTAL MONITORING COST:

Towards environmental monitoring it is proposed to allocate a budget of Rs. 1.00 Lakh per annum for this project. Further details of the capital and recurring cost of environmental management has been provided in in Table No. 10.2, Chapter-X.

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CHAPTER 7
ADDITIONAL STUDIES

7.1 GENERAL:

The additional studies covered for this EIA / EMP report are:

1. Public consultation of the project as per MoEF&CC mandates.
2. Cumulative Impact Study
3. Risk Assessment
4. R&R Plan
5. Mine closure planning

7.2 PUBLIC CONSULTATION:

This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector of Virudhunagar and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.

7.3 CUMULATIVE IMPACT STUDY:

As mentioned earlier, Rough Stone and Gravel Quarry of THIRU. S. Subburaj is located in Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamilnadu. The details of the other quarries located within the 500m radius of the project considered for cumulative impact study now **(Annexure-3)** has been provided below:

Table 7.1: Details of quarries within 500m radius

S. No	Quarry detail	Village	S.F. No.& Extent (Hect)	Proceedings No. & Lease Period
I	**Existing Quarries:**			
1	S.Subburaj	Appainaickenpatti, Vembakottai	44, 46/1 **(2.20.5)**	KV1/7441/2017, dated: 01.02.2019. 25.02.2019 - 24.02.2024.
2	G. Ravikumar	Appainaickenpatti, Vembakottai	276,278, etc (3.85.50)	KV1/938/2017, dated: 13.12.2018. 20.12.2018 - 19.12.2023
II	**Abandoned Quarry :**			
1	S.Ragupathy	Appainaickenpatti, Vembakottai	38/10A, 38/11 **(0.51.0)**	KV1/1312/2012, dated:07.10.2013.(08.10.2013 - 07.10.2018.)
2	S.Sivaraman	Appainaickenpatti, Vembakottai	39/3 **(0.96.5)**	KV1/788/2018, dated 17.09.2018 28.09.2018 to 27.09.2020
3	Government Pit	Appainaickenpatti, Vembakottai	50	-
4	R.Gopalakrishnan	Appainaickenpatti, Vembakottai	199/6A **(1.08.0)**	KV1/5171/2013, dated: 10.05.2017 29.05.2017 to 28.05.2022
5	P.Shanmugaraj	Appainaickenpatti, Vembakottai	38/6A, 41/2, 42, 43/3, 43/6, 48 **(2.74.5)**	KV1/27945/2014, dated; 08.05.2017.(22.05.2017- 1.05.2022.)
III	**Present Proposed Quarry :**			
1	S.Subburaj	Appainaickenpatti, Vembakottai	43/1A, 43/!B(P), 45/1A1, 45/1A2(P) **(1.58.00)**	KV1/7441/2017, dated: 01.02.2019. 25.02.2019 - 24.02.2024.

Besides, this is the only proposed mines. From that above it is seen that, although the individual lease area of this project is less than 5 Ha, the other existing and proposed quarries within the 500m radius along with this subject project works out to >5 Ha. As far as cumulative impact is concerned, the baseline monitoring carried out for this project reflects the cumulative impact of these existing quarries. Considering that the lease period of the existing quarries are expired or will be coming to an end shortly, this proposed quarry will serve more as a replacement for the existing quarry to ensure meeting the present Roughstone demands.

7.4 RISK ASSESSMENT:

For the various risks, likely to arise, detailed analysis of causes and control measures is given in below:

S.No	Factors	Causes of risks	Control measures
1.	Removal of material	a) Bench may slide due to its unconsolidated nature. b) Vibration due to movement of vehicles in the benches.	Overall bench slope angle will be maintained optimally as per DGMS requirement. Working bench width will be more than bench height.
2.	Drilling	a)Due to high pressure of compressed air hoses may burst. b) Down the hole drill rod may break due to improper maintenance of rod.	• Periodical preventative maintenance and replacement of worn out accessories in the compressor and drill equipment. • As per manufacturers recommendation rod to be replaced and bits will be changed.
3.	Blasting	a)Fly rock, ground vibration, noise etc. b) Improper charging of explosives	• Burden and spacing will be kept optimum on trial basis. • Explosive charge per delay will be minimized. • Controlled blasting with Nonel will be used.
4.	Excavation	a)Hauling and loading equipment are in such proximity while excavation b)Swinging of bucket over the body of tipper c) Driving of unauthorized person	• Operator shall not operate the machine when person & vehicles are in such proximity. • Shall not swing the bucket over the cab and operator leaves the machine after ensuring the bucket is on ground. • Shall not allow any unauthorized person to operate the machine by effective supervision.
5.	Transportation	a)Operating the vehicle “nose to tail” b) Overloading of material c) While reversal & overtaking of vehicle d) Operator of truck leaving his cabin when it is loaded	• It will be ensured that all these causes will be nullified by giving training to the operators. • No over loading will be done. • Audio visual reverse horn will be provided.

S.No	Factors	Causes of risks	Control measures
			• Proper training will be given.
6.	Fire due to electricity and Oil	a)Due to the short circuit of cables & other electrical parts b) Due to the leakage of inflammable liquid like diesel, oil etc.	• Electrical parts shall be cleaned frequently with the help of dry air blower • All fastening parts and places will be tightening. Suitable fire suppression equipment shall be provided.
7.	Natural calamities	Unexpected happenings	The mine management is capable to deal with the situation.

7.4.1. DISASTER MANAGEMENT PLAN:

In General, following natural/industrial hazards may occur during normal operation.

- Inundation of mine pit due to flood/excessive rains :
- Slope failure of the pit and waste dumps
- Accident due to heavy mining equipment and
- Blasting and use of Explosives

Mining operation in this lease will be carried out under the management control and direction of a qualified mine manager. The DGMS have been issuing a number of standing orders, model standing orders and circulars to be followed by the mine management in case of disaster. All these orders statutory rules and regulations will be followed. Seismically project site and study area falls in the Zone – II and is described as least active zone. There are no perennial water body near the lease area to cause any flooding. As such no disaster due to this project is envisaged.

In order to take care of above hazard / disasters the following control measures have been adopted.

- Checking and regular maintenance of garland drains and earthen bunds to avoid any inflow of surface water in the mine pit.
- Avoiding mining during heavy monsoon period and marching of all the HEMM to the top benches during rainy period.
- Provision of high capacity standby pumps with generator sets with sufficient quantity of diesel for emergency pumping especially during monsoon.
- All safety precautions and provisions of regulations will be strictly followed during all mining operations
- Prohibiting entry of unauthorized persons.
- Provision of Firefighting and first-aid provisions in the mines.
- Provisions of all the safety appliances such as safety boot, helmets, goggles, dust masks, ear plugs and ear muffs etc. are made available to the employees for their use.
- Training and refresher courses for all the employees working in hazardous premises
- Observance of all safety precautions for blasting and storage of explosives as per MMR 1961.
- Working of mine, as per approved plans and regularly updating the mine plans
- Cleaning of mine faces regularly
- Proper storage, usage of explosives through competent persons.
- Regular maintenance and testing of all mining equipment as per manufacturers guidelines
- Suppression of dust on the haulage roads with frequent water sprinkling, etc.
- Increasing the awareness of safety and disaster through competitions, posters and annual safety weeks and environmental weeks, encouraged through suitable rewards and other similar drives.

The management and the EMC will be able to deal with the situations efficiently keeping in view of the likely sources of dangers in the mine.

7.5 REHABILITATION AND RESETTLEMENT (R & R) PLAN:

The mining activities will be carried out within the mine lease area only. The entire mine lease area is a Patta land. There is no population within the ML area. Hence, the question of R& R does not arise.

7.6 MINE CLOSURE PLAN:

In the mine closure stage all necessary measures will be taken as per Act & Rules, There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of life of mine will be properly fenced all around to prevent inherent entry of public and cattle and all the statutory requirements will be fulfilled. As already explained, in the post mining stage the rainwater harvested in the mined out void shall be utilized for irrigation and domestic needs locally. The mine closure plan is provided in **Figure 4.5.**

7.7 PIT SLOPE STABILITY PLAN

- Factors affecting slope stability of the mine are
  - Geological structure comprising dip, intervening shear zone formation, clay intrusion, joints / discontinuities, faults etc.,
  - Lithology of formation
  - slope geometry
  - Ground water availability which may cause increased thrust on the faces
- Site specific analysis
  - Proposed area is a hard rocky charnockite terrain comprising top 1m earth, 5m gravel, followed by weathered rock and then hard rock.
  - Since the formation is of homogeneous rock type probability of slope failure is low and can be avoided if proper measures are adopted.
  - There will be a 7.5m safety zone which will form a ridge which can also take care of the top section and as such no risk is envisaged on this front.
  - During future workings the following measures will be ensured:
    - Regular inspection of the mine faces to be carried out by mines manager for ensuring absence of any structural features like faults, joints, dyke, intrusive material in the rock strata which may affect the slope stability and cleared.

- No loose material or boulders is to be stacked on the mine top or pit benches.
- Height of the benches should be 5m. Working bench width should be at least 2.5 times the bench height. Ultimate pit bench width will be 5m & slope is kept at 45^{o} to ensure slope stability.
- Haul road formation will be at 1 in 16 slope with adequate road width.
- There will be no ground water table intersection.
- No seepage is expected due to formation. Adequate drainage management system comprising peripheral garland drain, settling pond to regulate monsoon water will be created to prevent saturation of compact layers, apparent drainage over the bench slope to avert damages to quarry face and manage the water flow.

The above will ensure safe and stable mine prospects.

CONCLUSION:

No adverse impact on the surrounding environment is envisaged from this project since the number of equipment's to be used to achieve this production is less and the magnitude of operation is of low level.

Certified vehicles with low carbon emissions will only be used. These equipment's will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 500 number of plants will be planted in and around the lease area.

Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact.

It will be ensured that mining will be carried out adhering to all the statutory rules and regulations, appointing statutory personnel's like qualified mines manager, blaster, informing DGMS before commencement of mining operations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures.

As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people ,loss of Agriculture, Forestry and Traditional Practices is not envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.

Mine closure plan plan is prepared for the lease period and already included in the approved mine plan.

Due to absence of perennial water bodies nearby where in any marine ecosystem is observed, no effect on this front is also expected. Hydrological investigation carried out and as given in Para 3.6 of Chapter III & para 4.3 Chapter – IV shows that the all-time ground water table in this area is much below the mining level. Hence, ground water intersection in not envisaged for the entire life of the mine and ground water will not be affected due to the quarrying operation. As such there will not be any adverse impact on the ground water regime. Besides, this being a mining project, there will be not be any process effluent. As mentioned earlier, the rainfall will be collected in the mine floor sump and gainfully used as per CGWA requirement. Excess water if any in the sump will be pumped to settling pond and supernatant clear water let out for downstream users.

It will be ensured that mining will be carried out adhering to all the statutory rules and regulations, appointing statutory personnel's like qualified mines manager, blaster, informing DGMS before commencement of mining operations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures for the entire lease period.

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CHAPTER 8
PROJECT BENEFITS

The proposed Roughstone and Gravel Quarry of Thiru. S. Subburaj will improve physical and social infrastructures in the area like:

- Direct employment to 18 people.
- Indirect employment to scores of people.
- Financial gains for the governments, through collection of various taxes like royalty, GST, etc.,
- Increase in General Awareness of the People.
- Continual improvements of the local amenities for the local society
- Improvement of the General Living Standard of the People in the Vicinity
- Overall Improvement in HDI (Human Development Index)
- Growth of Allied Industries in the Area.
- Improvement in Per Capita Income.
- Providing certain facilties for the local schools and panchyats

In short, the proposed Rough Stone Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, and improved social welfare facilities in respect of education, medical systems, infrastructural build-up, etc in its own way.

By means of carrying out the socio-economic development activities, local community development is expected. Towards the same, the proponent has planned to allocate Rs.5 Lakhs for various activities under CER. The activities will be implemented once the mining operations commence. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.

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CHAPTER 9
ENVIRONMENTAL COST BENEFIT ANALYSIS

Appendix-III of the MoEF notification S.O. 1533 dated 14.09.2006, which describes the generic structure of Environmental Impact Assessment document, states that the chapter ' Environmental cost benefit analysis' is applicable if it is recommended during scoping stage.

ToR for this project has been received from SEIAA, Tamil Nadu vide their letter No. **SEIAA-TN/F.No.10319/SEAC/ToR 1590/2023 dated 06.10.2023**. Environmental cost benefit analysis is not prescribed in the terms of reference. Hence, it is not applicable for this project.

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CHAPTER 10

ENVIRONMENTAL MANAGEMENT PLAN

10.1 INTRODUCTION:

This chapter describes the implementation strategies of the environmental management measures described through the course of this EIA/EMP report for the purpose of mitigating significant impacts due to the proposed mining operations.

10.2 COMPONENTS OF THE ENVIRONMENTAL MANAGEMENT PLAN:

The environmental management plan comprises identification of the major impacts due to project operations and their suitable mitigative measures. (Provided in an elaborate manner in Chapter-IV) Based on the environmental policy of the company, the environmental management cell will oversee the implementation of these mitigative measures. The details of the proponent's environmental policy, environmental management cell and also the budgetary allocation towards various environmental management measures has been elaborated in this chapter.

10.2.1 ENVIRONMENTAL POLICY:

The proponent will frame a well-planned environmental policy. The salient features of this policy will be.

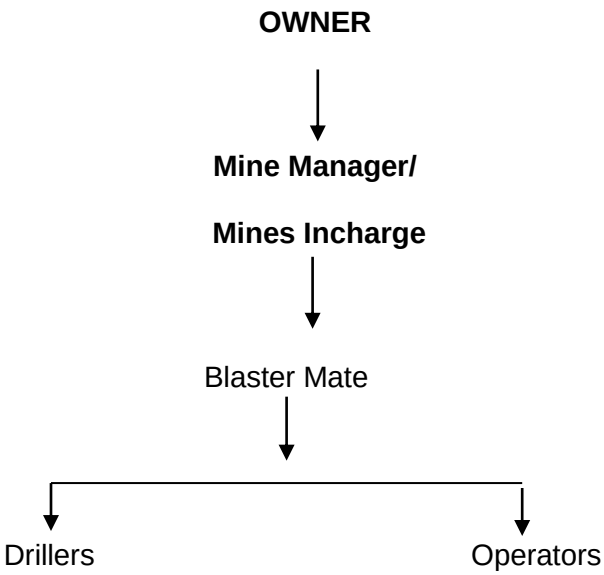
- Ensuring risk-free and safe mining operations by following all rules and conditions prescribed in the Indian mines Act, metalliferrous mining regulation, mineral conservation and development rules, etc,
- Ensuring environmental preservation by adoption of remedial measures for control of air, water quality, noise status, biological improvements, green belt creation, etc,.
- Extending CER activities to cater to the needs of local community for various benefits like improvement of physical and social infrastructures for the welfare of local community.

- Ensuring that all mining operations such as deployment of HEMM, conduct of drilling and blasting operations, etc are strictly conducted keeping with regulatory standards & maintaining safe working environment in the area.
- Providing periodical training on safety, Health, & Environment to all employers.
- Any infringement / violation of any rule or unsafe mining operations should be reported mines manager, should be reported by the foremen/ blaster mate etc, who will take immediate corrective measures for avoiding major disasters. The report will ultimately reach the owner through upwardly hierarchical communicative channels from the lowest level to superior levels in a quick time bound duration.
- The mines manager will exercise overall control over entire mining and connected operations and all infringements / violations on any count pertaining to unsafe operations, environmental degradation, etc, should be brought to the notice of the owner of the quarry. Remedial measures for such violations and deviations should be taken care by the mines manager to avoid any hazards or disasters in the mine and nearby areas. The persons responsible for such violations will be punished through appropriate disciplinarily penal actions.
- The EC conditions and stipulations will be strictly observed by Mines manager of the mine in various issues like prescribed environmental monitoring schedules conducting of vibratory studies due to blasting, creation of green belt, management of mined area, occupational health review, etc.
- Penalty actions will be taken by the proponent in cases of continuous negligence resulting in violations deviations in this respect.
- A time schedule of once in 90 days for review of all operational factors as mentioned above is to be enforced, for proper and quick corrective actions needed in the matter.

10.2.2 ENVIRONMENTAL MANAGEMENT CELL:

The Mines Manager/Mine Incharge will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. The organizational chart for the same has been provided below:

Figure 10.1: Organization Chart



The Mines Manager/Mines Incharge in the mine project site will be directly responsible for various environmental activities in the mine. The owner will correlate and oversee the environmental activities and their effective implementation in consonance with the guidelines in the EMP. The Mines Manager/Mines Incharge will oversee the environmental administration at the mine and he will directly supervise all activities of environmental administration on environmental issues. Necessary assistance from sub ordinates, external consultants and laboratories shall be taken.

Environmental control measures will span various factors like land degradation, air, water and soil quality, noise levels, effective land reclamation for excavated areas, afforestation measures, etc. The administrative functions are given below.

- To observe the implementation of environmental control measures.
- To study the effects of project activities on the environment.
- To ensure implementation of Plantation Programme. Regular monitoring of survival rate of plants is carried out to achieve the desired result.
- To keep records of monitoring etc., in a systematic way, so as to facilitate easy access, when needed by statutory agencies, etc. Also send prescribed returns to statutory authorities.
- To ensure that adequate fencing and plantation is carried out in the safety zones.
- Conducting environmental studies and reporting to SPCB.
- To interact and liaise with Government Departments.
- To evaluate the performance of existing pollution control equipment and systems periodically and take timely action to keep the equipment at its optimum performance condition.
- To take immediate preventive action in case of some unforeseen environmental pollution attributable to the project.
- Conducting safety audits and programmes to create safety awareness in workers/ staff.
- Conducting annual health audits to detect any health problems promptly in the workers/staff. This will reduce occupational health problems.
- Imparting training on safety and conduct safety drills to educate employees. Firefighting equipment and system has to be kept in 'ready-to-fight' condition.
- Carrying out socio economic study in the surrounding areas to find out the benefits derived by the society due to the project and also to fulfill the deficiency, if any, immediately.
- Ensuring proper mine closure arrangements

10.2.3 ENVIRONMENTAL MANAGEMENT PLAN:

10.2.1.1 General:

Systematic monitoring systems and well-conceived and efficient Environment Management Plan will ensure that during the project operations, the various environmental parameters, are well within the statutorily sustainable limits. The environmental control measures proposed to keep various environmental parameters of the project in terms of air, water, noise, land, biological environment, etc. has been described below.

10.2.2.2 Air Quality:

With regards to air quality, to mitigate the fugitive and gaseous emission resulting from mining and allied activities, the following control measures are proposed to be undertaken:

- Regular water sprinkling in the transport roads using mobile tankers for dust suppression.
- Controlled blasting techniques with NONEL.
- Provision of dust filters / mask to workers working at highly dust prone and affected areas.
- Covering of drill holes with wet cloth, using sharp drill bits
- Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
- Proper maintenance of haul roads, HEMM and dumpers.
- Covering of loaded tippers with tarpaulins during transportation
- Vehicular emissions will be controlled through regular and proper preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
- Besides, there will be good green belt cover will be developed around mine periphery and in safety zone.

10.2.2.3 Water Environment:

There will be no process effluent generated from this project. The domestic sewage to be generated will be collected in septic tank with soak pit arrangements. Besides, there will be no waste dumps or stockpiles within the lease area as the entire material will be directly despatched to the consumers.

Surface runoff management structures such as garland drain of 870m length connected to a settling pond will be constructed around the quarry to collect the rain water. The supernatant clear water from the settling pond will be provided to nearby downstream users. Towards rainwater harvesting, the rainwater harvested in the mine will be used to meet the water requirements during mining and excess water in consultation with villagers and in line with government practices will be out in to the nearby stream or shall be distributed to the nearby villages as per their need.

Good plantation will also be carried out in the safety zone. There is no proposal to discharge any effluent into this water body. No major impact is envisaged on the nearby water bodies due to project operations. Elaborate details regarding the same is provided under section 4.3.3, Chapter-IV.

10.2.2.4 Noise Environment:

During the project operations, various control measures as listed below will be carried out to mitigate adverse impact due to the noise generated due to mining and allied activities:

- Good plantation will be carried out in the safety zone areas of 7.5m in the mine periphery.
- Noise protectors, insulation of operator cabins, installation of silencers in machineries, etc.
- Proper and regular maintenance of equipments
- Providing earplugs to workers exposed to higher noise level.
- Providing in-built mechanism for reducing sound emissions.

- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.
- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.

10.2.2.5 Ground Vibration

During the project operations, various control measures as listed below will be carried out to mitigate adverse impact due to the ground vibration caused due to blasting activities:

- Controlled blasting techniques to maintain the peak particle velocity (PPV) below DGMS prescribed levels.
- Ideally formulating drilling and charging pattern.
- To contain fly rocks, stemming column will not be less than burden of the hole. Blasting area will also be muffled, if necessary, to stop fly rocks propagation.
- Blasting will not be carried out when strong winds are blowing towards the inhabited areas. Blasting will be done during midday time and never at night.
- Proper care and supervision during blasting by a competent and experienced person.
- Besides, different blasting time for the projects in the vicinity is suggested and the timing is to be mentioned in the display board in the respective mines entrance.

Further details regarding the same has been provided under section 4.4.2, Chapter-IV.

10.2.2.6 Biological Environment:

The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc. Besides, no Schedule-I animals are observed in the core and buffer zone. There will be no major clearance of vegetation involved in this project. However, good greenbelt and plantation programmes are planned within the lease area. In the lease area, safety barrier 7.5m around the periphery. Greenbelt / Plantation will be carried out to enhance the vegetative growth and aesthetic in the

safety zone area. About 800 trees will be planted in and around the lease area. Elaborate details regarding the same is provided under section 4.6.4, Chapter-IV.

10.2.2.7 Socio-Economic Environment:

The proposed project operation will provide positive impacts in the region on the employment area as well as on physical and social infrastructural status. Many other tangible benefits will be gained by the local people in the surrounding areas due to ancillary units, trading operations, contractual needs, casual labor, green belt development, etc. Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner.

10.3 ENVIRONMENTAL POLLUTION CONTROL COST:

In this proposed quarry Implementation of environmental control measures as stated above involves capital as well as recurring expenses. The probable capital and recurring environmental control cost are calculated and given below **Table No – 10.1**

Table 10.1: Environmental Control Cost

Rs. In lakhs

Sl. No	Mitigation Measure	Capital cost in Lakhs	Recurring Cost / Annum in lakhs
Air Environment			
1	Compaction, gradation and drainage on both sides for Haulage Road	0.11	0.11
2	Water Sprinkling Arrangements	8.00	1.00
3	Air Quality will be regularly monitored as per norms within ML area & Ambient Area	0.00	0.50
4	Muffle blasting – To control fly rocks during blasting	0.00	0.10
5	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	0.25	0.03
6	No overloading of trucks/tippers/tractors-Manual Monitoring through Security guard	0.00	0.05
7	Stone carrying trucks will be covered by tarpaulin	0.00	0.10
8	Enforcing speed limits of 20 km/hr within ML area-Installation of Speed Governers	0.10	0.00

Sl. No	Mitigation Measure	Capital cost in Lakhs	Recurring Cost / Annum in lakhs
9	Regular monitoring of exhaust fumes as per RTO norms	0.00	0.05
10	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	0.00	0.22
11	Installing wheel wash system near gate of quarry	0.50	0.20
Sub-Total (A)		**8.96**	**2.36**
Noise Environment			
12	Source of noise will be during operation of transportation vehicles, HEMM- For this proper maintenance will be done at regular intervals.	Will be part of Operating Cost	
13	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done		
14	Adequate silencers will be provided in all the diesel engines of vehicles.		
15	It will be ensured that all transportation vehicles carry a fitness certificate.		
16	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	
17	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Will be part of Operating Cost	
18	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.-Blowing Whistle by Mining Mate / Blaster / Compentent Person		
19	Provision for Portable blaster shed	0.5	0.02
20	NONEL Blasting will be practiced to control Ground vibration and fly rocks		3.76
Sub-Total (B)		**0.50**	**3.78**
Water Environment			
21	Surface Runoff Management Structures	0.16	0.05
Sub-Total (C)		0.16	0.05
Implementation of EC, Mining Plan & DGMS Condition			
22	Waste management (Spent Oil, Grease etc.,)-Provision for waste collection and disposal through authorized agency	0.25	0.20
23	Installation of dust bins	0.05	0.02
24	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	0.10	0.01

Sl. No	Mitigation Measure	Capital cost in Lakhs	Recurring Cost / Annum in lakhs
25	Workers will be provided with Personal Protective Equipment's	0.72	0.18
26	Health check up for workers will be provisioned-IME & PME Health check up	0.00	0.18
27	First aid facility will be provided	0.00	0.06
28	Mine will have safety precaution signages, boards.	0.10	0.02
29	Barbed wire fencing	3.16	0.10
30	No parking will be provided on the transport routes. Separate parking area will be provided. Flaggers will be deployed for traffic management	0.79	0.10
31	Installation of CCTV cameras in the mines and mine entrance-Camera 4 Nos, DVR, Monitor with internet facility	0.30	0.05
32	Remuneration of statutory persons	0.00	7.80
Sub-Total (D)		**5.47**	**8.72**
Green Belt Development			
34	Plantation Inside the lease area(300Nos.)	0.60	0.09
35	Plantation Outside the lease area (500 Nos.)	1.50	0.15
Sub-Total (E)		**2.10**	**0.24**
Grand Total		**17.19**	**15.15**

Towards EMP measures, Rs.17.19 Lakhs is allocated under capital cost. Besides, Rs.15.15 Lakhs per annum will be spent under recurring cost. All the recurring cost of maintenance of pollution control measures, environmental monitoring etc., will be met from revenue and will be spent for the entire lease period.

10.4 CONCLUSION:

A meticulously well planned Environmental Management Plan, with various programme schedules and timely execution objectives, as above, will ensure that the future environmental quality in the area will be maintained within statutory limits. The environmental management strategy as explained above will prove that industrial growth, if properly planned with all environmental concerns and appropriate remedial measures can go a long way to improve life pattern and living conditions of the local community around the project.

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CHAPTER 11

SUMMARY & CONCLUSION

11.1 INTRODUCTION:

Thiru. S. Subburaj proposes to operate a Rough Stone and Gravel Quarry at Survey No. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) over an area of 1.58.0 hectares in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu, for the production capacity of 1,13,585 m^3 of Rough Stone, 20,403 m^3 of Gravel and 13,602 m^3 of Topsoil for the depth of 30 meter for 5 years and has initiated action towards obtaining environmental clearance.

Although the individual lease area of this project is less than 5 Ha, the other existing quarries within the 500m radius cluster along with this subject project works out to >5 Ha. Hence, this proposal is considered under Category – B1 and as per MoEF & CC notification necessitates preparation of EIA/EMP report and public hearing. The details of the quarries located within the 500m radius of the project is given vide **Annexure-12.** Besides, there are other mines in the cluster extension. A cumulative impact study has been carried out and furnished in **Para 7.3, Chapter-VII.**

This draft EIA/EMP report pertains to the Rough Stone and Gravel Quarry of Thiru. S. Subburaj.

11.1.1 STATUTORY APPROVALS:

S.No	**Approval**	**Given by**	Letter Number and Date	Reference
1.	**Precise Area Communication Letter**	Assistant Director, Dep. of Geology & Mining, Virudhunagar	KV1/523/2019 Dated: 12.05.2022	**Annexure-1**
2.	**Mining Plan Approval**	Assistant Director, Dep. of Geology & Mining, Virudhunagar	KV1/523/2019 Dated: 02.09.20222	**Annexure-2**
3.	**Details of other quarries within 500m radius**	Assistant Director Department of Geology & Mining Virudhunagar	KV1/523/2019 Dated: 02.09.202222	Annexure-12

11.1.2 ENVIRONMENTAL CLEARANCE APPLICATION:

Particulars	Details
Terms of Reference	SEIAA-TN/F.No.10319/SEAC/ToR-1590/2023 dated 06.10.2023.
Baseline Data Collection	Carried out by Creative Engineers & Consultants, Chennai for Winter Season (December 2021 to February 2022)

This draft EIA/EMP report will be submitted for public consultation, as per rules and procedures in this respect, as per the EIA notification 2006. The opinions, concerns and objections, if any, of the surrounding public and other stake holders connected, will be taken into consideration and compliance report thereon will be submitted to SEIAA, Tamil Nadu in the final EIA/EMP report.

11.2 SALIENT FEATURES OF THE PROJECT:

Table 11.1: Site Details

Location	Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamilnadu
Survey No.	43/1A,1B(P) & 45/1A1,1A2(P)
Coordinates	**Latitude:** 9°17’52.8”N to 9°17’57.5”N **Longitude:** 77°41’49.9”E to 77°41’54.6”E
Nearest Village	Appayanaickenpatti Village – 470Km (NE)
Nearest Town	Kovilpatti – 25 km (SE)
Nearest Railway Station	Kovilpatti RS – 25 km - SE
Nearest Airport	Thoothukudi - 85km - SE
Topography	The area applied for mining lease is a gentle plain terrain. Part of the lease area has already been mined out
Accessibility	The lease area can be approached from Alamelumangaipuram – Thiruvengadam which leads toSH-44.
Drainage	There is no major water body in the core zone. Nikshopa Nadi - 350m- SW, Vaippar River - 150m –NE.

Table 11.2: Environment Setting of The Study Area

PARTICULARS	DETAILS
Nearest major water bodies	Nadi - 350m (W), Vaippar River-150m- (N), Uppu Odai – 3.0 km-(SE), Marugal Odai – 4.6 km – (NE), Kayalkudi River – 6.8 km – (NE).
Notified Archaeologically important places, Monuments	Nil within 10Km Radius.
Local Places of Historical and Tourism Interest	Nil within 10Km Radius.
Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Nil within 10Km Radius.
Reserved / Protected Forests	Nil within 10 Km radius
Defence Relocations	Nil within 10 km radius
Seismic Zone	Zone – II (Least Active)
Other Industries in the area	Other than crushers, Roughstone quarries, no other major industries are located in the study area.

Table 11.3: Technical Description

A) PAST PRODUCTION:

Quarrying in this lease area was earlier carried out by applicant for the period of 21.10.2016 to 20.10.2019 with the proceeding no. KV1/11925/2015 dated 17.10.2015. Environmental clearance for the earlier lease area obtained from SEIAA – TN vide letter no Lr.No. SEIAA-TN/F.No.5631/EC/1(a)/3698/2016 dated 06.09.2016 for Rough stone quarrying at SF no 43/1B(P), 45/1A2(P), Appainaickanpatti village, Vembakottai taluk, Virudhunagar District, Tamil Nadu over 1.45.0 Ha of the lease area. (Refer Annexure-IV of Mining plan report). The details of the workings of earlier quarry are provided vide letter from Assistant Director, Geology & Mining, Virudhunagar vide Roc.No: KV1/523/2019 dated 02.09.2022 **(Annexure-3)**

Table 11.4: Existing Pit Dimensions

Pit No.	Length in(m)	Width in (m)	Depth in (m)
1	86	64	15.0

B) Present proposal:

<table>
<tr><th>PARTICULARS</th><th>DETAILS</th></tr>
<tr><td>Geological reserve</td><td>3,93,240 Cu.m.</td></tr>
<tr><td>Mineable reserve</td><td>1,47,590 Cu.m.</td></tr>
<tr><td>Method of Mining</td><td>Open cast Mechanized mining method with drilling, blasting, excavation, loading and transportation of Roughstone to needy buyers.</td></tr>
<tr><td>Production</td><td>
<table>
<tr><th>YEAR</th><th>ROUGHSTONE (m3)</th><th>GRAVEL (m3)</th><th>TOPSOIL (m3)</th></tr>
<tr><td>I</td><td>11585</td><td>9018</td><td>6012</td></tr>
<tr><td>II</td><td>14700</td><td>11385</td><td>7590</td></tr>
<tr><td>III</td><td>30050</td><td>----</td><td>----</td></tr>
<tr><td>IV</td><td>29350</td><td>----</td><td>----</td></tr>
<tr><td>V</td><td>27900</td><td>----</td><td>----</td></tr>
<tr><td>Total</td><td>1,13,585</td><td>20,403</td><td>13,602</td></tr>
</table>
</td></tr>
<tr><td>Waste Generation and Management</td><td>Topsoil will be used for road formation, levelling, plantation & shall be marketed on payment of necessary Fees to Government. Gravel will be loaded into tipper and marketed to needy customers. The rough stone will be excavated and loaded into tipper to the needy buyers for producing crusher aggregates, M Sand.</td></tr>
<tr><td>Ultimate Depth</td><td>30m</td></tr>
<tr><td>Man power</td><td>Direct – 18, Indirect – 50</td></tr>
<tr><td>Mode of transport</td><td>By Road</td></tr>
<tr><td>Water requirement</td><td>10 KLD</td></tr>
<tr><td>Source of water</td><td>The required water will be procured from outside agencies initially. Later, water collected in the mine pit will be used to meet the needs.</td></tr>
<tr><td>Power requirement</td><td>All the equipment will be diesel operated. No electricity is needed for mining operation. The minimum power requirement for office, etc will be met from state grid.</td></tr>
</table>

PARTICULARS	DETAILS
Life of the mine	5 Years
Project cost	Rs. **48,56,305**/-

11.3 EXISTING ENVIRONMENTAL SCENARIO:

11.3.1 GENERAL:

The studies and common data collection have been carried out systematically and meticulously as per relevant IS codes, CPCB and MoEF&CC guidelines and as per approved ToR during **Winter Season (December 2021 to February 2022)** For the purpose of this study, the area has been divided into two zones, namely, core and buffer zones. Core zone is considered as the total lease area, while buffer zone encompasses an area of 10 km radius distance from the periphery of core zone.

11.3.2 SOCIO-ECONOMIC STATUS:

The proposed quarry is located in in Appainaickenpatti Village, Vembakottai Taluk, Virudhunagar District. Based on 2011 census data, in the 10km radius there are 35 Rural villages & 2 urban areas namely Alangulam (CT) , Thiruvenkadam (TP) from six taluks namely Sivakasi, Rajapalayam, Sattur of Virudhunagar District, Sankarankoil of Tirunelveli District and Kovilpatti of Thoothukkudi District.

Table 11.5: Social, Economic And Demographic Profile of the Study Area

Details	Population	Percentage
A. Gender-wise distribution		
Male Population	49528	49.35
Female Population	50838	50.65
Total	**100366**	**100**
B. Caste-wise population distribution		
Scheduled Caste	23360	23.27
Scheduled Tribes	149	0.15
Other	76857	76.58
Total	**100366**	**100**
C. Literacy Levels		
Total Literate Population	69612	69.36

Details	Population	Percentage
Others	30754	30.64
Total	**100366**	**100**
D. Occupational structure		
Main workers	49466	49.30
Marginal workers	5157	5.10
Total Workers	**54623**	**54.40**
Total Non-workers	**45743**	**45.60**
Total	**100366**	**100**

11.3.2.1 SAMPLE SURVEY:

Nearby villages were visited for conducting sample Village survey on all socio-economic aspects and requirements of the people. The existing socio-economic scenario is studied and CER activities are also suggested to the proponent. The study details are given in **Para 3.2.4, Chapter – III**.

11.3.3 EXISTING ENVIRONMENTAL QUALITY:

Baseline monitoring was carried out during Winter Season (December 2021 to February 2022). The details of the same are provided below:

Table 11.6: Baseline Data

A) METEOROLOGICAL DATA	**Monitoring Location -** Near Core Zone		
PARAMETERS	**MINIMUM**	**MAXIMUM**	
Temperature in ^{o}C	19.0	36.0	
Humidity in %	21.8	99.0	
Wind speed Km/Hr	<1.8	25.9	
Predominant wind direction (From)	NE		
B) AMBIENT AIR QUALITY	**Monitoring Location –** 6 locations		
PARAMETER	**RESULT (µg/m3)**		***LIMIT (µg/m3)**
Location	**Core Zone**	**Buffer Zone**	
Particulate Matter (Size <10 µm)	59.6 – 76.3	41.4 – 70.2	100
Particulate Matter (Size <2.5 µm)	28.2 – 36.6	19.3 – 32.6	60
Sulphur Dioxide (as SO_2)	5.3– 9.1	4.1 – 7.5	80
Nitrogen Dioxide (as NO_2)	8.5 – 12.7	7.1 – 12.3	80

Conclusion: The existing Ambient Air Quality levels for PM10, PM2.5, SO2 and NO2, are within the NAAQ standards prescribed CPCB limits of 100 µg/m3, 60 µg/m3, 80 µg/m3 & 80 µg/m3. The CO values in all the locations were found to be below detectable limit. Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m3)

C) WATER QUALITY	**Monitoring Location –** 6 locations	
PARAMETER	**Result**	***LIMIT (µg/m3)**
pH at 25 ˚C	7.29 – 7.69	**6.5-8.5**
Total Dissolved Solids, mg/L	296 – 590	**2000**
Chloride as Cl-, mg/L	38.50 – 162	**1000**
Total Hardness (as CaCO3), mg/L	190 – 395	**600**
Total Alkalinity (as CaCO3), mg/L	277– 310	**600**
Sulphates as SO42-, mg/L	15.20 – 186	**400**
Iron as Fe, mg/L	BDL(D.L - 0.01) – 0.07	**0.3**
Nitrate as NO3, mg/L	BDL(D.L – 1.0) – 5.45	**45**
Fluoride as F, mg/L	BDL(D.L – 0.1) – 0.53	**1.5**

Conclusion: The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications.

D) NOISE LEVELS	**Monitoring Location –** 6 locations		
PARAMETER	**RESULT dB(A)**		***LIMIT (µg/m3)**
	Day Equivalent	**Night Equivalent**	
Core Zone	49.7	38.8	**90**
Buffer Zone	44.8 – 48.2	36.7 – 42.9	**Day Equivalent - 55dB(A), Night Equivalent - 45dB(A)**

*Permissible noise for industrial workers as laid down by CPCB (at 8 hrs Exposure Time). While comparing with the MoEF&CC Norms, the monitored ambient noise levels are generally within the limit values.

E) SOIL QUALITY	**Monitoring Location –** 3 locations
PARAMETER	**Range of values**
pH	6.21 – 7.57
Electrical Conductivity (µmho/cm)	82.29 – 98.54
Organic matter (%)	2.45 – 3.21
Total Nitrogen (mg/kg)	589 – 1020
Phosphorus (mg/kg)	2.14– 3.65

Sodium (mg/kg)	765 - 1035
Potassium (mg/kg)	610 – 776
Conclusion: The soil quality data for the 3 samples collected and analyzed are provided in Table No – 3.17.	

F) LAND EVIRONMENT:

For the present study on land use pattern in the study area, remote sensing satellite data have been used. The area estimated of land use categories around the 10km buffer zone is provided below:

Table 11.7: Land Use in 10Km Buffer Zone

S.No	Landuse Feature	Area (Sq.Km)	Percentage
1	Agriculture/ Plantation	48.72	14.56
2	Fallow Land	101.25	30.25
3	Land With Scrub	139.24	41.61
4	Land Without Scrub	25.36	7.58
5	Water bodies	9.79	2.93
6	Settlement	7.44	2.22
7	Mining Area/ Industries	2.86	0.85
	Total	334.65	100

From the above table it is seen that 14.56 % of the study area is agriculture land and 30.25 % are fallow land. Land with scrub constitutes 41.61 %, lands without scrub constitute 7.58% and waterbodies constitute 2.93% and remaining constitute 3.07 %. Details are given in **Para 3.4, Chapter – III**.

G) BIOLOGICAL ENVIRONMENT:

Flora: The lease area is a non-forest, private land. Major part of lease area is partly mined out area and remaining area is barren land with thorny bushes & shrubs (Prosopis juliflora). The PIZ is a dry area and dominated with thorny bushes of Prosopis juliflora followed by mining and crusher plants. A total of 11 tree species from 7 families are recorded in the PIZ. From the above resut it is clearly shows the PIZ is disturbed and has less diversity. Hence it is important to improve the plantation of the study area.

Fauna: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals like Cows, Buffalos, Dogs, Cats etc., are commonly found. The lease and 10 Km buffer zone does not fall in the Western Ghats ESA boundary. The detailed list of fauna Species in the buffer zone is given in **Table No - 3.13, Chapter - III**.

H) HYDROLOGICAL STUDY:

The area applied for mining lease is a gentle plain terrain. Part of the lease area has already been mined out. There is no major water body in the core zone. The general trend of depth to water level for Aruppukottai Block, Viruthunagar District, Tamil Nadu the was obtained from the data obtained from India-WRIS, Department of Water Resources, Ministry of Jal Shakti.

Based on the available information and the geophysical investigations it is concluded that the project area is considered to have poor groundwater potential. Productive aquifers are expected beyond depth of 60m BGL. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. There is no water seepage noticed in to the already quarried pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

11.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES:

11.4.1 GENERAL:

This is a proposed project and Mechanized Open Cast mining will be carried out to quarry out Rough Stone & Gravel. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc.

11.4.2 AIR ENVIRONMENT:

The principal sources of air pollution in the area due to mining and allied activities are dust generation in the mine due to various activities such as excavation of material, movement of HEMM, loading, unloading and transportation operations. Besides, Gas emission also occur as a result of emission of SO2, NOx, CO etc., from diesel driven mining equipment, compressors, generator sets, etc. The following measures will be adopted to control impact on the air quality due to mining operations in the lease area:

Table 11.8: Mitigation Measures – Air Environment

S.No	Activity	Mitigation Measures
1	Drilling	Usage of Drill bits in good condition
		Covering of drill holes with wet cloth
		Usage of sharp drill bits for drilling of holes.
		Provision of dust filters / mask to workers working at highly dust prone and affected areas.
2	Blasting	Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.
		Use of appropriate explosives for blasting and avoiding overcharging of blast holes.
		Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
		Use of controlled blasting techniques with Nonel to keep the dust generation, noise as well as vibration level within the prescribed limits.
3	Excavation and Loading	Proper maintenance of HEMM
		Enclosures for operator cabin.
		Imparting sufficient training to operators on safety and environmental parameters.
		Proper maintenance of hauling equipments.
		Avoiding overloading of dumpers.
4	Transportation	Regular wetting of transport road using mobile water tanker.
		Setting up of tyre wash facility in the transport road.
		Proper maintenance of haul road and other roads
		Avoiding overloading of tippers
		Covering of loaded tippers with tarpaulins during transportation
		Vehicular emissions will be controlled through regular and proper

		preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
5	Others	Development of greenbelt / barriers around mine in the safety zone and carrying out plantation within the lease area.

Due to adoption of all these measures, no major impact on air quality is envisaged due to this proposed opencast mining operation.

The impact on air quality due to the proposed project is estimated using AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion. Ground Level Concentration (GLC) have been computed using hourly meteorological data for particulate matter PM10 and PM2.5.

The resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM_{10} are in the range 55.1 μg/m3 to 78.2 μg/m3 and with respect to PM2.5 are in the range 25.9 μg/m3 to 37.6 μg/m3 which are within the statutory limits in each case.

For preservation of environment in this mine strict enforcement of management schemes will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.

11.4.3 WATER ENVIRONMENT:

Water Requirement: The total water requirement for this project will be 10.0 KLD comprising 1.0 KLD for drinking water and domestic use, 8.0 KLD for dust suppression and 1.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose.

The activity / source of pollution, its impact / consequence, proposed control measures are explained below:

Table 11.9: Mitigation Measures – Water Pollution

S.No	Source	Consequence	Mitigation Measures
A	Domestic use	Generation of waste water	The domestic sewage to be generated from the project will be collected in septic tank with soak pits.
B	Rainfall	Runoff from waste dump and stack	Towards surface runoff management, a garland drain of length 490m will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users.
		Rainwater Harvesting	The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc.
C	Drainage Course	Disturbance to drainage course	Good plantation will also be carried out in the safety zone. There is no proposal to discharge any effluent into this water body. Non-perennial Vaippar river and its tributary Nadhi is located 150 meter (North) and 350 m (west) respectively from the lease area. Based on geophysical study there is no observation of fractured zone/ fissure vein up to depth of 60m in the study area. During the rainy time only surface water flow in vaippar river is observed and in the remaining period it is almost dry. As such no major impact is envisaged on the nearby water bodies due to project operations.

- **Stage of Groundwater Development:** The groundwater resource was obtained from Central Ground Water Board, South Eastern Costal Region – 'District groundwater brochure, Virudhunagar District.'. Based on the report it is seen that this area can be categorized as 'Safe' from ground water development point of view.
- **Generation of mine pit water:** Based on the available information and the geophysical investigations it is observed that the project area is considered to have poor groundwater potential. Productive aquifers are expected beyond depth of 60m BGL. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. There is no water seepage noticed in to the already quarried pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

11.4.4 NOISE ENVIRONMENT:

Anticipated noise levels resulting from operation of the various machineries like excavator, tippers, drill have been computed using point source model. Computation of cumulative noise levels at the nearby villages is made based on the assumption that there are no attenuation paths between the source and the boundary. From the studies, it is found that the predicted Noise Levels due to mining operations at the periphery of the mine lease itself will be less even without considering any attenuation factor. However, practically there will be attenuation due to vegetation etc., and as such there will not be any adverse noise propagation outside the lease boundary. Since the habitations are also away the effect of noise due to mining operations will not be felt at all in the surrounding village. Hence, by implementing the following mitigative measures for noise control, the impact on noise levels will continue to be insignificant:

- Planting rows of native trees along roads, around mine area and other noise generating centers to act as acoustic barriers.
- Sound proof operator's cabin for equipments like shovel, tippers, etc.
- Proper and regular maintenance of equipments may lead to less noise generation.
- Providing in-built mechanism for reducing sound emissions.
- Providing earplugs to workers exposed to higher noise level.
- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.
- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.
- Provision of tin sheet and green net on the lease periphery.

Further green belt and afforestation will be planned and executed to abate noise and dust propagation in the area.

11.4.5. VIBRATION:

To reduce ground vibratory conditions, various control measures will be implemented such as keeping PPV below 10mm/s for 8-25hz frequency range, formulating drilling and charging pattern with less explosive charge, initiating sequence and using NONEL, carrying out blasting with minimum charge per delay, avoiding blasting during strong winds etc. By adoption of above measures, it will be ensured that the ground level vibration due to blasting are maintained within the limits prescribed by DGMS, Dhanbad at the mining areas vide Circular No. 7 dated 29 -08-1997. Besides, different blasting time for the projects in the vicinity is suggested and the timing is to be mentioned in the display board in the respective mines entrance. Elaborate details regarding the same are provided under section 4.4.2, Chapter-IV.

'Scientific Study on Blast Induced Ground Vibration and Design of Controlled Blasting Parameters' was conducted by Department of Mining Engineering, Anna University, Chennai to determine the influence of ground vibrations and fly-rock generated due to blasting in the proposed and existing quarries associated as a cluster quarry belonging to Thiru.Subburaj, Thiru.S. Ragupathi, Smt R. Gayathri, Thiru. R. Gopalakrishnan, Thiru. S Shanmugaraj and Thiru. S. Ramraj on the surrounding sensitive structures, residential structures, village roads and any other structures not belonging to the owner. From the study it was deduced that controlled blasting using NONEL by limiting maximum explosive charge per delay, did not produce peak particle velocities (blast vibrations) greater than 2 mm/s at various distances from 50m – 700m, which is below the DGMS prescribed standard of 10mm/s. Recommendations made in this report will be implemented so that controlled blasting can be carried out in a safe manner without affecting the structures under consideration and surrounding environment.

11.4.6 IMPACT ON LAND ENVIRONMENT:

This lease area in S.F.Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) is a patta land in the name of applicant. There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. In the post mining stage, entire 1.23.0 Ha of mined out area will be left as water body. 0.03.0 Ha is road & infrastructure, 0.27.0 ha will be under afforestation and 0.05.0 will be fencing. Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined out void shall be utilized.

11.4.7 BIOLOGICAL ENVIRONMENT:

Necessary mitigative measures like dust suppression, proper maintenance of equipment's, greenbelt and plantation etc., will be carried out to prevent dust generation & any further impact on the vegetation. In the lease area, safety barrier 7.5m around the periphery. Greenbelt Plantation will be carried out to enhance the vegetative growth and aesthetic in the safety zone area. About 800 trees will be planted in and around the lease area.

11.4.8 SOCIO ECONOMIC ENVIRONMENT:

The entire lease area is a private patta land. Hence, there are no habitations or hutments in the core zone area and no rehabilitation or resettlement problems will arise here.

The mining operations in the proposed quarry will employ about 18 people. Besides through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and standards of living in the area through various service related activities connected with the project operations.

Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner.In consultation with the locals based on the need & priority it will be implemented.

11.4.9 OCCUPATIONAL HEALTH AND SAFETY ASPECTS:

In order to ensure minimisation of occupational health and safety problems in the project operation, the following preventive remedial measures will be effectively exercised in the project operations, so as to comply with applicable standards.

- Medical examination of workers at pre-entry level stage of workers, etc., by qualified doctors, with periodical examination of all workers/staff at least once a year, as per DGMS circulars.
- Regular awareness campaigns amongst staff and workers
- Staff will be provided with PPE to guard against excess noise levels, Dust generation and inhalation, etc., as per standards prescribed by DGMS.

11.4.10 IMPACT ON LOCAL LOGISTICAL SYSTEM DUE TO PROJECT:

From this proposed quarry the entire output will be transported to the consumers like external crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. Since the productivity is less, there will be about 2 trips per hour. The transport route can easily absorb this negligible traffic due to this project. The following mitigative measures are suggested for mitigation of adverse impacts on the logistical aspect of the project:

- Water sprinkling on Rough stone in the transport vehicles before transporting, so that no dust nuisance during transport will arise.
- Proper maintenance of transport roads
- Proper maintenance of transport vehicles.
- Avoiding overloading of material
- Covering of loaded vehicles with tarpaulins sheet if warranted.

11.4.11 WASTE MANAGEMENT:

Since the entire mined out material will be used there will not be any solid waste generation from this project. There is no process effluent generation from this mine. Hence no liquid waste is generated.

The hazardous waste generated in this mine will be stored in a separate storage area with impervious containers for waste oil, oil contaminated clothes, used lead acid batteries, scraps, tyre storage etc. It will be disposed through authorized recyclers or re-processors periodically. The hazardous wastes will be transported in accordance with the provisions of rules. By effective implementation of above said mitigation measures no major impact due to Hazardous waste is expected.

Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

11.5 ENVIRONMENTAL MONITORING PROGRAMME:

The monitoring schedules are planned for systematic study of various pollution levels with respect to air and water qualities, noise levels, etc. to ensure that they conform to the standards laid down by Environmental Protection Act and various statutory Limits.

Monitoring location and the frequency of monitoring shall be suitably modified in consultation with the nodal agency as per the actual requirements and prevailing conditions of the mine and environmental factors, as dictated from time to time, depending on the prevailing pollution levels, if required.

Towards EMP measures, Rs.17.19 Lakhs is allocated under capital cost. Besides, Rs.15.15 lakhs will be spent under recurring cost. All the recurring cost of maintenance of pollution control measures, environmental monitoring etc., will be met from revenue. Further details of the capital and recurring cost of environmental management has been provided in in Table No. 10.2, Chapter-X.

11.6 ADDITIONAL STUDIES:

The additional studies covered for this EIA / EMP report are:

1. Public consultation of the project as per MoEF&CC mandates.
2. Risk Assessment
3. R&R Plan
4. Mine closure plan

This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.

Elaborate description in respect of Risk Assessment and Mine closure plan are given in **Chapter - VII**.

Although the individual lease area of this project is less than 5 Ha, the other existing and proposed quarries within the 500m radius along with this subject project works out to >5 Ha. The baseline monitoring carried out for this project reflects the cumulative impact of the existing quarry. Besides, this is the only proposed mines. From that above it is seen that, although the individual lease area of this project is less than 5 Ha, the other existing and proposed quarries within the 500m radius along with this subject project works out to >5 Ha. The baseline monitoring carried out for this project reflects the cumulative impact of these existing quarries. Considering that the lease period of the existing quarry will be coming to an end shortly, this proposed quarry will serve more as a replacement for the existing quarry to ensure meeting the present Roughstone demands.

11.7 CONCLUSION:

By systematic and scientific mining adhering to all the statutory norms and enforcing and strictly implementing the above said mitigation measures mentioned in this report, no adverse impact is envisaged. The proposed mining project will benefit this region in the fields of potential employment opportunities, improved per capita income for local people, improved social welfare facilities in respect of education, medical healthcare systems, etc. in its own way and also revenue to Government through royalty, taxes etc.

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CHAPTER 12

DISCLOSURE OF CONSULTANTS ENGAGED

Creative Engineers & Consultants, Chennai – 600059 is with **NABL** accredited testing laboratory and **NABET** accredited consultancy organisation. Team of people are given below:

EXPERT NAME	QUALIFICATION	POSITION	EXPERIENCE
Mr. P. Giri	AMIE (Mining)	EIA Coordinator & Functional area Expert (AP,NV,HW).	Over 30 years of experience in EIA/EMP report, mine plan preparation, including modeling
Mr. K. Shankar	M.Sc (Geology). PGMEMG	Functional area Expert (GEO, HG, SHW, RH) & IBM approved RQP.	Over 25 years of experience in EIA/EMP report, Mine plan, hydrological report preparation
Dr. N. Radhakrishnan	M.Sc., M.Tech., Ph.D	Functional area Expert (Land use)	Over 25 years of experience in using the advanced spatial analysis techniques in GIS environment. Specialized in Spatial Information Technology and Applications (remote sensing, GIS)
Mr.S.S.Rajendran	M.Sc. (Pharmaceutical Chemistry)	Lab head	More than 9 years of experience in Environmental laboratory.
Mrs. V. Sivaranjani	M.Sc. (Env. Sci.)	Functional Area Expert (AQ,WP)	More than 8 years of experience in preparation of EIA / EMP reports
Mr. R. Babu raj	M.A (Sociology), B.Com(Y.L&Cost), ITI, Advance Diploma in Computer application	Functional Area Expert (Socio Economy)	Over 13 years of experience in dispersion modeling, computer applications. Specialized in CAD and computer software,

EXPERT NAME	QUALIFICATION	POSITION	EXPERIENCE
			applications. 4years experience in the field of socio economy and its allied report preparation.
Mr. B. Govindaraman	B.Sc.	Field technician	Over 20 years of field monitoring & data collection experience
Dr.B.Swamynathan	M.Sc (Ecology & Environmental Sciences), M.Phill (Botany), Ph.D (Ecology & Environmental Sciences)	EIA Coordinator & Functional area Expert (EB, LU, SC & AP),	More than 12 years of experience in Environment and allied fields.
Ms. G. Sandhya	B. Tech Chemical Engineering	EIA Coordinator & Functional area Expert (AQ & WP),	Over 6 years experience in preparation of EIA/EMP reports

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ANNEXURE - V

புவியியல் மற்றும் சுரங்கத்துறை

உதவி இயக்குநர் அலுவலகம்,
மாவட்ட ஆட்சியர் அலுவலக வளாகம்,
விருதுநகர்.

ந.க.எண்: கேவி1/523/2019-கனிமம், நாள்: 12.05.2022.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம் - அப்பையநாயக்கன்பட்டி கிராமம் - பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் - ஐந்து வருடங்களுக்கு உடைகல் மற்றும் கிராவல் குவாரி உரிமம் வழங்கல் - சரியான பரப்பு (Precise Area) தேர்வு செய்யப்பட்டது - சுரங்கத்திட்டம் மற்றும் மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை:

1. திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் திருநெல்வேலி விண்ணப்பம் நாள்: 18.11.2019.
2. இவ்வலுவலக கடிதம் எண் ந.க.கேவி1/523/2019, நாள்: 04.12.2019.
3. சாத்தூர் வருவாய் கோட்டாட்சியர் கடிதம் எண்: மூ.மு.அ2/892/2020 நாள்: 04.03.2020.
4. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 11.05.2022.
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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விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் பரப்பில் 5 வருடங்களுக்கு உடைகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வழங்கக்கோரி

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திருநெல்வேலி மாவட்டம், திருவேங்கடம் வட்டம், செவல்பட்டி அஞ்சல், குண்டம்பட்டி கிராமம், கதவு எண்: 7/112 என்ற முகவரியில் வசித்து வரும் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர் பார்வை 1-ல் காணும் விண்ணப்பத்தினை சமர்பித்துள்ளார்.

சாத்தூர் வருவாய் கோட்டாட்சியர் மற்றும் புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர் கீழ்காணும் நிபந்தனைகளுக்குட்பட்டு மேற்கண்ட புலங்களில் உடைகல், கிராவல் குவாரி குத்தகை உரிமம் ஐந்தாண்டுகளுக்கு வழங்க பரிந்துரை செய்துள்ளனர்.

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
2) பொதுமக்கள் / விவசாய நிலங்களுக்கு பாதிப்பு ஏற்படாத வகையில் தகுதி வாய்ந்த அங்கீகரிக்கப்பட்ட நபர்கள் மூலம் வெடிமருந்துகள் சேமிக்கப்பட்டு குவாரியில் வெடித்தல் வேண்டும்.
3) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.
4) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் தொழிலாளர் நலவாரியம் மற்றும் காப்பீடு திட்டத்தில் பதிவு செய்து தொழிலாளர் நலன் பேணபட வேண்டும்.
5) குழந்தை தொழிலாளர்களை குவாரி பணியில் அமர்த்தக் கூடாது.
6) கனிமங்களை வாகனங்களில் கொண்டு செல்லும் போது பாதசாரிகள், பொது மக்கள் பாதிக்காதவண்ணம் தார்பாய்கள் கொண்டு மூடி எடுத்துச் செல்ல வேண்டும்.

எனவே, துறை அலுவலர்களின் பரிந்துரையினை ஏற்றும் நிபந்தனைகளுக்கு உட்பட்டும், விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் நிலம் 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் விதி எண்: 19 (1) மற்றும் 20 -ன் படி ஐந்து வருடகாலத்திற்கு உடைகல் மற்றும் கிராவல் குவாரி உரிமம் வழங்க தகுதி வாய்ந்த நிலப்பரப்பாக (Precise area) கருதப்படுகிறது.

தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண்: 41ன்படி 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 சமர்ப்பித்துமாறும் மனுதாரர் திரு.ச.சுப்புராஜ் கேட்டுக் கொள்ளப்படுகிறார்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விருதுநகர்

பெறுநர்
திரு.ச.சுப்புராஜ்,
த/பெ. சண்முகராஜ்,
கதவு எண்: 7/112,
குண்டம்பட்டி கிராமம், செவல்பட்டி அஞ்சல்,
திருவேங்கடம் வட்டம்,
திருநெல்வேலி மாவட்டம்.

நகல்
உறுப்பினர் செயலர்,
மாநில சுற்றுசூழல் தாக்க மதிப்பீட்டு ஆணையம் (SEIAA),
சென்னை.

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From
Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Virudhunagar.

To
Thiru.S.Subburaj,
S/o.Sri.Shanmugaraj,
No.7/112, Kundampatti Village,
Sevalpatti Post,
Thiruvengadam Taluk,
Tenkasi.

Roc.No: KV1/523/2019, Dated: 02.09.2022.

Sir,

Sub: Mines and Minerals - Minor Mineral - Virudhunagar District – Vembakottai Taluk – Appayanaickenpatti Village – Patta Land - S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) – Extent 1.58.00 Hectares – Quarry lease application preferred by Thiru.S.Subburaj for quarrying Rough Stone and Gravel - Approval of Mining Plan - Regarding.

Ref: 1. Quarry lease application received from Thiru.S.Subburaj dated: 18.11.2019.

2. The Assistant Director, Geology and Mining, Virudhunagar Rc.No.KV1/523/2019, Dated: 12.05.2022.

3. Thiru.S.Subburaj letter, dated: 08.07.2022.

******

Thiru.S.Subburaj has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 1.58.00 Hectares of Patta Land in S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) of Appayanaickenpatti Village, Vembakottai Taluk & Virudhunagr District for a period of 5 (Five) Years Under Rule 19 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 1.58.00 Hectares of Patta Land in S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) for a period of 5 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. The Geological and Mineable reserves are

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discussed in Part - A 3. The applicant can quarry the mineral in the following measurements:-

GEOLOGICAL RESERVES (As per Mining Plan)

MINERAL	SECTION	LENGTH (M)	WIDTH (M)	DEPTH (M)	VOLUME (CUM)
TOPSOIL	PQ & AB	130	122	2.0	31,720
GRAVEL	PQ & AB	130	122	3.0	47,580
ROUGH STONE	PQ & AB	130	122	25.0	3,96,500
TOTAL GEOLOGICAL RESERVES VOLUME IN CU.M					4,75,800
DEDUCT OLD PIT = 86m x 64m x 15.0m					- 82,560
TOTAL GEOLOGICAL RESERVES					**3,93,240**

MINEABLE RESERVES (As per Mining Plan)

MINERAL	SECTION	BENCH	LENGTH (M)	WIDTH (M)	DEPTH (M)	VOLUME IN CUM	TOTAL IN CUM
TOPSOIL	PQ & AB	I	115	107	2.0	24610	13,602
	DEDUCT OLD PIT = 86m x 64m x 2m					-11008	
GRAVEL	PQ & AB	I	115	107	3.0	36915	20,403
	DEDUCT OLD PIT = 86m x 64m x 3m					16512	
ROUGH STONE	PQ & AB	II	105	97	5.0	50925	113585
	PQ & AB	III	95	87	5.0	41325	
	PQ & AB	IV	85	77	5.0	32725	
	PQ & AB	V	75	67	5.0	25125	
	PQ & AB	VI	65	57	5.0	18525	
DEDUCT OLD PIT = 86m x 64m x 10m						-55040	
TOTAL MINEABLE RESERVES							**1,47,590**

PRODUCTION SCHEDULE FOR 5 YEARS (As per Mining Plan)

YEAR	SECTION	BENCH	LENGTH (M)	WIDTH (M)	DEPTH (M)	VOLUME IN CUM			TOTAL PRODUCTION IN CUM
						TOP SOIL	GRAVEL	ROUGH STONE	
I	PQ-AB	I	115	74	2.0	6012	--	--	**26615**
	DEDUCT OLD PIT = 86m x 64m x 2m = -11008								
	PQ-AB	I	115	74	3.0	--	9018	--	
	DEDUCT OLD PIT = 86m x 64m x 3m = -16512								
	PQ-AB	II	105	69	5.0	--	--	11585	
		III	95	64	5.0				
	DEDUCT OLD PIT = 86m x 64m x 3m = -16512								
II	PQ-AB	I	115	33	2.0	7590	--	--	**33675**
	PQ-AB	I	115	33	3.0	--	11385	--	
	PQ-AB	II	105	28	5.0	--	--	14700	
III	PQ-AB	III	95	23	5.0	--	--	10925	**30050**
	PQ-AB	IV	85	45	5.0	--	--	19125	
IV	PQ-AB	IV	85	32	5.0	--	--	13600	**29350**
	PQ-AB	V	75	42	5.0	--	--	15750	
V	PQ-AB	V	75	25	5.0	--	--	9375	**27900**
	PQ-AB	VI	65	57	5.0	--	--	18525	
TOTAL PRODUCTION						**13602**	**20403**	**113585**	**147590**

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The available mineable reserves have been computed as **13,602 m³** Topsoil **1,13,585 m³** as Rough Stone, **20,403 m³** as Gravel up to the depth of **30m** from the ground level.

The Environmental Management Plan and Mine closure plan are discussed in Part - B 9 & 10 and all conditions has been incorporated in the Mining Plan as laid down by the authorities.

4) 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 Thiru.S.Subburaj for quarrying Rough Stone and Gravel over an Extent of 1.58.00 Hectares of Patta Land in S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) of Appayanaickenpatti Village, Vembakottai Taluk & Virudhunagr District for a period of 5 years to obtain Environment Clearance from SEIAA, Chennai subject to the following conditions:

1. The Mining Plan is apprpoved 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.

Encl: Two copies of Mining Plan.

Assistant Director,
Geology and Mining,
Virudhunagar.

Copy to:
The Member Secretary,
State Level Environmental Impact
Assessment Authority,
PanagalMaligai,
No. I Jeenis Road,
Saidapet,Chennai-15.

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ANNEXURE - X

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : விருதுநகர் வட்டம் : வெம்பக்கோட்டை

வருவாய் கிராமம் : அப்பையநாயக்கன்பட்டி பட்டா எண் : 2180

உரிமையாளர்கள் பெயர்

1. சண்முகராஜ் மகன் சுப்புராஜ்

		நன்செய்		புன்செய்		மற்றவை	
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை
புல எண்	உட்பிரிவு	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை
204	1	--	--	0 - 63.00	1.26	--	--
44	-	--	--	1 - 50.00	1.00	--	--
45	1A1	--	--	0 - 6.50	0.15	--	--
45	1A2	--	--	1 - 17.50	2.35	--	--
45	3	--	--	0 - 3.00	0.08	--	--
39	1A	--	--	0 - 48.00	1.00	--	--
43	1A	--	--	0 - 6.00	0.15	--	--
43	1B	--	--	1 - 10.00	2.20	--	--
46	1	--	--	0 - 70.50	1.41	--	--
46	2	--	--	0 - 45.00	0.90	--	--
46	3	--	--	0 - 45.00	0.94	--	--
				6 - 64.50	11.44		

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **26/09/016/02180/100691** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 05-03-2019 அன்று 10:46:46 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

Annexure-4

POPULATION BREAKUP & LITERACY LEVEL IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Rural / urban	HOUSE HOLDS	POPULATION			POPULATION BELOW 6 AGE GROUP			SCHEDULE CASTE			SCHEDULE TRIBE			LITRERATES			ILLITRERATES		
					TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F. MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE
0-2 km,Sivakasi Sub-District, Virudhunagar District																						
1	1	Appanayakkanpatti	**Rural**	1017	4594	2135	2459	379	202	177	1086	529	557	0	0	0	3291	1620	1671	1303	515	788
		total (A)		**1017**	**4594**	**2135**	**2459**	**379**	**202**	**177**	**1086**	**529**	**557**	**0**	**0**	**0**	**3291**	**1620**	**1671**	**1303**	**515**	**788**
2-5 km,Sivakasi Sub-District, Virudhunagar District																						
2	1	Kilanmarinadu	**Rural**	637	2388	1190	1198	252	116	136	525	261	264	0	0	0	1614	914	700	774	276	498
Sattur Sub-District, Virudhunagar District																						
3	1	Sevalpatti	**Rural**	1316	4806	2438	2368	569	288	281	579	307	272	21	12	9	3098	1795	1303	1708	643	1065
4	2	Kuganparai	**Rural**	394	1290	641	649	119	61	58	167	78	89	0	0	0	899	489	410	391	152	239
Sankarankoil Sub-District,Tirunelveli District																						
5	1	Chattrappatti	**Rural**	403	1420	699	721	151	69	82	800	395	405	0	0	0	1020	562	458	400	137	263
6	2	Varaganur	**Rural**	781	2574	1268	1306	245	133	112	574	290	284	0	0	0	1790	987	803	784	281	503
Sankarankoil Sub-District,Tirunelveli District																						
7	1	Thiruvenkadam (TP)	**Urban**	2368	8337	4144	4193	865	454	411	2281	1151	1130	78	37	41	5866	3234	2632	2471	910	1561
		total (B)		**5899**	**20815**	**10380**	**10435**	**2201**	**1121**	**1080**	**4926**	**2482**	**2444**	**99**	**49**	**50**	**14287**	**7981**	**6306**	**6528**	**2399**	**4129**
5-10 km,Rajapalayam Sub-District, Virudhunagar District																						
8	1	Gopalapuram	**Rural**	423	1461	708	753	128	61	67	385	189	196	0	0	0	1051	572	479	410	136	274
9	2	Vadagarai	**Rural**	992	3454	1720	1734	316	156	160	91	42	49	0	0	0	2539	1413	1126	915	307	608
Sivakasi Sub-District, Virudhunagar District																						
10	1	Edirkottai	**Rural**	1203	4329	2129	2200	465	254	211	331	156	175	0	0	0	3086	1656	1430	1243	473	770
11	2	Kongankulam	**Rural**	318	1050	507	543	87	44	43	138	64	74	0	0	0	761	409	352	289	98	191
12	3	Alangulam (Part)	**Rural**	508	1924	1004	920	164	95	69	480	247	233	0	0	0	1473	812	661	451	192	259
13	4	Kundayiruppu	**Rural**	1846	6812	3365	3447	852	424	428	1677	820	857	0	0	0	4602	2498	2104	2210	867	1343
14	5	Kangaraseval	**Rural**	429	1627	790	837	180	96	84	408	187	221	0	0	0	1047	561	486	580	229	351
15	6	Vembakottai	**Rural**	1196	4478	2225	2253	573	285	288	756	371	385	0	0	0	3128	1714	1414	1350	511	839
16	7	Surarpatti	**Rural**	406	1523	751	772	195	103	92	999	496	503	0	0	0	933	525	408	590	226	364
17	8	Lakshmipuram	**Rural**	1603	5610	2771	2839	577	251	326	1327	652	675	5	3	2	3847	2156	1691	1763	615	1148
Sattur Sub-District, Virudhunagar District																						
18	1	Sankarapandiyapuram	**Rural**	893	3200	1580	1620	315	163	152	1116	540	576	0	0	0	2096	1171	925	1104	409	695
19	2	Thlukkankurichchi	**Rural**	655	2294	1116	1178	269	135	134	143	66	77	0	0	0	1409	781	628	885	335	550
20	3	Sippipparai	**Rural**	677	2299	1115	1184	199	103	96	832	414	418	0	0	0	1593	856	737	706	259	447
Sankarankoil Sub-District,Tirunelveli District																						
21	1	Kalingappatti	**Rural**	1775	6537	3242	3295	641	330	311	1573	784	789	24	12	12	4347	2429	1918	2190	813	1377
22	2	Naduvappatti	**Rural**	290	998	492	506	81	50	31	78	35	43	0	0	0	589	328	261	409	164	245
23	3	Maipparai	**Rural**	542	1842	885	957	157	76	81	322	161	161	0	0	0	1272	684	588	570	201	369
24	4	Sangupatti	**Rural**	677	2418	1222	1196	228	122	106	1104	559	545	11	6	5	1673	959	714	745	263	482
25	5	Vellakulam	**Rural**	1152	3946	1903	2043	322	164	158	553	269	284	0	0	0	2787	1485	1302	1159	418	741
26	6	A.Karisalkulam	**Rural**	914	3394	1634	1760	330	169	161	341	159	182	0	0	0	2248	1219	1029	1146	415	731
27	7	Kulasekarapperi	**Rural**	171	645	327	318	53	25	28	0	0	0	0	0	0	416	239	177	229	88	141
28	8	Kurunjakulam	**Rural**	397	1425	675	750	122	66	56	616	282	334	9	4	5	1069	562	507	356	113	243

29	9	Sundaresapuram	**Rural**	95	323	154	169	38	17	21	28	19	9	0	0	0	215	116	99	108	38	70
30	10	Kulakkattakurichi	**Rural**	278	854	418	436	78	41	37	194	93	101	0	0	0	558	321	237	296	97	199
Kovilpatti Sub-District,Thoothukkudi District																					
31	1	Sundaresapuram	**Rural**	335	1179	613	566	116	54	62	459	242	217	0	0	0	874	508	366	305	105	200
32	2	Kuruvinatham	**Rural**	439	1640	826	814	223	112	111	722	365	357	0	0	0	1126	615	511	514	211	303
33	3	Mukkuttumalai	**Rural**	297	896	441	455	98	65	33	272	139	133	0	0	0	586	310	276	310	131	179
34	4	Lakshmiammalpuram	**Rural**	316	1115	545	570	108	63	45	724	361	363	0	0	0	826	444	382	289	101	188
35	5	Nakkalamuthanpatti	**Rural**	351	1215	612	603	118	67	51	396	189	207	0	0	0	826	462	364	389	150	239
36	6	Vadakkuppatti	**Rural**	447	1539	768	771	163	75	88	476	220	256	0	0	0	1248	656	592	291	112	179
Sivakasi Sub-District, Virudhunagar District																					
37	1	Alangulam (CT)	**Urban**	1364	4930	2475	2455	456	236	220	807	398	409	1	1	0	3809	2052	1757	1121	423	698
		total (C)		**20989**	**74957**	**37013**	**37944**	**7652**	**3902**	**3750**	**17348**	**8519**	**8829**	**50**	**26**	**24**	**52034**	**28513**	**23521**	**22923**	**8500**	**14423**
		Grand Total (A+B+C)		**27905**	**100366**	**49528**	**50838**	**10232**	**5225**	**5007**	**23360**	**11530**	**11830**	**149**	**75**	**74**	**69612**	**38114**	**31498**	**30754**	**11414**	**19340**

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, Thoothukkudi District of Tamilnadu State-2011**

Annexure-5

OCCUPATIONAL STRUCTURE IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Rural / urban	MAIN WORKERS		CULTIVATORS		AGRI LABOURS		HOUSE HOLD		OTHERS		MARGINAL WORKERS		NON WORKERS	
				MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE
0-2 km,Sivakasi Sub-District, Virudhunagar District																	
1	1	Appanayakkanpatti	**Rural**	1125	1097	85	99	307	499	28	19	705	480	54	106	956	1256
		total (A)		**1125**	**1097**	**85**	**99**	**307**	**499**	**28**	**19**	**705**	**480**	**54**	**106**	**956**	**1256**
2-5 km,Sivakasi Sub-District, Virudhunagar District																	
2	1	Kilanmarinadu	**Rural**	648	417	38	21	53	141	8	14	549	241	75	86	467	695
Sattur Sub-District, Virudhunagar District																	
3	1	Sevalpatti	**Rural**	1474	1159	59	23	178	229	16	42	1221	865	19	50	945	1159
4	2	Kuganparai	**Rural**	433	412	165	150	61	107	24	21	183	134	14	20	194	217
Sankarankoil Sub-District,Tirunelveli District																	
5	1	Chattrappatti	**Rural**	436	410	11	3	359	384	0	0	66	23	0	0	263	311
6	2	Varaganur	**Rural**	802	768	204	197	367	451	11	9	220	111	3	5	463	533
Sankarankoil Sub-District,Tirunelveli District																	
7	1	Thiruvenkadam (TP)	**Urban**	2290	1407	244	172	471	576	11	32	1564	627	176	310	1678	2476
		total (B)		**6083**	**4573**	**721**	**566**	**1489**	**1888**	**70**	**118**	**3803**	**2001**	**287**	**471**	**4010**	**5391**
5-10 km,Rajapalayam Sub-District, Virudhunagar District																	
8	1	Gopalapuram	**Rural**	271	99	35	14	11	9	9	8	216	68	186	250	251	404
9	2	Vadagarai	**Rural**	1006	704	214	91	304	366	14	20	474	227	17	22	697	1008
Sivakasi Sub-District, Virudhunagar District																	
10	1	Edirkottai	**Rural**	1178	836	70	34	44	37	11	5	1053	760	131	182	820	1182
11	2	Kongankulam	**Rural**	320	271	11	7	197	222	1	0	111	42	3	1	184	271
12	3	Alangulam (Part)	**Rural**	547	340	21	6	42	58	9	14	475	262	9	9	448	571
13	4	Kundayiruppu	**Rural**	1707	1406	141	87	344	472	26	19	1196	828	220	251	1438	1790
14	5	Kangaraseval	**Rural**	478	413	52	38	114	139	3	5	309	231	6	22	306	402
15	6	Vembakottai	**Rural**	1251	795	50	10	133	87	9	10	1059	688	88	219	886	1239
16	7	Surarpatti	**Rural**	274	254	4	7	34	22	0	0	236	225	185	195	292	323
17	8	Lakshmipuram	**Rural**	1570	1198	128	123	507	607	21	26	914	442	119	61	1082	1580
Sattur Sub-District, Virudhunagar District																	
18	1	Sankarapandiyapuram	**Rural**	961	797	123	89	227	200	4	3	607	505	14	24	605	799
19	2	Thlukkankurichchi	**Rural**	669	594	8	5	76	44	9	5	576	540	49	86	398	498
20	3	Sippipparai	**Rural**	471	352	94	111	229	183	1	2	147	56	200	195	444	637
Sankarankoil Sub-District,Tirunelveli District																	
21	1	Kalingappatti	**Rural**	1751	1297	165	79	1078	1037	24	18	484	163	164	162	1327	1836
22	2	Naduvappatti	**Rural**	324	325	56	56	261	258	1	0	6	11	1	2	167	179
23	3	Maipparai	**Rural**	565	564	77	56	395	464	1	4	92	40	1	0	319	393
24	4	Sangupatti	**Rural**	473	351	15	10	174	204	8	5	276	132	236	219	513	626
25	5	Vellakulam	**Rural**	1142	1058	110	95	687	727	25	25	320	211	34	62	727	923
26	6	A.Karisalkulam	**Rural**	987	915	95	60	738	782	7	6	147	67	26	97	621	748
27	7	Kulasekarapperi	**Rural**	196	193	16	1	151	27	0	144	29	21	6	6	125	119
28	8	Kurunjakulam	**Rural**	402	384	127	46	157	272	2	4	116	62	12	40	261	326

29	9	Sundaresapuram	**Rural**	100	84	45	33	40	47	0	0	15	4	0	1	54	84
30	10	Kulakkattakurichi	**Rural**	256	261	50	24	153	194	1	0	52	43	1	3	161	172
Kovilpatti Sub-District,Thoothukkudi District																	
31	1	Sundaresapuram	**Rural**	415	310	195	158	142	137	0	0	78	15	1	3	197	253
32	2	Kuruvinatham	**Rural**	416	383	182	35	157	311	0	1	77	36	90	42	320	389
33	3	Mukkuttumalai	**Rural**	233	218	28	26	176	183	0	0	29	9	13	20	195	217
34	4	Lakshmiammalpuram	**Rural**	343	313	21	16	289	270	1	0	32	27	4	6	198	251
35	5	Nakkalamuthanpatti	**Rural**	364	331	33	22	263	286	0	1	68	22	10	15	238	257
36	6	Vadakkuppatti	**Rural**	494	410	138	96	322	292	0	0	34	22	0	3	274	358
Sivakasi Sub-District, Virudhunagar District																	
37	1	Alangulam (CT)	**Urban**	1350	618	98	11	191	232	61	24	1000	351	103	112	1022	1725
		total (C)		**20514**	**16074**	**2402**	**1446**	**7636**	**8169**	**248**	**349**	**10228**	**6110**	**1929**	**2310**	**14570**	**19560**
		Grand Total (A+B+C)		**27722**	**21744**	**3208**	**2111**	**9432**	**10556**	**346**	**486**	**14736**	**8591**	**2270**	**2887**	**19536**	**26207**

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, Thoothukkudi District of Tamilnadu State-2011**

EDUCATIONAL FACILITIES IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Educational Facilities (A(1)/ NA(2))	Govt Pre - Primary School (Nursery/LKG/UKG) (Numbers)	Govt Primary School (Numbers)	Govt Middle School (Numbers)	Govt Secondary School (Numbers)	Govt Senior Secondary School (Numbers)	Govt Arts and Science Degree College (Numbers)	Govt Engineering College (Numbers)	Govt Medicine College (Numbers)	Govt Management Institute (Numbers)	Govt Polytechnic (Numbers)	Govt Vocational Training School/ITI (Numbers)	Government Non Formal Training Centre (Numbers)	Government School For Disabled (Numbers)
0-2 km,Sivakasi Sub-District, Virudhunagar District																
1	1	Appanayakkanpatti	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0
		total (A)		**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2-5 km,Sivakasi Sub-District, Virudhunagar District																
2	1	Kilanmarinadu	**1**	2	1	0	0	0	0	0	0	0	0	0	1	0
Sattur Sub-District, Virudhunagar District																
3	1	Sevalpatti	**1**	5	2	1	1	1	0	0	0	0	0	0	2	0
4	2	Kuganparai	**1**	1	1	1	0	0	0	0	0	0	0	0	1	0
Sankarankoil Sub-District,Tirunelveli District																
5	1	Chattrappatti	**1**	2	3	1	0	0	0	0	0	0	0	0	1	0
6	2	Varaganur	**1**	3	1	1	0	0	0	0	0	0	0	0	1	0
		total (B)		**13**	**8**	**4**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**
5-10 km,Rajapalayam Sub-District, Virudhunagar District																
7	1	Gopalapuram	**1**	1	2	1	0	0	0	0	0	0	0	0	2	0
8	2	Vadagarai		3	2	1	1	0	0	0	0	0	0	0	3	0
Sivakasi Sub-District, Virudhunagar District																
9	1	Edirkottai	**1**	2	2	0	0	0	0	0	0	0	0	0	2	0
10	2	Kongankulam	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
11	3	Alangulam (Part)	**1**	5	3	3	2	2	0	0	0	0	0	0	3	0
12	4	Kundayiruppu	**1**	3	3	1	0	0	0	0	0	0	0	0	3	0
13	5	Kangaraseval	**1**	2	1	1	0	0	0	0	0	0	0	0	1	0
14	6	Vembakottai	**1**	4	5	1	1	1	0	0	0	0	0	0	5	1
15	7	Surarpatti	**1**	2	3	1	0	0	0	0	0	0	0	0	3	0
16	8	Lakshmipuram	**1**	4	4	0	0	0	0	0	0	0	0	0	4	0
Sattur Sub-District, Virudhunagar District																
17	1	Sankarapandiyapuram	**1**	3	4	1	1	1	0	0	0	0	0	0	4	0
18	2	Thlukkankurichchi	**1**	1	2	1	0	0	0	0	0	0	0	0	2	0
19	3	Sippipparai	**1**	1	2	1	1	1	0	0	0	0	0	0	3	0
Sankarankoil Sub-District,Tirunelveli District																
20	1	Kalingappatti	**1**	2	4	1	1	1	0	0	0	0	0	0	1	0
21	2	Naduvappatti	**1**	1	2	0	0	0	0	0	0	0	0	0	1	0
22	3	Maipparai	**1**	1	1	1	0	0	0	0	0	0	0	0	1	0
23	4	Sangupatti	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0
24	5	Vellakulam	**1**	4	4	3	0	0	0	0	0	0	0	0	1	0
25	6	A.Karisalkulam	**1**	2	3	1	1	0	0	0	0	0	0	0	1	0
26	7	Kulasekarapperi	**1**	1	1	1	0	0	0	0	0	0	0	0	1	0
27	8	Kurunjakulam	**1**	2	1	1	0	0	0	0	0	0	0	0	1	0
28	9	Sundaresapuram	**1**	1	1	0	0	0	0	0	0	0	0	0	1	0
29	10	Kulakkattakurichi	**1**	1	0	0	0	0	0	0	0	0	0	0	1	0
Kovilpatti Sub-District,Thoothukkudi District																
30	1	Sundaresapuram	**1**	1	1	0	0	0	0	0	0	0	0	0	1	0
31	2	Kuruvinatham	**1**	2	1	0	0	0	0	0	0	0	0	0	1	0
32	3	Mukkuttumalai	**1**	2	2	0	0	0	0	0	0	0	0	0	1	0

33	4	Lakshmiammalpuram	**1**	2	1	0	0	0	0	0	0	0	0	0	1	0
34	5	Nakkalamuthanpatti	**1**	1	1	0	0	0	0	0	0	0	0	0	1	0
35	6	Vadakkuppatti	**1**	1	1	1	0	0	0	0	0	0	0	0	1	0
		total (C)		**58**	**57**	**21**	**8**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**1**
		Grand Total (A+B+C)		**73**	**65**	**25**	**9**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**1**

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, Thoothukkudi District of Tamilnadu State-2011**

Annexure-7

MEDICAL FACILITIES IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Medical Facilities (A(1)/NA(2))	Community Health Centre (Numbers)	Primary Health Centre (Numbers)	Primary Heallth Sub Centre (Numbers)	Maternity And Child Welfare Centre (Numbers)	TB Clinic (Numbers)	Hospital Allopathic (Numbers)	Hospiltal Alternative Medicine (Numbers)	Dispensary (Numbers)	Veterinary Hospital (Numbers)	Mobile Health Clinic (Numbers)	Family Welfare Centre (Numbers)
0-2 km,Sivakasi Sub-District, Virudhunagar District														
1	1	Appanayakkanpatti	**1**	0	0	1	0	0	0	0	0	0	0	0
		total (A)		**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2-5 km,Sivakasi Sub-District, Virudhunagar District														
2	1	Kilanmarinadu	**1**	0	0	1	0	0	0	0	0	0	0	0
Sattur Sub-District, Virudhunagar District														
3	1	Sevalpatti	**1**	0	0	1	0	0	0	0	0	0	0	0
4	2	Kuganparai		0	0	0	0	0	0	0	0	0	0	0
Sankarankoil Sub-District,Tirunelveli District														
5	1	Chattrappatti	**1**	0	0	1	0	0	0	0	0	0	0	0
6	2	Varaganur	**1**	0	0	1	0	0	0	0	0	0	0	0
		total (B)		**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5-10 km,Rajapalayam Sub-District, Virudhunagar District														
7	1	Gopalapuram	**2**	0	0	0	0	0	0	0	0	0	0	0
8	2	Vadagarai	**1**	0	0	1	1	0	0	0	0	0	0	0
Sivakasi Sub-District, Virudhunagar District														
9	1	Edirkottai	**1**	0	0	1	0	0	0	0	0	0	0	0
10	2	Kongankulam	**1**	0	0	1	0	0	0	0	0	0	0	0
11	3	Alangulam (Part)	**1**	1	1	1	1	1	0	0	1	1	0	1
12	4	Kundayiruppu	**1**	0	0	3	0	0	0	0	0	0	0	0
13	5	Kangaraseval	**2**	0	0	0	0	0	0	0	0	0	0	0
14	6	Vembakottai	**1**	0	0	1	1	0	0	0	0	1	0	0
15	7	Surarpatti	**2**	0	0	0	0	0	0	0	0	0	0	0
16	8	Lakshmipuram	**1**	0	0	1	0	0	0	0	0	0	0	0
Sattur Sub-District, Virudhunagar District														
17	1	Sankarapandiyapuram	**1**	0	0	1	0	0	0	0	0	0	0	0
18	2	Thlukkankurichchi	**2**	0	0	0	0	0	0	0	0	0	0	0
19	3	Sippipparai	**1**	0	0	1	0	0	0	0	0	0	0	0
Sankarankoil Sub-District,Tirunelveli District														
20	1	Kalingappatti	**1**	0	1	1	1	1	0	0	1	1	0	1
21	2	Naduvappatti	**2**	0	0	0	0	0	0	0	0	0	0	0
22	3	Maipparai	**1**	0	0	1	0	0	0	0	0	0	0	0
23	4	Sangupatti	**2**	0	0	0	0	0	0	0	0	0	0	0
24	5	Vellakulam	**1**	0	0	1	0	0	0	0	0	0	0	0
25	6	A.Karisalkulam	**1**	0	0	1	0	0	0	0	0	1	0	0
26	7	Kulasekarapperi	**2**	0	0	0	0	0	0	0	0	0	0	0
27	8	Kurunjakulam	**1**	0	0	1	0	0	0	0	0	0	0	0
28	9	Sundaresapuram	**2**	0	0	0	0	0	0	0	0	0	0	0

29	10	Kulakkattakurichi	**2**	0	0	0	0	0	0	0	0	0	0	0	0
Kovilpatti Sub-District,Thoothukkudi District															
30	1	Sundaresapuram	**2**	0	0	0	0	0	0	0	0	0	0	0	0
31	2	Kuruvinatham	**2**	0	0	0	0	0	0	0	0	0	0	0	0
32	3	Mukkuttumalai	**2**	0	0	0	0	0	0	0	0	0	0	0	0
33	4	Lakshmiammalpuram	**2**	0	0	0	0	0	0	0	0	0	0	0	0
34	5	Nakkalamuthanpatti	**2**	0	0	0	0	0	0	0	0	0	0	0	0
35	6	Vadakkuppatti	**2**	0	0	0	0	0	0	0	0	0	0	0	0
		total (C)		**1**	**2**	**16**	**4**	**2**	**0**	**0**	**2**	**4**	**0**	**2**
		Grand Total (A+B+C)		**1**	**2**	**21**	**4**	**2**	**0**	**0**	**2**	**4**	**0**	**2**

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, Thoothukkudi District of Tamilnadu State-2011**

Note : **A: Available, NA- Not Available**

INFRASTRUCTURAL FACILITIES IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Tap Water-Treated (Status A(1)/NA(2))	Covered Well (Status A(1)/NA(2))	Hand Pump (Status A(1)/NA(2))	Tube Wells/Borehole (Status A(1)/NA(2))	Spring (Status A(1)/NA(2))	River/Canal (Status A(1)/NA(2))	Tank/Pond/Lake (Status A(1)/NA(2))	Post Office (Status A(1)/NA(2))	Sub Post Office (Status A(1)/NA(2))	Post And Telegraph Office (Status A(1)/NA(2))	Telephone (landlines) (Status A(1)/NA(2))	Mobile Phone Coverage (Status A(1)/NA(2))	Public Bus Service (Status A(1)/NA(2))	Railway Station (Status A(1)/NA(2))	Commercial Bank (Status A(1)/NA(2))	Cooperative Bank (Status A(1)/NA(2))	Agricultural Credit Societies (Status A(1)/NA(2))
0-2 km,Sivakasi Sub-District, Virudhunagar District																			
1	1	Appanayakkanpatti	2	2	2	1	2	2	2	2	1	2	1	1	1	2	2	1	1
2-5 km,Sivakasi Sub-District, Virudhunagar District																			
2	1	Kilanmarinadu	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	1
Sattur Sub-District, Virudhunagar District																			
3	1	Sevalpatti	1	2	1	1	2	2	2	1	1	1	1	1	1	2	2	1	1
4	2	Kuganparai	2	2	1	1	2	2	2	2	1	2	1	1	1	2	2	1	1
Sankarankoil Sub-District,Tirunelveli District																			
5	1	Chattrappatti	1	1	2	1	2	2	2	2	1	2	1	1	1	2	2	2	2
6	2	Varaganur	1	2	2	1	2	2	2	2	1	2	1	1	1	2	2	2	2
5-10 km,Rajapalayam Sub-District, Virudhunagar District																			
7	1	Gopalapuram	1	2	2	2	2	2	2	2	1	2	1	1	1	2	1	2	2
8	2	Vadagarai	2	2	2	1	2	2	2	2	1	2	1	1	1	2	2	1	1
Sivakasi Sub-District, Virudhunagar District																			
9	1	Edirkottai	1	1	2	2	2	2	2	2	1	2	1	1	1	2	2	1	1
10	2	Kongankulam	1	2	1	1	2	1	2	2	2	2	1	1	1	2	2	2	1
11	3	Alangulam (Part)	1	1	1	1	2	2	2	1	1	1	1	1	1	2	1	1	1
12	4	Kundayiruppu	1	2	2	1	2	2	2	2	1	2	1	1	1	2	2	2	1
13	5	Kangaraseval	1	2	1	1	1	2	2	2	1	2	1	1	1	2	2	2	2
14	6	Vembakottai	1	1	1	1	2	2	2	1	1	1	1	1	1	2	1	2	2
15	7	Surarpatti	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
16	8	Lakshmipuram	1	1	1	1	2	2	2	2	1	2	1	1	1	2	2	2	1
Sattur Sub-District, Virudhunagar District																			
17	1	Sankarapandiyapuram	1	2	2	1	2	2	1	2	1	2	1	1	1	2	2	1	2
18	2	Thlukkankurichchi	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	1	1
19	3	Sippipparai	2	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	1
Sankarankoil Sub-District,Tirunelveli District																			
20	1	Kalingappatti	1	1	1	1	2	2	2	2	1	2	1	1	2	2	1	2	1
21	2	Naduvappatti	1	2	2	1	2	2	2	2	2	2	1	1	1	2	2	1	1
22	3	Maipparai	1	2	1	2	2	2	2	2	1	2	1	1	1	2	2	2	2
23	4	Sangupatti	1	1	1	1	2	2	2	2	2	2	1	1	2	2	2	2	2
24	5	Vellakulam	1	1	2	2	2	2	2	2	1	2	1	1	1	2	2	2	2
25	6	A.Karisalkulam	1	2	1	2	2	2	2	2	1	2	1	1	1	2	2	2	2
26	7	Kulasekarapperi	1	2	2	2	2	2	2	2	1	2	1	1	1	2	2	2	2
27	8	Kurunjakulam	1	1	2	1	2	2	2	2	1	2	1	1	1	2	2	2	2
28	9	Sundaresapuram	1	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2
29	10	Kulakkattakurichi	1	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2

Kovilpatti Sub-District,Thoothukkudi District																			
30	1	Sundaresapuram	1	2	2	1	2	2	2	2	2	2	1	1	1	2	2	2	2
31	2	Kuruvinatham	2	2	2	1	2	2	2	2	2	2	1	1	1	2	2	2	2
32	3	Mukkuttumalai	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
33	4	Lakshmiammalpuram	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
34	5	Nakkalamuthanpatti	1	1	1	1	2	2	2	2	2	2	1	1	1	2	2	1	1
35	6	Vadakkuppatti	1	2	2	2	2	2	1	2	2	2	1	1	1	2	2	2	2

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, Thoothukkudi District of Tamilnadu State-2011**

Note : **A: Available, NA- Not Available, A(1), NA(2)**

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Near Core Zone**
Station Code	:	**A1**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	06.12.2021	75.1	35.4	8.8	12.4
2	07.12.2021	70.2	33.3	7.9	11.1
3	17.12.2021	63.8	30.2	6.3	9.5
4	18.12.2021	72.9	34.4	8.4	11.9
5	20.12.2021	59.6	28.2	5.3	8.5
6	21.12.2021	65.2	30.8	6.7	9.9
7	31.12.2021	62.4	29.5	5.9	9.1
8	01.01.2022	67.3	31.8	7.3	10.5
9	03.01.2022	60.3	28.5	5.5	8.7
10	04.01.2022	65.9	31.2	6.9	10.1
11	14.01.2022	64.5	30.4	6.5	9.7
12	15.01.2022	73.6	34.7	8.5	12.0
13	17.01.2022	76.3	36.6	9.1	12.7
14	18.01.2022	70.8	33.4	8.1	11.3
15	28.01.2022	68.7	32.5	7.5	10.7
16	29.01.2022	73.8	34.8	8.6	12.1
17	31.01.2022	74.4	35.2	8.7	12.3
18	01.02.2022	69.4	32.8	7.7	10.9
19	11.02.2022	75.7	35.6	8.9	12.5
20	12.02.2022	71.5	33.7	8.2	11.5
21	14.02.2022	63.2	29.8	6.1	9.3
22	15.02.2022	72.3	34.1	8.3	11.7
23	25.02.2022	61.8	29.3	5.7	8.9
24	26.02.2022	66.6	31.4	7.1	10.3
	MIN	**59.6**	**28.2**	**5.3**	**8.5**
	AVE	**68.6**	**32.4**	**7.4**	**10.7**
	MAX	**76.3**	**36.6**	**9.1**	**12.7**

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Appanayakkanpatti Village**
Station Code	:	**A2**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	06.12.2021	49.2	22.9	5.8	8.9
2	07.12.2021	45.1	21.1	5.1	8.2
3	17.12.2021	55.2	25.7	6.7	9.9
4	18.12.2021	50.4	23.4	6.0	9.2
5	20.12.2021	54.6	25.4	6.6	9.8
6	21.12.2021	46.8	21.8	5.4	8.5
7	31.12.2021	43.8	20.4	4.9	8.1
8	01.01.2022	47.4	22.1	5.5	8.6
9	03.01.2022	53.4	24.8	6.5	9.7
10	04.01.2022	44.4	20.6	5.0	8.1
11	14.01.2022	43.2	20.1	4.8	7.9
12	15.01.2022	52.2	24.3	6.3	9.5
13	17.01.2022	41.4	19.3	4.5	7.6
14	18.01.2022	47.9	22.3	5.6	8.7
15	28.01.2022	51.2	23.8	6.1	9.3
16	29.01.2022	52.8	24.6	6.4	9.6
17	31.01.2022	46.2	21.5	5.3	8.4
18	01.02.2022	51.6	24.0	6.2	9.4
19	11.02.2022	55.6	25.9	6.8	10.1
20	12.02.2022	49.8	23.2	5.9	9.1
21	14.02.2022	42.6	19.8	4.7	7.8
22	15.02.2022	45.6	21.2	5.2	8.3
23	25.02.2022	42.1	19.6	4.6	7.7
24	26.02.2022	48.6	22.6	5.7	8.8
	MIN	**41.4**	**19.3**	**4.5**	**7.6**
	AVE	**48.4**	**22.5**	**5.7**	**8.8**
	MAX	**55.6**	**25.9**	**6.8**	**10.1**

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Akkaraipatti Village**
Station Code	:	**A3**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	08.12.2021	68.3	31.8	8.2	11.8
2	09.12.2021	64.1	29.8	6.8	10.9
3	15.12.2021	57.6	26.8	5.9	9.2
4	16.12.2021	60.8	28.3	6.4	10.1
5	22.12.2021	52.8	24.6	5.3	8.4
6	23.12.2021	56.8	26.4	5.8	8.9
7	29.12.2021	62.4	29.2	6.6	10.4
8	30.12.2021	58.4	27.2	6.1	9.5
9	05.01.2022	51.2	23.8	5.1	8.2
10	06.01.2022	59.2	27.5	6.2	9.6
11	12.01.2022	69.6	32.4	8.6	12.1
12	13.01.2022	64.8	30.2	6.9	11.2
13	19.01.2022	60.3	27.9	6.3	9.8
14	20.01.2022	66.4	30.9	7.2	11.4
15	26.01.2022	54.4	25.3	5.5	8.6
16	27.01.2022	61.6	28.6	6.5	10.2
17	02.02.2022	53.6	24.9	5.4	8.5
18	03.02.2022	55.2	25.7	5.6	8.7
19	09.02.2022	70.2	32.6	8.8	12.3
20	10.02.2022	65.6	30.5	7.1	11.2
21	16.02.2022	52.1	24.2	5.3	8.4
22	17.02.2022	56.2	26.1	5.7	8.8
23	23.02.2022	67.2	31.2	7.5	11.6
24	24.02.2022	63.2	29.4	6.7	10.5
	MIN	**51.2**	**23.8**	**5.1**	**8.2**
	AVE	**60.5**	**28.1**	**6.5**	**10.0**
	MAX	**70.2**	**32.6**	**8.8**	**12.3**

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Kundampatti Village**
Station Code	:	**A4**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	08.12.2021	61.6	29.6	7.1	9.9
2	09.12.2021	58.2	27.9	6.5	9.4
3	15.12.2021	51.8	24.9	5.5	8.4
4	16.12.2021	53.2	25.5	5.7	8.6
5	22.12.2021	47.6	22.8	4.8	7.7
6	23.12.2021	55.3	26.5	6.1	8.9
7	29.12.2021	60.9	29.2	6.9	9.8
8	30.12.2021	53.9	25.9	5.8	8.7
9	05.01.2022	49.1	23.6	5.1	7.9
10	06.01.2022	54.6	26.2	5.9	8.8
11	12.01.2022	64.4	30.9	7.5	10.8
12	13.01.2022	60.2	28.9	6.8	9.7
13	19.01.2022	49.7	23.9	5.2	8.1
14	20.01.2022	56.4	27.1	6.2	9.1
15	26.01.2022	48.3	23.2	4.9	7.8
16	27.01.2022	52.5	25.2	5.6	8.5
17	02.02.2022	62.3	29.9	7.2	10.2
18	03.02.2022	58.8	28.2	6.6	9.5
19	09.02.2022	50.4	24.2	5.3	8.2
20	10.02.2022	56.7	27.2	6.3	9.2
21	16.02.2022	51.2	24.6	5.4	8.3
22	17.02.2022	57.5	27.6	6.4	9.3
23	23.02.2022	63.7	30.6	7.4	10.6
24	24.02.2022	59.5	28.6	6.7	9.6
	MIN	**47.6**	**22.8**	**4.8**	**7.7**
	AVE	**55.7**	**26.8**	**6.1**	**9.0**
	MAX	**64.4**	**30.9**	**7.5**	**10.8**

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Ammiyarpatti Village**
Station Code	:	**A5**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	10.12.2021	49.7	23.6	5.8	8.3
2	11.12.2021	53.9	25.9	6.6	9.1
3	13.12.2021	57.6	28.1	7.2	10.6
4	14.12.2021	53.3	25.7	6.5	8.9
5	24.12.2021	44.9	21.3	4.9	7.4
6	25.12.2021	47.3	22.6	5.4	7.8
7	27.12.2021	55.2	26.5	6.9	9.3
8	28.12.2021	46.1	21.9	5.2	7.6
9	07.01.2022	43.3	20.7	4.6	7.1
10	08.01.2022	47.9	22.9	5.5	7.9
11	10.01.2022	43.7	20.7	4.6	7.2
12	11.01.2022	49.1	23.3	5.7	8.2
13	21.01.2022	45.5	21.6	5.1	7.5
14	22.01.2022	50.3	23.9	5.9	8.4
15	24.01.2022	48.6	23.1	5.6	8.1
16	25.01.2022	52.7	25.3	6.4	8.8
17	04.02.2022	44.3	21.1	4.8	7.3
18	05.02.2022	50.9	24.2	6.3	8.5
19	07.02.2022	55.7	26.7	6.9	9.4
20	08.02.2022	51.5	24.5	6.2	8.6
21	18.02.2022	46.7	22.3	5.3	7.7
22	19.02.2022	54.5	26.2	6.7	9.2
23	21.02.2022	56.3	27.4	7.2	10.2
24	22.02.2022	52.1	24.7	6.3	8.7
	MIN	**43.3**	**20.7**	**4.6**	**7.1**
	AVE	**50.0**	**23.9**	**5.9**	**8.4**
	MAX	**57.6**	**28.1**	**7.2**	**10.6**

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Name of the Location	:	**Avudaiyarpuram Village**
Station Code	:	**A6**

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	10.12.2021	50.1	23.1	5.8	9.1
2	11.12.2021	52.9	24.3	6.4	9.6
3	13.12.2021	44.2	20.3	4.2	7.4
4	14.12.2021	46.1	21.2	4.7	7.9
5	24.12.2021	53.2	24.5	6.7	9.8
6	25.12.2021	49.7	22.9	5.7	8.9
7	27.12.2021	44.5	20.5	4.3	7.5
8	28.12.2021	47.7	21.9	5.2	8.4
9	07.01.2022	50.9	23.4	6.1	9.3
10	08.01.2022	45.7	21.1	4.6	7.8
11	10.01.2022	43.7	20.1	4.1	7.3
12	11.01.2022	47.3	21.8	5.1	8.3
13	21.01.2022	51.7	23.8	6.2	9.4
14	22.01.2022	48.9	22.5	5.5	8.7
15	24.01.2022	44.9	20.7	4.4	7.6
16	25.01.2022	48.5	22.3	5.4	8.6
17	04.02.2022	54.1	24.9	6.9	9.9
18	05.02.2022	50.5	23.2	5.9	9.2
19	07.02.2022	46.5	21.4	4.8	8.1
20	08.02.2022	48.1	22.1	5.3	8.5
21	18.02.2022	45.3	20.8	4.5	7.7
22	19.02.2022	46.9	21.6	4.9	8.2
23	21.02.2022	52.5	24.2	6.3	9.5
24	22.02.2022	49.3	22.7	5.6	8.8
	MIN	**43.7**	**20.1**	**4.1**	**7.3**
	AVE	**48.5**	**22.3**	**5.4**	**8.6**
	MAX	**54.1**	**24.9**	**6.9**	**9.9**

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WATER QUALITY DATA

Project Name	:	**Rough Stone and Gravel Quarry of Thiru. S. Subburaj**
Location Name	:	

Location Code	Location Name
W1	Near Core Zone
W2	Appanayakanpatti Village
W3	Akkaraipatti Village
W4	KundamPatti Village
W5	Ammiyarpatti Village
W6	Avudaiyarpuram Village

S. No.	Parameter	Unit	W 1	W 2	W 3	W 4	W 5	W 6	*Permissible Limits
1	pH	-	7.58	7.32	7.29	7.58	7.69	7.34	6.5-8.5
2	Electrical Conductivity	µmhos/cm	982.4	934.5	565.2	805.6	492.7	926.5	-
3	Odor	-	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE
4	Turbidity	NTU	<1	<1	<1	<1	<1	<1	5.0
5	Total Hardness as $CaCO_3$	mg/L	324	395	205	282	190	376	600
6	Calcium Hardness $CaCO_3$	mg/L	175	210	69.5	160	98.9	258	-
7	Magnesium Hardness $CaCO_3$	mg/L	149	185	135.5	122	91.1	118	-
8	Calcium Ca	mg/L	70.0	84.0	27.8	64.0	39.6	103	200
9	Magnesium Mg	mg/L	35.8	44.4	32.8	29.3	21.9	28.3	100

S. No.	Parameter	Unit	W 1	W 2	W 3	W 4	W 5	W 6	*Permissible Limits
10	Alkalinity $CaCO_3$	mg/L	289	310	298	301	282	277	600
11	Chloride Cl^-	mg/L	77.2	156	89.4	112	38.5	162	1000
12	Sulphate SO_4^{2}	mg/L	186	22.5	18.6	19.2	15.2	35.6	400
13	Iron Fe	mg/L	0.07	0.03	0.02	0.04	BDL(D.L - 0.01)	0.06	0.3
14	Nitrate NO_3	mg/L	5.45	1.78	1.32	1.57	BDL(D.L – 1.0)	1.35	45
15	Fluoride F	mg/L	0.53	0.46	0.21	0.35	BDL(D.L – 0.1)	0.38	1.5
16	Total Dissolved Solids	mg/L	590	562	340	485	296	558	2000
17	Free Residual Chlorine Cl^-	mg/L	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	1.0
18	Manganese Mn	mg/L	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	0.3

Note: * **The water quality of the collected ground water samples were found to be within the prescribed permissible limits of IS: 10500:2012 Norms for Drinking in the absence of an alternative source.**

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Annexure- 11

LAND USE PATTERN OF THE STUDY AREA WITHIN 10 KM RADIUS AROUND THE PROPOSED PROJECT AREA

Sl.No	No. of Villages	Name of village	Total Geographical Area (in Hectares)	Forest Area (in Hectares)	Area under Non-Agricultural Uses (in Hectares)	Barren & Un-cultivable Land Area (in Hectares)	Permanent Pastures and Other Grazing Land Area (in Hectares)	Land Under Miscellaneous Tree Crops etc. Area (in Hectares)	Culturable Waste Land Area (in Hectares)	Fallows Land other than Current Fallows Area (in Hectares)	Current Fallows Area (in Hectares)	Total Unirrigated Land Area (in Hectares)	Area Irrigated by Source (in Hectares)
0-2 km,Sivakasi Sub-District, Virudhunagar District													
1	1	Appanayakkanpatti	1582.78	0	206.49	14.57	4.18	0	3.88	0	633.33	416.45	303.88
		total (A)	**1582.78**	**0**	**206.49**	**14.57**	**4.18**	**0**	**3.88**	**0**	**633.33**	**416.45**	**303.88**
2-5 km,Sivakasi Sub-District, Virudhunagar District													
2	1	Kilanmarinadu	2765	0	586.05	0	6	20	5.8	1764.53	76.3	277.7	28.62
Sattur Sub-District, Virudhunagar District													
3	1	Sevalpatti	1163.3	0	249.2	0	0	0	719	0	0	114.9	80.2
4	2	Kuganparai	430.5	0	107.4	0	0	0	213.4	0	0	98.9	10.8
Sankarankoil Sub-District,Tirunelveli District													
5	1	Chattrappatti	599.1	0	134.35	0	0	0	0	172.47	11.61	35.48	245.19
6	2	Varaganur	1402.4	0	102.92	0.74	0	0	0	439.68	0	830.37	28.69
		total (B)	**6360.3**	**0**	**1179.92**	**0.74**	**6**	**20**	**938.2**	**2376.68**	**87.91**	**1357.35**	**393.5**
5-10 km,Rajapalayam Sub-District, Virudhunagar District													
7	1	Gopalapuram	1088.78	0	57.46	0	0	265.35	0.94	262.91	190.15	163.72	148.25
8	2	Vadagarai	929.81	0	246.54	0	0	0	0.06	275.33	139.89	28.14	239.85
Sivakasi Sub-District, Virudhunagar District													
9	1	Edirkottai	1916	0	151.39	0	1.8	8.81	9.1	1459.59	68.06	188.48	28.77
10	2	Kongankulam	128.59	0	5.81	0	0	0.01	0.51	16.29	27.43	65.95	12.59
11	3	Alangulam (Part)	1491.2	0	102.14	20	3.4	38.05	5.21	944.23	157.45	196.89	23.83
12	4	Kundayiruppu	1464.07	0	225.42	0	3.09	15	2	768.64	205.16	205.59	39.17
13	5	Kangaraseval	943.49	0	66.79	0	0	0	2.13	0	711.22	85.1	78.25
14	6	Vembakottai	1481.07	0	466.31	0	0	0	0	0	862.39	92.87	59.5
15	7	Surarpatti	486.8	0	75.29	0	4.7	21.1	3.04	317.57	13.25	47.85	4
16	8	Lakshmipuram	2000.71	0	200.63	85.04	1.9	39.66	3.5	1229.55	61.7	314.18	64.55
Sattur Sub-District, Virudhunagar District													
17	1	Sankarapandiyapuram	1061.43	0	206.59	20.01	3	90.34	211	382.24	20.2	125.84	2.21

18	2	Thlukkankurichchi	1168.81	0	293.08	0	60	60.1	221.84	266.93	0	257.35	9.51
19	3	Sippipparai	898.1	0	65.7	0	0	0	262.2	0	0	550.9	19.3
Sankarankoil Sub-District,Tirunelveli District													
20	1	Kalingappatti	2766.17	0	249.47	0	0	14.72	145.2	10.25	989.89	1221.11	135.53
21	2	Subbiahpuram	22.72	0	0.62	0	0	0	0	0	0.07	22.03	0
22	3	Naduvappatti	789.29	0	72.93	0	0	0	0	68.32	45.01	599.78	3.25
23	4	Maipparai	1024.54	0	165.17	0	0	0	0	34.68	35.32	783.97	5.4
24	5	Sangupatti	792.05	0	40.58	0.53	0	0	0.53	97.52	4.73	617.62	30.54
25	6	Vellakulam	1524.27	0	179.05	2.25	0	29	187	441.19	50.33	480.96	154.49
26	7	A.Karisalkulam	1894.12	0	248.15	0.39	0	34	2.07	391.28	309.46	763.48	145.29
27	8	Kulasekarapperi	28.49	0	5.72	0	0	0	0	4.04	0.74	17.99	0
28	9	Kurunjakulam	753.22	0	88.28	0	0	0	0.3	104.48	40.6	486.29	33.27
29	10	Sundaresapuram	269.2	0	9.77	0	0	0	0	0	28.59	230.84	0
30	11	Kulakkattakurichi	444.87	0	31.71	0	0	0	0	10.6	42.54	357.56	2.46
Kovilpatti Sub-District,Thoothukkudi District													
31	1	Sundaresapuram	611.04	0	60.74	0	0	5.95	12.53	132.43	42.11	329.18	28.1
32	2	Kuruvinatham	681.36	0	67.36	22	0	5.11	24.85	83.48	11.43	411.22	55.91
33	3	Mukkuttumalai	811.62	0	137.11	20.97	0	0	0	244.19	0	402.31	7.04
34	4	Lakshmiammalpuram	343.01	0	35.26	0	0	0	0	257.12	4.03	44	2.6
35	5	Nakkalamuthanpatti	630.65	0	45.99	3	0	0	0.07	230.22	0	351.17	0.2
36	6	Vadakkuppatti	574.47	0	42.23	2.5	0	0	0	9.49	131.87	378.04	10.34
		total (C)	**29019.95**	**0**	**3643.29**	**176.69**	**77.89**	**627.2**	**1094.08**	**8042.57**	**4193.62**	**9820.41**	**1344.2**
		Grand Total (A+B+C)	**36963.03**	**0**	**5029.7**	**192**	**88.07**	**647.2**	**2036.16**	**10419.25**	**4914.86**	**11594.21**	**2041.58**

***Source: District Primary Cences Absract, Virudhunagar, Tirunelveli, ThoothukkudiDistrict of Tamilnadu State-2011**

From
Thiru.T.Selvasekar, M.Sc.,
Assistant Director,
Geology and Mining,
Virudhunagar.

To
Thiru.S.Subburaj,
S/o.Sri.Shanmugaraj,
No.7/112, Kundampatti Village,
Sevalpatti Post,
Thiruvengadam Taluk,
Tenkasi.

Roc.No: KV1/523/2019, Dated: 02.09.2022.

Sir,

Sub: Mines and Minerals - Minor Mineral - Virudhunagar District – Vembakottai Taluk – Appayanaickenpatti Village – Patta Land - S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) – Extent 1.58.00 Hectares – Quarry lease application preferred by Thiru.S.Subburaj for quarrying Rough Stone and Gravel - Details of quarries in 500 meter radius - Regarding.

Ref:
1. Quarry lease application received from Thiru.S.Subburaj dated: 18.11.2019.
2. The Assistant Director, Geology and Mining, Virudhunagar Rc.No.KV1/523/2019, Dated: 12.05.2022.
3. Thiru.S.Subburaj letter, dated: 08.07.2022.

******

Thiru.S.Subburaj has preferred an application for the grant of quarrying lease to quarry Rough Stone and Gravel over an extent of 1.58.00 Hectares of Patta Land in S.F.Nos: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) of Appayanaickenpatti Village, Vembakottai Taluk & Virudhunagr District for a period of 5 (Five) Years Under Rule 19 of Tamil Nadu Minor Mineral Concession Rules 1959.

The applicant Thiru.S.Subburaj in the reference 3rd cited has requested to furnish details of quarries situated within 500 m radial distance from the applied area.

In this connection, it is informed that the details of quarry situated within 500 meter radius from the proposed area for Environmental Clearance as detailed below:

1) Details of quarry within 500 m radius from the applied area

S. No	Quarry detail	Village	S.F. No.& Extent (Hect)	Proceedings No. & Lease Period
I	**Existing Quarries:**			
1.	Thiru.S.Subburaj S/o, Shanmugaraj 7/112, Kundampatti Sangarankovil Taluk, Tirunelveli District	Appayanaickenpatti	44 46/1 **(2.20.50)**	KV1/7441/2017 dated:01.02.2019 25.02.2019 to 24.02.2024
2.	G.Ravi kumar, Vadakku Andalpurma, Rajapalayam, Virudhunagar.	Appayanaickenpatti	276, 278 etc., **(3.85.50)**	KV1/938/2017 Dated:13.12.2018 20.12.2018 to 19.12.2023
II	**Abandoned Quarry :**			
1.	Thiru.S.Ragupathi, S/o.Subba Reddiyar residing at Door No. 2, N.G.O. Colony, Thiruvengadam Village, Sankarankovil Taluk, Tirunelveli District	Appayanaickenpatti	38/10A 38/11 **(0.51.00)**	KV1/ 1312 /2012 Dated: 07-10-2013 8/10/2013 to 7/10/2018
2.	Thiru. S. Sivaraman S/o.Sundaram, Kundampatti Village, Sevelpatti Post, Sankarankovil Taluk, Tirunelveli District.	Appayanaickenpatti	39/3 **(0.96.50)**	KV1/6237/2014 Dated 01.09.2015 12-09-2015 to 11.09.2018
3.	Government Pit	Appayanaickenpatti	50	--
4.	Thiru.R.Gopalakrishnan S/o.Ramasamy, Door No. 70/1, Karpagam Nagar, Thirumangalam Post and Taluk, Madurai District.	Appayanaickenpatti	199/6A **(1.08.00)**	KV1/5171/2013, Dated: 10.05.2017 29.05.2017 to 28.05.2022
5.	Thiru.P.Shanmugaraj, S/o. Perumal Reddiyar, D.No. 37/1 North Street, Sathirakondon Post, Sankarankovil Taluk, Tirunelveli District.	Appayanaickenpatti	38/6A 41/2 etc., **(2.74.50)**	KV1/27945/2014, Dated: 08.05.2017 22.05.2017 to 21.05.2022
III	**Present Proposed Quarry :**			
1.	Thiru.S.Subburaj, S/o.Sri.Shanmugaraj, No.7/112, Kundampatti Village, Sevalpatti Post, Thiruvengadam Taluk, Tenkasi.	Appayanaickenpatti	43/1A, 43/1B (P), 45/1A1, 45/1A2 (P) **(1.58.00)**	KV1/523/2019 Dated:12.05.2022

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2) **The dimension of the existing pit in the area applied for leases is given below.**

	Length (Max) (M)	Width (Max) (M)	Depth (Max) (M)
Pit	86	64	15.0

3) **The period of the earlier Quarry operations (Expired)**

Sl. No.	Extent	SF. Nos.	Village & Taluk	Proceedings No. & date	Period
1	1.45.00	43/1B(P) 45/1A2 (P)	Appayanaickenpatti Vembakottai	KV1/11925/2015, dated: 17.10.2015	21.10.2016 to 20.10.2019

Environmental Clearance	Proceedings & Lease Period	Permitted Quantity as per Approved Mining Plan & EC		permit issued & transported Quantity		Depth (m)
		Rough Stone	Gravel	Rough Stone	Gravel	
SEIAA-TN/F.No. 5631/1(a) EC/No: 3698/2016, dated: 06.09.2016.	KV1/11925/2015, dated: 17.10.2015 21.10.2016 to 20.10.2019	74270 Cu.m	12864 Cu.m	71270 Cu.m	11268 Cu.m	15m (Average)

Assistant Director,
Geology and Mining,
Virudhunagar.

Copy to:
The Member Secretary,
State Level Environmental Impact
Assessment Authority,
PanagalMaligai,
No. I Jeenis Road,
Saidapet, Chennai-15.

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MINING PLAN & ENVIRONMENT MANAGEMENT PLAN FOR ROUGH STONE, JELLY & GRAVEL

(PREPARED UNDER RULE 19 (1) & 22 OF TNMMCR1959 AMENDED 2015)

MINING PLAN SUBMITTED UNDER RULE NO. 41 & 42 OF TNMMCR AMENDED 2015

For Obtaining Environmental Clearance from State Environmental Authority

PATTA LAND LEASE PERIOD FIVE YEARS

LOCATION OF THE AREA

EXTENT	:	**1.58.00 HECTARE**
S.F. Nos.	:	**43/1A,1B(P) & 45/1A1,1A2(P)**
VILLAGE	:	**APPAYANAICKENPATTI**
TALUK	:	**VEMBAKOTTAI**
PANCHAYATH UNION	:	**VEMBAKOTTAI**
DISTRICT	:	**VIRUDHUNAGAR**
STATE	:	**TAMIL NADU**

APPLICANT

SRI. S. SUBBURAJ, S/o. SRI. SHUNMUGARAJ,
7/112, KUNDAMPATTI, SEVELPATTI POST,
THIRUVENGADAM TALUK,
TENKASI DISTRICT-626 140.

PREPARED BY

G. RAVICHANDRAN, Msc(Geol.),
RECOGNISED QUALIFIED PERSON
REGISTRATION NO: RQP/MAS/197/2005/A

1.Mas 103

THIRU. S. SUBBURAJ,
S/o. SRI. SHUNMUGARAJ,
D.NO. 7/112, KUNDAMPATTI,
SEVALPATTI POST,
THIRUVENGADAM TALUK,
TENKASI DISTRICT.

CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of **ROUGH STONE, JELLY AND GRAVEL** deposit over an Extent of 1.58.00 Hectares in S.F. Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu state has been prepared by

Shri. G. RAVICHANDRAN,

RQP/MAS/197/2005/A

I request the District Collector Virudhunagar, State Environmental Authority to make further correspondence regarding the mining plan with the said Recognized Qualified Person in his following addresses:

Shri. G. RAVICHANDRAN
Vennila Livings, G-H, B Block,
Rettivaykkal Vayalur Road, Trichy - 620 102.
Mobile No. 8778311236
RQP/MAS/197/2005/A
Valid Up to 12/12/2025

I hereby undertake that all the modifications, if any made in the mining plan by the Recognized Qualified Person may be deemed to have made with my knowledge and shall be acceptable to me and binding on me in all respects.

Place: Virudhunagar

Date: .07.2022

Signature of the Applicant

S. SUBBURAJ

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THIRU. S. SUBBURAJ,
S/o. SRI. SHUNMUGARAJ,
D.NO. 7/112, KUNDAMPATTI,
SEVALPATTI POST,
THIRUVENGADAM TALUK,
TENKASI DISTRICT.

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

DECLARATION OF THE APPLICANT

The Mine Plan In Respect of **ROUGH STONE, JELLY AND GRAVEL** deposit over an Extent of 1.58.00 Hectares in S.F. Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu state has been prepared with full consultation with me. I have understood its contents and I agree to implement the same in accordance with the Laws applicable to mines.

I am also giving further undertaking to plant the species as specified in the afforestation plan to provide Green belt to protect the environmental aspects while quarrying Rough Stone and Gravel in the Patta Land.

Place: Virudhunagar

Date: .07.2022

Signature of the Applicant

S. SUBBURAJ

This Mining is approved based on guidelines/ instructions issued in the CGM, Letter No.3868/LC/2012 dated 19-11-2012 and incorporation of the particulars specified in the letter Roc.No. KV1/523/2019 Dated 02/09/2022 of the Deputy Director of Geology and Mining, Virudhunagar 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
Virudhunagar

This Mining Plan is approved Subject to the conditions / Stipulation Indicated in the Mining Plan Approval

Letter Roc. No. KV1/523/2019 Dated 02/09/2022

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Shri. G. RAVICHANDRAN
Reg. No. RQP/MAS/197/2005/A
Vennila Livings, G-H, B Block,
Rettivaykkal Vayalur Road,
Trichy - 620 102.

Mobile No. 87783 11236

CERTIFICATE FROM THE RECOGNISED QUALIFIED PERSON

This is to certify that the provisions of the Mines Act, Metalliferrous Mines Rules and Regulations, Miner Mineral Conservation and Development Rules, 2010 & Minerals Amended Rules of Tamilnadu Minor Mineral Concession Rule 1959 etc, made there under have been observed in the preparation of Mining Plan for **ROUGH STONE, JELLY AND GRAVEL** deposit over an Extent of 1.58.00 Hectares in S.F. Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu state.

THIRU. S. SUBBURAJ,
S/o. SRI. SHUNMUGARAJ,
D.NO. 7/112, KUNDAMPATTI,
SEVALPATTI POST,
THIRUVENGADAM TALUK,
TENKASI DISTRICT.

Wherever Specific permission are required , the applicant will approach the concerned authorities of state Government and State Environmental Authority officers, for such permission, approvals, exemption or relaxation Standards prescribed by Rules and regulations in respect of miners health and the rules will be strictly implemented.

It is also certified that the information furnished in the mining plan is true and correct to the best of my knowledge.

Place: Trichy – 620 102

Date: .07.2022

G. RAVICHANDRAN

G.RAVICHANDRAN, M.Sc.,P.G.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

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1. Mean 609

MINING PLAN INCLUDING ENVIRONMENT MANAGEMENT PLAN FOR ROUGH STONE /JELLY / GRAVEL QUARRY

Over an Extent of 1.58.00 Hectares in S.F. Nos. 43/1A,1B(P) & 45/1A1, 1A2(P) (Patta Land) in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamilnadu

INTRODUCTION

Extracting minor minerals from an area of less than 5 hectares will need environment clearance from the Union ministry of environment and forest (MOEF). The EIA (Environmental Impact Assessment) notification 2006, requires mining projects, including new projects, expansion, modernization, or renewal of mine leases, with lease area of 5 hectare and above irrespective of major or minor mineral to obtain prior environment clearance. Mining projects with lease area of 5 hectares and above but less than 50 hectares are categorized as category 'B' whereas projects with lease area of 50 hectares and above are categorized as category 'A'. The category 'A' projects are to be given clearance by MOEF while category 'B projects are considered by the respective state-level EIA authority.

The mining plan has been prepared towards the order of Supreme Court of India 27 February, 2012, based on the Supreme court order, Tamilnadu Government , Secretary, Industry Department (NCI) as issued order vide G.O.Ms.No.79 dated 06.04.2015. In this order Tamilnadu Minor Mineral Concession Rule 1959 as amended rule 41 & 42 as the approved mining plan is required to the grant of mining lease and the lessee of existing quarry which has already granted with quarry lease should also obtain environmental clearance from SEIAA, Tamilnadu.

The approved mining plan has to be obtained and prior environment clearance by the committee formed recently by the SEIAA. The government of tamilnadu has formed one committee headed by the chairmen of SEIAA and the nominated members from each department as members. The environment clearance has to be issued by the SEIAA to grant of quarry lease and this mining plan is submitted based on the above orders to obtain environment clearance from SEIAA Tamilnadu committee.

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The applicant, Thiru. S. Subburaj, S/o. Sri. Shanmugaraj, No.7/112, Kundampatti Village, Sevalpatti Post, Thiruvengadam Taluk, Tenkasi District as an individual having good experience and skill on quarrying of Rough Stone, Jelly and Gravel. He has applied for fresh grant of Quarry lease to the state government over an extent 1-58.00 Hectares in S.F. Nos. 43/1A,1B(P) & 45/1A1,1A2(P) (Patta Land) in Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu.

1. General Information

a)	Name of the applicant	:	THIRU. S. SUBBURAJ
b)	Address of the Applicant	:	S/o. SRI. SHANMUGARAJ 7/112, KUNDAMPATTI VILLAGE, SEVELPATTI POST, THIRUVENGADAM TALUK, TENKASI DISTRICT.
c)	Mobile No.	:	
d)	Status of the applicant	:	Private Individual
e)	Mineral which the applicant Intends to mine	:	Rough Stone, Jelly and Gravel
f)	Precise area communication letter details received from the competent authority of Government	:	KV 1/523/2019-MINES Dated : 12.06.2022
g)	Period of Permission / lease to be granted	:	5 Years.
h)	Name and address of the RQP /Authorised person preparing the Mining plan	:	G. Ravichandran, Vennila Livings, G-H B Block Rettaivayakkal Vayalur Road, Trichy - 620 102. Mobile No. 87783 11236 Registration No : RQP/MAS/197/2005/A

2. LOCATION

a)

STATE	DISTRICT	PANCHA YATH	TALUK	VILLAGE	S.F.NOs.	EXTENT (Hectares)
Tamil nadu	Virudhunagar	Appayana ickenpatti	Vembakottai	Appayana ickenpatti	42/1A,1B(P) & 45/1A1,1A2(P) (Patta Land)	1-58.00 Hect

b) Classification of the area : Patta Lands

c) Ownership / Occupancy of the applied area (Surface right) : Own Patta lands

d) Toposheet No : 58-G/11

Latitude : 9° 17' 52.8"N to 9° 17' 57.5"N

Longitude : 77° 41' 49.9"E to 77° 41' 54.6"E

e) Accessiblity of public road / Railway line, : As shown in ROUTE MAP (Plate No. IA), the applied area can be easily accessible 48.5Kms from Virudhunagar to Thiruvenkadam road, Via. Vellur, Sivakasi, Vembakottai & Sevalpatti, and then to the applied area at a distance of 1.3Km towards southwest. The nearest railway station is Sivakasi at a distance of 25km.

f) Previous Lease Deed details : Collector's Proceeding No. KV1/11925/2015 Dated: 17-10-2016

g) Previous EC details : SEIAA-TN/F.No.5631/1(a)/E.C.No.3698/2016 dated 06.09.2016

Part-A

3. GEOLOGY AND MINEABLE RESERVES

3.1 Topography and general Geology

The area applied for mining lease is a gentle plain terrain and dry lands without any vegetation. The topsoil formation is having thickness of 2m and below topsoil gravel formation is having a thickness of 3m.

The rocks in this area belonging to ARCHEAN group of rocks. Below the gravel formation a hard Rough stone Charnockite is noticed. The rocks are Phaneric to medium grained nature. And in these rocks there are mineral constituents of BLUE QUARTS, MICRO CLINE FELDSPAR, HYPERSTHENE and flakes of BIOTITE MICA. The rocks are striking towards North west – South east direction dipping 80^0 Vertical towards South east direction. The strike length of the deposit on 130m length and 122m width.

3.2 DETAILS OF EXPLORATION

The old pits are noted in the field is 86m length, 64m width and 15m depth and also in the nearby wells and nearby quarries in the radius of 500m, the topsoil occur to a thickness of 2m. Below 2m gravel formation up to a depth of 5m and below 5m Charnockite (Rough stone) is noticed.

3.3 ESTIMATION OF RESERVES.

Reserves have been calculated based on the cross section method. The strike length of the deposit on 130m with an average width of 122meter.

Based on the above data geological reserves and mineable reserves has been calculated for a depth of 30 meter. The reserves have been computed for depth of 0 to 2meter topsoil, 2 to 5m gravel and 5 to 30 meter in Rough stone The details of reserves are shown in annexure I and in Geological Plan & Section Plate No IV.

SL NO	TYPE OF RESERVES	Topsoil +Gravel + Rough stone in Cub.m
1	Geological reserves	**3,93,240 Cu.m.**
2	Mineable reserves	**1,47,590 Cu.m.**
3	Bench locked & 7.5m boundary barrier reserves	**2,45,650 Cu.m.**

4. MINING

The area is under working by Semi-**Mechanised open cast method**. The bench height of the quarry is maintained to the height of boom of the machine used for digging and excavation. In the area applied for mining lease a boundary barrier of 7.5 meters has been left in all direction.

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During first year the mining operation will be commenced from south side of the old pit area to a strike length of 115m, width 74m. The topsoil and gravel formation will be removed up to 5m and below 5m depth, roughstone will be removed up to 5m depth to achieve the planned production quantity. During second year the mining operation will be further northern side up to safety barrier of the applied lease area on a strike length of 115m and width of 33m and a depth of 5m will be removed and below 5m roughstone will be removed up to 5m depth to achieve the planned production quantity. The third to fifth year the quarry advancement will be made below the first two years working make 3 benches of each 5m depth in rough stone will be removed to achieve the planned production quantity.

During every year working the bench width will be maintained not less than the height of the bench with a bench slope of 60^0 for safe reversal and working of machinery and movement of trucks.

During 5 years working the following quantity of rough stone, gravel and topsoil will be removed and the details are given below.

YEAR WISE PRODUCTION SCHEDULE

YEAR	TOPSOIL IN CU.M	GRAVEL IN CU.M	ROUGHSTONE IN CU.M
I	6012	9018	11585
II	7590	11385	14700
III	----	----	30050
IV	----	----	29350
V	----	----	27900
Total	**13,602**	**20,403**	**1,13,585**

Machineries used

The blasted ROM will be excavated by TATA HITACHI EX200.For drilling tractor mounted compressor of 175 cfm will be used matching with jackhammers. For drilling two Tc drill rods of 32 mm dia will be used and the drill rod depends upon the depth of 4m to 6m drilling. Normally drill rods of .9m length and 1.5m length will be used in the quarry. For transportation 10 tons tippers will be used for transporting ROM and reject from the quarry. The ground water table in this area is ranging from 50 to 55 meter.

A diesel pump will be kept for dewatering rain water during rainy season. For manual production the labours will be provided with pick Axe, Spade, crowbar, iron basket and hammer.

DETAILS OF MACHINERIES TO BE USED IN QUARRY

SI. NO	NAME OF THE EQIPMENT	CAPACITY	REQUIRED
1	Excavator	TATA HITACHI (EX200)	1
2	Tipper	10 Tonnes	2
3	Tractor compressor for drilling	175 CFM	1
4	Dewatering pump	5 Hp Diesel pump	1

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MARKETING OF ROUGH STONE AND GRAVEL

The boulders will be marketed to the nearby crushers for producing crusher aggregates. The topsoil, gravel & reject hard boulders will be marketed to filling and foundation works for construction works. The crusher aggregate will be marketed to nearby areas.

CONCEPTUAL MINING PLAN

Conceptual mining plan is prepared in a scale of 1:2000 in an object of long-term systematic development of bench layouts. In addition to consider the above factors, to avoid re-handling, setting roads, to determine ultimate pit limit depth of mining and ultimate pit slope, selection of sites for construction of infrastructures etc.,

Ultimate pit limit dimension:

The ultimate pit size is designed based on certain practical factor such as the economical depth of mining safety zones permissible area etc. The ultimate pit of the mine is given as under 115meter Length, 107meter Width, 30meter Depth. However during extraction of ROM bench will be 5m height with a slope of 60^0 for proper quarrying. After quarrying the mined out area will be used as water reservoir for making artificial recharge factor to the nearby areas.

The Conceptual Plan and Sections is shown in Plate No. VI. The mineable reserves calculated for a depth of 30meter a total Roughstone of 1,13,585m^3 , Gravel 20,403m^3 and topsoil 13,602m^3. Based on an average production of maximum quantity of 29,000 $m^3$to 30,000 m^3/year. The life of the mine will be 1,47,590/29,000 m^3= 5 years. The available reserve below 30m can be mined in the next quarry renewal period after 5 years. The next five years period more quantity of Rough stone can be quarried. Since the entire topsoil and gravel which occurs to a depth of 5meter is planned for excavation during the present five year working.

5. BLASTING

5.1 BLASTING PATTERN

The massive formation shall be broken in to pieces of portable size by drilling and blasting using jack hammers and shot holes blasting. Powder factor of explosives for breaking such hard rock shall be in the order of 1.8 to 2.0 cub.m. Blasting parameter proposed to be adopted for shot holes shall be

Spacing of 0.9 m, burden 0.60m and depth1.5m
Output per hole = 0.9 m X 0.60m X 1.5m = 0.810 cub.m
Output per hole will be 0.810 cub.m with 90% blasting efficiency
Quantity of explosive required to blast one hole with a powder factor of 1.8
Explosive required will be .810 / 1.8 = 0.450 kg per hole
In the above quantity booster Cap sensitive explosives will be one third 0.150 kg per hole
Daily consumption of explosive will depend upon the number of shot holes drilled.

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5.2 TYPES OF EXPLOSIVES

Following explosives are recommended for efficient blasting with safe practice.

Sl.No	Description	Class/ Division	Type	Size
1	Slurry Explosive	Class - 3	Nitro compound mixer	25mm X 0.125 kg
2	Delay Detonators	Class - 6	Ordinary and elect. (OD & ED)	Standard size of IDL
3	Safety Fuse	Class – 6 Div - 1	Blue sump fuse coil of 10 meter each	

5.3 MEASURES PROPOSED TO MINIMISE GROUND VIBRATION DUE TO BLASTING

There are no villages near by the area applied for mining lease. To control ground vibration delay electric detonator will be used.

5.4 STORAGES AND SAFETY MEASURES

The proposed rate of production is about 98m^3 or 25loads / day of 10tonnes capacity of ROM boulder in one day with average working days of 25 in a month.

The applicant has made an agreement with explosive dealer Sri Balan Explosives, Rambalan Explosives, No.7, Gomathinagar 2nd Street, Sankarankovil - 627 756, Tenkasi District, who is having explosive licence bearing no: E/SC/TN/30/1382 (E79312) received from chief controller of explosive, Chennai. The owner of the Firm made agreement with Sri. S. Subburaj to make necessary safety practice to blast in his licence and supply of explosives will be made in Form22 as specified by Indian Explosives Act 1884. Annexure enclosed.

After blasting no explosives will be kept in the mine area and the unused explosives will be taken up by the explosive dealer. Before blasting the explosives will be carried by the dealer in his own explosive van and the unused quantity will be returned to the explosive van for keeping the explosive in his Magazine. Before blasting men and animals will be cleared in a surrounding distance of 500m and three sirens will be made before blast and after completing blasting a long siren will be given. Safety guards with red flags will be posted on all the four side direction.

6. MINE DRAINAGE

From the local enquiry the ground water table in this area is ranging from **50 to 55m.** The open dug wells are noted around the applied lease area. The wells are having a depth ranging from 14 to 16m and the wells are dry. There are also no joints or fractures in the hard rock. The area attains rain fall during northeast monsoon. Hence there will be no adverse effect by the mining to the nearby areas.

Sl. No.	Details	Direction	Distance (m)	Depth(m)	Water level
1.	well	North east	25	16.0	Dry
2.	Devanadi	North west	90	0.5	Dry

1.Mean 116

7. OTHER PERMANENT STRUCTURES

There is no hospital or Primary school, village temples and primary health centres within 500m radius of the quarry. There is no river, lake nearby this area. There are also no historical monuments nearby this area. There are also no worship places, reserved forest, social forest, and wild life sanctuaries near this area. The water bodies are dry in all the season.

SL. NO	DIRECTION	VILLAGE	HABITATION	DISTANCE
1	North	Kurinjivel	30 houses	3 km
2	South	Gundampatti	100 houses	1 km
3	East	Chakkammalpuram	40 houses	1.5km
4	West	Appayanaickenpatti	200 houses	3 km

Nearest infrastructures

Sl. No	Name of infrastructure	Name of village	Distance from area applied for M.L
1	Post office	Appayanaickenpatti	3 Km
2	Police station	Alangulam	10 Km
3	Town	Thiruvenkadam	5 Km
4	DSP office	Sattur	30 Km
5	Register office	Rajakularaman	20 Km
6	Hospital	Vembakottai	10 Km
7	School	Sevalpatti	4 Km
8	Railway station	Sivakasi	25 Km
9	Airport	Madurai	100 km
10	Sea Port	Thoothukudi	70 km

8. EMPLOYMENT POTENTIAL & WELFARE MEASURES

ORGANISATION CHART

Owner

↓

Permit Manager / Mine foreman/ Supervisor

↓

Driller 2 Nos

↓

Blaster 1 no

↓

Unskilled persons for segregation loading of boulders and helpers 4 nos

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The workers will be provided with drinking water facility, sanitation facility in the proposed office building. A bore well will be drilled near the office building.

First aid and labour health facility will be arranged from the nearby hospital at Vembakottai. All safety equipments will be provided for the persons employed in the mine. The supervisor will be provided with mobile phone to contact the owner or any officials during emergency time.

SAFTEY AND SOCIAL SECURITY MEASURES

Safety equipments to be provided for the persons employed in the mines.

1. Safety helmet approved by Director General of mines Safety

2. Nose Mask

3. Ear Plug for machine operators and drillers

4. Safety shoes as specified by Director General of Mines Safety

5. Safety Goggles for drillers

6. Safety Belt and safety rope approved by Director General Mines of Safety – for labourers, working in the mine for removing danger over hang and undercut boulders. Employment of child labour will be strictly prohibited in the mines. All persons employed in the mines will be provided with Group Insurance System from a Govt. Recognised insurance Agency.

The applicant has given Notary Affidavit for Non employment of child labour directly or indirectly while operating the mine. The Affidavit is enclosed in Annexure.

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PART –B

9. ENVIRONMENT MANAGEMENT PLAN

9.1 Existing land use pattern

The area applied for mining lease is a gentle plain terrain and having dry lands with no. vegetation available nearby this area. From the study of the nearby well the ground water table is ranging from 50 to 55m.

The area will obtain rain fall during NE monsoon in summer the climate will be very hot and the temp will be up to 42^{0}C.

Present land use planning (break up along with green belt etc).-

S.No.	Land Use Category	At the end of life of mine
1.	Mining \Excavation	1-23.0 hectares
2.	Storage of Top Soil	0.00.0 hectares
3.	Sorting and Mineral Dressing Yard	0.00.0 hectares
4.	Infrastructure & Road	0.03.0 hectares
5.	Afforestation(Greenbelt& Plantation)	0-27.0 hectares
6.	Rain Water Storage	1-23.0 – (After closure of mine)
7.	Undisturbed Area	0.00.0 hectares
8.	Fencing	0.05.0 hectares
	TOTAL	**1.58.0** hectares

The area applied for mining lease is a plain terrain and having dry lands. The patta land is used for quarrying Rough Stone blue metal. Infra structure will be provided in the patta land. First aid, sanitation facilities is also provided in the office building. The Patta Land is with Surface right.

9.2 Water regime:

Ground water occurrence in this area is below 50m depth. The quarrying is restricted up to 30m below Ground Level. Hence the quarry operation will not be affected by the ground water.

9.3 Flora and Funna:

There are no trees observed in the area. Thorny bushes, neem and palm are found in around the area, No plants of botanical interest or animals of zoological interest are noticed. There is no cultivation, plantation or agriculture found within the vicinity of the area.

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9.4 Climatic condition

The area receives rainfall of about 850mm/per annum and the rainy season is mainly from Oct – Jan during North East monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 23°C.

9.5 Human settlement

There is no hospital or Primary school, villages, temples and primary health centres within 500m radius of the quarry. There is no river, lake nearby this area. There are also no historical monuments nearby this area. There are also no worship places, reserve forest, social forest, and wild life sanctuaries near this area. The water bodies are dry in all the season.

SL. NO	DIRECTION	VILLAGE	HABITATION	DISTANCE
1	North	Kurinjivel	30 houses	3 km
2	South	Gundampatti	100 houses	1 km
3	East	Chakkammalpuram	40 houses	1.5km
4	West	Appayanaickenpatti	200 houses	3 km

Basic human welfare Amenities such as Health centre, schools, communication facilities, and commercial centres etc., are available at Vembakottai located at a distance of 10Km on the northern side of the area.

9.6 Plan for Air, Dust suppression

The air quality will be affected by the Suspended Particle 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 around the quarry to trap the dust.
- Avoiding spillages during the transportation.

AMBIENT AIR QUALITY (AAQ):

The ambient air quality depends upon the emission sources, meteorological conditions and the background concentration of specific contaminants. The principal objective of the Ambient Air Quality Monitoring (AAQM) is to assess the existing levels of ambient air quality in and around the lease area for assessing the impact on air quality due to future mining activity in the region.

With the above objective, the following parameters were analyzed at the sampling locations established in the study area.

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- Particulate Matter (PM_{10})
- Particulate Matter ($PM_{2.5}$)
- Sulphur Dioxide
- Oxides of Nitrogen
- Carbon Monoxide

DESIGN CRITERIA FOR AMBIENT AIR QUALITY MONITORING STUDY NETWORK:

Ambient Air quality has been assessed through a net-work of 3 ambient air quality stations. The following methodology has been considered for design of ambient air quality monitoring network in the area.

- Topography / terrain of study area.
- Populated areas within study area
- Residential /sensitive areas within study area
- Predominant wind direction and wind pattern

9.7 Plan for noise level control:

Shallow holes of 32mm diameter and 1.5m depth will be drilled and to control ground vibration conventional low power explosives such as slurry explosives, delay electric detonator will be used for rough stone. Hence ground vibration and noise pollution will be minimal and restricted within the quarry workings. There are no villages near by the area applied for mining lease.

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 junction and populated area to control and regulate traffic.

9.8 Environment impact assessment statement

The mining plan proposed is for a production of Rough stone with involving deep hole drilling and heavy blasting permission as per MMR1961 Regulation 106 (2b) against Director General of Mines Safety, Chennai Region. Such limited mining activity is not likely to cause any impact adversely on environment as for as pollution of air, water and noise is concentrated, anyhow environmental impact studies will be conducted as per EIA botification issued by MOEF. It is B2 category mine. For the average production of 25,000 $m^3$to 30,000 m^3/year is planned. Besides **three working Quarries** and No villages in the surrounding radius of 500 metres.

1. Mean 12)

Details of quarries around 500m radius of proposed quarry

Quarries	Sl. no	Name	Village	s.f.no.	Extent (Ha)	Distance(m)
Existing	1.	S.Subburaj	Appayanaickenpatti	44,46/1	2-20.5	15
	2.	G.Ravikumar	Appayanaickenpatti	276,278,etc	3-85.5	480
	3.	R.Gopalakrish	Appayanaickenpatti	199/6A	1-08.0	290
Abandoned	4.	S. Ragupathi	Appayanaickenpatti	32/4,38/3a,et	2-91.0	125
	5.	Shunmugaraj	Appayanaickenpatti	38,42,43,etc.,	2-74.5	65
	6.	S.Sivaraman	Appayanaickenpatti	39/3	Prior to 2018	280
	7.	Govt.pit	Appayanaickenpatti	50	Prior to 2012	260
Present proposed	8.	Gayathri	Appayanaickenpatti	39/1A,etc.,	1-08.0	135
	9.	G.Kaniraj	Appayanaickenpatti	202/1A2	1-21.5	300
	10.	S.Subburaj	Appayanaickenpatti	43/1A,1B(P) & 45/1A1,1A2(P)	1-58.0	Applied
		Total extent in Hectares			**16-89.2 Ha.**	

To avoid environmental pollution during transport of Charnockite (Roughstone) to various destinations the loaded truck will maintain a speed of 40 km / hour. The loaded truck will be covered with tarpaulin cover to avoid dust generation during vehicle movement on the roads. Hence there will not be any environment impact to the mining area are to the nearby villagers.

9.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing)

In the proposed mining plan only a maximum depth of 30m has been envisaged as workable depth for safe & economic mining during the lease period. Hence after quarry reaches ultimate pit limit (for this lease period of 30m depth) fencing will be constructed around the quarries pits to prevent inherent entry of the public and cattle. There is no proposal for reclamation and rehabilitation.

9.11 Proposal of Afforestation

The proposal of afforestation and land use is shown in Plate No: VI & VIII. The detail of proposed afforestation is given below.

Plantation	Type	No. of Trees	Spacing	Area (Hectares)	Survival
I YEAR	Neem	15	6m x 6m	0-05.4	80%
II YEAR	Neem	15	6m x 6m	0-05.4	80%
III YEAR	Neem	15	6m x 6m	0-05.4	80%
IV YEAR	Neem	15	6m x 6m	0-05.4	80%
V YEAR	Neem	15	6m x 6m	0-05.4	80%
TOTAL		**75**		**0-27.0 Ha**	

The applicant will arrange for watering the plants for effective survival of the plant. The afforestation will be properly monitored by the persons employed in the mines. The applicant has also given Notary Affidavit to make afforestation as specified with mining plan to make the area as green belt and to protect the environment.

1.Mines. 122

9.12 Proposal for water management

	DETAILS	SOURCE	PROVISION QUANTITY/DAY
A	Drinking water & Domestic	From existing bore well & water vender	0.500KLD
B	Dust Suppression-water sprinkling	From existing bore well	1.300 KLD
C	Green belt	From the water tanker and the bore well	0.600 KLD
		TOTAL	**2.400KLD**

9.13 PROPOSED FINANCIAL ESTIMATE BUDGET FOR (EMP) ENVIRONMENT MANAGEMENT

Sl.no.	Details	All Figures are in Rs.
1.	**LAND INVESTMENT COST** Total Applied SF No. 43/1A,1BP& 45/1A1,1A2P =1-58.0Ha. As per Government of Tamilnadu Guideline Value per Ha. Total= 1.58ha x Rs.99,500 = 1,57,210 Source (tnreginet.gov.in)	**Rs.1,57,210**
2.	**FIXED INVESTMENT COST**	
i)	Labour shed	Rs. 50,000
ii)	First aid room and accessories	Rs. 40,000
iii)	Toilet room with septic tank Facility construction & sanitary facility (for five years)	Rs. 25,000
iv)	Drinking water for staffs & Labour from water vendors (for five years)	Rs. 75,000
	TOTAL FIXED INVESTMENT COST =	**Rs. 1,90,000**
3.	**OPERATIONAL COST** (Siegnorage fee per unit for transport permit to be paid to state government Rs.26/m^3 at the time of marketing will be paid by Purchaser only.)	
i)	**Machinery to be used for Quarrying & Cost** Total Number of Excavator = 1No Total operational cost = 2,460Ex.hours x Rs.1000 = (The Hired vehicle charges per hour inclusive of diesel around Rupees 1000/hour) (The Excavators of 0.90cu.m. bucket capacity and tippers of 10/20Ts capacity will be used. The quantity of Diesel consumption is based on the working hours of excavators {filling factor and loading cycling}. In the open cast quarry project excavators are proposed to quarry). (One excavators will be excavate = 60cu.m/Hr. For five years Project = 1,47,590cu.m./60cu.m. = 2,460 excavator hours) {Diesel Consumption Tata Hitachi (Model EX200) = 9Ltr/Hr Diesel Price around = Rs.100 (At present scenario) Hence 2,460 Hours x 9Ltrs/Hr = **22,140 Ltrs of HSD** will be utilized for the 5year.}	Rs. 24,60,000

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Sl.no.	Details	All Figures are in Rs.
ii)	**Compressor with Drilling Cost** Total Number of compressor with Drilling Machine used for quarrying = 1No (One Compressor with Drilling Machine will be Drilling = 100Cu.m./Hr.) The Hired vehicle charges per hour inclusive of diesel around Rs 750/Hour = 1,136 hours x Rs.750 = (For Five year project Roughstone = 1,13,585cu.m./100cu.m. = 1,136 Running Hours) {Diesel Consumption = 8Ltr/Hr Diesel Price around = Rs.90 (At present scenario) Hence 1,136 Hours x 8Ltrs/Hr = **9,088 Ltrs of HSD** will be utilized for the 5year.}	Rs. 8,52,000
iii)	**Explosives Cost** Total cost for the Five year Roughstone = (1,13,585Cu.m./100Cu.m.) x Rs. 700 = (For five year project explosives-charging and blasting used for Rs.700/100Cu.m. Total drilling material for quarrying = 1,13,585Cu.m. of Roughstone.)	Rs. 7,95,095
	TOTAL OPERATIONAL COST = (Machinery operational +Drilling with Compressor + Explosives)	**Rs. 41,07,095**

4. EMP COST

Sl.no.	Details	Cost per Month (Rs.)	Total Cost per Year (Rs.)	Total cost for 5 years lease period (Rs.)
i)	Greenbelt development (plantation & maintenance)	1,200	14,400	72,000
ii)	Fencing arrangements & wind net arrester	-	-	75,000
iii)	Occupational health safety kits (mask, helmet, sanitizer, gloves, etc.,)	1,000	12,000	60,000
iv)	Water sprinkling using own tractor for the area (Control of Dust suppression)	1,250	15,000	75,000
v)	Environmental parameters testing expenses fees for every six months a. Ambient Air monitoring b. Water analysis c. Noise Monitoring d. Soil testing e. Ground Vibration Monitering	12,000 (bi-annual)	24,000	1,20,000
			Total EMP Cost=	**Rs. 4,02,000**

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1.	Land Investment Cost	Rs. 1,57,210
2.	Fixed Investment Cost	Rs. 1,90,000
3.	Operational Cost	Rs. 41,07,095
4.	EMP Cost	Rs. 4,02,000
	TOTAL PROJECT COST	**Rs.48,56,305**
	CER @ 2% Project cost Carrying out provisons of Drinking water with dispensations Toilet/sanitary especially for girls students in Sevelpatti Government School, Vembakottai Taluk, Virudhunagar District.	**Rs. 97,126**

10. MINE CLOSURE PLAN

a. The mined out area will be suitably fenced to avoid inadvertent entry of men and animal to the quarry area.
b. After closure of mine the applicant will adhered the rules and regulations governed by state and central government
c. All safety measures and mitigations will be maintained properly in the mined out area. Security persons will be engaged in all three shifts to ensure safety in the quarry.

The progressive mine closure plan is enclosed in Plate No. VIII.

11. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

(i) Permission will be obtained from the District Mines Office to extract the Rough Stone from the Boundary barriers and for slopes.

(ii) Care and precautionary measures will be taken for the safety of workers as per Mines Rules-1955 and Mines Acts-1952.

(iii) The applicant will endeavor every attempt to quarry the Rough Stone economically without any wastage and to improve the environment and ecology.

(iv) Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

PLACE: TRICHY

DATE: .07.2022

Signature of the RQP

ASSISTANT DIRECTOR
GEOLOGY AND MINING
VIRUDHUNAGAR DISTRICT
VIRUDHUNAGAR

G.RAVICHANDRAN, M.Sc., P.G.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

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ANNEXURE- I

GEOLOGICAL RESERVES

MINERAL	SECTION	LENGTH (M)	WIDTH (M)	DEPTH (M)	TOTAL VOLUME IN CUM
TOPSOIL	PQ – AB	130	122	2.0	31,720
GRAVEL	PQ – AB	130	122	3.0	47,580
ROUGH STONE	PQ – AB	130	122	25.0	3,96,500
TOTAL GEOLOGICAL RESERVES VOLUME IN CU.M.					4,75,800
DEDUCT OLD PIT = 86m x 64m x 15.0m					- 82,560
TOTAL GEOLOGICAL RESERVES					**3,93,240 Cu.m.**

MINEABLE RESERVES

MINERAL	SECTION	BENCH	LENGTH (M)	WIDTH (M)	DEPTH (M)	VOLUME IN CUM	TOTAL VOLUME IN CUM
TOPSOIL	PQ – AB	I	115	107	2.0	24610	
	DEDUCT OLD PIT – 86 X 64 X 2 =					-11008	13,602
GRAVEL	PQ – AB	I	115	107	3.0	36915	
	DEDUCT OLD PIT – 86 X 64 X 3 =					-16512	20,403
ROUGH STONE	PQ - AB	II	105	97	5.0	50925	
	PQ - AB	III	95	87	5.0	41325	
	PQ - AB	IV	85	77	5.0	32725	
	PQ - AB	V	75	67	5.0	25125	
	PQ – AB	VI	65	57	5.0	18525	
	DEDUCT OLD PIT – 86 X 64 X 10 =					-55,040	1,13,585
TOTAL MINEABLE RESERVES							**1,47,590 Cu.M.**

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VALID UPTO: 12.12.2025

ANNEXURE - II

PRODUCTION SCHEDULE FOR 5 YEARS PERIOD

YEAR	SECTION	BENCH	LENGTH (M)	WIDTH (M)	DEPTH (M)	VOLUME IN CUM			TOTAL PRODUCTION IN CUM
						TOP SOIL	GRAVEL	ROUGH STONE	
I	PQ-AB	I	115	74	2.0	6012	----	----	
	DEDUCT OLD PIT = 86 X 64 X 2 = -11008								
	PQ-AB	I	115	74	3.0	----	9018	----	
	DEDUCT OLD PIT = 86 X 64 X 3 = -16512								
	PQ-AB	II	105	69	5.0				
		III	95	64	5.0				
	DEDUCT OLD PIT = 86 X 64 X 10 = -55040					----	----	11585	**26,615**
II	PQ-AB	I	115	33	2.0	7590	----	----	
	PQ-AB	I	115	33	3.0	----	11385	----	
	PQ-AB	II	105	28	5.0	----	----	14700	**33,675**
III	PQ-AB	III	95	23	5.0	----	----	10925	
	PQ-AB	IV	85	45	5.0	----	----	19125	**30,050**
IV	PQ-AB	IV	85	32	5.0	----	----	13600	
	PQ-AB	V	75	42	5.0	----	----	15750	**29,350**
V	PQ-AB	V	75	25	5.0	----	----	9375	
	PQ-AB	VI	65	57	5.0	----	----	18525	**27,900**
TOTAL PRODUCTION						**13602**	**20403**	**113585**	**1,47,590**

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RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

ANNEXURE - III

Base Line Studies

The base line studies is prepared for Rough stone, Jelly & Gravel quarry Appayanaickenpatti Village, Vembakottai Taluk, Virudhunagar District, over an extent of 1-58.00 hectares in SF Nos. 43/1A,1B & 45/1a1,1A2(P). The proposed quarry lease will be granted for a period of 5 years. The total planned production quantity for 5 year in rough stone 1,13,585cum,, gravel 20,403cum & topsoil 13602cum.

The project in the area will provide a quit considerable employment to nearby village which in turn enhance the earning source of the nearby villagers. The comprehensive base line studies and standards constitute of collecting data on ambient air quality, dust fall rate, water quality, soil analyze, noise level and ground vibration study in the area proposed for quarrying along with flora and fauna statistics.

General approach to Environment:

The environment studies besides data comprise of the features present in the site area it includes environmental features such as forest area, conservation area, water bodies, industries, wild life and fauna place of historic and importance etc.,

1. Air environment
2. Noise environment
3. Water environment
4. Ecology (biological and cultural environment)
5. Physical environment

Air Environment

The rough stone quarry is non toxic which does not emit any undesirable pollution in the form of solid, liquid and gas. The dust emitted during the transportation of vehicles and the drilling will be carried out in wet condition to prevent dust into air and the haul roads will be periodically sprinkled with mist water spray to prevent dust into the atmosphere. The area in and around is quit fresh and the impact on air environment will always be under control and will be monitored. No processing or beneficiation is proposed except quarrying hence the impact on air will be controlled, monitored and mitigated.

Noise Environment

The noise will be only during blasting. For controlling noise proper and adequate explosives will be charged to the short holes. The machineries will be properly made preventive maintenance to avoid much noise during machinery working. Except these features there are no possibilities of producing much noise during quarry working.

Ground vibration studies

The vibration source only through the movement of vehicles where the frequency is also very less. Hence the vibration is well below the standard permissible by MOEF. Displacement, velocity and acceleration of the three kinematics descriptions which are to be studies to describe ground motion. The peak particle velocity is the more referred since the area is virgin there is no signification measured velocity found in the area. During blasting delay electric detonators will be used to minimize vibration during blasting.

Water Environment

Geo – physical investigation was carried out by adopting schlumberger method. To find out the lateral variation and vertical in homogeneity's. The hydro – geological report is enclosed.

Soil analysis

The area applied for mining lease is flat terrain with little undulations covered by gravel for a depth of 2m followed by massive rock. The gravel is loose and natural growths to trees or plants are negligible except small bushes.

Climate

The area receives annual average rain fall of 825mm during southwest monsoon (June – Sep) and northeast monsoon (Oct – Dec). Temperature falls between 42°C - 23° C. Rainy season is three months in a year from October to December during monsoon. Temperature is maximum during May – June in a year.

Flora and fauna in and around the area

In small quarrying projects like this which involves very limited operations like secondary drilling and blasting conservation of flora and fauna along with ecology does not have significant impact of the overall eco system. A detailed survey related to flora and fauna was observed physically, the in and around area was seasonal dry cultivation, predominantly maize, cotton and millet and naturally grown trees like neem tree, karuvelam (juliflora) etc. The fauna is goat, rat crow, cat, ant, cow and squirrel etc.

Conclusion The base line studies relents no hazardous levels of dust and noise and prevailing at the project area. A well implemented environment management plan as discussed in the mining plan will help in mitigation of the adverse effects due to quarry activities.

The flora in the area is only small thorny bushes as much of the area exhibits flat terrain. No trees are proposed to uproot for the project and new trees will be planted on boundary barrier which will act as acoustic sound barriers. Environment care and attitude preventing environment is instructed to the proponent and advice to carry out and mitigate the minor impacts due to quarrying.

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HYDROGEOLOCAL SURVEY REPORT

1.	Name of the Applicant	:	Sri, S. Subburaj, S/o. Sri. Shunmugaraj.
2.	Major/ minor mineral	:	Roughstone,Jelly and gravel (minor mineral)
3.	Location :		
	i). Survey no	:	43/1A,1B(P) & 45/1A1,1A2(P)
	ii). Viliage	:	Appayanaickenpatti
	iii). Taluk	:	Vembakottai
	iv). District	:	Virudhunager
4.	Total Extent	:	1-58.00 Hectares
5.	Category of ground water	:	safe category (over all district)
6.	Geomorphology	:	plain terrain covered with gravel thorny bushes and no vegetations and the slope of the land is very gentle towards west.
7.	Geology	:	weathered gravel & massive charnockite.
8.	Climate	:	Tropical
9.	Average annual rainfall	:	825mm
10.	Nearby recharging sources	:	There are water recharging source of Devanadi on northern side. These river are mostly dry in all seasons and will have water staged only during heavy rainy season. Due to monsoon failure the odai cannot be taken as a recharge source.
11.	Water level in near area	:	45 to 50 meters from the local enquire.
12.	Quality of the ground water	:	Not potable CaCl, NaCl, & CaCo3.
13.	Hydro- geological conditions:		The hard rock area allows rain water seepage Only in weathered, fissured and fracture zones And the ground water storage and Movement is very poor in the study area.
14.	Geophysical study	:	Geophysical Electrical Resistivity survey conducted in schlumberger configuration (VES) method using IPI2win software for a depth of 45m. The VES-Interpreted curve and Layers by using IPI2win software shows occurrence of hard rock formations below 5m depth.

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1.Nos

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1. GEOPHYSICAL ELECTRICAL RESISTIVITY SURVEY

THE SCHLUMBERGER ARRAY

Geophysical Electrical Resistivity survey conducted in schlumberger Configuration (VES) method using IPI2win Software. The Schlumberger array is an array where four electrodes are placed in line around a common midpoint. The two outer electrodes, A and B, are current electrodes, and the two inner electrodes, M and N, are potential electrodes placed close together. With the Schlumberger array, for each measurement the current electrodes A and B are moved outward to a greater separation throughout the survey, while the potential electrodes M and N stay in the same position until the observed voltage becomes too small to measure (source). At this point, the potential electrodes M and N are moved outward to a new spacing. As a rule of the thumb, the reasonable distance between M and N should be equal or less than one-fifth of the distance between A and B at the beginning. This ratio goes about up to one-tenth or one-fifteenth depending on the signal strength. The Schlumberger array is commonly used for vertical electrical sounding (VES) for groundwater and aggregate minerals. Vertical electrical sounding (VES) using the Schlumberger array provides better resolution.

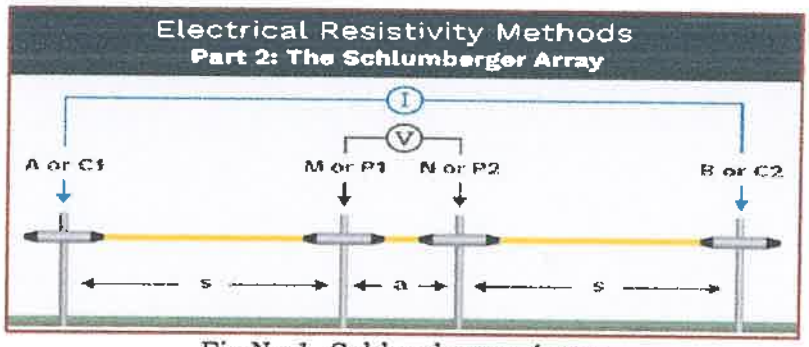


Fig No:1, Schlumberger Array

Fig No: 2. Model DDR-3 Electrical Resistivity Meter

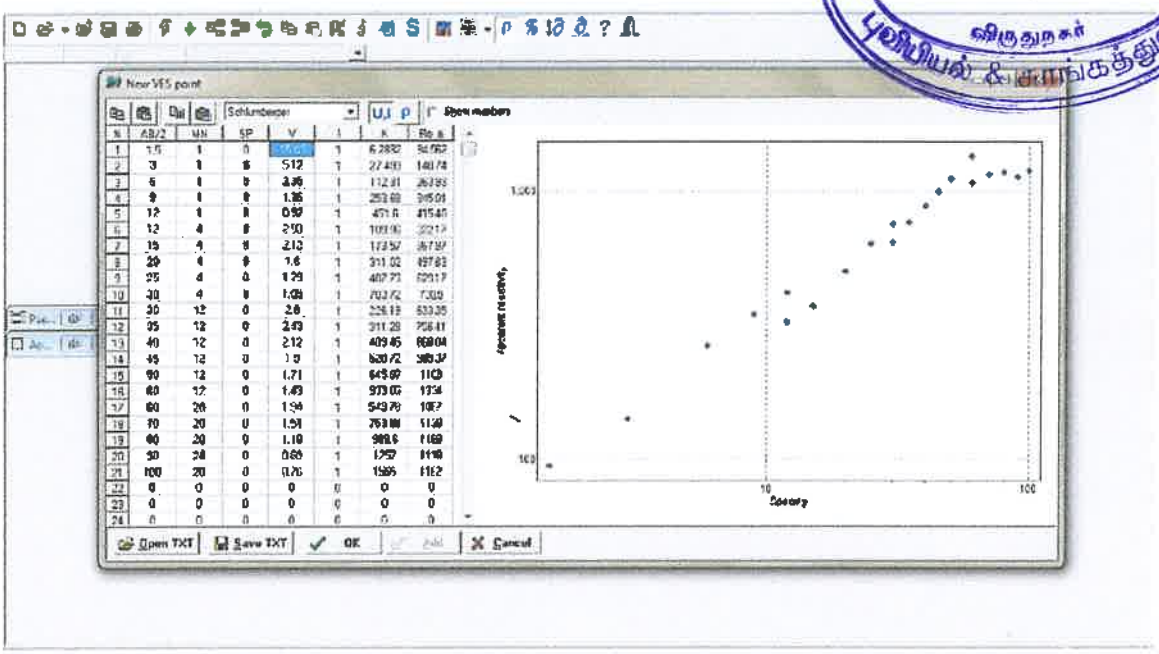
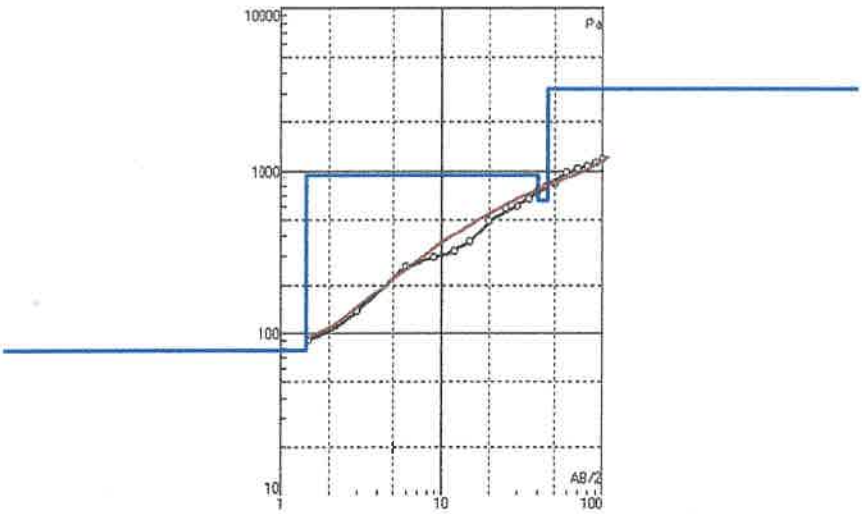


Figure No.3. Image showing VES data sheet by using IPI2win software.



N	1	2	3	4		
ρ	77.7	951	657	3189		
h	1.45	38.2	5.71			
d	1.45	39.7	45.4			
Alt	-1.447	-39.68	-45.39			

Figure No.4. Vertical electrical Sounding Interpreted curve & Layers by using IPI2win software

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VES- INFERRED STRATA

0-5 m : Gravel with topsoil (Resistivity 78 Ohm)

5 m-40m : Hard Charnockite formation (951 Ohm. Resistivity)

40m-45m : Charnockite rock with water potential fracture (Resistivity 657 Ohm.)

Above 45m : Massive charnockite formation. (Resistivity 3189 Ohm.)

The presence of soil with gravel shows low resistivity followed by Charnockite formation with high resistivity is indication of the poor water bearing capacity at shallow depth. The deeper layer is having curve break at 45m with comparatively less resistivity shows possibility of fracture with water table. Above 45m the resistance is high (3189 Ohm) shows massive formation of charnockite at depth.

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ANNEXURE- IV

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 जी. रविचदण, वेन्निला लिविंग्स, जी–एच, बी ब्लॉक, रेटटैवयकाल, वयलूर, रोड, तिरुची – 620 102, 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. G. Ravichandran, Vennila Livings, G-H, B block, Rettaivaykkal Vayalur Road, Trichy – 620 102, 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 / 197/ 2005 / A**

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनाक 11.12.2025 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 12.12.2025.

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 : 13.11.2015

क्षेत्रीय खान नियंत्रक/ Regional Controller of Mines
भारतीय खान ब्यूरो/ Indian Bureau of Mines
चेन्नई क्षेत्र/ Chennai Region

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RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

ANNEXURE - V

புவியியல் மற்றும் சுரங்கத்துறை

உதவி இயக்குநர் அலுவலகம்,
மாவட்ட ஆட்சியர் அலுவலக வளாகம்,
விருதுநகர்.

ந.க.எண்: கேவி1/523/2019-கனிமம், நாள்: 12.05.2022.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம் - அப்பையநாயக்கன்பட்டி கிராமம் - பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் - ஐந்து வருடங்களுக்கு உடைகல் மற்றும் கிராவல் குவாரி உரிமம் வழங்கல் - சரியான பரப்பு (Precise Area) தேர்வு செய்யப்பட்டது - சுரங்கத்திட்டம் மற்றும் மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை:

1. திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் திருநெல்வேலி விண்ணப்பம் நாள்: 18.11.2019.
2. இவ்வலுவலக கடிதம் எண் ந.க.கேவி1/523/2019, நாள்: 04.12.2019.
3. சாத்தூர் வருவாய் கோட்டாட்சியர் கடிதம் எண்: மூ.மு.அ2/892/2020 நாள்: 04.03.2020.
4. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 11.05.2022.
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.

*****

விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் பரப்பில் 5 வருடங்களுக்கு உடைகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வழங்கக்கோரி

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திருநெல்வேலி மாவட்டம், திருவேங்கடம் வட்டம், செவல்பட்டி அஞ்சல், குண்டம்பட்டி கிராமம், கதவு எண்: 7/112 என்ற முகவரியில் வசித்து வரும் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர் பார்வை 1-ல் காணும் விண்ணப்பத்தினை சமர்பித்துள்ளார்.

சாத்தூர் வருவாய் கோட்டாட்சியர் மற்றும் புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர் கீழ்காணும் நிபந்தனைகளுக்குட்பட்டு மேற்கண்ட புலங்களில் உடைகல், கிராவல் குவாரி குத்தகை உரிமம் ஐந்தாண்டுகளுக்கு வழங்க பரிந்துரை செய்துள்ளனர்.

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
2) பொதுமக்கள் / விவசாய நிலங்களுக்கு பாதிப்பு ஏற்படாத வகையில் தகுதி வாய்ந்த அங்கீகரிக்கப்பட்ட நபர்கள் மூலம் வெடிமருந்துகள் சேமிக்கப்பட்டு குவாரியில் வெடித்தல் வேண்டும்.
3) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.
4) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் தொழிலாளர் நலவாரியம் மற்றும் காப்பீடு திட்டத்தில் பதிவு செய்து தொழிலாளர் நலன் பேணபட வேண்டும்.
5) குழந்தை தொழிலாளர்களை குவாரி பணியில் அமர்த்தக் கூடாது.
6) கனிமங்களை வாகனங்களில் கொண்டு செல்லும் போது பாதசாரிகள், பொது மக்கள் பாதிக்காதவண்ணம் தார்பாய்கள் கொண்டு மூடி எடுத்துச் செல்ல வேண்டும்.

எனவே, துறை அலுவலர்களின் பரிந்துரையினை ஏற்றும் நிபந்தனைகளுக்கு உட்பட்டும், விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேர் நிலம் 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் விதி எண்: 19 (1) மற்றும் 20 -ன் படி ஐந்து வருடகாலத்திற்கு உடைகல் மற்றும் கிராவல் குவாரி உரிமம் வழங்க தகுதி வாய்ந்த நிலப்பரப்பாக (Precise area) கருதப்படுகிறது.

தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண்: 41ன்படி 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 சமர்ப்பித்துமாறும் மனுதாரர் திரு.ச.சுப்புராஜ் கேட்டுக் கொள்ளப்படுகிறார்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விருதுநகர்

பெறுநர்
திரு.ச.சுப்புராஜ்,
த/பெ. சண்முகராஜ்,
கதவு எண்: 7/112,
குண்டம்பட்டி கிராமம், செவல்பட்டி அஞ்சல்,
திருவேங்கடம் வட்டம்,
திருநெல்வேலி மாவட்டம்.

நகல்
உறுப்பினர் செயலர்,
மாநில சுற்றுசூழல் தாக்க மதிப்பீட்டு ஆணையம் (SEIAA),
சென்னை.

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இட ஆய்வறிக்கை

(நாள்: 11.05.2022.)

திருநெல்வேலி மாவட்டம், திருவேங்கடம் வட்டம், செவல்பட்டி அஞ்சல், குண்டம்பட்டி கிராமம், கதவு எண்: 7/112 என்ற முகவரியில் வசித்து வரும் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர் விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேரில் ஐந்து வருட காலத்திற்கு உடைகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வேண்டி 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் விதி எண்.19 (1)-ன் படி விண்ணப்பம் செய்திருந்தார். விண்ணப்ப புலங்கள் 11.05.2022 தினத்தன்று ஆய்வு செய்யப்பட்டது.

விண்ணப்பிக்கப்பட்டுள்ள பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) பட்டா எண்: 2180 -ன் படி திரு.ச.சுப்புராஜ், த/பெ சண்முகராஜ் என்பவர் பெயரில் அப்பையநாயக்கன்பட்டி கிராம ஆவணங்களில் பதிவாகியுள்ளது. இவ்வாறாக மேற்கண்ட புலங்களுக்கு விண்ணப்பதாரர் முழு உரிமையுடையவராகிறார்.

விண்ணப்பிக்கப்பட்ட புலங்களை சுற்றிலும் 300 மீட்டர் சுற்றளவில் குடியிருப்புகள், பள்ளிகள், கோயில்கள், மசூதிகள், சுடுகாடு ஏதும் இல்லை. 50 மீட்டர் சுற்றளவில் தேசிய / மாநில நெடுஞ்சாலைகள், ஆறுகள், கட்டிடங்கள், உயர் /தாழ்வழுத்த மின்கம்பிகள் இல்லை. உயர்வகை மரங்கள் ஏதுவும் இல்லை. புலங்களுக்கு சென்று வர பாதை வசதி உள்ளது.

விண்ணப்பிக்கப்பட்ட புலங்கள் புஞ்சை வகைப்பாடுடைய தரிசு நிலங்களாகும். புலங்களின் மேற்பரப்பு குண்டும், குழியுமாக விவசாய பணிகள் ஏதுமின்றி உள்ளது. புல எண்கள்: 43/1B (P) (0.65.00) மற்றும் 45/1A2 (P) (0.80.00) மொத்தப்பரப்பு 1.45.00 ஹெக்டேரில் 5 ஆண்டுகளுக்கு கல்குவாரி குத்தகை உரிமம் மாவட்ட ஆட்சியரின் செயல்முறை ஆணை எண்: கேவி1/11925/2015 நாள்: 17.10.2015 -ன் படி வழங்கப்பட்டு அவ்வுரிமம் 20/10/2019 -உன் முடிவடைந்து விட்டது. கற்கல் குடைவு செய்ததினால் புல எண்: 43/1B (P) -ல் பெரிய குழியும் 45/1A2 (P) சிறிய குழியும் உள்ளது ஆய்வில் கண்டறியப்பட்டது. புலங்களின் மேற்பரப்பில் காணப்படும் மண் மற்றும் சிதைந்த பாறைகளை (Weathered Rock), தொடர்ந்து சார்னைகட் (Charnockite) எனப்படும் கடின பாறைகள் (Hard rock) உள்ளது. கடின பாறைகளில் காணப்படும் வேறுபட்ட

நிறங்கள் (Different in colours), இணைப்புகள் (Joints), பிளவுகள், கீரல்கள் (Cracks) வெடிப்புகள் மற்றும் மாறுபட்ட அளவு கொண்ட கனிமங்கள் காரணமாக இப்பாறைகளில் பெருகேற்றக் கூடிய வண்ண கற்களை (Polished Granite / Blocks) உற்பத்தி செய்ய இயலாது. இவ்வகை பாறைகளில் இருந்து கட்டிடப்பணிகள் மற்றும் சாலை / இரயில்வே பணிகளுக்கு தேவைப்படும் கற்கள், ஜல்லிகள் மற்றும் எம்-சாண்ட் ஆகியவற்றை உற்பத்தி செய்ய இயலும்.

எனவே விண்ணப்பதாரர் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவரின் கோரிக்கையினை ஏற்று விருதுநகர் மாவட்டம், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள்: 43/1A (0.06.00), 43/1B (P) (0.65.00), 45/1A1 (0.06.50), 45/1A2 (P) (0.80.50) மொத்தப்பரப்பு 1.58.00 ஹெக்டேரில் உடைகல் மற்றும் கிராவல் குவாரி உரிமம் ஐந்தாண்டுகளுக்கு (5) தமிழ்நாடு சிறுகனிம சலுகை விதிகள் விதிஎண்.19 (1) மற்றும் 20-ன் படி பின்வரும் நிபந்தனைகளுக்குட்பட்டு வழங்க பரிந்துரை செய்கிறேன்.

நிபந்தனைகள் :

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விடுத்து குவாரி செய்தல் வேண்டும்.
2) பொதுமக்கள் / விவசாய நிலங்களுக்கு பாதிப்பு ஏற்படாத வகையில் தகுதி வாய்ந்த அங்கீகரிக்கப்பட்ட நபர்கள் மூலம் வெடிமருந்துகள் சேமிக்கப்பட்டு குவாரியில் வெடித்தல் வேண்டும். குவாரியில் குறைந்த சக்தி கொண்ட வெடி மருந்துகளை பயன்படுத்தல் வேண்டும்.
3) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.
4) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் தொழிலாளர் நலவாரியம் மற்றும் காப்பீடு திட்டத்தில் பதிவு செய்து தொழிலாளர் நலன் பேணபட வேண்டும்.
5) குழந்தை தொழிலாளர்களை குவாரி பணியில் அமர்த்தக் கூடாது.
6) கனிமங்களை வாகனங்களில் கொண்டு செல்லும் போது பாதசாரிகள், பொது மக்கள் மற்றும் பிற வாகனங்கள் பாதிக்காதவண்ணம் தார்பாய்கள் கொண்டு மூடி எடுத்துச் செல்ல வேண்டும்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விருதுநகர்.

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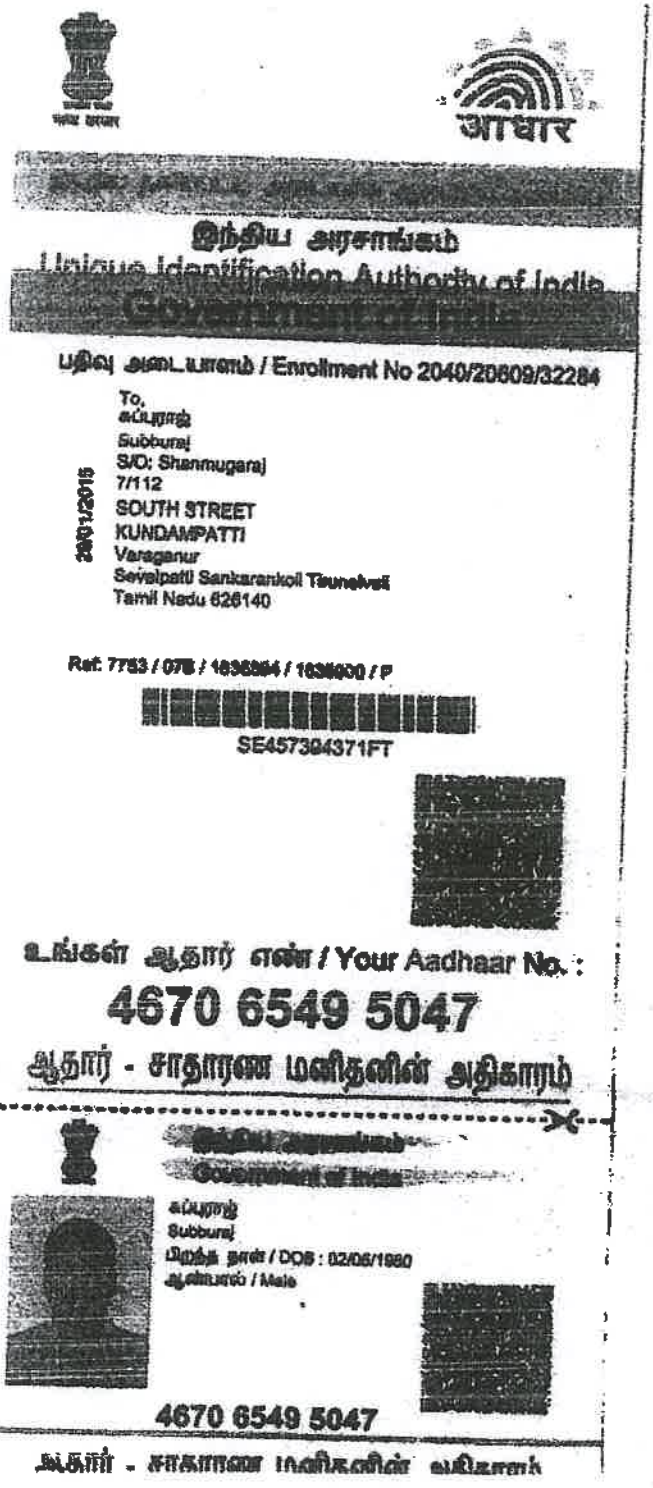
ANNEXURE-VII

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புனரியல் & சுரங்கத்துறை



आधार

இந்திய அரசாங்கம்
Unique Identification Authority of India

பதிவு அடையாளம் / Enrollment No 2040/20609/32284

To,
சுப்புராஜ்
Subburaj
S/O: Shanmugaraj
7/112
SOUTH STREET
KUNDAMPATTI
Varaganur
Sevalpatti Sankarankoil Tirunelveli
Tamil Nadu 626140

29/01/2015

Ref: 7753 / 078 / 1636564 / 1636600 / P

SE457394371FT

உங்கள் ஆதார் எண் / Your Aadhaar No. :

4670 6549 5047

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

சுப்புராஜ்
Subburaj
பிறந்த நாள் / DOB : 02/06/1980
ஆண்/Male

4670 6549 5047

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

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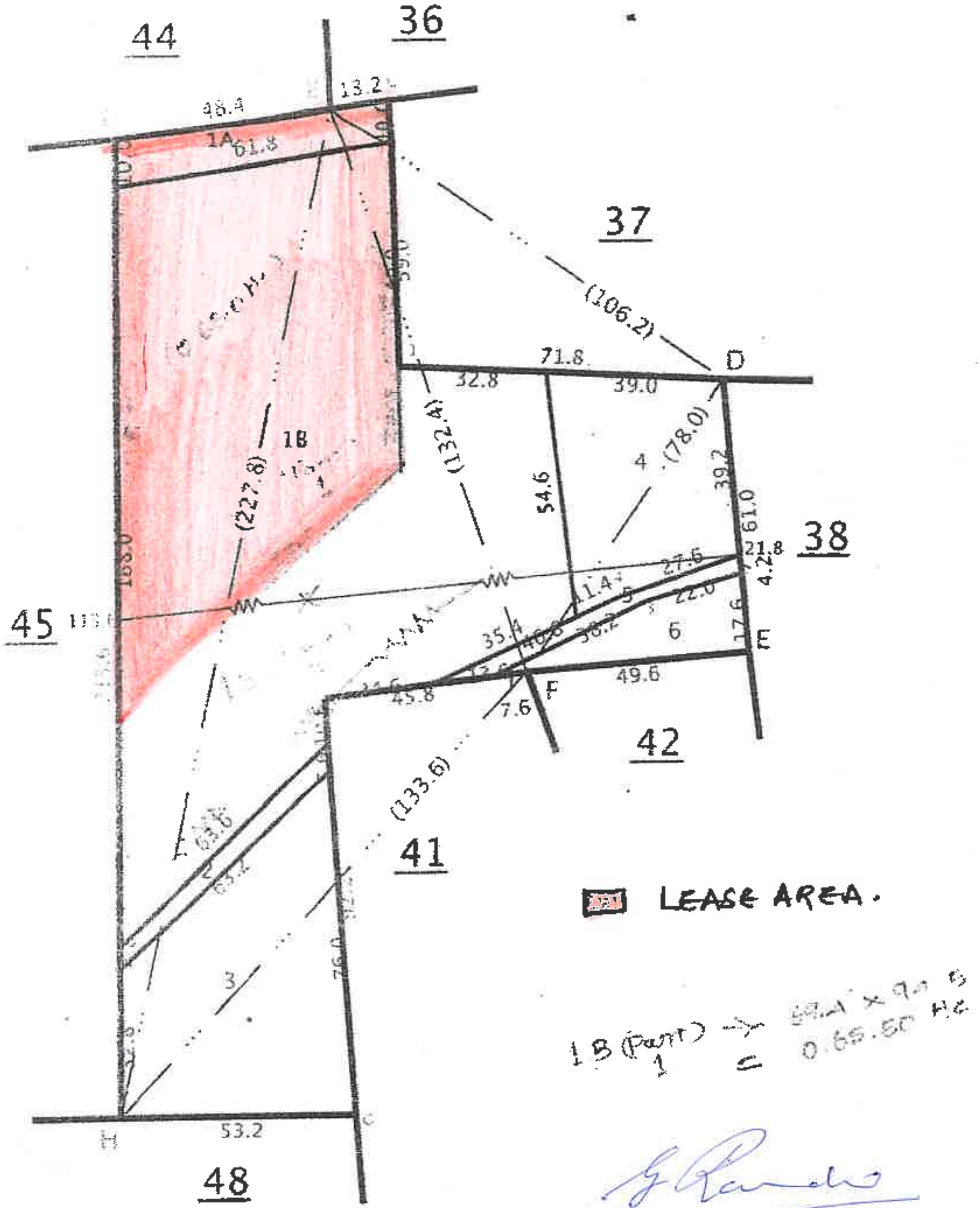
ANNEXURE-VIII

District : Virudhunagar
Taluk : Vembakkottai
Village : Appanayakkanpatti [16]

Survey No : 43
Area : Hect 01 Ares 71.00
Scale : 1 : 1412



G.RAVICHANDRAN, M.Sc., PG.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

Date of Issue: 24-10-2019 16:20.15

Survey and Settlement Department, Government of TamilNadu

District : Virudhunagar

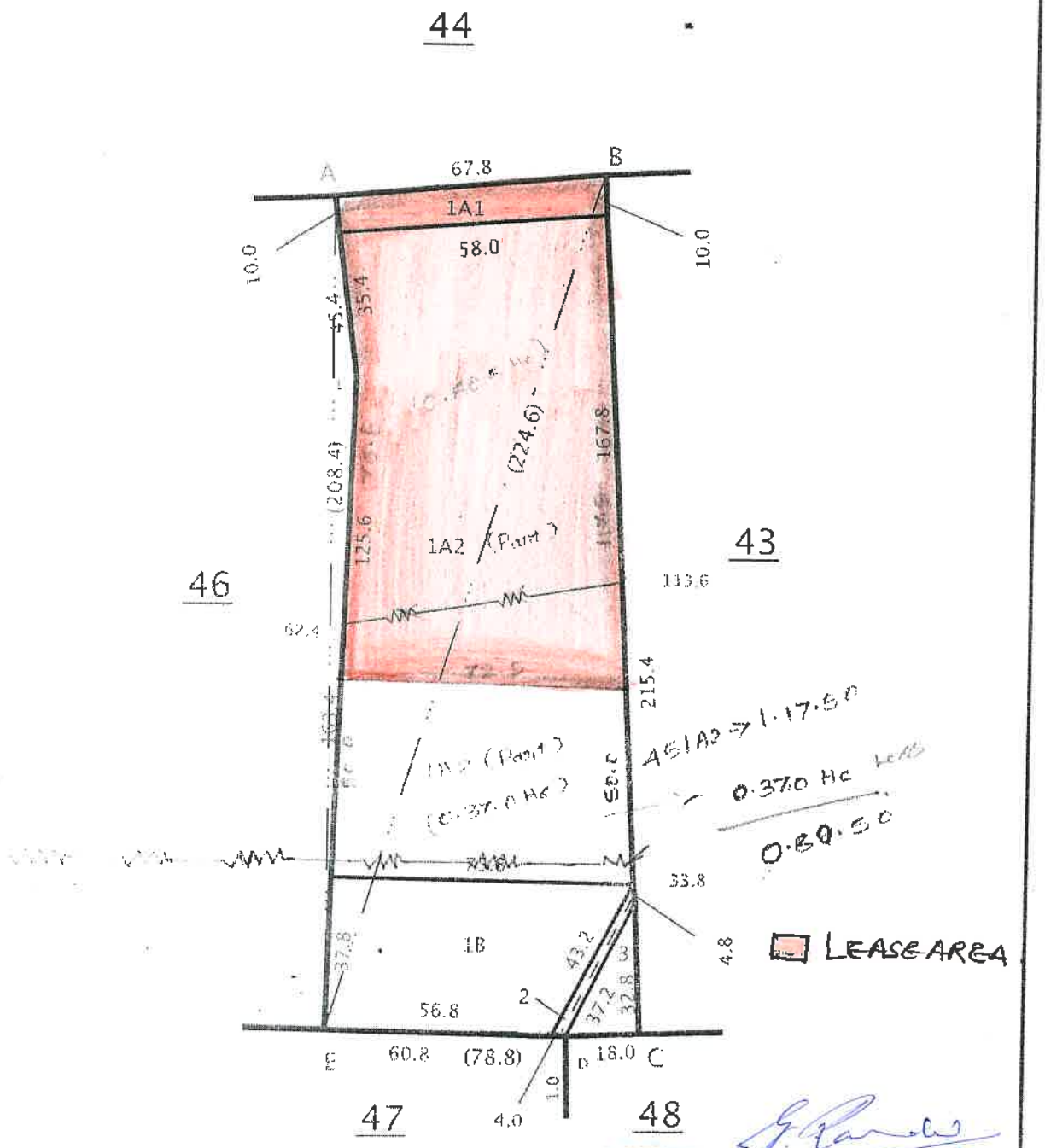
Taluk : Vembakkottai

Village : Appanayakkanpatti [16]

Survey No : 45

Area : Hect 01 Ares 54.00

Scale : 1 : 1474



G.RAVICHANDRAN, M.Sc.,P.G.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

Date of Issue: 24-10-2019 16:20:56

Survey and Settlement Department, Government of TamilNadu

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ANNEXURE IX

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

MINES LAND PHOTO

விருதுநகர் மாவட்டம் வெம்பக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி கிராமம் பட்டா புலஎண்கள். 43/1A, 43/1B(P), 45/1A1 & 45/1A2(P) ஆக மொத்தம் 1-58.0 ஹெக்டேரில் மட்டும் 5 வருடங்களுக்கு விருதுநகர் மாவட்ட ஆட்சித்தலைவர் அவர்களின் செயல்முறை ஆணை எண். கே.வி.1/523/2019-கனிமம், நாள் 12.05.2022ன் படி திரு. ச. சுப்புராஜ், த/பெ. சண்முகராஜ் அவர்கள் மனு செய்துள்ளார். மேற்படி இடம் உடைகல், ஜல்லி மற்றும் கிராவல் வெட்டி எடுப்பதற்கு அங்கீகரிக்கப்பட்ட இடம் என்பதை இதன் மூலம் சான்றளிக்கிறேன்.

மேற்படி இடத்திற்கு செல்வதற்கு அணுகுபாதை வசதி உள்ளது என்றும் சான்றளிக்கிறேன்.

இடம்:

நாள்:

கிராம நிர்வாக அலுவலர்

மனுதாரர் கையெப்பம்

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உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
0 2 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

கிராம நிர்வாக அலுவலரின் சான்று

விருதுநகர் மாவட்டம் வெம்பக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி கிராமம் பட்டா புலஎண்கள். 43/1A, 43/1B(P), 45/1A1 & 45/1A2(P) ஆக மொத்தம் 1-58.0 ஹெக்டேரில் மட்டும் 5 வருடங்களுக்கு விருதுநகர் மாவட்ட ஆட்சித்தலைவர் அவர்களின் செயல்முறை ஆணை எண். கே.வி.1/523/2019-கனிமம், நாள் 12.05.2022ன் படி திரு. ச. சுப்புராஜ், த/பெ. சண்முகராஜ் அவர்கள் மனு செய்துள்ளார். இவர் ஆரம்பிக்க உள்ள உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி இடத்திற்கு செல்ல போதிய அணுகுபாதை வசதி உள்ளது மேலும் நிலத்தை சுற்றி 300மீட்டர் சுற்றளவில் குடியிருப்புகள், கோயில்கள், பள்ளிக்கூடம் ஏதும் இல்லை.

மேற்படி புல எண்கள் கிராம கணக்கு தடை ஆணை புத்தகத்தில் இடம் பெறவில்லை. மேற்படி சான்று கனிமவளத்துறைக்கு அளிக்கும் வகைக்காக வழங்கப்படுகிறது.

கிராம நிர்வாக அலுவலர்.
VILLAGE ADMINISTRATIVE OFFICER
APPAYANAICKENPATTI VILLAGE,
VEMBAKOTTAI (T.K)
VIRUDHUNAGAR (Dt.,)

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ANNEXURE - X

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : விருதுநகர் வட்டம் : வெம்பக்கோட்டை

வருவாய் கிராமம் : அப்பையநாயக்கன்பட்டி பட்டா எண் : 2180

உரிமையாளர்கள் பெயர்

1. சண்முகராஜ் மகன் சுப்புராஜ்

		நன்செய்		புன்செய்		மற்றவை	
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை
புல எண்	உட்பிரிவு	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை
204	1	--	--	0 - 63.00	1.26	--	--
44	-	--	--	1 - 50.00	1.00	--	--
45	1A1	--	--	0 - 6.50	0.15	--	--
45	1A2	--	--	1 - 17.50	2.35	--	--
45	3	--	--	0 - 3.00	0.08	--	--
39	1A	--	--	0 - 48.00	1.00	--	--
43	1A	--	--	0 - 6.00	0.15	--	--
43	1B	--	--	1 - 10.00	2.20	--	--
46	1	--	--	0 - 70.50	1.41	--	--
46	2	--	--	0 - 45.00	0.90	--	--
46	3	--	--	0 - 45.00	0.94	--	--
				6 - 64.50	11.44		

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **26/09/016/02180/100691** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் **05-03-2019** அன்று **10:46:46 AM** நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

146

1429 ஆம் பசலியில் விருதுநகர் மாவட்டம் வெம்பக்கோட்டை வட்டம் அப்பனாயக்கன்பட்டி

நில வரித் திட்டத்தின்படி புலஎண்களின் விபரம்.					கைப்பற்று தாரருடைய பெயரும் எண்ணும் அல்லது அனுபோக தாரருடைய பெயர்.	சாகுபடியாளரின் பெயர்.	முதல் போகியல்				
நில அளவை எண்	உட்பிரிவு எண்	பரப்பு.	தீர்வை	ஒரு போகம் அல்லது இரு போகம்.		நிலத்தின் எந்த பகுதி யாவது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதா.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அழுவடையான பரப்பு.	உண்மையான பாய்ச்சல் ஆதாரம்.	விளைச்சல் அளவு விழுக்காடு.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
43	1A	0.00.0	0.15		2180 அப்பனாயக்கன்பட்டி	—	இலாபி				
43	1B	1.10.0	2.20		2180 அப்பனாயக்கன்பட்டி	—	இலாபி				
45	1A1	0.00.5	0.15		2180 அப்பனாயக்கன்பட்டி	—	இலாபி				
45	1A2	1.17.5	2.35		2180 அப்பனாயக்கன்பட்டி	—	இலாபி				

/உண்மை நகல்/
02/09/2020
VILLAGE ADMINISTRATIVE OFFICER
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VEMBAKOTTAI (T.K)
VIRUDHUNAGAR (Dt.,)

380/47-R.F. III-A-10-10,00,000 Cps.-GBP.-MDU.-7-2018.

1		2	3	4	5	6	7	8	9	10	11	12
								ரூ. பை.	ஹெ.ஏர்ஸ்	ரூ. பை.		
38	11	38-11	ரு	பு	...	8-2	4	2 00	0 34.0	0 68	966 ந. [illegible] மணி நாயக்கர்.	
	12	-12	ரு	பு	...	8-2	4	2 00	0 02.5	0 06	326 ஆ. சின்ன சக்கண நாயக்கர். (கீதாரி).	
	13	-13	ரு	பு	...	8-2	4	2 00	0 01.5	0 06	326 ஆ. சின்ன சக்கண நாயக்கர். (கீதாரி).	
									4.51.0 4 52.0	9 06		
39	①	39-1	ரு	பு	...	8-2	4	2 00	0 95.5	1 91	541 கி. தாதல் நாயக்கர்.	
	2A	-2A	ரு	பு	...	8-2	4	2 00	0 62.5	1 30	326 ஆ. சின்ன சக்கண நாயக்கர். (கீதாரி).	
	2B	-2B	ரு	பு	...	8-2	4	2 00	0 05.5	0 11	228 குலாம் முகைதீன்	
	3	-3	ரு	பு	...	8-2	4	2 00	0 96.5	1 93	807 மதுரை S. முகமது சிக்கந்தர்.	
									2 60.0	5 25		
(40)	...	40	ச	தீ. த.	...	...	...	...	0 58.0	...	......	தீர்வை ஏர்படாத தரிசு.
41	1	41-1	ச	புற	...	...	...	...	0 01.0	...	......	வண்டிப் பாதை.
	2	-2	ரு	பு	...	8-2	4	2 00	0 74.5	1 49	244 தி. கோபால் தேவர்.	
	3	-3	ரு	பு	...	8 2	4	2 00	0 01.0	0 06	244 தி. கோபால் தேவர்.	/உண்மை நகல்/ [signature] ..9/01/2020
									0 76.5	1 55		
42	...	42	ரு	பு	...	8 2	4	2 00	0 95.5	1 91	256 செ. சக்கம்மாள்.	
43	(1)	43-1	ரு	பு	...	8-2	4	2 00	0 16.0	2 32	366 அ. சீனிவாசன்.	
	2	-2	ச	புற	...	...	...	...	0 03.0	...	...	வண்டிப் பாதை.

 [signature]

கி. எண். 38 (9) அப்பய்யநாயக்கன்பட்டி.

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	1	2	3	4	5	6	7	8	9	10	11	12
								ரூ. பை.	ஹெ. ஏர்ஸ்	ரூ. பை.		
43	3	43-3	ர	பு	...	8-2	4	2 00	0 26·0	0 52	366 அ. சீனிவாசன்.	
	4	-4	ர	பு	...	8-2	4	2 00	0 18·0	0 36	244 தி. கோபால் தேவர்.	
	5	-5	ச	புற	...	...	...	...	0 03·0	...	......	வண்டிப் பாதை.
	6	-6	ர	பு	...	8 2	4	2 00	0 05·0	0 10	244 தி. கோபால் தேவர்.	
									1 71·0	3 30		
44	...	44	ச.	தீ. ஏ. த.	...	...	...	...	1 50·0	...	......	தீர்வை ஏர்படாத தரிசு.
45	1A	45-1A	ர	பு	...	8-2	4	2 00	1 24·0	2 48	873 அ. ராமர்.	
	1B	-1B	ர	பு	...	8-2	4	2 00	0 25·5	0 50	484 வே. செந்தட்டி வீரம்மாள்.	
	2	-2	ச	புற	...	...	..	...	0 01·5	...	......	வண்டிப் பாதை.
	3	-3	ர	பு	...	8-2	4	2 00	0 03 0	0 08	873 அ. ராமர்.	
									1 54·0	3 06		
46	1	46-பா	ர	பு	...	8-2	4	2 00	0 70·5	1 41	652 தா. பெருமாள் (எ) கனகராஜ்.	
	2	-பா	ர	பு	...	8-2	4	2 00	0 45·0	0 90	585 பெ. பன்னீர் (எ) நல்லமுத்து நாயக்கர்.	
	3	-பா	ர	பு	...	8-2	4	2 00	0 45 0	0 94	966 த. லக்ஷ்மணநாயக்கர்.	
									1 60·5	3 25		
47	1	47-1	ர	பு	...	8 2	4	2 00	1 05·0	2 12	484 வே. செந்தட்டி வீரம்மாள்.	சதுர கிணறு.
	2	-2	ச	புற	...	...	...	...	0 09·0	...	......	வண்டிப் பாதை.
									1 14·0	2 12		

/உண்மை நகல்/
29/01/2020

VILLAGE ADMINISTRATIVE OFFICER
APPAYANAICKENPATTI VILLAGE,
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VIRUDHUNAGAR (Dt)

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உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

1A 39-1A 7 4 .. 8.2 4 2.00 0.48.0 1.00 1678. ரா. கந்த மீனாட்சியம்மாள்
1B 39-1B 7 4 ... 8.2 4 2.00 0.47.5 1.00 1679. வே. தமிழ் செல்வி
0.95.5 2.00 TR 8A No. 21/1409 dt. 14.9.99

For Taks. 8.10.99

40 .. 40 - 8 தி.5 .... 0.58.0 .... தீர்வை ஏற்பட்டதால்

40 40 8 4 0.58.0 1.20 1718. ... 1.11.04
dt. 22.3.02

Fur. Taken

(உண்மை நகல்)
09/01/2020

VILLAGE ADMINISTRATIVE OFFICER
APPAYANAICKENPATTI VILLAGE,
VEMBAKOTTAI (T.K)
VIRUDHUNAGAR (DI.,)

43 1A 43/1A 7 4 - 8.24 2.00 0.06.0 0.15 1704. கி. வெங்கட்ராமன் AS/KUTKSA No. 196/1410 dt 9.4.2001
1B " 7 4 - 8.24 2.00 1.10.0 2.20 155. ரா. மோகன்தாஸ்
1.16.0 2.35

For Taken
15/6/2001

150

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் ...
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத் துறை

44 - 44 ... 1.50.0 ... 1715 கி. ... As per T.K.S.A.No 168/1411 dt d 4.6.02
16.9.02

45 1A1 45/1பா ... 4 - 8.24200 0.061.5 0.15 140R கி. வெங்கட்ராமன் As per TK&ANo. 196/1410 dt. 9.4.2001

1A2 " ... 4 - 8.24200 1.17.5 2.35 155 ரா ...

1.24.0 2.50

For Tahr

15/6/2001

(உண்மை நகல்)

09/01/2020

VILLAGE ADMINISTRATIVE OFFICER
APPAYANAICKENPATTI VILLAGE,
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02 SEP 2022

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T. சுந்தரம்

முத்திரைத்தாள் விற்பனையாளர்

ஸ்ரீவில்லிபுத்தூர்.

ROC. A6. 2048/69

கிரையம் ரூ.40,000/-

மார்க்கட் மதிப்பு ரூ.40,500/-

2007ம் வருடம் செப்டம்பர் மாதம் 17ம் தேதிக்கு,

தமிழ் சர்வஜித் வருடம் ஆவணி மாதம் 31ம் தேதி,

விருதுநகர் மாவட்டம் சிவகாசி வட்டம் சிவகாசி டவுண் சேர்மன் A.சண்முகம் ரோடு கதவு எண் 36/2 புதிய எண் 49ல் வசிக்கும் P.S.ராமசாமி அவர்கள் குமாரர் S.R.சுப்புராஜ் 1,

திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் வட்டம் முக்கூட்டுமலை மஜரா கஸ்தூரி ரெங்கபுரம் கதவு எண் 5-56Aல் வசிக்கும் சுரேஷ்குமார் அவர்கள் மனைவி S.ஆதிலட்சுமி 2, ஆகிய இவர்களுக்கு,

S. Adhilach

(K. Venkataramanujam)

152

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2007

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2007
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1870

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405+100+120-

S.C. Subbaraj

இடதுகை பெருவிரல்

TN/35/242/0000898

S.C. Subbaraj

P.S. ...

49, ...

இடதுகை பெருவிரல்

26/.../0009230

भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हज़ार रुपये ONE THOUSAND RUPEES

रु.1000 Rs.1000

02 SEP 2022

தமிழ்நாடு तमिलनाडु TAMILNADU B 419277

T. சுந்தரம்

ROC. No. 2048/69

..2..

திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் வட்டம் திருவேங்கிடம் கிராமம் கஸ்பாவில் வசிக்கும் பெம்மசானி லேட்.கிருஷ்ணசாமி அவர்கள் குமாரர் வெங்கட்ராமன் ஆகிய நான் எழுதிக் கொடுத்த கிரையப்பத்திரம் என்னவென்றால்,

இதன் தபசில் கண்ட சொத்தானது எனக்கு கீழராஜகுலராமன் சார்பதிவகம் 1.794.151.153.194/2001 நிர் கிரயப்பத்திரம் மூலமாகவும், என் பெயரால் பட்டா ஏற்பட்டுள்ள சொத்துக்களும் எவ்வித வில்லங்கத்திற்கும் உட்படுத்தாது நான் தனித்து அனுபவித்து வருகிற இதன் தபசில் கண்ட சொத்தை நான் தங்களுக்கு நாளது தேதியில் கிரையம் செய்து கொடுத்தது

S. [illegible]

154

இடதுகை பெருவிரல்

S. Athilaksh

[illegible]

5.56A [illegible]

[illegible]

சார்பதிவாளர்

[illegible] 538 2079.

[illegible]

[illegible]

[illegible]

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भारतीय गैर न्यायिक INDIA NON JUDICIAL

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T. சுந்தரம்
முத்திரைத்தாள் விற்பனையாளர்
ஸ்ரீவில்லிபுத்தூர்.
ROC. எ6. 2048/69

..3..

ரூ.40,000/- இந்த ரூபாய் நாற்பதாயிரமும் எனது விவசாய அபிவிருத்திக்காகவும், என் குடும்ப முன் கடன்களை தீர்ப்பதற்காகவும் இதுமுன் நான் நாளது தேதியில் தங்களிடம் நேரில் ரொக்கம் பெற்றுக் கொண்டபடியால் தபசில் கண்ட சொத்தை தாங்கள் நாளது தேதி முதல் கிரையப் பாத்தியமாகவும் சர்வ சுதந்திர பாத்தியமாகவும் சந்ததி பரம்பரையாகவும் தானாதி வினியோக விற்கிரயங்களுக்கு யோக்கியமாகவும் ஆண்டனுபவித்துக் கொள்வீர்களாகவும். தபசில் சொத்து தங்கள் பெயருக்கு பட்டாவாக நான் இத்துடன் புள்ளிமனுவும் கொடுத்து விட்டேன்.

156

தபசில் சொத்தின் பேரில் எவ்வித வில்லங்கம் இல்லை என்று உறுதி கூறுகிறேன். ஏதேனும் வில்லங்க விவகாரங்கள் ஏற்பட்டால் எனக்கு பாத்தியப்பட்ட இதர சொத்துக்களிலிருந்து நிவர்த்தி செய்து கொடுப்பேனாகவும். தபசில் சொத்தை நாளது தேதி முதலே தங்களின் சுவாதீன அனுபவத்திற்கு விட்டு விட்டேன்.

சொத்து விபரம்

தபசில் விருதுநகர் பதிவு மாவட்டம் கீழராஜகுலராமன் சார்பதிவாளர் சரகம் அப்பையநாயக்கர்பட்டி கிராமம் அயன் புஞ்சை சர்வே 43/1 நிர் ஹெக்டேர் 1.16.0க்கு ஏக்கர் 2 செண்டு 87ல் வடபுரம் செண்டு 15க்கு மால்:

சர்க்கார் தரிசு நிலத்திற்கும், ராமலிங்கம் புஞ்சைக்கும். . .தெற்கு
செல்லையா ஆசாரி நிலத்திற்கு . . .மேற்கு
இதன் 2வது அயிட்ட புஞ்சைக்கு . . .கிழக்கு
என் கையிருப்பு புஞ்சைக்கு . . .வடக்கு

இம்மாலுக்குட்பட்டது. ஷை சொத்து தற்கால சப்டிவிசன்படி 43/1A, 43/1B நிர்க்கு சம்மந்தப்பட்டது.

2) சர்வே 45/1A1 நிர் ஹெக்டேர்1.24.0க்கு ஏக்கர் 3 செண்டு 06ல் வடபுரம் செண்டு 15க்கு மால்:

சர்க்கார் தரிசு நிலத்திற்கு . . .தெற்கு
இதன் 1வது அயிட்ட சொத்திற்கு . . .மேற்கு
என் கையிருப்பு புஞ்சைக்கு . . .கிழக்கும், வடக்கும்

இம்மாலுக்குட்பட்டது. தற்கால சப்டிவிசன்படி சர்வே 45/1A1, 45/1A2 நிர்க்கு சம்மந்தப்பட்டது.

3) சர்வே 44 நிர் ஹெக்டேர் 1.50.0க்கு ஏக்கர் 3 செண்டு 70 பூராவும் தபசில் சொத்து விபரம் சரி.

S. Sittaal

157

ஷை சொத்து தற்கால மார்க்கட் மதிப்பு ரூ.40,500/- ஷை சொத்து அப்பையநாயக்கர்பட்டி பஞ்சாயத்து வெம்பக்கோட்டை யூனியன் ஆகும்.

S. Sithlaksh

சாட்சிகள் :-

1) G. பாலீனி அம்மாள் ...

2) R. ... R. SURESH KUMAR S/O K RADHAGOPAL KASTURIRENGAPURAM

158

எழுதி கொடுத்தவர்
S/o. ...

1968ம் வருடத்திய முத்திரைக் குறைப்பு தடுப்பு சட்டத்தின் கீழ் விதி 3(1)ன்படி அறிக்கை

கிராமம் : அப்பையநாயக்கர்பட்டி

வ.எண்	சர்வே எண்	விஸ்தீரணம் ஏக்	செ	சொத்தின் தன்மை	மதிப்பு ரூபாய்
1.	43/1 நிர்	2	83ல்		
	வடபுரம் செண்டு 15க்கு ஹெக்டேர் 0.06.0			புஞ்சை	ரூ. 1,500
	சப்டிவிசன்படி சர்வே 43/1A நிர்க்கு சம்மந்தப்பட்டது				
2.	45/1A1 நிர்	3	06ல்		
	வடபுரம் செண்டு 15க்கு ஹெக்டேர் 0.06.0			புஞ்சை	ரூ. 1,500
	சப்டிவிசன்படி சர்வே 45/1A1, 45/1A2 நிர்க்கு சம்மந்தப்பட்டது				
3.	44 நிர் ஹெக்டேர் 1.50.0			புஞ்சை	ரூ. 37,500
				ஆக மொத்தம்	ரூ. 40,500

159

02 SEP 202

தமிழ்நாடு தமிழ்நாடு TAMILNADU

Rs.1000/-

76099

M. VELMURUGAN
3, Thirupugal Street,
PALAYAMKOTTAI.
TAMIL NADU.

கிரையம் ரூ.48,600/-

மார்க்கட் மதிப்பு ரூ.48,600/-

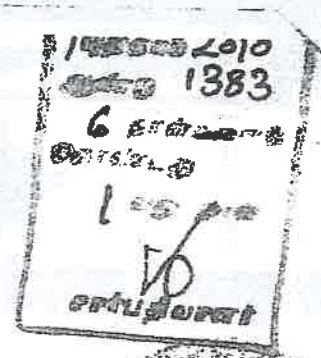
2010ம் வருடம் மார்ச் மாதம் 25ம் தேதிக்கு,

தமிழ் விரோதி வருடம் பங்குனி மாதம் 11ம் தேதி,

திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் **வட்டம்** காரிசாத்தான் அஞ்சல் பாறைப்பட்டி **கதவு** எண்.2/36ல் வசிக்கும் அடுசுமல்லி **P.சின்ன சங்கரப்ப நாயக்கர்** அவர்கள் **குமாரர் S.S.சீனிவாசகம்** அவர்களுக்கு

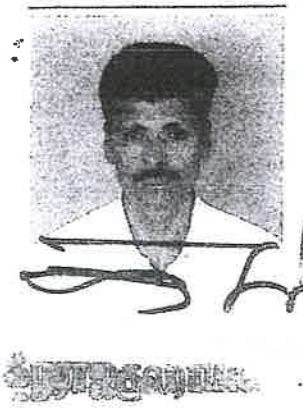
விருதுநகர் மாவட்டம் **சிவகாசி வட்டம் சிவகாசி** டவுண் சேர்மன் A.சண்முகம் ரோடு கதவு எண்.36/2ல் வசிக்கும் P.S.ராமசாமி அவர்கள் குமாரர் S.R.சுப்புராஜ் ஆகிய நான் எழுதிக் கொடுத்த கிரையப்பத்திரம் என்னவென்றால்,

(S.S. SEENIVASAGAM) (S.R. SUBBURAJ)



S.S.Syed

S.R



S.S. Syed

தமிழ்நாடு தமிழ்நாடு TAMILNADU

889545

22 MAR 2019

2

இதன் தபசில் கண்ட சொத்தானது எனக்கும் திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் வட்டம் முக்கூட்டுமலை கிராமம் மஜரா கஸ்தூரிரெங்கபுரம் கதவு எண்.5-56A-ல் வசிக்கும் சுரேஷ்குமார் அவர்கள் மனைவி S.ஆதிலட்சுமி அவர்களுக்கும் கீழராஜகுலராமன் சார்பதிவகம் 1 புத்தகம் 2564/2007 நிர் கிரையப்பத்திரம் மூலம் கூட்டாக பாத்தியப்பட்டு பின் S.ஆதிலட்சுமி அவர்களிடமிருந்து பிரிவின்றி பாதி சொத்தை ஷை சப்டி 1 புத்தகம் 869/2009 நிர் கிரையப்பத்திரம் மூலம் பாத்தியபட்டு நான் தனித்து

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தமிழ்நாடு தமிழ்நாடு TAMILNADU

76104

S 389549

M. VELMURUGAN
STAMP VENDOR, L No: 2/2008
PILLAIYARKOTTAI.
TAMIL NADU.

அனுபவித்து வருகிற இதன் தபசில் கண்ட சொத்தை நான் தங்களுக்கு நாளது தேதியில் கிரையம் செய்து கொடுத்தது ரூ.48,600/- இந்த ரூபாய் நாற்பத்தெட்டாயிரத்தி அறுநூறும் என் குடும்ப நன்மைக்காக இதுமுன் நான் தங்களிடம் நேரில் ரொக்கம் பெற்றுக் கொண்டபடியால், தபசில் கண்ட சொத்தை தாங்கள் நாளது தேதி முதல் கிரையப் பாத்தியமாகவும் சர்வ சுதந்திர பாத்தியமாகவும் சந்ததி பரம்பரையாகவும் ஆண்டனுபவித்துக் கொள்வீர்களாகவும்.

1383
2010

163

भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हजार रुपये ONE THOUSAND RUPEES

रु.1000 Rs.1000

INDIA

Rs.1000/-

தமிழ்நாடு तमिलनाडु TAMILNADU

G 889550

76106

22 MAR 2010

M. VELMURUGAN
STAMP VENDOR L. No: 2/2
2, Thirupugal Street,
PALAYAMKOTTAI
TAMIL NADU.

4

தபசில் சொத்து தங்கள் பெயருக்கு பட்டாவாக நான் இத்துடன் புள்ளிமனுவும் கொடுத்துவிட்டேன். தபசில் சொத்தின் பேரில் எவ்வித வில்லங்கம் இல்லை என்று உறுதி கூறுகிறேன். ஏதேனும் வில்லங்க விவகாரங்கள் ஏற்பட்டால் என் இதர சொத்திலிருந்து நிவர்த்தி செய்து கொடுப்பேனாகவும். தபசில் சொத்தை நாளது தேதி முதலே தங்களின் சுவாதீன அனுபவத்திற்கு விட்டு விட்டேன்.

2383
2010
4
8

164

சொத்து விபரம்

தபசில் விருதுநகர் பதிவு மாவட்டம் கீழராஜகுலராமன் சார்பதிவாளர் சரகம் அப்பையநாயக்கர்பட்டி கிராமம் அபுச. 43/1 நிர் ஹெக்டேர் 1.16.0க்கு ஏக்கர் 2 செண்டு 87ல் வடபுரம் செண்டு 15 (ஹெக்டேர் 0.06.0) புராவும் (ஷை சொத்து தற்கால சப்டிவிசன்படி சர்வே 43/1A சர்வே 43/1B நிர்க்கு சம்மந்தப்பட்டது)

2)சர்வே 45/1A1 நிர் ஹெக்டேர் 1.24.0க்கு ஏக்கர் 3 செண்டு 06ல் வடபுரம் செண்டு 15 (ஹெக்டேர் 0.06.0) புராவும் (ஷை சொத்து தற்கால சப்டிவிசன்படி சர்வே 45/1A1 சர்வே 45/1A2 நிர்க்கு சம்மந்தப்பட்டது)

3) சர்வே 44 நிர் ஹெக்டேர் 1.50.0க்கு ஏக்கர் 3 செண்டு 70புராவும் தபசில் சொத்து விபரம் சரி. ஷை சொத்து தற்கால மார்க்கட் மதிப்பு ரூ.48,600/- ஷை சொத்து அப்பையநாயக்கர்பட்டி பஞ்சாயத்து வெம்பக்கோட்டை யூனியன் ஆகும். 3வது ஹெக்டேர் 0.06.0 புராவும்

S. K. Subbu

S. S. S...

சாட்சிகள் :-

1) R. Rame... R. Ramesh F/6 Solaiseri, Sankarankoil T.K. S/o. K. Ramachandra Naidu

2) A. Ayyappan S/o. Ayyappan Sukkiravarpatti ...

ஆவண எண். 1383 / 2010
8

வரைவு செய்தவர்
S/o. ...
...

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1968ம் வருடத்திய முத்திரைக் குறைப்பு தடுப்புச் சட்டத்தின் கீழ் விதி 3(1)ன்படி அறிக்கை

கிராமம் : அப்பையநாயக்கர்பட்டி

வ.எண்	சர்வே எண் விஸ்தீரணம் ஹெக்டேரில்	சொத்தின் தன்மை	மார்க்கட் மதிப்பு
1.	43/1 நிர் ஏக்கர் 2 செண்டு 83ல் வடபுரம் செண்டு 15(ஹெக்டேர் 0.06.0) லை சொத்து தற்கால சப்டிவிசன்படி சர்வே 43/1A சர்வே 43/1B நிர்க்கு சம்மந்தப்பட்டது)	புஞ்சை	ரூ. 1,800
2.	45/1A1 நிர் ஹெக்டேர் 1.24.0க்கு ஏக்கர் 3 செண்டு 06ல் வடபுரம் செண்டு 15 (ஹெக்டேர் 0.06.0) லை சொத்து தற்கால சப்டிவிசன்படி சர்வே 45/1A1 சர்வே 45/1A2 நிர்க்கு சம்மந்தப்பட்டது)	புஞ்சை	ரூ. 1,800
3.	44 நிர் ஹெக்டேர் 1.50.0க்கு ஏக்கர் 3 செண்டு 70	புஞ்சை	ரூ. 45,000
		ஆக மொத்தம்	ரூ. 48,600

S.S. S[illegible]   S.K. [illegible]

16/3/2015

தமிழ்நாடு அரசு

C.No. 1764/10

நில அளவை ஆவணம் - பட்டா

இ.என் 10(1) பிரிவு

வருவாய்த்துறை, விருதுநகர் மாவட்டம்

வட்டம் : சிவகாசி

கிராமம் : அப்பையநாயக்கன்பட்டி

பட்டா எண் 2125

உரிமையாளர்கள் பெயர்

1 ராமச்சந்திரன் மகன் ரமேஷ்

புல எண்ணும்	உட்பிரிவும்	நன்செய் பரப்பு ஹெக்டேர் - ஏர்	நன்செய் தீர்வை ரூ - பை	புன்செய் பரப்பு ஹெக்டேர் - ஏர்	புன்செய் தீர்வை ரூ - பை	மற்றவை பரப்பு ஹெக் - ஏர்	மற்றவை தீர்வை ரூ - பை
204	1	-		- 63.00	1.26	-	
39	1A	-		- 48.00	1.00	-	
43	1A	-		- 6.00	0.15	-	
43	1B	-		1 - 10.00	2.20	-	
44	-	-		1 - 50.00	3.00	-	
45	1A1	-		- 6.50	0.15	-	
45	1A2	-		1 - 17.50	2.35	-	
45	3	-		- 3.00	0.08	-	
46	2	-		- 45.00	0.90	-	
46	3	-		- 45.00	0.94	-	
		-		5 - 94.00	12.03	-	

ஆவண எண் : 2962
ஆண்டு: 2015
பக்க எண்: 9
மொத்த பக்கம்: 10

04/038/2,125.00/1.(16/03/2015 3:05:23P

தலைமையிடத்துத் துணை வட்டாட்சியர்
சிவகாசி

16/3/10

167

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
புவியியல் & சுரங்கத்துறை

India Driving Licence(Tamilnadu)
Form 7
DOI 04/01/1999

D.L.No : TN67 19990000005
Name : SUBBURAJ S
S/D/W of : SHANMUGARAJ S
Address :
112/98, SOUTH STREET
VARAGANOOR
SANKARANKOVIL
Temp.Addr.

D.O.B. : 02/06/1980 B.G. :

Punishments:

End.No. :TN76Z/DLR/00/3321/2012 02/08/2012 12:51:49 PM
Licensed to drive throughout India, vehicles of the following descriptions
M/CYCL. WG 04/01/1999 TN67 LMV 04/01/1999 TN68
HTV 21/08/2007 TN76Z

Non-Transport Veh. Valid upto 03/01/2019
Transport Veh. Valid Upto 11/07/2015
Prev.DL.Exp.Date - Tr. : 11/07/2012
Authorised to Drive Transport Vehicle vide Badge No
08209 Dt.12/07/2006 TN76Z

Signature / T.I. of the Holder

Lic. Licensing Authority
[...] OFFICE, SANKARANKOVIL

[redacted]

ரமேஷ் ராமச்சந்திரன்
Ramesh Ramachandran

பிறந்த நாள்/DOB: 14/04/1976
ஆண் / Male

9947 5712 9420

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

[redacted] of India

ஆதார்

[illegible]

Address: S/O: Ramachandran, 8/68A, NORTH STREET, SOLAICHERY, RETTIYAPATTI POST, Pandappuli, Pandapuli, Tirunelveli, Tamil Nadu, 627753

9947 5712 9420

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

ஆவண எண் : 2962
ஆண்டு: 2015
பக்க எண்: 10
மொத்த பக்கம்: 210

தமிழ்நாடு तमिलनाडु TAMILNADU

698960

ரூ.15000/-

S. சுப்பராஜ்
கண்டம்பட்டி

சு. அழகுசாமி
ஸ்டாம்பு வெண்டர்
உரிமம் எண்: 5730/ஆ1/2010-4
பேயம்பட்டி.
தமிழ்நாடு எண்: 4807
தேதி: 23.9.2015

ஆவண எண் : 2962
ஆண்டு: 2015
பக்க எண்: 1
மொத்த பக்கம்: 10

கிரையம் ரூ.2,40,000/-

மார்க்கட் மதிப்பு ரூ.2,40,570/-

2015ம் வருடம் செப்டம்பர் மாதம் 22ம் தேதிக்கு,
தமிழ் மன்மத வருடம் புரட்டாசி மாதம் 05ம் தேதி

திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் வட்டம் வரகனூர் கிராமம் மஜரா குண்டாம்பட்டி தெற்குத் தெரு கதவு எண்.112/98-ல் வசிக்கும் S.சண்முகராஜ் அவர்கள் குமாரர் S.சுப்புராஜ் (வாகன ஓட்டுநர் உரிமம் எண்.TN/67/19990000005)(Cell No.9344332251)அவர்களுக்கு

S. SUBBURAJ

R. RAMESH

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தமிழ்நாடு तमिलनाडु TAMILNADU AG 354694

சு. அழகர்சாமி
ஸ்டாம்பு வெண்டர்
உரிமம் எண்: 5730/ஆ1/2010-4
பேயம்பட்டி.
தமிழ்நாடு எண்: 4908
தேதி: 22-9-2015

Ramesh,
S. சுப்பராஜ்
திண்டாம்பட்டி

2

திருநெல்வேலி மாவட்டம் சங்கரன்கோவில் வட்டம் பந்தப்புளி கிராமம் மஜரா சோலைசேரி கதவு எண்.6/68A-ல் வசிக்கும் இராமச்சந்திரன் அவர்கள் குமாரர் R.ரமேஷ் (ஆதார் அட்டை எண்.9947 5712 9420)(Cell No.9842133727) ஆகிய நான் எழுதிக் கொடுத்த கிரையப்பத்திரம் என்னவென்றால்,

ஆவண எண் : 2962
ஆண்டு: 2015
பக்க எண்: 2
மொத்த பக்கம்: 10

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भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हज़ार रुपये ONE THOUSAND RUPEES

रु.1000 Rs.1000

INDIA

உதவி இயக்குநர் அலுவலகம் விருதுநகர் மாவட்டம் 02 SEP 2022 விருதுநகர் புவியியல் & சுரங்கத்துறை

தமிழ்நாடு तमिलनाडु TAMILNADU AG 354695

சு. அழகர்சாமி
ஸ்டாம்பு வெண்டர்
உரிமம் எண்: 5730/ஆ1/2010-4
பேயம்பட்டி.
தமிழ்நாடு எண்: A 809
தேதி: 22-9-2015

Rs 1000/
S. சுப்புராஜ்
இ.பேயம்பட்டி

3

இதன் தபசில் கண்ட சொத்தானது எனக்கு கீழராஜகுலராமன் சார்பதிவகம் 1 புத்தகம் 6864/2011 நிர் கிரையப்பத்திரம் மூலமாகவும், ஷை ஆவணத்திற்கு கீழராஜகுலராமன் சப்டி 1 புத்தகம் 2716/2014 நிர் சம்மதிப்பத்திரம் மூலமாகவும் பின் என்பெயரால் பட்டா எண். 2125 நிர் பட்டா மூலம் பட்டா கண்டு நான் தனித்து அனுபவித்து வருகிற இதன் தபசில் கண்ட சொத்தை நான் தங்களுக்கு நாளது தேதியில் கிரையம் செய்து கொடுத்தது ரூ.2,40,000/- இந்த் ரூபாய் இரண்டு இலட்சத்தி நாற்பதாயிரமும்

ஆவண எண்: 2962
ஆண்டு: 2015
பக்க எண்: 3
மொத்த பக்கம்: 10

ஷை சொத்து தற்கால மார்க்கட் மதிப்பு ரூ.2,40,570/-ஆகும். ஷை சொத்து அப்பையநாயக்கன்பட்டி பஞ்சாயத்து வெம்பக்கோட்டை யூனியன் ஆகும்.

சாட்சிகள் :-

1) N. Chama Pattam S/o Srinivasa Reddiar Kundanpatti

2) S. Srinivasan S/o Subba Reddiar Kundampatti

ஆவண எண் : 2962
ஆண்டு 2015
பக்க எண் 5
மொத்த பக்கம் 10

174

1968ம் வருடத்திய முத்திரைக் குறைப்பு தடுப்புச் சட்டத்தின் கீழ் விதி 3(1)ன்படி அறிக்கை

கிராமம் : அப்பையநாயக்கர்பட்டி

வ.எண்	சர்வே எண்	விஸ்தீரணம் ஹெக்டேரில்	சொத்தின் தன்மை	மார்க்கட் மதிப்பு
1	43/1 நிர் ஹெக்டேர் 1.16.0க்கு ஏக்கர் 2 செண்டு 87ல் வடபுரம் செண்டு 15 சப்டிவிசன்படி சர்வே 43/1A	0.06.0	புஞ்சை	ரூ. 8,910
2	45/1A1	0.06.5	புஞ்சை	ரூ. 9,653
3	44	1.50.0	புஞ்சை	ரூ. 2,22,750
ஆக மொத்த (ஹெக்டேர் 1.62.5)விஸ்தீரணம் ஏக்கர் 4				ரூ. 2,40,570

2962
2915
10

173

2962/2015/BK1

KeelaRajakularaman சார்பதிவாளர் அலுவலகத்தில் 22/09/2015 அன்று 2-3 மணிகளுக்கிடையில் தாக்கல் செய்து கட்டணம் ரு 2560 செலுத்தியவர்

1 இடது பெரு விரல்


மேல் விவரம் ஆவண வாசகப்படி

எழுதிக் கொடுத்ததாக ஒப்புக்கொண்டவர்

1 இடது பெரு விரல்


மேல் விவரம் ஆவண வாசகப்படி

எழுதி வாங்கியதாக ஒப்புக் கொண்டவர்

1 இடது பெரு விரல்


மேல் விவரம் ஆவண வாசகப்படி

இன்னாரென் றுருபித்தவர்

1 பெயர் : -

த/பெ

2962
2015
7
10

Sheet no. 1 of 2

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2 பெயர் :-

தமிழ் Subbaiah

2015ம் ஆண்டு செப்டம்பர் திங்கள் 22 ம் நாள்

சார்பதிவாளர் KeelaRajakularaman

உதவி இயக்குநர் அலுவலகம் விருதுநகர் மாவட்டம் 02 SEP விருதுநகர் புவியியல் & சுரங்கத்துறை

1 புத்தகம் 2015 ம் ஆண்டு 2962 ம் எண்ணாக பதிவு செய்யப்பட்டது

நாள் : 22/09/2015 சார்பதிவாளர்
KeelaRajakularaman

ஆவண எண் : 2962
ஆண்டு : 2015
பக்க எண் : 8

Sheet no. 2 of 2

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தமிழ்நாடு அரசு

5/3/2015

பக்கம் நெ. : 1 of 1

நில அளவை ஆவணம் - பட்டா

ட.எ.எண் 10(1) பிரிவு

வருவாய்த்துறை, விருதுநகர் மாவட்டம்

ட்டம் : சிவகாசி

கிராமம் : அப்பையநாயக்கன்பட்டி

ட்டா எண் 2125

உரிமையாளர்கள் பெயர்

1 ராமச்சந்திரன் மகன் ரமேஷ்

புல எண்ணும் உட்பிரிவும்		நன்செய்		புன்செய்		மற்றவை	
		பரப்பு ஹெக்டேர் - ஏர்	தீர்வை ரு - பை	பரப்பு ஹெக்டேர் - ஏர்	தீர்வை ரு - பை	பரப்பு ஹெக் - ஏர்	தீர்வை ரு - பை
204	1	-		- 63.00	1.26	-	
39	1A	-		- 48.00	1.00	-	
43	1A	-		- 6.00	0.15	-	
43	1B	-		1 - 10.00	2.20	-	
14	-	-		1 - 50.00	3.00	-	
15	1A1	-		- 6.50	0.15	-	
15	1A2	-		1 - 17.50	2.35	-	
15	3	-		- 3.00	0.08	-	
6	2	-		- 45.00	0.90	-	
6	3	-		- 45.00	0.94	-	
		-		5 - 24.00	12.03	-	

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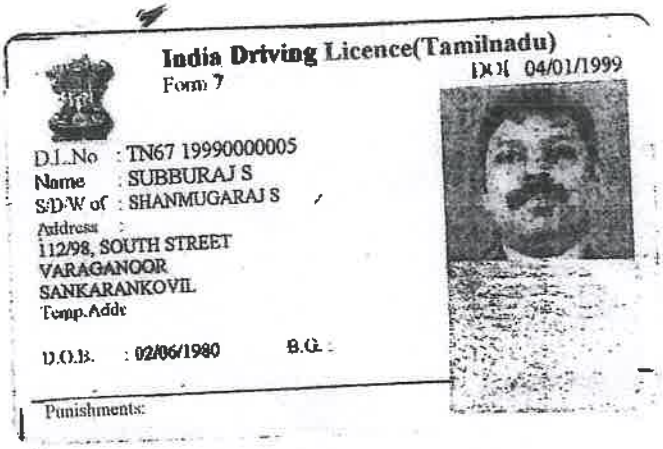
2015

38/2,125.00/1.(16/03/2015 3:05:23P

தலைமையிடத்துத் துணை வட்டாட்சியர்
சிவகாசி



India Driving Licence(Tamilnadu)
Form 7
DOI 04/01/1999

D.L.No : TN67 19990000005
Name : SUBBURAJ S
S/D/W of : SHANMUGARAJ S
Address :
112/98, SOUTH STREET
VARAGANOOR
SANKARANKOVIL
Temp.Addr

D.O.B. : 02/06/1980 B.G. :

Punishments:

End.No. :TN76Z/DLR/000321/2012/12/08/2012 12:37:37 PM

Licensed to drive throughout India, vehicles of the following descriptions:
M/CYCL WG 04/01/1999 LMV 04/01/1999 TN58
HTV 21/08/2007 TN76Z

Non-Transport Veh.Valid upto 03/01/2019
Transport Veh. Valid Upto 11/07/2015
Prev.DL.Exp.Date - Tr. : 11/07/2012
Authorised to Drive Transport Vehicle vide Badge No
08209 Dt.12/07/2006 TN76Z

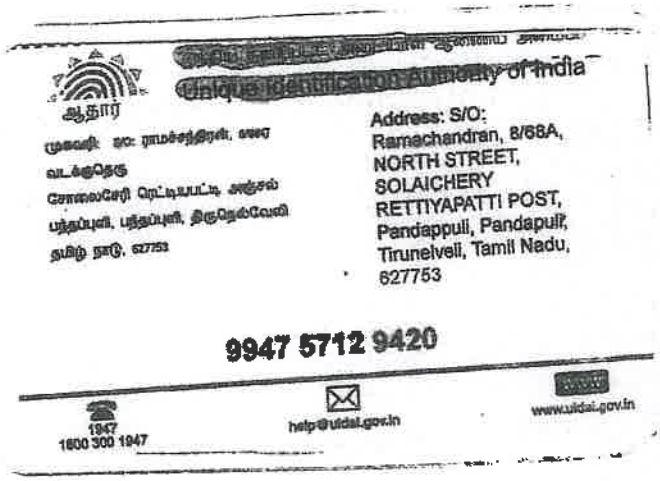
Signature of the Holder

Ramesh Ramachandran

DOB: 14/04/1975
Male

9947 5712 9420

ஆதார் - சாதாரண மனிதனின் அதிகாரம்



Unique Identification Authority of India

ஆதார்

Address: S/O: Ramachandran, 8/68A, NORTH STREET, SOLAICHERY RETTIYAPATTI POST, Pandappuli, Pandapuli, Tirunelveli, Tamil Nadu, 627753

9947 5712 9420

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

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ANNEXURE-XII

அனுப்புநர்:

திரு. ஆ.காளிமுத்து.,எம்.ஏ.,
வருவாய் கோட்டாட்சியர்,
சாத்தூர்.

பெறுநர்:

மாவட்ட ஆட்சியர்,
விருதுநகர்.

மூ.மு. அ2 / 892 /2020, நாள்: 04.03.2020.

ஐயா,

பொருள் : கனிமங்களும் குவாரிகளும் - வெம்பக்கோட்டை வட்டம் - அப்பையநாயக்கன்பட்டி கிராமம் - பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் 5 வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி உரிமம் வழங்கக் கோரி திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர் மனு செய்தது - கருத்துரு அனுப்பக் கோரியது - அறிக்கை அனுப்புதல் - தொடர்பாக.

பார்வை:

1. விருதுநகர் மாவட்ட ஆட்சித்தலைவர் அவர்களின் கடிதம் எண் ந.க கேவி1/523/2019, நாள்: 04.12.2019.

2. வெம்பக்கோட்டை, வருவாய் வட்டாட்சியர் கடித எண். மூ.மு. இ1/4813/2019, நாள்: 29.02.2020.

*****

தென்காசி மாவட்டம், திருவேங்கடம் வட்டம், குண்டம்பட்டி கிராமம், க.எண்.7/112 என்ற முகவரியில் வசித்து வரும் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி வருவாய் கிராமம், பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் 5 வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி உரிமம் வழங்கக் கோரி விண்ணப்பித்துள்ளது தொடர்பாக 03.03.2020 அன்று புலத்தணிக்கை செய்து எனதறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலங்கள் சண்முகராஜ் மகன் சுப்புராஜ் என்பவர் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது.

மேற்படி பிரஸ்தாப இடத்திற்கான நாங்குமால் விபரம்:-

வடக்கு - புல எண். 36/1, 44,
தெற்கு - புல எண். 43/2, 43/5, 45/1B,
மேற்கு - புல எண். 46/1, 46/2,
கிழக்கு-புல எண். 43/4, 37,

பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலங்களுக்கு 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில்

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இருப்பு பாதைகள், வண்டிப்பாதைகள், கோவில்கள், பள்ளி, கல்லூரிகள், பரதானச் சின்னங்கள், மின் கம்பங்கள் மற்றும் வேறு நீர்நிலை ஆதாரங்கள் ஏதும் இல்லை. வேறு விதமான நிரந்தர அமைப்புகள் ஏதுமில்லை.

மேலும் அவ்விடத்திற்கு அருகில் 300 மீட்டர் சுற்றளவில் வேறு எவ்வித குடியிருப்புகளும் இல்லை. மேலும் அவ்விடத்திற்கு 500 மீட்டர் சுற்றளவிற்குள் செயல்படும் மற்றும் முடிவடைந்துள்ள குவாரிகள் குறித்து கூட்டு வரைபடத்தில் குறிப்பிடப்பட்டுள்ளது.

மேலும் மேற்படி கிராம பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் கல்குவாரி அமைவதால் அருகில் உள்ள நீர்நிலைகள் எதற்கும் பாதிப்பு ஏற்பட வாய்ப்பில்லை. அருகில் உள்ள புறம்போக்கு மற்றும் பட்டா நிலங்களுக்கு பாதிப்பில்லை. அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மூலம் "அ1" நோட்டீஸ் விளம்பரம் செய்யப்பட்டதில் பொது மக்களிடமிருந்து ஆட்சேபணை ஏதும் வரப்பெறவில்லை. மேலும் மனுதாரர் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவருக்கு அப்பையநாயக்கன்பட்டி கிராமத்தில் அரசுக்கு செலுத்த வேண்டிய நிலவரி பாக்கி ஏதுமில்லை. மேலும் குவாரி அமையும் புலம் அப்பையநாயக்கன்பட்டி ஊராட்சி மன்றத்திற்கும், வெம்பக்கோட்டை ஊராட்சி ஒன்றியத்திற்கும் உட்பட்டது.

எனவே, அப்பையநாயக்கன்பட்டி வருவாய் கிராமம், பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் அருகில் உள்ள பட்டா நிலங்களுக்கு போதிய பாதுகாப்பு தூரம் விடுத்து 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகளின்படி மேற்படி நிலங்களில் 5 வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி பணி செய்ய திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவருக்கு அனுமதி வழங்கலாம் என்பதைப் பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : தொடர்புடைய ஆவணங்கள்

வருவாய் கோட்டாட்சியர்
சாத்தூர்

174

புலத்தணிக்கைக்குறிப்பு

புலத்தணிக்கை அலுவலர் பெயர் மற்றும் பதவி	திரு. ஆ.காளிமுத்து.,எம்.ஏ., வருவாய் கோட்டாட்சியர் , சாத்தூர்.
தணிக்கை செய்த இடம்	வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி வருவாய் கிராமம்.
புல எண்கள்	பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் நிலங்கள்.
தணிக்கை நாள்	03.03.2020
புலத்தணிக்கையின் நோக்கம்	ஐந்து வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி உரிமம் வழங்கக் கோரியது தொடர்பாக.

*****

தென்காசி மாவட்டம், திருவேங்கடம் வட்டம், குண்டம்பட்டி கிராமம், க.எண்.7/112 என்ற முகவரியில் வசித்து வரும் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி வருவாய் கிராமம், பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் 5 வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி உரிமம் வழங்கக் கோரி விண்ணப்பித்துள்ளது தொடர்பாக 03.03.2020 அன்று புலத்தணிக்கை செய்து எனதறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலங்கள் சண்முகராஜ் மகன் சுப்புராஜ் என்பவர் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது.

மேற்படி பிரஸ்தாப இடத்திற்கான நான்குமால் விபரம்:-

வடக்கு - புல எண். 36/1, 44,
தெற்கு - புல எண். 43/2, 43/5, 45/1B,
மேற்கு - புல எண். 46/1, 46/2,
கிழக்கு-புல எண். 43/4, 37,

பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலங்களுக்கு 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில் இருப்பு பாதைகள், வண்டிப்பாதைகள், கோவில்கள், பள்ளி, கல்லூரிகள், பரதானச் சின்னங்கள், மின் கம்பங்கள் மற்றும் வேறு நீர்நிலை ஆதாரங்கள் ஏதும் இல்லை. வேறு விதமான நிரந்தர அமைப்புகள் ஏதுமில்லை.

1. Mean

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மேலும் அவ்விடத்திற்கு அருகில் 300 மீட்டர் சுற்றளவில் வேறு எவ்வித குடியிருப்புகளும் இல்லை. மேலும் அவ்விடத்திற்கு 500 மீட்டர் சுற்றளவிற்குள் செயல்படும் மற்றும் முடிவடைந்துள்ள குவாரிகள் குறித்து கூட்டு வரைபடத்தில் குறிப்பிடப்பட்டுள்ளது.

மேலும் மேற்படி கிராம பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் கல்குவாரி அமைவதால் அருகில் உள்ள நீர்நிலைகள் எதற்கும் பாதிப்பு ஏற்பட வாய்ப்பில்லை. அருகில் உள்ள புறம்போக்கு மற்றும் பட்டா நிலங்களுக்கு பாதிப்பில்லை. அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மூலம் "அ1" நோட்டீஸ் விளம்பரம் செய்யப்பட்டதில் பொது மக்களிடமிருந்து ஆட்சேபணை ஏதும் வரப்பெறவில்லை. மேலும் மனுதாரர் திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவருக்கு அப்பையநாயக்கன்பட்டி கிராமத்தில் அரசுக்கு செலுத்த வேண்டிய நிலவரி பாக்கி ஏதுமில்லை. மேலும் குவாரி அமையும் புலம் அப்பையநாயக்கன்பட்டி ஊராட்சி மன்றத்திற்கும், வெம்பக்கோட்டை ஊராட்சி ஒன்றியத்திற்கும் உட்பட்டது.

எனவே, அப்பையநாயக்கன்பட்டி வருவாய் கிராமம், பட்டா எண். 2180-ல் புல எண். 43/1A (0.06.0), 43/1B (P) (0.65.0), 45/1A1 (0.06.5), 45/1A2 (P) (0.80.5) மொத்தம் 1.58.0 ஹெக்டேர்ஸ் பரப்பு நிலத்தில் அருகில் உள்ள பட்டா நிலங்களுக்கு போதிய பாதுகாப்பு தூரம் விடுத்து 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகளின்படி மேற்படி நிலங்களில் 5 வருடங்களுக்கு உடைகல், ஜல்லி மற்றும் கிராவல் குவாரி பணி செய்ய திரு.ச.சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவருக்கு அனுமதி வழங்கலாம்.

வருவாய் கோட்டாட்சியர்,
சாத்தூர்.

(8)

அனுப்புநர்

திரு.பெ.விஜயராஜ்,
வருவாய் வட்டாட்சியர்,
வெம்பக்கோட்டை.

08/2/2020
03/03/20

பெறுநர்

மாவட்ட ஆட்சியர்,
விருதுநகர் மாவட்டம்,
விருதுநகர்.

உதவி இயக்குநர் அலுவலகம் விருதுநகர் மாவட்டம் 02 SEP 2022 விருதுநகர் நீர்வளம் நிலவளம் & சுரங்கத்துறை

உரிய வழிமுறையாக

வருவாய் கோட்டாட்சியர்,
சாத்தூர்.

மூ.மு.இ1/4813/2019, நாள்: .02.2020

அய்யா,

பொருள்- கனிமங்களும் குவாரிகளும் - வெம்பக்கோட்டை வட்டம் - அப்பையநாயக்கன்பட்டிகிராமம் - பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் பரப்பு நிலத்தில் 5 வருடங்களுக்கு உடைக்கல், ஜல்லி மற்றும் கிராவல் குவாரி உரிமம் வழங்க கேட்டு ___ திரு.ச.சுப்புராஜ் த/பெ.சண்முகராஜ் என்பவர் மனு செய்தது ___ கருத்துரு அனுப்பக் கோரியது ___ அறிக்கை அனுப்புதல் - தொடர்பாக.

சாத்தூர் கோட்டாட்சியர் அலுவலகம்

பார்வை-

01. விருதுநகர் மாவட்ட ஆட்சியர் அலுவலக கடித எண்.ந.க.கேவி1/523/2019, நாள்:04.12.2019.
02. அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் அறிக்கை நாள்:09.01.2020
03. ஆலங்குளம் குறுவட்ட வருவாய் ஆய்வாளர் அறிக்கை நாள்:09.01.2020.
04. ஆலங்குளம் குறுவட்ட அளவர் (பொ) அறிக்கை நாள்:23.01.2020
05. வெம்பக்கோட்டை மண்டல துணை வட்டாட்சியர் அறிக்கை நாள்:23.01.2020.

தென்காசி மாவட்டம் திருவேங்கடம் வட்டம் குண்டம்பட்டி கிராமம் கதவு 7/112, என்ற முகவரியில் வசிக்கும் திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவர் வெம்பக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி வருவாய் கிராமம் - பட்டா எண் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் ஐந்து வருடங்களுக்கு உடைக்கல், ஜல்லி மற்றும் கிராவல் குவாரி செய்ய உரிமம் வழங்கக் கோரி விண்ணப்பம் செய்துள்ளார். மனுதாரர் கோரிக்கை தொடர்பாக, .01.2020 அன்று புலத்தணிக்கை செய்து எனதறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் பரப்பு நிலங்கள் சண்முகராஜ் மகன் சுப்புராஜ் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது.

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மேற்படி பிரஸ்தாப இடத்திற்கான நான்கு மால்:

வடக்கு ___ புல எண் 36/1, 44

தெற்கு ___ புல எண் 43/2, 43/5, 45/1B

மேற்கு ___ புல எண் 46/1, 46/2

கிழக்கு ___ புல எண் 43/4, 37/-

பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் பரப்பு இடத்தினை புலத்தணிக்கை செய்ததில் 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில் இருப்பு பாதைகள், வண்டிப் பாதைகள், கோவில்கள், பள்ளி, கல்லூரிகள், புராதான சின்னங்கள், மின் கம்பங்கள் மற்றும் வேறு நீர்நிலை ஆதாரங்கள் ஏதும் இல்லை. வேறு விதமான நிரந்தர அமைப்புகள் ஏதுமில்லை.

மேலும் அவ்விடத்திற்கு அருகில் 300 மீட்டர் சுற்றளவில் வேறு எவ்வித குடியிருப்புகளும் இல்லை. மேலும் அவ்விடத்திற்கு 500 மீட்டர் சுற்றளவிற்குள் செயல்படும் மற்றும் முடிவடைந்துள்ள குவாரிகள் குறித்து கூட்டு வரைபடத்தில் குறிப்பிடப்பட்டுள்ளது.

மேலும் மேற்படி புலஎண்கள் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் கல்குவாரி அமைவதால் அருகில் உள்ள நீர்நிலைகள் எதற்கும் பாதிப்பு ஏற்பட வாய்ப்பில்லை. அருகில் உள்ள புறம்போக்கு மற்றும் பட்டா நிலங்களுக்கு பாதிப்பில்லை. அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மூலம் "அ1" நோட்டீஸ் விளம்பரம் செய்யப்பட்டதில் பொதுமக்களிடமிருந்து ஆட்சேபணை ஏதும் வரப்பெறவில்லை. மேலும் மனுதாரர் திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவருக்கு அப்பையநாயக்கன்பட்டி கிராமத்தில் அரசுக்கு செலுத்த வேண்டிய நிலவரி பாக்கி ஏதுமில்லை. மேலும் குவாரி அமையும் புலம் அப்பையநாயக்கன்பட்டிஊராட்சி மன்றத்திற்கும் வெம்பக்கோட்டை ஊராட்சி ஒன்றியத்திற்கும் உட்பட்டது.

எனவே, வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டிவருவாய் கிராமம் மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் ஐந்து வருடங்களுக்கு உடைக்கல் மற்றும் கிராவல் குவாரி செய்ய திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவருக்கு அனுமதி வழங்கலாம் என பரிந்துரை செய்கிறேன் என்பதைப் பணிவுடன் தெரிவித்துக் கொள்கிறேன்.

இணைப்பு- தொடர்புடைய ஆவணங்கள்

வட்டாட்சியர்,
வெம்பக்கோட்டை.

28.2.23

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விருதுநகர் மாவட்டம் வெம்பக்கோட்டை வருவாய் வட்டாட்சியரின் புலத்தணிக்கை அறிக்கை

1.	குத்தகை உரிமம் கேரிய விண்ணப்பம் பெறப்பட்ட தேதி			:	18.11.2019.		
2.	அ) புலத்தணிக்கை செய்த நாள்			:	.2020		
	ஆ) புலத்தணிக்கையின் போது உடனிருந்த அலுவலர்கள் பற்றிய விவரம்			:	அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மற்றும் ஆலங்குளம் வருவாய் ஆய்வாளர், வெம்பக்கோட்டை மண்டல துணை வட்டாட்சியர்.		
3.	குத்தகை உரிமம் கோரும் விண்ணப்பதாரரின் பெயர் மற்றும் முகவரி			:	திரு.சுப்புராஜ், த/பெ.சண்முகராஜ், 7/112, குண்டம்பட்டி, திருவேங்கடம் வட்டம், தென்காசி மாவட்டம்.		
4.	குத்தகை உரிமம் கோரும் கனிமங்களின் பெயர்			:	உடைகல், ஜல்லி மற்றும் கிராவல்.		
5.	குத்தகை உரிமம் கோரும் கால அளவு			:	5 (ஐந்து ஆண்டுகள்)		
6.	குத்தகை உரிமம் கோரும் இடம் அமைந்துள்ளது பற்றிய விவரம்			:			
வ.எண்	வட்டம்	கிராமம்	புல எண்கள்	மொத்த பரப்பு (ஹெக்)	குத்தகை உரிமம் கோரும் பரப்பு (ஹெக்)	வகைப்பாடு	
1	வெம்பக்கோட்டை	அப்பையநாயக்கன்பட்டி.	43/1A 43/1B(P) 45/1A1, 45/1A2(P)	1.58.0	1.58.0	பட்டா நிலம்	
			மொத்தம்	1.58.0	1.58.0		
7.	அ) குத்தகை உரிமம் கோரும் புல எண்கள், விண்ணப்பதாரரின் பெயரில் பட்டா நிலங்களாக இருப்பின் அது பற்றிய விவரம்			:	பட்டா எண் 2180 சண்முகராஜ் மகன் சுப்புராஜ் என்பவர் பெயரில் உள்ளது.		
	ஆ) பட்டாதாரரிடமிருந்து குத்தகை ஒப்பந்தம் பெறப்பட்டிருப்பின் அதுபற்றிய விவரம்			:	சொந்த பட்டா நிலம்		
	இ) குத்தகை கோரும் புல எண்கள் தாழ்த்தப்பட்டோர் / பழங்குடியினருக்கு ஒதுக்கீட்டின் அடிப்படையில் பட்டா வழங்கப்பட்டிருப்பின் அதுபற்றிய விவரம்			:	இல்லை.		

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8.	குத்தகை உரிமம் கோரும் புல எண்களின் நான்கு எல்லைகள்	:	<table><tr><td>புல எண்</td><td>வடக்கு</td><td>தெற்கு</td><td>கிழக்கு</td><td>மேற்கு</td></tr><tr><td>43/1A 43/1B(P) 45/1A1, 45/1A2(P)</td><td>36/1, 44</td><td>43/2, 43/5, 45/1B</td><td>46/1 46/2</td><td>43/4 37/-</td></tr></table>
9.	குத்தகை உரிமம் கோரும் புல எண்களுக்கு ஏற்கனவே குத்தகை உரிமம் வழங்கப்பட்டிருப்பின் அது பற்றிய விவரம்.	:	குத்தகை உரிமம் வழங்கப்பட்டு செயல்பட்டு வந்த குவாரி ஆகும்
10.	குத்தகை உரிமம் கோரும் புல எண்களுக்கு அருகில் பாதுகாப்பு இடைவெளிக்குள் அமைந்துள்ள நிரந்தர அமைப்புகள் ஒதுக்கப்பட வேண்டிய பாதுகாப்பு இடைவெளி பற்றிய விவரம்	:	நிரந்தர அமைப்புகள் இல்லை.
11.	அ)குத்தகை உரிமம் கோரும் புல எண்களிலிருந்து 300 மீட்டர் சுற்றளவுக்குள் குடியிருப்பு பகுதிகள்/ அங்கீகரிக்கப்பட்ட வீட்டுமனைப்பிரிவுகள் மற்றும் புராதனச் சின்னங்கள் அமைந்துள்ள விவரம்	:	300 மீட்டர் சுற்றளவுக்குள் குடியிருப்பு பகுதிகள் / அங்கீகரிக்கப்பட்ட வீட்டுமனைப் பிரிவுகள் மற்றும் புராதனச்சின்னங்கள் ஏதும் இல்லை.
	ஆ) குத்தகை உரிமம் கோரும் பகுதிக்கு பாதை வசதி உள்ளத பற்றிய விவரம்	:	பாதை வசதி உள்ளது.
12	குத்தகை உரிமம் கோரும் புல எண்கள் அமைந்துள்ள கிராமம், மலையிடை பாதுகாப்பு குழுமத்தின் கீழ்வருவது மற்றும் தடையில்லா சான்று பெற வேண்டியது பற்றிய விவரம்	:	-இல்லை-
13.	குத்தகை உரிமம் கோரும் பகுதி வனவிலங்கு சரணாலயத்திலிருந்து அமைந்துள்ள தூரம், பெறப்பட வேண்டிய தடையில்லா சான்று பற்றிய விவரம்.	:	-இல்லை-
14.	குத்தகை கோரும் புலஎண்களில் தகுந்த அனுமதியின்றி ஏற்கனவே கனிமங்கள் எடுக்கப்பட்டு அபராதம் விதிக்கப்பட்டிருப்பின் அது பற்றிய விவரம்.	:	-இல்லை-
15.	அ) குத்தகை உரிமம் கோரும் புலங்களின் பேரில் நிலம் கையகப்படுத்தும் நடவடிக்கைகள் இருப்பின் அது பற்றிய விவரம்.	:	-இல்லை-
	ஆ) குத்தகை உரிமம் கோரும் புல எண்களின் பேரில் நீதிமன்றத்தில் வழக்குகள் இருப்பின் அதுபற்றிய	:	-இல்லை-

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	விவரம்.		
16.	கிராம நிர்வாக அலுவலரின் வாக்குமூலம் பெறப்பட்டுள்ளதா?	:	கிராம நிர்வாக அலுவலர் வாக்குமூலம் அளித்துள்ளார்.
17.	குத்தகை உரிமம் வழங்குவது தொடர்பாக "அ1" நோட்டீஸ் விளம்பரம் செய்யப்பட்டு பொது மக்களிடமிருந்து ஆட்சேபனை ஏதும் பெறப்பட்டுள்ளதா?	:	"அ1" நோட்டீஸ் விளம்பரம் 09.01.2020 அன்று பிரசுரம் செய்யப்பட்டு ஆட்சேபனைகள் ஏதும் பெறப்படவில்லை.
18.	குத்தகை உரிமம் கோரும் புல எண்களின் பேரில் வருவாய்துறை பரிந்துரை செய்கின்றதா?	:	ஆம்

19) குத்தகை உரிமம் கோரும் விண்ணப்பத்தின் பேரில் வெம்பக்கோட்டை வருவாய் வட்டாட்சியரின் அறிக்கையும் பரிந்துரையும்.

திரு.ச.சுப்புராஜ் த/பெசண்முகராஜ் என்பவர் விண்ணப்பித்துள்ள புல எண்கள் பட்டா நிலங்கள் என்ற அடிப்படையிலும் அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மற்றும் ஆலங்குளம் குறுவட்ட வருவாய் ஆய்வாளர் மற்றும் வெம்பக்கோட்டை மண்டல துணை வட்டாட்சியர் ஆகியோர் மனுதாரர் நிறுவனத்திற்கு குத்தகை உரிமம் வழங்க பரிந்துரை செய்துள்ளதன் அடிப்படையிலும் மனுதாரர் நிறுவனத்தாருக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959, விதி 19 மற்றும் 20-ன் கீழ் கீழ்கண்ட நிபந்தனைகளுக்கு உட்பட்டு ஐந்தாண்டுகளுக்கு குத்தகை உரிமம் வழங்கலாம்.

1) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5மீ பாதுகாப்பு இடைவெளி விட வேண்டும்.
2) EB Line மற்றும் கிணற்றுக்கு 50மீ பாதுகாப்பு இடைவெளி விட வேண்டும்.
3) புல எண்களுக்கு அருகில் உள்ள குவாரிகளுக்கு போதிய பாதுகாப்பு தூரம் விட வேண்டும்.
4) குவாரி கழிவுகளை குத்தகை உரிமம் வழங்கப்படும் பகுதிக்கு உள்ளேயே இருப்பு வைக்க வேண்டும்.
5) வெடிமருந்தினை விதிகளின் படி பாதிப்பு ஏற்படா வண்ணம் பயன்படுத்த வேண்டும்.
6) சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தடையில்லாச் சான்று குத்தகை உரிமம் வழங்குவதற்கு முன் சமர்ப்பிக்க வேண்டும்.

27/1/2020

வருவாய் வட்டாட்சியர்
வெம்பக்கோட்டை

வெம்பக்கோட்டை வருவாய் வட்டாட்சியர் அவர்களுக்கு மண்டல துணை வட்டாட்சியரின் அறிக்கை பணிந்தனுப்பப்படுகிறது.

தென்காசி மாவட்டம் திருவேங்கடம் வட்டம் குண்டம்பட்டி கிராமம் கதவு எண் 7/112, என்ற முகவரியில் வசிக்கும் திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவர் வெம்பக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி வருவாய் கிராமம் - பட்டா எண் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் ஐந்து வருடங்களுக்கு உடைக்கல், ஜல்லி மற்றும் கிராவல் குவாரி செய்ய உரிமம் வழங்கக் கோரி விண்ணப்பம் செய்துள்ளார். மனுதாரர் கோரிக்கை தொடர்பாக, 23.01.2020 அன்று புலத்தணிக்கை செய்து எனதறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் பரப்பு நிலங்கள் சண்முகராஜ் மகன் சுப்புராஜ் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது.

மேற்படி பிரஸ்தாப இடத்திற்கான நான்கு மால்:

வடக்கு — புல எண் 36/1, 44

தெற்கு — புல எண் 43/2, 43/5, 45/1B

மேற்கு — புல எண் 46/1, 46/2

கிழக்கு — புல எண் 43/4, 37/-

பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் பரப்பு இடத்தினை புலத்தணிக்கை செய்ததில் 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில் இருப்பு பாதைகள், வண்டிப் பாதைகள், கோவில்கள், பள்ளி, கல்லூரிகள், புராதான சின்னங்கள், மின் கம்பங்கள் மற்றும் வேறு நீர்நிலை ஆதாரங்கள் ஏதும் இல்லை. வேறு விதமான நிரந்தர அமைப்புகள் ஏதுமில்லை.

மேலும் அவ்விடத்திற்கு அருகில் 300 மீட்டர் சுற்றளவில் வேறு எவ்வித குடியிருப்புகளும் இல்லை. மேலும் அவ்விடத்திற்கு 500 மீட்டர் சுற்றளவிற்குள் செயல்படும் மற்றும் முடிவடைந்துள்ள குவாரிகள் குறித்து கூட்டு வரைபடத்தில் குறிப்பிடப்பட்டுள்ளது.

மேலும் மேற்படி புலஎண்கள் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் கல்குவாரி அமைவதால் அருகில் உள்ள நீர்நிலைகள் எதற்கும் பாதிப்பு ஏற்பட வாய்ப்பில்லை. அருகில் உள்ள புறம்போக்கு மற்றும் பட்டா நிலங்களுக்கு பாதிப்பில்லை. அப்பையநாயக்கன்பட்டி கிராம நிர்வாக அலுவலர் மூலம் "அ1" நோட்டீஸ் விளம்பரம் செய்யப்பட்டதில் பொதுமக்களிடமிருந்து ஆட்சேபணை ஏதும் வரப்பெறவில்லை. மேலும் மனுதாரர் திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவருக்கு அப்பையநாயக்கன்பட்டி கிராமத்தில் அரசுக்கு செலுத்த வேண்டிய நிலவரி பாக்கி ஏதுமில்லை. மேலும் குவாரி

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அமையும் புலம் அப்பையநாயக்கன்பட்டி ஊராட்சி மன்றத்திற்கும் வெம்பக்கோட்டை ஊராட்சி ஒன்றியத்திற்கும் உட்பட்டது.

எனவே, வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டிவருவாய் கிராமம் மனுதாரர் குவாரி செய்ய உரிமம் வழங்கக் கோரும் இடம் பட்டா எண் 2180ல் புல எண் 43/1A(0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்த பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் ஐந்து வருடங்களுக்கு உடைக்கல் மற்றும் கிராவல் குவாரி செய்ய திரு.ச.சுப்புராஜ், த/பெ.சண்முகராஜ் என்பவருக்கு அனுமதி வழங்கலாம் என பரிந்துரை செய்கிறேன் என்பதைப் பணிவுடன் தெரிவித்துக் கொள்கிறேன்.

இணைப்பு- தொடர்புடைய ஆவணங்கள்

மண்டல துணை வட்டாட்சியர்,
வெம்பக்கோட்டை.

வட்டாட்சியர் அலுவலகம்
10 JAN 2020
வெம்பக்கோட்டை

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

வெம்பக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி
கிராம நிர்வாக அலுவலர் அறிக்கை
பணிந்து அனுப்பப்படுகிறது.

விருதுநகர் மாவட்டம்

வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம் பட்டா எண் 2180ல், புல எண் 43/1A (0.06.0), 43/1B(P) (0.65.0), 45/1A1 (0.06.5), 45/1A2(P) (0.80.5) மொத்தப் பரப்பு 1.58.0 ஹெக் நிலத்தில் 5 வருடங்களுக்கு) உடைகல் மற்றும் கிராவல் குவாரி உரிமம் வழங்கக்கோரி திரு. அப்புராஜ் த/பெ. சண்முகராஜ் என்பவர் விருதுநகர் மாவட்ட ஆட்சியரின் கடிதம் எண் ந.க.கே.வி.1/523/2019 நாள் 04.12.2019 அன்று மனு செய்துள்ளது தொடர்பாக எனது அறிக்கையினை கீழ்கண்டவாறு சமர்பிக்கிறேன்.

வெம்பக்கோட்டை வட்டம்

அப்பையநாயக்கன்பட்டி கிராமம் பட்டா எண் 2180ல் புல எண்கள் 43/1A (0.06.0), 43/1B (1.10.0) 45/1A1 (0.06.5), 45/1A2 (1.17.5) மொத்தம் 2.40.0 உள்ள நிலத்தின் சர்வே எண் 43/1B மற்றும் 45/1A2 உள்ள நிலத்தின் ஊடே மின்சார வழித்தடம் செல்வதும் காரணத்தினால் அந்த இடத்தின் பரப்பைக் கழித்தது போக அதாவது 45/1A2(P) 0.80.5 மற்றும் 43/1B(P) (0.65.0) மற்றும் 43/1A (0.06.0), 45/1A (0.06.5) மொத்தம் 1.58.0 ஹெக் நிலத்தில் செயல்படும் இடம் குவாரிக்கு)

5 வருடங்களுக்கு உடைகல் மற்றும் கிராவல் உரிமம் வழங்கியுள்ளது திருநெல்வேலி மாவட்டம், திருவேங்கடம் வட்டம் கா.எண்: 7/112 என்ற முகவரியை சேர்ந்த சுப்புராஜ் த/பெ சண்முகராஜ் என்பவர் மனு செய்துள்ளார் போல் புலத்தணிக்கை செய்த போது 50 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதும் இல்லை. 500 மீட்டர் சுற்றளவில் செயல்படும் குவாரிகள் உள்ளன. முறையற்ற குவாரிகள் ஏதும் இல்லை. மேலும் 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில் இருப்பு பாதைகள், வண்டிப்பாதை, கோவில்கள், புராதன சின்னங்கள், மின்கம்பிகள், நீர்நிலை ஆதாரங்கள், வேறு நிரந்தர அமைப்புகள் ஏதும் இல்லை என்பது தெரிய வருகிறது. மேலும் இந்த உடைகல் மற்றும் கிராவல் குவாரி செயல்படுவதன் மூலம் பொதுமக்களிடம் எந்த வித ஆட்சேபணையும் இல்லை. மேலும் மேற்படி உடைகல் மற்றும் கிராவல் குவாரி செயல்படுவதன் மூலம் அருகிலுள்ள நிலங்களுக்கு பாதிப்பு ஏதும் இல்லை மற்றும் அருகிலுள்ள பட்டா நிலங்களுக்கும் பாதிப்பு இல்லை என்பது தெரிய வருகிறது.

எனவே மேற்படி குவாரி செயல்படுவதால் மூலம் எந்தவித பாதிப்பும் இல்லை என்பது புலத்தணிக்கையிலும், விசாரணையிலும் தெரிய வருவதால் மனுதாரர் கோரும் 5 வருடங்களுக்கு உடைகல் மற்றும் கிராவல் உரிமம் வழங்க பரிந்துரை செய்யப்படுகிறது.

/உண்மை நகல்/

09/01/2020

VILLAGE ADMINISTRATIVE OFFICER

ஆலங்குளம் வட்டம் அருள் வாணன் என்பது

அ. கோபாலாய கீழ்கண்டவாறு

விருதுநகர் மாவட்டம் அருப்புக்கோட்டை

வட்டம் அப்பையநாயக்கன்பட்டி கிராமம்

பட்டா எண் 2180-ல், புல எண் 43/1A (0.06.0), 43/1B (P) (0.65.0) 45/1A1 (0.06.5), ~~45/102~~ 45/102 (P) (0.80.5) மொத்தம் பரப்பு 1.58.0 ஹெக்டேர் நிலத்தில் 5 வருடங்களுக்கு உடைகல் மற்றும் கிராவல் கல் உடைக்க அனுமதி கோரி திரு. ஆப்ரகாம் என்பவர் விண்ணப்பம் மாவட்ட ஆட்சியர் அவர்கள் எண் ந.க. 1/523/2019 நாள் 4.12.19 அன்று ஒரு மனு தாக்கல் செய்து அதற்கு அளிக்கப்பட்ட கீழ்க்கண்ட தகவல் தெரிவிக்கிறேன்.

அருப்புக்கோட்டை வட்டம் அப்பையநாயக்கன்பட்டி கிராமம் பட்டா எண் 2180-ல் புல எண்கள் 43/1A (0.06.0) 43/1B (1.10.0) 45/1A1 ~~(0.06.5~~ (0.06.5) 45/1A2 (1.17.5) மொத்தம் 2.40.0 உள்ள நிலத்தில் சர்வே எண் 43/1B மற்றும் 45/1A2 நிலத்தில் ~~சர்வே எண் 43/1B~~ நிலத்தில் உள்ள நிலத்தில் விவசாயம் செய்து வருகிறேன். ~~விவசாயம்~~ காணிக்கையாக ஆக்கிரமித்த பரப்பை கழித்து போக அதாவது 45/1A3 (P) 0.80.5 மற்றும் 43/1B(P) (0.65.0) மற்றும் 43/1A (0.06.0) 45/1A (0.06.5) மொத்தம் 1.58.0 ஹெக்டேர் நிலத்தில் குவாரி வர வேண்டி

5 வட்டங்களுக்கு உண்டான மொத்தம் உட்பட

வழங்கப்படுகிறது [illegible] மாவட்டம், [illegible]

வட்டம் க.ச. எண் 7/112 [illegible]

[illegible]

[illegible] 50 [illegible]

[illegible] 500 [illegible]

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[illegible] 50 [illegible]

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[illegible]

நான்கெல்லை விபரம்

க.ச. எண் 43/21, 43/5, 45/1B - க்கு வடக்கு

க.ச. எண் 36/1, 44 - க்கு மேற்கு

க.ச. எண் 46/1, 46/2 கிழக்கு

க.ச. எண் 43/4, 37 தெற்கு

[signature] 19/2

09.1.2020

பணிந்தனுப்பப்படுகிறது:-

ந.க.எ. 01/4813/2019

உதவி இயக்குநர் அலுவலகம், புவியியல் & சுரங்கத்துறை, விருதுநகர் மாவட்டம்

12 SEP

திருநெல்வேலி மாவட்டம், திருவேங்கடம் வட்டம், குண்டம்பட்டி கிராமம், கதவு எண்: 7/112 என்ற முகவரியைச் சேர்ந்த திரு ச. சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர், வெம்பக்கோட்டை வட்டம், அப்பையநாயக்கன்பட்டி கிராமம் பட்டா எண்: 2180, புல எண்கள் 43/1A, 43/1B, 45/1A1, 45/1A2 -ல் 5 ஹெக்டேருக்கு உடைகல் மற்றும் கிராவல் வெட்டி எடுக்க உரிமம் வழங்கக்கோரி விண்ணப்பித்துள்ளார்.

மேற்படி புலங்களை புலத்தணிக்கை

மேற்காணும் இடத்தில் 50 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதும் இல்லை மற்றும் 500 மீட்டர் சுற்றளவில் செயல்படும் குவாரிகள் உள்ளன. மேலும் 50 மீட்டர் சுற்றளவில் சாலைகள், இரயில் இருப்புப் பாதைகள், கோவில்கள், மயானச்சின்னங்கள், மின்கம்பிகள், நீர்நிலை ஆதாரங்கள், வேறு நிரந்தர அமைப்புகள் ஏதும் காணப்படவில்லை என்பதையும் பார்வையுடன் தெரிவித்து கோப்பு மேல்நடவடிக்கைக்காக பணிந்து சமர்ப்பிக்கப்படுகிறது.

23/01/2020

குறுவட்ட அளவர் (பொ)
ஆலங்குளம்

A1 நோட்டீஸ்

அரசு புறம்போக்கு / பட்டா நிலத்தில் கனிம உரிமம் (கல், மண், கிராவல், கருங்கல் கல், கிரானைட்) செய்து கொள்ளும் விண்ணப்பம் குறித்து ஆட்சேபனை இல்லை என்பதற்கான அறிக்கை.

உதவி இயக்குநர் அலுவலகம் விருதுநகர் மாவட்டம் 02 SEP 2022 புவியியல் மற்றும் சுரங்கத்துறை

இதனால் அறிவிக்கப்படுவது என்னவென்றால் திருத்தங்கல்

கிராமத்தில் வசித்து வரும் சண்முகராஜ் மகன் / ~~மனைவி~~ சப்புராஜ்

என்பவர்

சர்வே எண் 43/2, 43/5, 45/13 க்கு வடக்கிலும்

சர்வே எண் 36/1, 44 க்கு தெற்கிலும்

சர்வே எண் 46/1, 46/2 க்கு கிழக்கிலும்

சர்வே எண் 43/4, 37/- க்கு மேற்கிலும்

சர்வே எண் 43/10, 10(P), 45/10(1), 45/10(2)(P) விஸ்தீரணம் 1.58.0 ஹெக்டேர் நிலத்தில்

கிராவல் பணி செய்வது தொடர்பாக ஆட்சேபனையுடைய நபர்கள் அதன் விபத்தை இந்த அறிக்கை பிரசித்தம் செய்யப்படும் தேதியிலிருந்து பதினைந்து தினங்கள் கொண்ட கால அளவிற்குள் மேற்படி கிராமத்தின் கிராம நிர்வாக அலுவலர் மற்றும் வட்டாட்சியரிடம் தெரிவிக்க வேண்டும்.

(1) [handwritten signatures/names]

A. Davidraj S/o Amalraj

09/01/2020
கிராம நிர்வாக அதிகாரி
VILLAGE ADMINISTRATIVE OFFICER

மேற்படி அறிக்கையானது 20.12.2019 தேதியில் தண்டோரா மூலமாகவும், கிராமச் சாவடி மற்றும் முக்கிய இடங்களிலும் பிரசித்தம் செய்யப்பட்டு கையொப்பம் பெறப்பட்டுள்ளது.

[handwritten signatures] S/o ...

என் முன்பாக
09/01/2020

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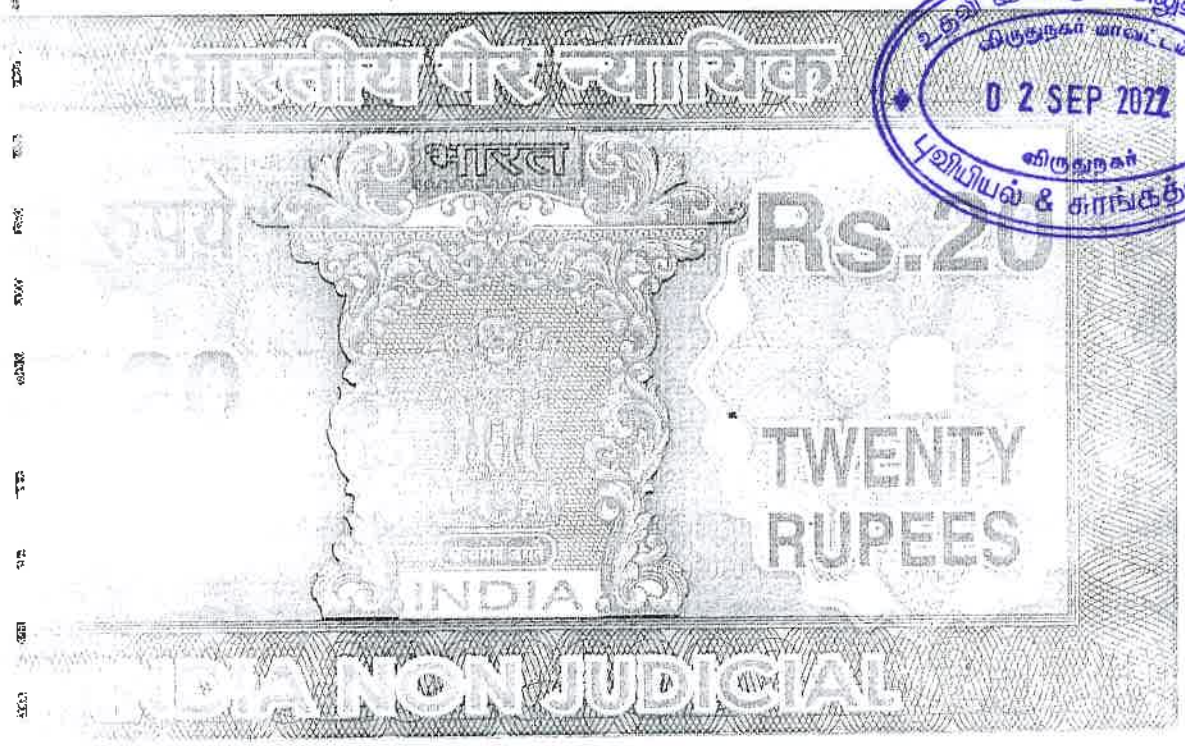
ANNEXURE-XIII



சண்முகராஜ்
திருநெல்வேலி.

19.10.2013

AFFIDAVIT - INCOME TAX CLEARANCE

I S.Subburaj S/o. Shunmugaraj aged 38 residing at 7/1123, Kundampatti village, Sevalpatti Post-626140, Thiruvengadam Taluk, Tirunelveli District do hereby solemnly affirm and state as follows :-

I am an Income Tax Assessee under Income Tax Act. 1961 and my Permanent Account Number is : BTAPS4718M. I have filed the income tax returns up to date and there is no Income Tax dues pending against me.

This affidavit is filed in lieu of Income Tax Clearance Certificate.

DEPONENT.

R.BABURAJ M.A.B.L.,
Advocate & Notary Public
42-D, Police Station Road,
Opp. Town Police Station,
SIVAKASI.

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भारतीय गैर न्यायिक

भारत

Rs.20

20

TWENTY RUPEES

INDIA

INDIA NON JUDICIAL

TAMIL NADU

69AB 494205

உதவி இயக்குநர் அலுவலகம் விருதுநகர் மாவட்டம்
0 2 SEP 2022
விருதுநகர் புவியியல் & சுரங்கத்துறை

கா. கார்த்திகேயன்
முத்திரைத்தாள் விற்பனையாளர்
கழுகுமலை - 628 552
உரிம எண் 2/2015

சுப்புராஜ்,
ஜெண்டப்பட்டி

19.10.2019.

AFFIDAVIT for MINING DUES CLEARANCE

I S.Subburaj S/o. Shunmugaraj aged 38 residing at 7/1123, Kundampatti village, Sevalpatti Post-626140, Thiruvengadam Taluk, Tirunelveli District do hereby solemnly affirm and state as follows :-

I hold one quarry lease for Rough Stone & Gravel in my name over an extent of 2.20.5 hectares in SF.Nos. 44 and 46/1 of Appaiyanaickenpatti village, Vembakottai Taluk vide Virudhunagar District Collectors' Proceedings No.KV1/7441/2017 dated 01.02.2019 valid for the period from 25.02.2019 to 24.02.2024 and there is no other quarries / Mining leases at present in any Districts of the Tamil Nadu and I have paid the seignorage and other fees time to time and do not have any arrears towards Royalty and Seigniorage fee to be paid by me to the Government of Tamil Nadu.

DEPONENT,

19/11/2019

R.BABURAJ M.A.,B.L.,
Advocate & Notary Public
42-D. Police Station Road,
Opp. Town Police Station,
SIVAKASI.

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19.10.2019

AFFIDAVIT - QUARRY LEASE PARTICULARS

I S.Subburaj S/o. Shunmugaraj aged 38 residing at 7/1123, Kundampatti village, Sevalpatti Post-626140, Thiruvengadam Taluk, Tirunelveli District do hereby solemnly affirm and state as follows :-

1. I hold one quarry lease for Rough Stone & Gravel in my name over an extent of 2.20.5 hectares in SF.Nos. 44 and 46/1 of Appaiyanaickenpatti village, Vembakottai Taluk vide Virudhunagar District Collectors' Proceedings No. KV1/7441/2017 dated 01.02.2019 valid for the period from 25.02.2019 to 24.02.2024
2. I am applying for one quarry lease for Rough Stone & Gravel over an extent of 1.58.0 hectares in SF.Nos.43/1A&1B and 45/1A1&1A2 of Appaiyanaickenpatti village, Vembakottai Taluk, Virudhunagar District.
3. I am not applying simultaneously for any other quarry lease.

There are no other quarry lease in any Districts of the States of Tamil Nadu.

DEPONENT.

R.BABURAJ M.A.B.L.,
Advocate & Notary Public
42-D, Police Station Road,
Opp. Town Police Station,
SIVAKASI.

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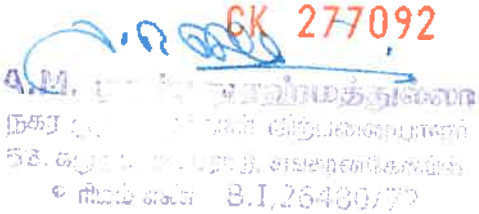
ANNEXURE XIV

தமிழ்நாடு तमिलनाडु TAMILNADU

CK 277092

18099
14.6.2022
100/-



DEED OF AGREEMENT

This Agreement is entered into at **SANKARANKOVIL** on this **14 JUNE 2022** between **THIRU.S.SUBBURAJ, S/O SHANMUGARAJ, 7/112 KUNDAMPATTI VILLAGE, THIRUVENGADAM TALUK, TENKASI DISTRICT** herein after referred to as party of the FIRST PART, and **SRIBALAN EXPLOSIVES, RAMBALAN EXPLOSIVES** having office at **NO 7, GOMATHI NAGAR, SANKARANKOVIL – 627756, TENKASI DISTRICT** herein after referred to as party of the Second part.

First Party:

Second Party:

P. ALLIRAJA B.A.,B.L.,
ADVOCATE & NOTARY
69, Katchery Road.

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The party of the first part is operating quarry work in the area KUNDAMPATTI Village, **THIRUVENGADAM Taluk, TENKASI District**. over and extent of survey number **43/1A(0.06.00),43/1B(P)(0.65.00),45/1A1(0.06.50),45/1A2(P)(0.80.50)**hectares in.**1.58.00** as per Tamilnadu Govt's Collector Order No. **KV1/11925/2015 Dated on 17.10.2015.**

Whereas the party of the First Part wants blasting to be done at quarry to excavate the blue metal stone. The blasting work is so intensive and large that the part of the first part has decided to entrust the work involved to the party of the second part on contract basis is as follows.

The party of the First part will allot the blasting operations in the above said areas to the party of the Second part who is responsible for blasting rocks and making his own arrangement for the explosives and exploding equipment's required for the work. The entire blasting in the above quarry and the possession of the blasting equipment will be handled by the party of the second part having valid explosives License No.**E63073, E83537** and Shot Firer licenses issued by the Joint Chief Controller of Explosives, South Circle, Chennai and he hereby undertake the responsibility for the work entrusted.

Payments will be made periodically by the party of the first part for the quantity used, explosives consumed, and hours and time of the exploding equipment's put into use. Calculations will be made, and settlement will be arrived every month. The rates for the items of work will as mutually agreed as marginal cost which includes cost of explosives, transportation cost and other charges for blasting work. This agreement is made for all blasting in the said area.

First Party:

Second Party:

The Agreement is valid from the date of execution and validity of quarrying leases granted by the State Government to the party of the First part. The agreement is terminable earlier by mutual consent with a month's notice. The agreement will expire with the expiry of quarry lease.

First Party: 1. [signature]

Second Party: P. Ramadass

Witnesses:

1. S. Shanmuga Sathya Seelan, Gandhi Nagar Keela 4th Street

2. A. Andrews, No:165, Paraimeducolony, cholapuram

21.6.22

Place: SANKARANKOVIL

Date:14-06-2022

P. ALLIRAJA B.A.,B.L..
ADVOCATE & NOTARY
69, Katchery Road.
SANKARANKOVIL - 627 756

1. [signature]

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உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
0 2 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

Licence Endorsed under Rule 107(3) of Explosives Rules,2008
By Shri Dr Ashok Kumar Yadav, Joint Chief Controller of Explosives, Chennai on 27/08/2016

अनुज्ञप्ति प्ररूप एल. ई.-3 : LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (ङ) देखिए)
(See article 3(a) to (e) of Part 1 of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक मैगज़ीन पर वर्ग 1, 2, 3, 4, 5 या वर्ग 7 के विस्फोटक या किसी वैकल्पिक में वर्ग 6 के विस्फोटक रखने
Licence to possess (c) for use explosives of class 1, 2, 3, 4, 5, 6 or 7 in a magazine

अनुज्ञप्ति सं. (Licence No.) : E/SC/TN/22/692(E96098)
वार्षिक फीस रुपए (Annual Fee Rs): 2400/-

1. Licence is hereby granted to

M/s.Ram Balan Explosives (अधिभोगी / Occupier : P.Ravasamy), Door No 7,Gandhi Nagar,Sankarankovil, Town/Village : Sankarankovil, District :TIRUNELVELI, State :Tamil Nadu, Pincode : 627756

को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रास्थिति / Status of licensee : Partnership Firm

3. अनुज्ञप्ति निर्दिष्टित प्रयोजनों के लिए विधिमान्य है। / Licence is valid only for the following purpose: possess for use of Nitrate Mixture, 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. Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप प्रभाग Sub-division	मात्रा किसी एक समय में Quantity at any one time
1	Nitrate Mixture	2	0	500 Kg
2	Electric and/or Ordinary Detonators	6.1	0	20000 Nos

(ख) किसी एक कलेंडर मास में क्रय किए जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(ख) और (ङ) के अधीन अनुज्ञप्ति के लिए) / (b) Quantity of explosives to be purchased in a calendar month(applicable for licence under article 3(b) and (e)): 10 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.) E/SC/TN/22/692(E96098) दिनांक (Dated) 19/10/2016

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address

Survey No. 86/1,86/2,86/3,86/4 and 86/5 , ग्राम (Town/Village) : Kuvalaikanni
पुलिस थाना (Police Station) : Sankarankovil
जिला (District) : TIRUNELVELI राज्य (State) : Tamil Nadu पिनकोड (Pincode) : 627756
दूरभाष (Phone) ई मेल (E-Mail) फैक्स (Fax)

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं। / The licensed premises consist of following facilities: Two Portable BB Type magazine.

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उसके अधीन विरचित विस्फोटक नियम, 2008 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाबंधों 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 कथित रेखांक (स्थल, 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 2021 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 2021.

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VIII के अधीन तथा उपवर्णित इस अनुज्ञप्ति की शर्तों का अतिक्रमण करने या यदि अनुज्ञप्त परिसर योजना या उससे संलग्न उपाबंध 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 Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

Sd/-
तारीख / The Date : 19/10/2016

संयुक्त मुख्य विस्फोटक नियंत्रक / Joint Chief Controller of Explosives
South Circle, Chennai

नवीनीकरण के पृष्ठांकन के लिए स्थान
Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature of licensing authority and stamp
04/03/2021	31/03/2026	Jt. Chief Controller of Explosives, South Circle, Chennai

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दाण्डिक 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.

1. mas 202

ANNEXURE-XV

விருதுநகர் மாவட்ட ஆட்சித்தலைவர் அவர்களின் செயல்முறை ஆணைகள்

முன்னிலை: திரு. அ. சிவஞானம், இ.ஆ.ப.,

ந.க.கேவி1/11925/2015 **நாள்: 17.10.2016**

பொருள்: கனிமங்களும் குவாரிகளும் - விருதுநகர் மாவட்டம் - சிவகாசி வட்டம் - அப்பையநாயக்கன்பட்டி கிராமம் - பட்டா புல எண்கள். 43/1B(P)(0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் நிலங்களில் மூன்று வருடங்களுக்கு திரு.ச. சுப்புராஜ் என்பவர் கற்குவாரி உரிமம் வழங்கி உத்தரவிடுதல் - தொடர்பாக.

பார்வை:

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10. மாவட்ட சுற்றுச்சூழல் பொறியாளர், மாசுக்கட்டுப்பாட்டு வாரியம், விருதுநகர் அவர்களின் விண்ணப்ப எண்: 6826093, நாள்: 26.09.2016.
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ஆணை:

திருநெல்வேலி மாவட்டம், 7/107, தெற்குத்தெரு என்ற முகவரியில் வசித்து வரும் திரு. ச. சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவர், விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம் பட்டா புல எண். 43/1B, 45/1A2, 45/3, 46/2-ல் மொத்தம் 2.75.5 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் / ஜல்லி மற்றும்

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கிராவலை ஐந்து வருடங்களுக்கு எடுத்துக்கொள்ள கற்குவாரி உரிமம் வழங்கக் கோரி பார்வை 1-ல் காணும் மனுவில் கோரியுள்ளார்.

மேற்படி அனுமதி வழங்குவது தொடர்பாக விண்ணப்பதாரர் பெயரிலோ, அவரது குடும்ப உறுப்பினர்கள் பெயரிலோ அரசுக்கு செலுத்த வேண்டிய பாக்கித்தொகை ஏதேனும் நிலுவையில் உள்ளதா? என்பது குறித்து அறிக்கை சமர்ப்பிக்கும்படி சிவகாசி உதவி ஆட்சியரிடம் விண்ணப்பிக்கப்பட்ட புலங்களை புலத்தணிக்கை செய்து அறிக்கை சமர்ப்பிக்குமாறு பார்வை 2-ல் காணும் இவ்வலுவலகக் கடிதங்களின்படி கேட்டுக்கொள்ளப்பட்டது.

பார்வை 3ல் காணும் சிவகாசி வருவாய் வட்டாட்சியர் அவர்களின் அறிக்கையில் 18.05.2015 அன்று புலத்தணிக்கை செய்யப்பட்டது என்றும், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், புல எண் 43/1B (1.10.0), 45/1A1 (1.17.5) 45/3, (0.03.0) மற்றும் 46/2 (0.45.0) ஹெக்டேர் பட்டா எண் 2125-ல் இராமசந்திரன் மகன் ரமேஷ் என்பவர் பெயரில் தாக்கலாகி உள்ளது என்றும், மேற்படி புல எண்களில் கற்குவாரி அமைந்துள்ளதில் பிரஸ்தாப நிலத்தின் தெற்குப் புறத்திலும், மேற்குப் புறத்திலும் குறைவழுத்த மின்கம்பிகள் செல்கின்றன என்றும், மேற்படி மின்கம்பி கற்குவாரி அமைந்துள்ள பகுதிக்கு வெளிப்புறத்தில் செல்கிறது என்றும்,

மேற்படி புலங்களுக்கு நான்கு மால்:

புலஎண் 43/1B-க்கு மால்:

கிழக்கு	-	புல எண் 37 செல்லையா ஆசாரி, புல எண் 38 ரகுபதி
மேற்கு	-	புல எண் 45 ரமேஷ்
வடக்கு	-	புல எண் 37 செல்லையா ஆசாரி, புல எண் 43/1A ரமேஷ்
தெற்கு	-	புல எண் 43/2 வண்டிப்பாதை, புல எண் 43/5 வண்டிப்பாதை

புல எண் 45/1A2-க்கு மால்

கிழக்கு	-	புல எண் 43 ரமேஷ், ரகுபதி
மேற்கு	-	புல எண் 46 ரமேஷ்
வடக்கு	-	புல எண் 45/1A1 ரமேஷ்
தெற்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்

புல எண் 45/3-க்கு மால்:

கிழக்கு	-	புல எண் 43 ரமேஷ், ரகுபதி
மேற்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்
வடக்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்
தெற்கு	-	புல எண் 48 ரகுபதி

புல எண் 46/2-க்கு மால்

கிழக்கு	-	புல எண் 45 ரமேஷ்
மேற்கு	-	புல எண் 200/1 குமரேசன்
வடக்கு	-	புல எண் 46/1 சி. சீனிவாசகம்
தெற்கு	-	புல எண் 46/3 ரமேஷ்

மேற்படி புலத்திற்கு 300 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதுமில்லை என்றும், உயர் மின்னழுத்த கம்பிகள் ஏதும் செல்லவில்லை என்றும், இருப்புப் பாதைகள் ஏதுமில்லை என்றும், புராதானச்சின்னங்கள் ஏதுமில்லை என்றும், 50 மீட்டர் சுற்றளவில் சாலைகள், கோவில்கள் மற்றும் நீர்நிலை ஆதாரங்கள், வேறு நிரந்தர அமைப்புகள் ஏதுமில்லை என்றும்,

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எனவே, கற்குவாரி பணி செய்திட உரிமம் கோரும் நிலங்களில் அருகில் உள்ள பட்டா நிலங்களுக்கு போதிய பாதுகாப்பு தூரம் விடுத்து 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகளின்படி கற்குவாரி பணி செய்ய அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

பார்வை 4ல் காணும் சிவகாசி உதவி ஆட்சியர் அவர்களின் அறிக்கையில் சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், புல எண் 43/1B (1.10.0), 45/1A2 (1.17.5) 45/3, (0.03.0) மற்றும் 46/2 (0.45.0) ஹெக்டேர் பட்டா எண் 2125-ல் இராமசந்திரன் மகன் ரமேஷ் என்பவர் பெயரில் தாக்கலாகி உள்ளது என்றும், மேற்படி புல எண்களில் கற்குவாரி அமைந்துள்ளதில் பிரஸ்தாப நிலத்தின் தெற்குப் புறத்திலும், மேற்குப் புறத்திலும் குறைவழுத்த மின்கம்பிகள் செல்கின்றன என்றும், மேற்படி மின்கம்பி கற்குவாரி அமைந்துள்ள பகுதிக்கு வெளிப்புறத்தில் செல்கிறது என்றும்,

மேற்படி புலங்களுக்கு நான்கு மால்:

புலஎண் 43/1B-க்கு மால்:

கிழக்கு	-	புல எண் 37 செல்லையா ஆசாரி, புல எண் 38 ரகுபதி
மேற்கு	-	புல எண் 45 ரமேஷ்
வடக்கு	-	புல எண் 37 செல்லையா ஆசாரி, புல எண் 43/1A ரமேஷ்
தெற்கு	-	புல எண் 43/2 வண்டிப்பாதை, புல எண் 43/5 வண்டிப்பாதை

புல எண் 45/1A2-க்கு மால்

கிழக்கு	-	புல எண் 43 ரமேஷ், ரகுபதி
மேற்கு	-	புல எண் 46 ரமேஷ்
வடக்கு	-	புல எண் 45/1A1 ரமேஷ்
தெற்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்

புல எண் 45/3-க்கு மால்:

கிழக்கு	-	புல எண் 43 ரமேஷ், ரகுபதி
மேற்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்
வடக்கு	-	புல எண் 45/1B செந்தட்டி வீரம்மாள்
தெற்கு	-	புல எண் 48 ரகுபதி

புல எண் 46/2-க்கு மால்

கிழக்கு	-	புல எண் 45 ரமேஷ்
மேற்கு	-	புல எண் 200/1 குமரேசன்
வடக்கு	-	புல எண் 46/1 சி. சீனிவாசகம்
தெற்கு	-	புல எண் 46/3 ரமேஷ்

மேற்படி புலத்திற்கு 300 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதுமில்லை என்றும், உயர் மின்னழுத்த கம்பிகள் ஏதும் செல்லவில்லை என்றும், இருப்புப் பாதைகள் ஏதுமில்லை என்றும், புராதானச்சின்னங்கள் ஏதுமில்லை என்றும், 50 மீட்டர் சுற்றளவில் சாலைகள், கோவில்கள் மற்றும் நீர்நிலை ஆதாரங்கள், வேறு நிரந்தர அமைப்புகள் ஏதுமில்லை என்றும்,

இந்நேர்வில், பார்வை 5ல் காணும் சிவகாசி வட்டாட்சியரின் அறிக்கையில் கற்கள் தோண்டப்பட்டுள்ள பகுதி சர்வே எண் 43/1B-ல் உள்ளது என்றும், கற்கள் தோண்டப்பட்டுள்ள பகுதியின் நீளம; 64 மீட்டர், அகலம் 30 மீட்டர், ஆழம் 10மீட்டர் உள்ளது எனவும், இப்புல எண்ணில் அணுகு பாதை வசதி உள்ளது எனவும், மேலும் 500 மீட்டர் சுற்றளவில் கே. கிருஷ்ணமூர்த்தி,எஸ்.ரகுபதி

1. [illegible]

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என்பவர்கள் இயங்கும் குவாரிகள் சர்வே எண் 38,42-ல் உள்ளது எனவும், முடிவடைந்த குவாரிகள் 500 மீட்டர் சுற்றளவில் சர்வே எண் 202/1A2-ல் உள்ளது எனவும் தெரிவிக்கப்பட்டுள்ளது என்றும்,

எனவே, கற்குவாரி பணி செய்திட உரிமம் கோரும் நிலங்களில் அருகில் உள்ள பட்டா நிலங்களுக்கு போதிய பாதுகாப்பு தூரம் விடுத்து 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகளின்படி கற்குவாரி பணி செய்ய அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

பார்வை 5ல் காணும் உதவி இயக்குநர்(கனிமம்) மற்றும் தனி வருவாய் ஆய்வாளர்(கனிமம்) ஆகியோர்களின் உதவி ஆட்சியர், சிவகாசி மற்றும் சிவகாசி வருவாய் வட்டாட்சியர் ஆகியோர் புலத்தணிக்கை செய்து கடித எண் ந.க. ஆ 4/2005/2015, நாள்: 31.12015 மற்றும் ந.க. மூ.மு.ஆ1/8278/2015, நாள்: 02.06.2015-ல் அறிக்கையில் கல்குவாரிக்குத்தகை வழங்க பரிந்துரை செய்யப்பட்டுள்ளது என்றும், கல்குவாரி குத்தகை கோரிய புல எண்கள் 43/1B (1.10.0), 45/1A2 (1.17.5), 45/3 (0.03.0), 46/2 (0.45.0)ல் பரப்பு 2.75.5 ஹெக்டேர், கடந்த 10.05.2016 தேதியில் கூட்டுப்புலத்தணிக்கை செய்யப்பட்டது என்றும், ஆய்வின்போது கிராம நிர்வாக அலுவலர் குத்தகை புலத்தின் எல்லைக் கற்கள் அளவீடுசெய்து குத்தகைகோரிய புலம் கண்டறியப்பட்டது என்றும், குத்தகை கோரிய புல எண்கள் 43/1B (1.10.0), 45/1A2 (1.17.5), 45/3 (0.03.0), 46/2 (0.45.0) திரு.ரமேஷ், சிவகாசி என்பவரின் பெயரில்பட்டா எண்.2125ல் பதிவாகி உள்ளது என்றும், மேற்கண்ட பட்டாதாரரிடம் விண்ணப்பதாரர் குவாரி குத்தகை பெறுவதற்கு ஆட்சேபனை ஏதும் இல்லையென்று ஒப்பந்தம் நிறைவேற்றியுள்ளதால், இந்நிலையில் விண்ணப்பதாரர் குத்தகை புலத்தின் உரிமையுடையவராகிறார். மேற்கண்ட புலம் மேடு, பள்ளமாக அமைந்து, கிழக்குப்புறம் தாழ்வாக உள்ளது என்றும், 4இப்பகுதியில் புல எண்.43/1B–ல் பழைய கல்குவாரி உரிமம் மாவட்ட ஆட்சியர் செயல்முறை ஆணை எண்.கே.வி.1/596/2010, நாள்.23.4.2010 நாளின்படி 26.4.2010 முதல் 25.4.2015வரை வழங்கப்பட்ட குத்தகை காலத்தில் வெட்டப்பட்ட பழைய குவாரிப்பள்ளம் உள்ளது என்றும், இவற்றின் மேற்பரப்பு சுமார் 2.0மீ ஆழத்திற்கு மண் மற்றும் சிதைவடைந்த பாறைகள் உள்ளது என்பது அங்குள்ள பள்ளங்கள் மூலம் தெரியவருவதால் அவற்றிற்கு கீழ்பகுதியில் கடினமாக சார்னகைட் வகையைச்சார்ந்த பாறை சற்று பெரிய துகள்களைக் கொண்டதாக அமைந்துள்ளது என்றும், இவ்வகையான பாறைகள் கட்டடம் மற்றும் சாலை மேம்பாட்டிற்கு ஏற்றதாக உள்ளதால் மேற்கண்ட பாறை வெட்டியெடுக்க அனுமதி அளிக்கும்பட்சத்தில் அரசுக்கு உரிய வருவாய் கிடைக்க வழிவகை உள்ளது.

குத்தகை கோரும் புலத்தின் தென்பகுதியில் புல எண்கள் 43/1பி & 45/1ஏ2 மற்றும் 46/2ல் குறைந்த தாழ்வழுத்த மின்பாதை மற்றும் வண்டிப்பாதை செல்கிறது வண்டிப்பாதைக்கு தெற்கில் புல எண்.45/3ல் பரப்பு 0.03.0 ஹெக்டேர் தனியாக அமைந்துள்ளதால் இப்பகுதி குத்தகை வழங்குவதிலிருந்து நீக்கம் செய்யப்பட்டுள்ளது என்றும், இருப்பினும் குத்தகை புல எண்கள் 43/1பி, 45/1ஏ2 மற்றும் 46/2 தெற்குபகுதி வழியாக குறைந்த மின் அழுத்த வழிப்பாதை கிழக்கு மேற்காக வண்டிப்பாதையுடன் செல்வதால், மேற்படி மின்வழிப்பாதை செல்லும் புல எண்.43/1பி மற்றும் 45/1ஏ2 மற்றும் வண்டிப்பாதை செல்லும் புல எண்கள். 43/2 மற்றும் 6, 45/2 ஆகியவற்றிற்கு வடக்கு பகுதிக்கு 50மீ பாதுகாப்பு இடைவெளி தூரம் கடைப்பிடிக்கவேண்டும், என்றும், தெற்குபகுதி பாதுகாப்பு தூரம் உள்ளதால் அப்பகுதி நீக்கம் செய்யப்படுகிறது என்றும், மற்றும் புல எண்.46/2(0.45.0)ல் மின்வழிப்பாதை செல்வதால் போதிய பாதுகாப்பு தூரம் கடைப்பிடிக்க வழிவகை இல்லாததால் நீக்கம் செய்யப்படுவதால், குத்தகை கோரிய

மொத்தப்பரப்பான 2.75.5 ஹெக்டேரில் 1.30.5 ஹெக்டேர் நீக்கம் செய்தது போக மீதமுள்ள புல எண் 43/1பி–ல் (0.65.0), 45/1ஏ2–ல் (0.80.0) ஆக மொத்தம் 1.45.0 ஹெக்டேர் பரப்பு மட்டும் குத்தகை வழங்க தகுதியான பகுதியாக உள்ளது என்றும், மேற்கண்ட புலத்திற்கு சென்றுவர அணுகுசாலைவசதி சக்கமாள்புரம் கிராமத்திலிருந்து அமைந்துள்ளது என்றும்,

குத்தகை குவாரி புலத்திற்கு 300 மீட்டர் தொலைவிற்குள் குடியிருப்புப்பகுதிகள் ஏதும் இல்லை என்றும், மேலும் வழிபாட்டுத்தலங்கள், புராதான சின்னங்கள், நிலையான அமைப்புகள், சாலை மற்றும் நீர்நிலைகள் எதும் பாதுகாப்பு இடைவெளிப்பகுதிக்குள் இல்லை என்றும், மேலும் குத்தகை கோரிய புலத்திலிருந்து 500 மீ சுற்றளவில் புல எண்.38/10ஏ,11(0.51.0), மற்றும் 39/3, 39/1பி, 2ஏ 42ல் (1.10.0) திரு.ரகுபதி மற்றும் திரு.கிருஷ்ணமூர்த்தி, என்பவருக்கு வழங்கப்பட்டுள்ளது மற்றும் திரு.கனிராஜ் என்பவருக்கு குத்தகை வழங்கப்பட்டு காலம் முடிவடைந்த, செயல்படாத கல்குவாரி புல எண்.202/1ஏ2 (1.21.5)ல் ஒன்று உள்ளது என்றும்,வேறு கல்குவாரிகள் 500மீட்டர் சுற்றளவிற்குள் இல்லை என்றும்,

எனவே, விண்ணப்பதாரர் திரு.ச.சுப்புராஜ், என்பவருக்கு வெம்பக்கோட்டை வட்டம், அப்பயநாயக்கன்பட்டி கிராமம் பட்டா புல எண்கள். 43/1B (0.65.0), 45/1A2 (0.80.0)-ல் 1.45.0 ஹெக்டேர் பரப்பில் கல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிமச் சலுகை விதி, விதிகள் 19, 20ன்படி கல் மற்றும் கிராவல் குவாரிக்கு 3 ஆண்டு காலத்திற்கும் கீழ்கண்ட நிபந்தனைகளுக்கு உட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்கள்.

1) விண்ணப்பதாரர் குத்தகை கோரிய புல எண். 43/1B, 45/1A2-ன் தெற்குப்பகுதியில் கிழக்கு மேற்காக செல்லும் மின்வழிப்பாதை மற்றும் வண்டிப்பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி தூரம் பராமரிக்க வேண்டும்.
2) விண்ணப்பதாரர் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளிதூரம் பராமரித்து குவாரிப்பணி செய்யவேண்டும்.

பார்வை 6-ல் காணும், கடிதத்தில் விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள். 43/1B(P) (0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் பரப்பில் மூன்று வருடங்களுக்கு கற்குவாரி உரிமம் வழங்க சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் பரிந்துரை பெற்று வரும்படி அறிவுறுத்தியுள்ளார். அதனடிப்படையில் விண்ணப்பதாரரை சென்னையிலுள்ள சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் பரிந்துரை பெற்று வரும்படி கேட்டுக்கொள்ளப்பட்டது.

பார்வை 7ல் காணும் கடிதத்தில் விண்ணப்பதாரர் திரு. ச. சுப்புராஜ் விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள். 43/1B(P) (0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் பரப்பிலுள்ள பட்டா நிலத்தினை நில உரிமையாளர் திரு.ஆர். ரமேஷ் என்பவரிடமிருந்து கீழராஜகுலராமன் சார்பதிவக அலுவலக கிரைய ஆவண எண்: 2961/2015, நாள்: 22.09.2015-ன்படி கிரையம் பெற்று அதனடிப்படையில் தனது பெயருக்கு பட்டா மாறுதல் செய்யப்பட்டுள்ளதாக தெரிவித்து மேற்படி பட்டா நகலினை இணைத்தனுப்பியுள்ளார்.

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பார்வை 8-ல் காணும் மாநில சுற்றுப்புறச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் உத்தரவில், மேற்படி விண்ணப்பதாரருக்கு விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள். 43/1B(P) (0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் நிலப்பரப்பில் விருதுநகர் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை துணைஇயக்குநர் அவர்களால் ஒப்புதல் வழங்கப்பட்ட சுரங்கத்திட்ட வரைவில் பக்கம் 16-ல் குறிப்பிட்டவாறு குவாரிப்பணி மேற்கொள்ள அறிவுறுத்தப்பட்டுள்ளது.

வ.எ ண்.	நில உபயோகம்	குத்தகை காலம் முடிவுறும் தருவாயில் நிலத்தின் பரப்பு (ஹெக்டேரில்)
1.	குவாரிப்பணி	0.67.0
2.	உள்கட்டமைப்பு மற்றும் சாலை	0.01.0
3.	மரம் வளர்த்தல்	0.06.0
4.	குவாரி செய்யப்படாத பகுதி	0.70.0
5.	வேலி அமைத்தல்	0.01.0
	மொத்தம்	1.45.0

பார்வை 9-ல் காணும் 25.09.2016 நாளிட்ட தினமணி மற்றும் இந்தியன் எக்ஸ்பிரஸ் ஆகிய இரு நாளிதழ்களில் மேற்படி புல எண்களில் கற்குவாரிப்பணி மேற்கொள்வது தொடர்பாக விண்ணப்பதாரர் பொது அறிவிப்பு செய்துள்ளார்.

பார்வை 10-ல் காணும் விருதுநகர் மாவட்ட மாசுக்கட்டுப்பாட்டு வாரிய சுற்றுச்சூழல் பொறியாளர் அவர்களின் ஒப்புதல் உத்தரவில், விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள். 43/1B(P) (0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் நிலப்பரப்பில் மேற்குறிப்பிட்ட விண்ணப்பதாரர் கற்குவாரிப்பணி மேற்கொள்ள நிபந்தனைகள் விதித்து அனுமதி வழங்க விண்ணப்பம் செய்யப்பட்டுள்ளது.

எனவே, சிவகாசி வருவாய் வட்டாட்சியர், உதவி இயக்குநர் (கனிமம்), மற்றும் தனிவருவாய் ஆய்வாளர் (கனிமம்), சிவகாசி உதவி ஆட்சியர், சென்னை மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையம்,, மற்றும் விருதுநகர் மாசுக்கட்டுப்பாட்டு வாரியம் ஆகியோர்களின் பரிந்துரையினை ஏற்றும் நிபந்தனைகளுக்குட்பட்டும், விண்ணப்பதாரர் திரு. ச. சுப்புராஜ், த/பெ. சண்முகராஜ் என்பவருக்கு விருதுநகர் மாவட்டம், சிவகாசி வட்டம், அப்பையநாயக்கன்பட்டி கிராமம், பட்டா புல எண்கள். 43/1B(P) (0.65.0), 45/1A2(P) (0.80.0)-ல் மொத்தம் 1.45.0 ஹெக்டேர் பரப்பளவு நிலங்களில், 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகைகள் விதி எண்: 19,20 மற்றும் 22-ன்படி சாதாரண கற்கள், ஜல்லி மற்றும் கிராவலை மாவட்ட ஆட்சியருடன் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றும் நாளிலிருந்து மூன்று வருடங்களுக்கு கற்குவாரி குத்தகை உரிமம் கீழ்கண்ட நிபந்தனைகளின் படி அனுமதி வழங்கி உத்தரவிடப்படுகிறது.

நிபந்தனைகள்

1. குத்தகைதாரர் இந்த உத்தரவு கிடைக்கப் பெற்றவுடன் 3ஆண்டுகளுக்கான பரப்புவரித் தொகை ரூ. 435/-ஐ சலான் மூலம் வங்கியில் செலுத்தி அசல் சலானையும், காப்புத் தொகை ரூ. 5,000/-ஐ கீழ்க்குறிப்பிட்டுள்ள கணக்குத் தலைப்பில் செலுத்தி அசல் செலானையும் ஆஜர்படுத்த வேண்டும்.

காப்புத்தொகை செலுத்தவேண்டிய கணக்குத் தலைப்பு
8443 Civil Deposits
103 Security Deposits
D.P.Code 8443-00-103-AA-010005

2. மேலும், 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் அனுபந்தம் IVல் கண்ட நமுனாவில் ரூ. 36,700/- முத்திரைத்தாளில் குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றி அதனை அவரது சொந்த செலவில் பதிவு செய்து கொடுக்க வேண்டும்
3. சரியான முறையில் குறிப்பிட்ட படிவத்தில் கணக்குகள் பராமரிக்க வேண்டும். தினந்தோறும் வெட்டி எடுத்துக் கொண்டு செல்லப்பட்ட கனிம அளவைக் குறித்த பதிவேடுகள் வைத்திருக்க வேண்டும். அவைகளை தணிக்கை செய்யும் அதிகாரிகளுக்கு தவறாமல் காண்பிக்க வேண்டும்
4. சொந்த செலவிலேயே குறிப்பிட்ட படிவத்தில் நடைச்சீட்டு அச்சிட்டு நடைச்சீட்டில் துணை இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) விருதுநகர் அலுவலக முத்திரையுடன் கையொப்பமும் பெறவேண்டும். குவாரியில் இருந்து கனிமம் ஏற்றிச் செல்லும் ஒவ்வொரு வாகனத்திற்கும் நடைச்சீட்டு வழங்கப்பட வேண்டும். சோதனையின் போது நடைச்சீட்டு இல்லையென்று கண்டுபிடிக்கப்பட்டால் வாகனங்கள் பறிமுதல் செய்யப்படுவதோடு குவாரி குத்தகைதாரர் மீது நடவடிக்கையும் எடுக்கப்படும்.
5. குவாரி செய்ய அனுமதிக்கப்பட்ட குறிப்பிட்ட புல எண் மற்றும் குறிப்பிட்ட விஸ்தீரணத்திற்குள் தான் குவாரி செய்ய வேண்டும்
6. குவாரிப்பணி மேற்கொள்வதற்கு முன்பாக குவாரி குத்தகை அனுமதி வழங்கப்பட்ட பகுதியில் நான்கு பக்கங்களிலும் மூன்று மீட்டர் இடைவெளியில் இரண்டு மீட்டர் உயரத்திற்கும் குறையாமலும் கான்கீரிட் கலவை அமைத்து கல் தூண்கள் அமைத்தும் கம்பிவேலி அமைத்தும் பராமரிக்கவேண்டும்.
7. குத்தகைதாரர் குவாரியை வேறு யாருக்கும் உள் குத்தகைக்கு விடலாகாது.
8. ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகளுக்கு அவர் கட்டுப்பட்டு நடக்க வேண்டும்.
9. பிரதிமாதமும் 5ம் தேதிக்குள் முந்தைய மாதத்தில் குவாரி செய்து எடுக்கப்பட்ட கனிம அளவு வெளியில் அனுப்பப்பட்ட கனிம அளவு குவாரியில் வேலை செய்யவும் கூலி ஆட்களின் எண்ணிக்கை முதலிய விபரங்களை விருதுநகர் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநருக்கு அனுப்பி வைக்க வேண்டும்
10. குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றப்பட்ட பின்புதான் குவாரியில் வேலை செய்யத் தொடங்க வேண்டும்.
11. குத்தகை பற்றிய முழு விபரங்கள் அடங்கிய தகவல் பலகை ஒன்று குவாரியில் கண்டிப்பாக வைத்திருக்க வேண்டும்.
12. சொந்த செலவிலும் முயற்சியாலும் குவாரிக்குச் செல்லும் சாலைகள் மற்றும் பாதைகள் மற்றும் வசதிகள் அமைத்துக் கொள்ள வேண்டும்.
13. தன் சொந்த செலவிலேயே குவாரியில் குத்தகை வழங்கப்பட்ட விஸ்தீரணத்தை வட்ட அளவர் மூலம் அளந்து நான்கு எல்லைக்கும் கல்தூண்கள் நட்டு அமைத்துப் பராமரித்து வர வேண்டும்.
14. குவாரிக்குரிய நடைச்சீட்டுகளை கண்டிப்பாக குவாரியில் இருந்துதான் வழங்க வேண்டும். நடைச்சீட்டுக்களின் அடிக்கட்டைகளை குவாரியில் வைத்திருக்க வேண்டும்.
15. குவாரிக்கு அருகில் வீடுகள், சாலைகள், பாதைகள், மின்சாரக்கம்பிகள், மின்சார டிரான்ஸ்பார்மர்கள் கோவில், ஒடை, குடிநீர் ஆதாரங்கள் மற்றும் சரித்திரப் புகழ் பெற்ற ஸ்தலங்கள் போன்றவை அமைந்திருந்தால் அவைகளுக்கு சேதம் ஏற்படாதவாறு தேவையான அளவு பாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.

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16. அனுமதி பெறாமல் குவாரியில் வெடிமருந்துகள் பயன்படுத்தக்கூடாது. வெடிபொருட்கள் சட்டம் கண்டிப்பாக கடைப்பிடிக்கப்பட வேண்டும். குறைந்த அழுத்தமுள்ள வெடிமருந்துகளை பயன்படுத்தி குவாரிப் பணி செய்ய வேண்டும்.
17. குவாரியில் வேலை செய்யும் தொழிலாளர்களின் நலன் பேணப்படவேண்டும். குழந்தைத் தொழிலாளர்களை குவாரிப் பணியில் ஈடுபடுத்தக்கூடாது.
18. அனுமதிதாரர் புராதனச் சின்னங்களுக்கோ, அரசாங்க சொத்துக்களுக்கோ எவ்வித சேதமும் இன்றி குவாரி செய்ய வேண்டும். அருகாமையில் உள்ள பட்டா நிலங்களுக்கு எவ்வித சேதமுமின்றி குவாரி செய்ய வேண்டும்.
19. அருகில் அமைந்துள்ள விவசாய நிலங்களுக்கு எவ்வித பாதிப்பும் இல்லாத வகையில் குவாரிப்பணி மேற்கொள்ள வேண்டும்.
20. மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையம், சென்னை கடித எண். SEIAA-TN/F.No. 5631/1(a)/EC/3698/2016, நாள்: 06.09.2016.. தெரிவிக்கப்பட்டுள்ள அனைத்து நிபந்தனைகளையும் தவறாது கடைப்பிடிக்க வேண்டும்.
21. மாவட்ட சுற்றுச்சூழல் பொறியாளர், மாசுக்கட்டுப்பாட்டு வாரியம், விருதுநகர் அவர்களின் உத்தரவு எண்: 6826093, நாள்: 26.09.2016.
22. சுரங்கத் திட்டத்தில் (Mining Plan) குறிப்பிட்டுள்ள விபரங்களின்படி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
23. காலை 7 மணி முதல் மாலை 5 மணி வரை குவாரிப் பணி மேற்கொள்ள வேண்டும். மேலும் இரவு நேரங்களில் கற்களை ஏற்றக்கூடாது.
24. அருகிலுள்ள புல எண்களுக்கு 7.5 மீட்டர் பாதுகாப்புத் தூரம் கடைப்பிடித்து குவாரிப்பணி மேற்கொள்ள வேண்டும்.
25. விண்ணப்பதாரர் குத்தகை கோரிய புல எண். 43/1B, 45/1A2-ன் தெற்குப்பகுதியில் கிழக்கு மேற்காக செல்லும் மின்வழிப்பாதை மற்றும் வண்டிப்பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி தூரம் பராமரிக்க வேண்டும்.

ஒம்)அ. சிவஞானம்
மாவட்ட ஆட்சியர்,
விருதுநகர்.

ஆணைப்படி / அனுப்பப்படுகிறது

மாவட்ட ஆட்சியருக்காக,
விருதுநகர்.

பெறுநர்
திரு.ச.சுப்புராஜ்,
த/பெ. சண்முகராஜ்,
கதவு எண். 7/107, தெற்குத்தெரு,
குண்டம்பட்டி,
செவல்பட்டி அஞ்சல்,
திருநெல்வேலி மாவட்டம்

நகல் உதவி ஆட்சியர், சிவகாசி.
நகல் வட்டாட்சியர், சிவகாசி.
நகல் கிராம நிர்வாக அலுவலர், அப்பையநாயக்கன்பட்டி
நகல் ஊராட்சி மன்றத் தலைவர், அப்பையநாயக்கன்பட்டி
நகல் கேவி1 இருக்கைக்கு

भारतीय गैर न्यायिक INDIA NON JUDICIAL

भारत

रु.20000

बीस हजार रुपये

TWENTY THOUSAND RUPEES

Rs.20000

INDIA

தமிழ்நாடு तमिलनाडु TAMILNADU

B 252902

V. ஜெகநாதன்,

S. R. O. ஸ்டாம்ப் வெண்டர்

APPENDIX – IV

(See Rule 19-A & 22 of the Tamil Nadu Minor Minerals Concession Rules, 1959)

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

Collector's Proceedings Roc.No.KV1/11925/2015 Dated: 17.10.2016.

AGREEMENT MADE of this 21st day of October 2016 between Thiru S.Subburaj, S/o.Shanmugaraj, No.7/107, Kundampatti Village, Sankarankoil Taluk, ~~Virudhunagar~~ Tirunelveli District (hereinafter referred to as "the

Correction: one

LESSEE

LESSOR

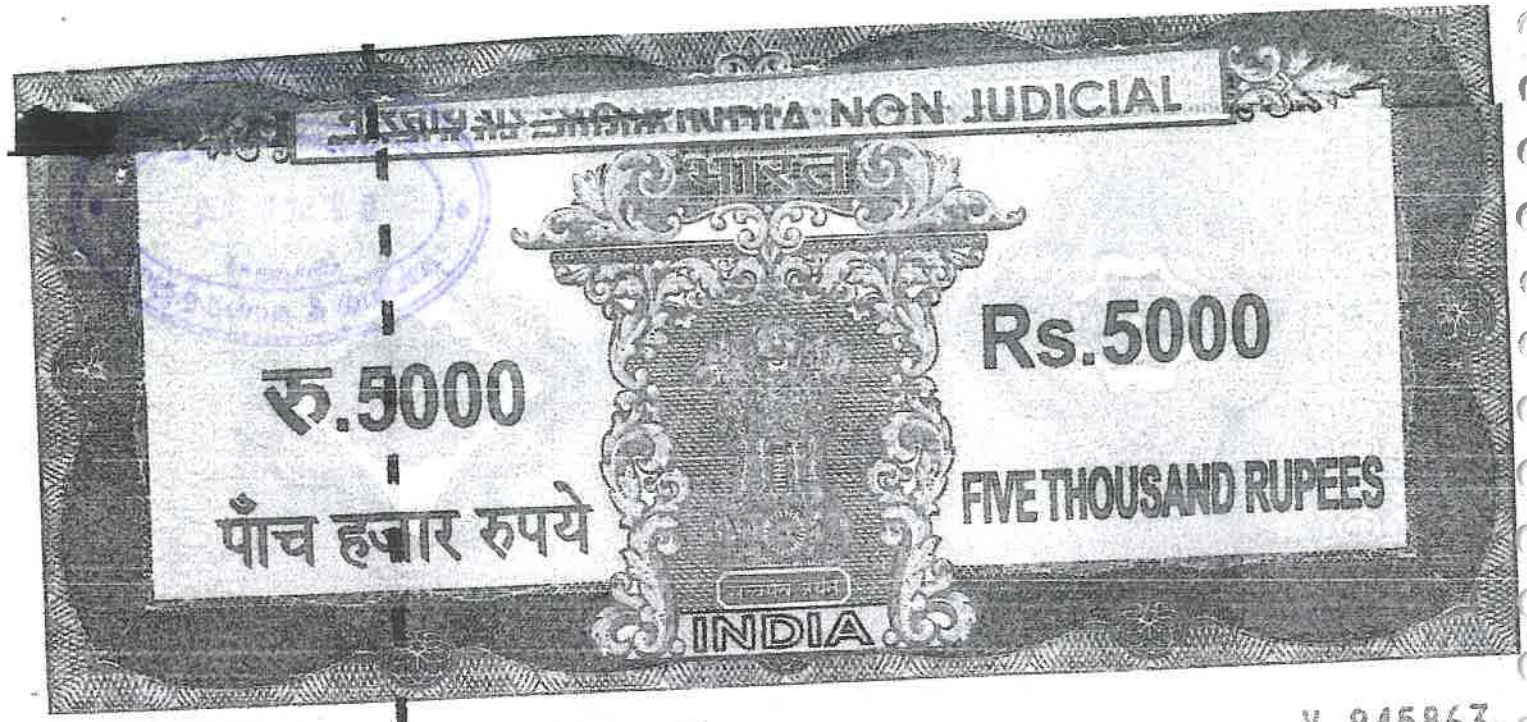
2520

2016

1

23

211



தமிழ்நாடு தமிலநாடு TAMILNADU

V 945863

registered holder" which term shall include in these presents where the context so admits include also his heirs, executors, administrators, legal representatives and assigns) of the one part and the Collector of Virudhunagar District (hereinafter called "the Government" which term shall where the context so admits, include also his successors in office and assigns) of the other part.

WHEREAS the registered holder holds (amongst others) the lands described in the schedule hereunder written (hereinafter referred to as the said lands).

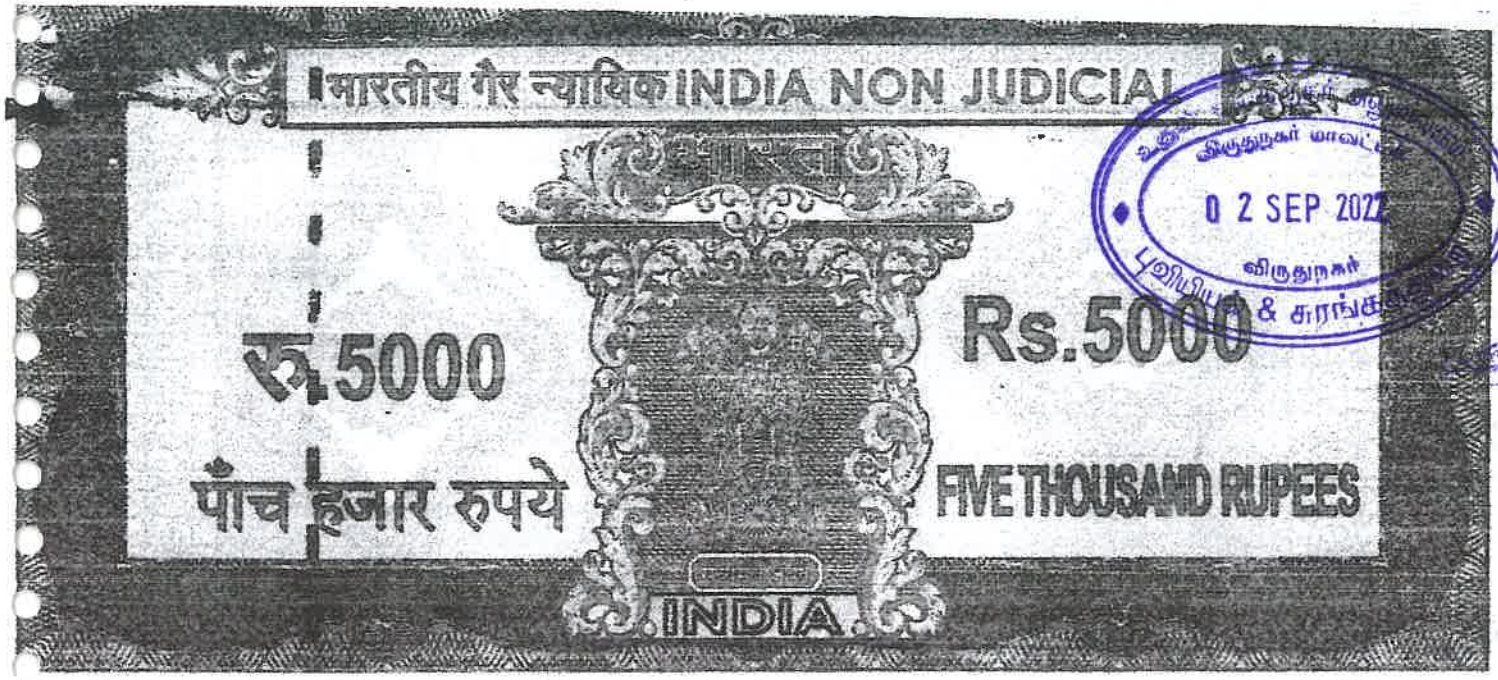
AND, WHEREAS, the registered holder has made application to the Collector of the District of Virudhunagar (hereinafter referred to as "The Collector") seeking grant of quarrying lease for quarrying Rough Stone, Jelly

LESSEE

LESSOR

ஆவண 2530
எண் :
ஆண்டு: 2016
பக்க எண்: 2
மொத்த
பக்கம்: 23

212



தமிழ்நாடு தமிழ்நாடு TAMILNADU V 945864

and Gravel in the said lands and has lodged with the Collector an accurate map or sketch of the said lands.

AND, WHEREAS, the Collector, acting for and on behalf of the Government, has granted a quarrying lease to the registered holder and allowed him to commence quarrying operations for Three Years in the said lands and to deposit mining waste there on by registered holder.

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

LESSEE

LESSOR

ஆவண எண் : 2580
ஆண்டு: 2016
பக்க எண்: 3
மொத்த பக்கம்: 23

213

भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हज़ार रुपये ONE THOUSAND RUPEES

रु.1000 Rs.1000

INDIA

தமிழ்நாடு तमिलनाडु TAMILNADU

AN 683671

V. ஜெகநாதன்,
S. R. O. ஸ்டாம்பு வெண்டர்,
கோவில்பட்டி, L. No. 6/2009

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

1. The registered holder shall be at liberty at all times during the period of the lease to carry on mining operations for Three Years in the said lands in a proper and workman like manner and to deposit mining waste on the said lands and shall at all times, be answerable and accountable to the Government for all acts and defaults by any of his nominees, servants or agents in carrying on such operations or in making such deposit.

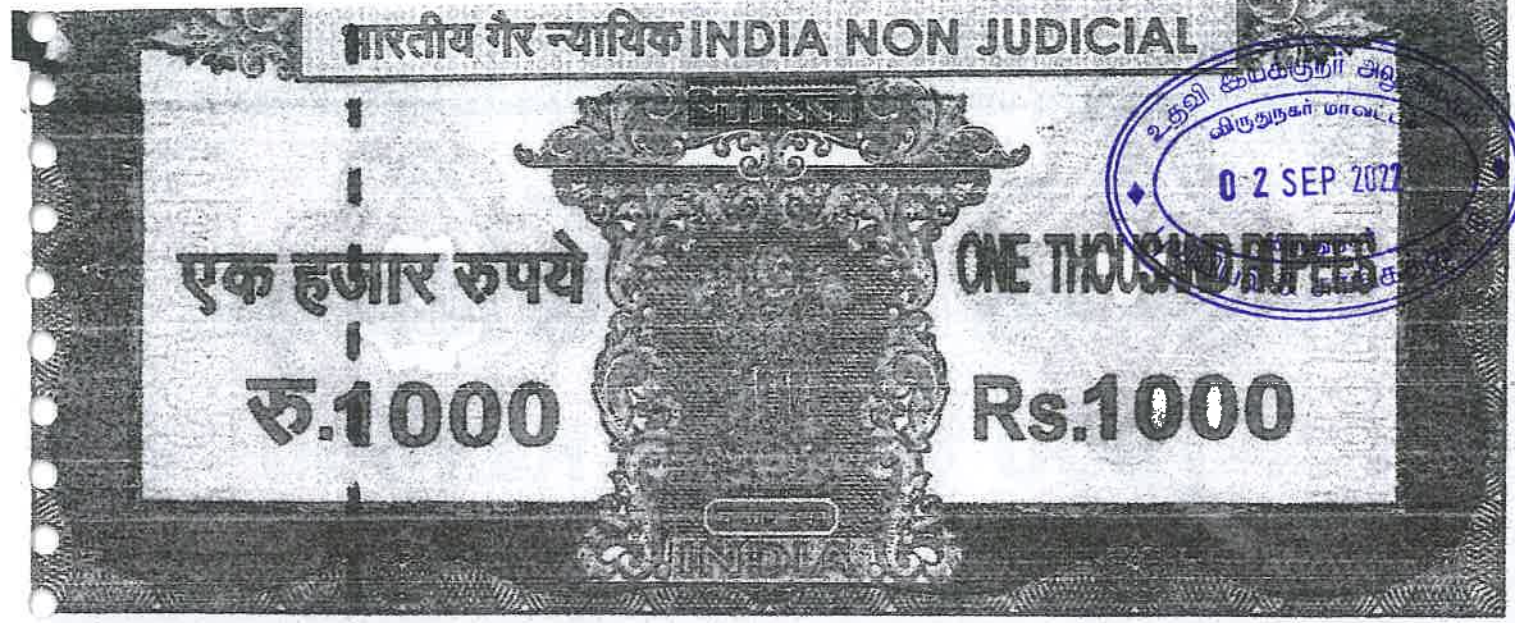
2. The said premises shall be held by the Registered Holder for a term of Three Years from the 21st day of october 2016 to the 20th day of october 2019. The registered holder shall pay to the Collector for and on behalf of the

LESSEE

LESSOR

ஆவண எண்: 2530
ஆண்டு: 2016
பக்க எண்: 7
மொத்த பக்கம்: 32

214



தமிழ்நாடு तमिलनाडु TAMILNADU

AN 683672

Government in addition to the land assessment for the time being payable in respect of the said lands, seigniorage on the minor minerals viz. Rough Stone, Jelly and Gravel at the rate specified in Appendix-II to the Tamilnadu Minor Minerals Concession Rules, 1959.

3. The registered holder shall and will keep correct accounts in such form as the Collector shall from time to time required and direct showing the quantities and other particulars of all minerals obtained by the registered holder from the said lands and also the number of persons employed in carrying on the said mining operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and workings in the said lands and shall allow any officer hereunto

LESSEE

LESSOR

2530
2016
5
23

215

தமிழ்நாடு தமிழ்நாடு TAMILNADU

AN 683673

authorized by the Director of Geology and Mining, Chennai-32 Tamilnadu from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish all such information and returns regarding all or any of the matter aforesaid as the Government shall, from time to time require and direct.

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

5. The registered holder shall forthwith send to the Collector a report of any accident which may occur at or in the said lands and also of the discovery of any minerals other than Rough Stone, Jelly and Gravel.

LESSEE

LESSOR

2530
2016
6
23

தமிழ்நாடு TAMILNADU AN 683674

20.10.16

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

7. In case the registered holder shall relinquish the whole or any part of the said lands or in case of expiry or sooner determination of this agreement then and in any such case, he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation or shall securely and permanently fence or fill in all such abandoned pits and

LESSEE **LESSOR**

217

தமிழ்நாடு தமிலநாடு TAMILNADU

AN 683675

excavations therein as the Collector shall require to be so fenced or filled in and in case the registered holder shall fail or neglect to restore any such lands which he shall be required to restore to a state fit for cultivation, or to so fence or fill in any such abandoned pit or excavation which he shall be required to so fence or fill in them and in such case, it shall be lawful for the Collector to so restore any such lands or as the case may be, to so fence or fill in any such pits, or excavation at the expense of the registered holder and to apply the said sum of Rs.5,000/- so deposited in or towards the cost of so doing and to deduct from the amount of the said deposit and retain on behalf of the Government a sum equal to thirty times the assessment of the said lands, which shall have been rendered unfit for cultivation. If however, the amount of deposit is not sufficient to cover the cost of such restoration or filling in or to meet thirty times the assessment on

LESSEE

LESSOR

ஆவண எண் : 2570/2016
பக்க எண்: 8
மொத்த பக்கம் 23

218

भारतीय गैर-न्यायिक

भारत INDIA

रु. 500 FIVE HUNDRED RUPEES

पाँच सौ रुपये Rs. 500

सत्यमेव जयते

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU AL 593723

the area rendered uncultivable, it shall be lawful for the Government to recover the balance by resort to Civil Court.

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

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

10. If the registered holder does not intend to carry on mining operations himself, but intends to lease out the right to do so to another person the

LESSEE

LESSOR

भारत INDIA

रु. 500 FIVE HUNDRED RUPEES

पाँच सौ रुपये Rs. 500

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU

AL 593724

registered holder and his lessee shall enter into an agreement with Government binding themselves jointly and severally to accept the conditions and stipulations herein contained which agreement shall be in the form set out in Appendix-V to the Tamilnadu Minor Mineral Concession Rules, 1959.

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

12. In the event of any breach by the registered holder by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage fee or for the Collector to give notice in writing to the registered holder of his intention to cancel these presents whereupon the same shall stand cancelled but without prejudice to any rights which the Government

LESSEE

LESSOR

2530
2016
10
23

820

भारत INDIA

रु. 500 FIVE HUNDRED RUPEES

पाँच सौ रुपये Rs. 500

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU

AL 593725

may have against the pattadar in respect of any antecedent claim of breach of covenant or condition.

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

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

LESSEE

LESSOR

2016

221

தமிழ்நாடு TAMILNADU

AR 229735

15. The registered holder shall abide by the conditions laid down in the payment of wages Act 1936 (Central Act IV of 1936), the Mines Act, 1952 (Central Act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884).

16. The registered holder should demarcate the lease hold area at his own cost and shall quarry Rough Stone, Jelly and Gravel only within the area leased out to him and keep the boundary stones, painted and maintained at all times.

17. The registered holder shall make his own arrangements for road, pathways channels and ramp etc. to the quarry at his own cost.

LESSEE

LESSOR

222

भारतीय गैर न्यायिक

पचास रुपये

रु.50

FIFTY RUPEES

Rs.50

INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU

AR 229737

20. The registered holder shall put up a board at the entrance of the lease hold area showing very clearly the details of the S.Nos., Villages, Extent of the Area, Period of Lease, the authority granting the lease etc.

21. The registered holder shall immediately report any accident that may occur at the quarry site to the District Collector, Assistant Director of Geology and Mining and other authorities concerned including the Director of Mines Safety, Anna Nagar, Chennai

22. The registered holder should strictly adhere to the conditions and rules stipulated by the Government for the minor minerals from time to time.

LESSEE

LESSOR

தமிழ்நாடு तमिलनाडु TAMILNADU AR 229738

23. Quarrying should be done without any hindrance to the adjacent pattadars.

24. Quarrying should be done 7.5 mtrs away from the boundaries of the area granted for quarry lease.

25. In the event of any breach of rules or the conditions of the lease stated above the lease shall become liable for automatic termination without any prior notice.

26. The Lessee should do quarrying operation as per the approved Mining Plan, Environmental Clearance Lr. No. SEIAA-TN/F.No.5631/1(a)/ EC.No.3698/2016, dated 06.06.2016 and Tamil Nadu Pollution Control Board, Virudhunagar online application No.6828093, dated 26.9.2016.

LESSEE

LESSOR

224

1. சரியான முறையில் குறிப்பிட்ட படிவத்தில் கணக்குகள் பராமரிக்க வேண்டும் தினந்தோறும் வெட்டி எடுத்துக் கொண்டு செல்லப்பட்ட கனிம அளவைக் குறித்த பதிவேடுகள் வைத்திருக்க வேண்டும். அவைகளை அதிகாரிகளுக்கு தவறாமல் காண்பிக்க வேண்டும்

2. சொந்த செலவிலேயே குறிப்பிட்ட படிவத்தில் நடைச்சீட்டு அச்சிட்டு நடைச்சீட்டில் துணை இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) விருதுநகர் அலுவலக முத்திரையுடன் கையொப்பமும் பெறவேண்டும். குவாரியில் இருந்து கனிமம் ஏற்றிச் செல்லும் ஒவ்வொரு வாகனத்திற்கும் நடைச்சீட்டு வழங்கப்பட வேண்டும். சோதனையின் போது நடைச்சீட்டு இல்லையென்று கண்டுபிடிக்கப்பட்டால் வாகனங்கள் பறிமுதல் செய்யப்படுவதோடு குவாரி குத்தகைதாரர் மீது நடவடிக்கையும் எடுக்கப்படும்.

3. குவாரி செய்ய அனுமதிக்கப்பட்ட குறிப்பிட்ட புல எண் மற்றும் குறிப்பிட்ட விஸ்தீரணத்திற்குள் தான் குவாரி செய்ய வேண்டும்

4. குவாரிப்பணி மேற்கொள்வதற்கு முன்பாக குவாரி குத்தகை அனுமதி வழங்கப்பட்ட பகுதியில் நான்கு பக்கங்களிலும் மூன்று மீட்டர் இடைவெளியில் இரண்டு மீட்டர் உயரத்திற்கும் குறையாமலும் கண்மீட்டு கலை அமைத்து கல் தூண்கள் அமைத்தும் கம்பிவேலி அமைத்தும் பராமரிக்கவேண்டும்.

5. குத்தகைதாரர் குவாரியை வேறு யாருக்கும் உள் குத்தகைக்கு விடலாகாது.

6. ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகளுக்கு அவர் கட்டுப்பட்டு நடக்க வேண்டும்.

7. பிரதிமாதமும் 5ம் தேதிக்குள் முந்தைய மாதத்தில் குவாரி செய்து எடுக்கப்பட்ட கனிம அளவு வெளியில் அனுப்பப்பட்ட கனிம அளவு குவாரியில் வேலை செய்பவரும் கூலி ஆட்களின் எண்ணிக்கை முதலிய விபரங்களை விருதுநகர் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநருக்கு அனுப்பி வைக்க வேண்டும்.

8. குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றப்பட்ட பின்புதான் குவாரியில் வேலை செய்யத் தொடங்க வேண்டும்.

9. குத்தகை பற்றிய முழு விபரங்கள் அடங்கிய தகவல் பலகை ஒன்று குவாரியில் கண்டிப்பாக வைத்திருக்க வேண்டும்.

10. சொந்த செலவிலும் முயற்சியாலும் குவாரிக்குச் செல்லும் சாலைகள் மற்றும் பாதைகள் மற்றும் வசதிகள் அமைத்துக் கொள்ள வேண்டும்.

11. தன் சொந்த செலவிலேயே குவாரியில் குத்தகை வழங்கப்பட்ட விஸ்தீரணத்தை வட்ட அளவர் மூலம் அளந்து நான்கு எல்லைகளும் கல்தூண்கள் நட்டு அமைத்துப் பராமரித்து வர வேண்டும்.

12. குவாரிக்குரிய நடைச்சீட்டுகளை கண்டிப்பாக குவாரியில் தெரியுமாறு வைக்க வேண்டும். நடைச்சீட்டுக்களின் அடிக்கட்டைகளை குவாரியில் வைத்திருக்க வேண்டும்.

LESSEE

LESSOR

அனுமதி எண்: 25
ஆண்டு: 2016
பக்க எண்: 16
மொத்த பக்கம்: 23

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13. குவாரிக்கு அருகில் வீடுகள், சாலைகள், பாதைகள், மின்சாரக்கம்பிகள், மின்சார டிரான்ஸ்பார்மர்கள் கோவில், ஓடை, குடிநீர் ஆதாரங்கள் மற்றும் சரித்திரப் புகழ் பெற்ற ஸ்தலங்கள் போன்றவை அமைந்திருந்தால் அவைகளுக்கு சேதம் ஏற்படாதவாறு தேவையான அளவு பாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.

14. அனுமதி பெறாமல் குவாரியில் வெடிமருந்துகள் பயன்படுத்தக்கூடாது. வெடிபொருட்கள் சட்டம் கண்டிப்பாக கடைப்பிடிக்கப்பட வேண்டும். குறைந்த அழுத்தமுள்ள வெடிமருந்துகளை பயன்படுத்தி குவாரிப் பணி செய்ய வேண்டும்.

15. குவாரியில் வேலை செய்யும் தொழிலாளர்களின் நலன் பேணப்படவேண்டும். குழந்தைத் தொழிலாளர்களை குவாரிப் பணியில் ஈடுபடுத்தக்கூடாது.

16. அனுமதிதாரர் புராதனச் சின்னங்களுக்கோ, அரசாங்க சொத்துக்களுக்கோ எவ்வித சேதமும் இன்றி குவாரி செய்ய வேண்டும். அருகாமையில் உள்ள பட்டா நிலங்களுக்கு எவ்வித சேதமுமின்றி குவாரி செய்ய வேண்டும்.

17. அருகில் அமைந்துள்ள விவசாய நிலங்களுக்கு எவ்வித பாதிப்பும் இல்லாத வகையில் குவாரிப்பணி மேற்கொள்ள வேண்டும்.

18. மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையம், சென்னை கடித எண். SEIAA-TN/F.No. 5631/1(a) EC/No: 3698/2016, நாள்: 06.09.2016. தெரிவிக்கப்பட்டுள்ள அனைத்து நிபந்தனைகளையும் தவறாது கடைப்பிடிக்க வேண்டும்.

19. மாவட்ட சுற்றுச்சூழல் பொறியாளர், மாசுக்கட்டுப்பாட்டு வாரியம், விருதுநகர் அவர்களின் விண்ணப்ப எண்: 6826093, நாள்: 26.09.2016.

20. சுரங்கத் திட்டத்தில் (Mining Plan) குறிப்பிட்டுள்ள விபரங்களின்படி குவாரிப்பணி மேற்கொள்ள வேண்டும்.

21. காலை 7 மணி முதல் மாலை 5 மணி வரை குவாரிப் பணி மேற்கொள்ள வேண்டும். மேலும் இரவு நேரங்களில் கற்களை ஏற்றக்கூடாது.

22. அருகிலுள்ள புல எண்களுக்கு 7.5 மீட்டர் பாதுகாப்புத் தூரம் கடைப்பிடித்து குவாரிப்பணி மேற்கொள்ள வேண்டும்.

23. விண்ணப்பதாரர் குத்தகை கோரிய புல எண். 43/1B, 45/1A2-ன் தெற்குப்பகுதியில் கிழக்கு மேற்காக செல்லும் மின்வழிப்பாதை மற்றும் வண்டிப்பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி தூரம் பராமரிக்க வேண்டும்.

24. குத்தகை ஒப்பந்தம் நிறைவேற்றும் நாளிலிருந்து 21 /10/2016 முதல் 20/10/2019 வரை மூன்று ஆண்டுகளுக்கு குவாரிப்பணி மேற்கொள்ள வேண்டும்.

For the purpose of stamp duty the anticipated Seigniorage Fee for a period of Three Years from the demised land is Rs. 36,69,185/-

THE SCHEDULE

In the village of ~~Keelarajakularaman, Sivakasi Taluk, Tirunelveli~~ Appayanayakanpatti, Vembakkottai Tk, Virudhanagar District and Sub-Registration District of ~~Tirunelveli~~ Keelarajakularaman within the Registration District of Virudhunagar.

correction = Two

LESSEE

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LESSOR

ஆவண எண் : 1530

ஆண்டு: 2016

2530/2016/BK1

CERTICATE UNDER SECTION 42 OF STAMP ACT

S.No. 143 of 2016

I hereby certify that a sum of Rs. 5555 (Rupees Five thousand five hundred only) on account of proper / deficit stamp duty has been levied under section 41 of the Stamp Act in respect of this instrument from SUBBURAJ residing at [illegible]

KeelaRajakularaman
Collector
Date:25/10/2016

Signature of SUBREGISTRAR &

Under Section 41 of the Indian Stamp Act.

Presented in the Office of SUBREGISTRAR of KeelaRajakularaman and fee of Rs. 20915 paid between hours of 4 and 5 on 25/10/2016 by

1 Left Thumb

1. [illegible]

Additions As per the recitals of the document

Execution Admitted by

I have satisfied my self as to the execution of the instrument by Thiru VNR COLLECTOR who is exempted from Personal Appearance under Section 88(1) of the Registration Act.

Identified by

1 [illegible] Name :- [illegible] S/o [illegible]

2 [illegible] Name :- [illegible] S/o [illegible]

Sheet no. 1 of 2

1. [illegible]

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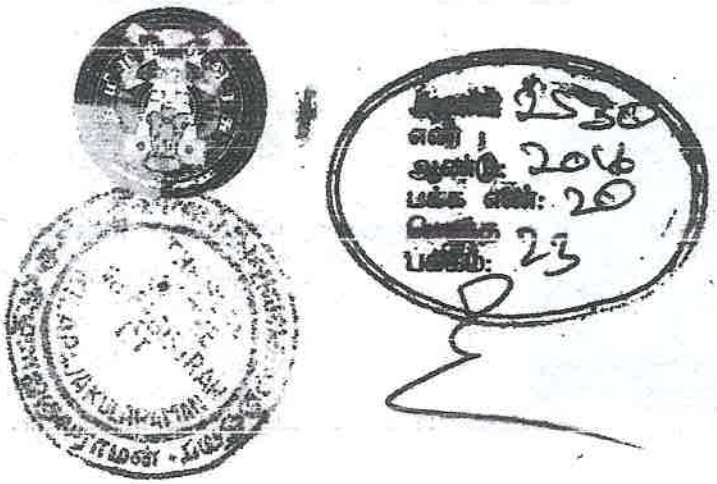
25th day of October 2016

SUBREGISTRAR KeelaRajakularaman

Registered as No 2530 of 2016 of Book I

Date : 25/10/2016 SUBREGISTRAR
KeelaRajakularaman



Sheet no. 2 of 2

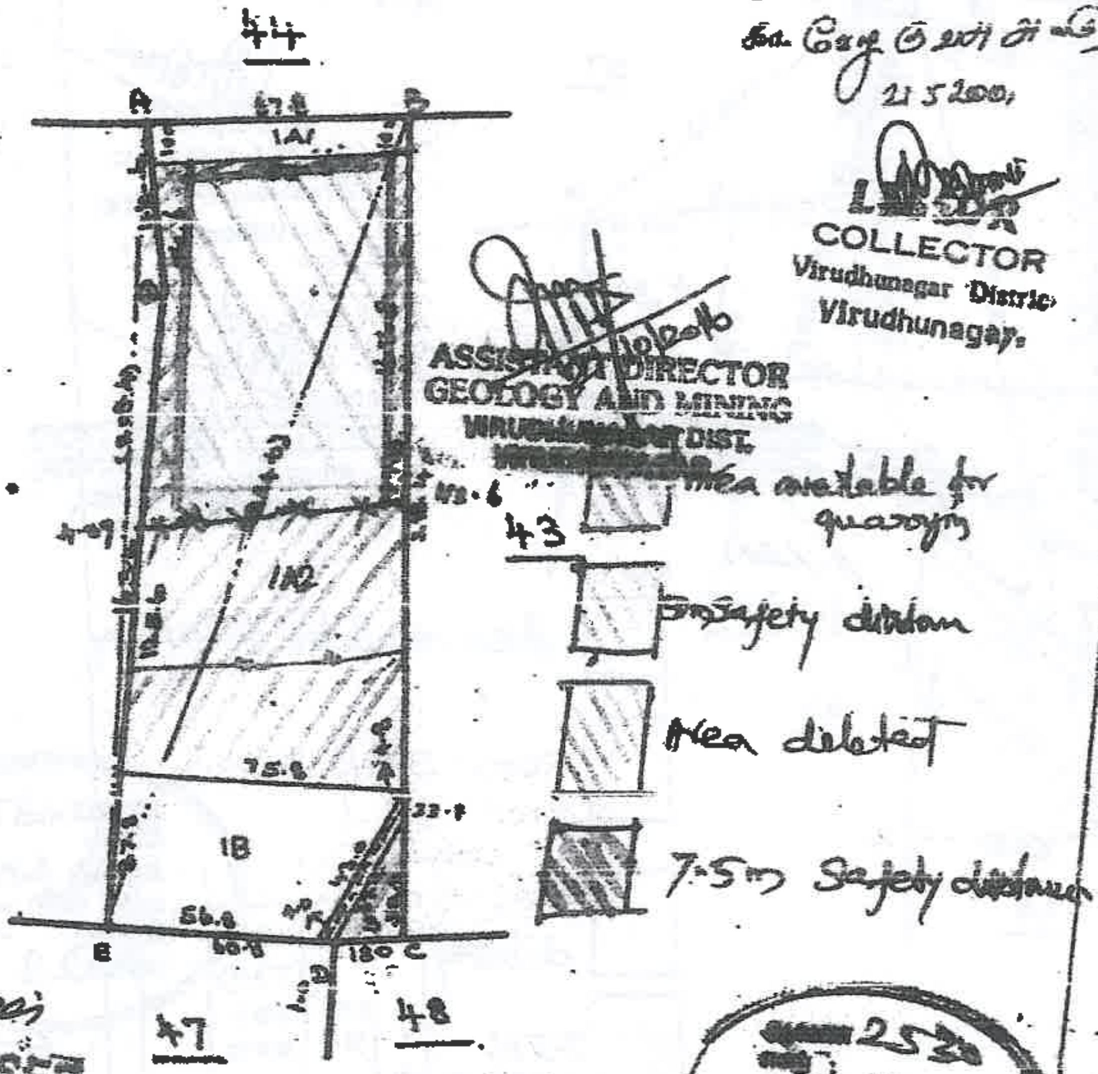
224

புல எண். 45

பரப்பு : ஹெக்டேர்

2 SEP 2022

உட்பிரிவு எண் 1A1, 1A2



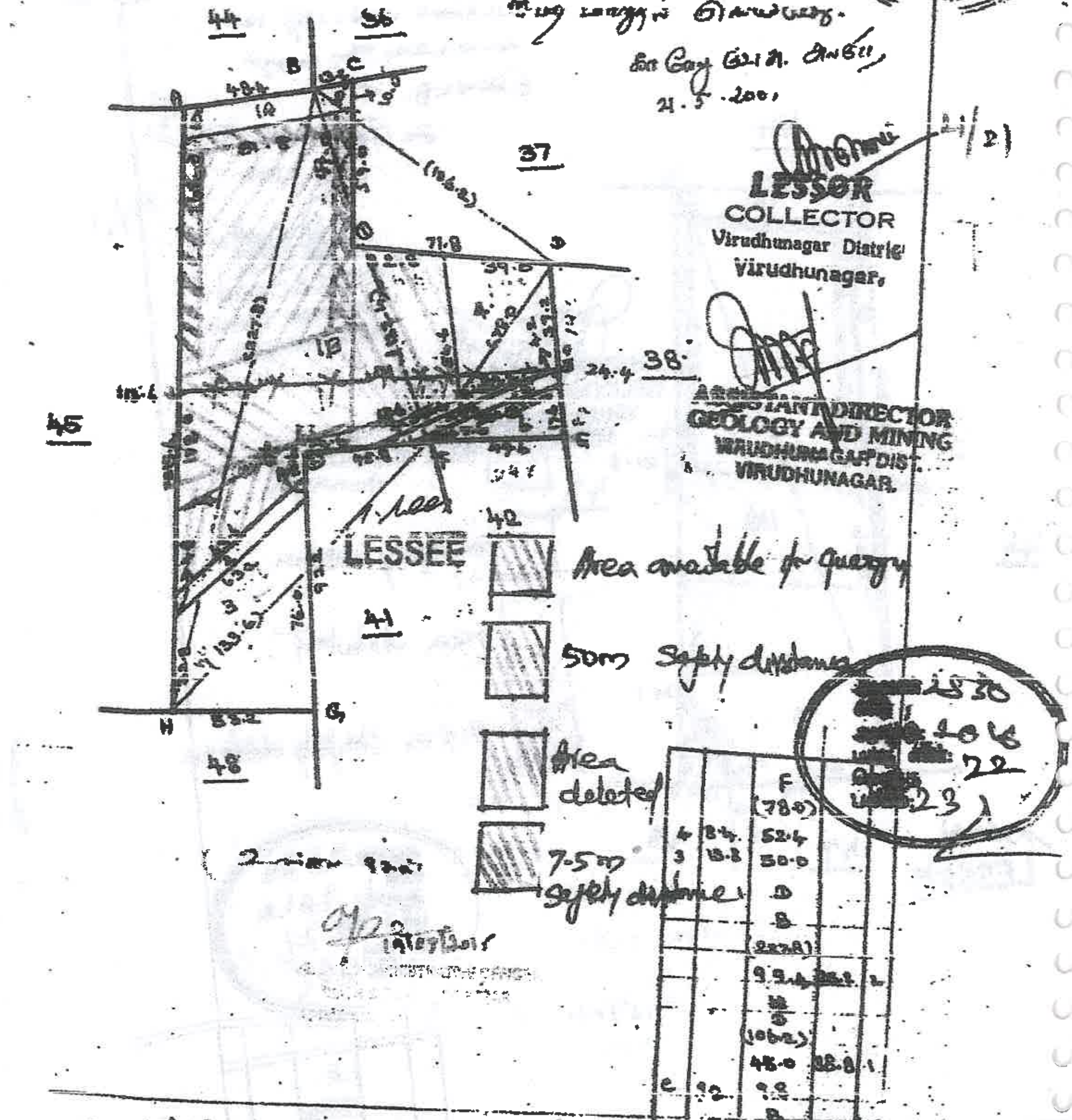
COLLECTOR
Virudhunagar District
Virudhunagar.

ASSISTANT DIRECTOR
GEOLOGY AND MINING
VIRUDHUNAGAR DIST.

LESSEE

4.11.85

229



LESSOR
COLLECTOR
Virudhunagar District
Virudhunagar.
ASSISTANT DIRECTOR
GEOLOGY AND MINING
VIRUDHUNAGAR DIST.
VIRUDHUNAGAR.
LESSEE
Area available for quarry
50m Safety distance
Area deleted
7.5m safety distance

1:2,000

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இந்திய அரசாங்கம்
Unique Identification Authority of India
Government of India

பதிவு அடையாளம் / Enrolment No 2040/20800/32284

20/01/2016

To,
சுப்புராஜ்
Subburaj
S/O: Shanmugaraj
7/112
SOUTH STREET
KUNDAIPATTI
Varaganur
Sevalpatti Sankarankoil Tirunelveli
Tamil Nadu 628140

Ref: 7758 / 01B / 1636384 / 1636800 / P

SB457304371FT

உங்கள் ஆதார் எண் / Your Aadhaar No. :

4670 6549 5047

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

இந்திய அரசாங்கம்
Government of India

சுப்புராஜ்
Subburaj
பிறந்த ஆண்டு / DOB : 03/06/1980
ஆண் / Male

4670 6549 5047

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
0 2 [redacted]
புவியியல் ...

ஆவண எண்: 3530
ஆண்டு: 2016
பக்க எண்: 23
மொத்த பக்கம்: 230

1. Neej

1. Neej

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ANNEXURE-VI

உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

Dr. S. KALYANASUNDARAM ,I.F.S.(Retd.)
CHAIRMAN

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY – TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359974
Fax No. 044-24359975

ENVIRONMENTAL CLEARANCE

Lr. No.SEIAA-TN/F.No.5631/1(a)/ EC.No: 3698 /2016 dated: 06.09.2016

To
Thiru. S. Subburaj
No.7/107, South Street
Kundampatti
Sevalpatti Post
Tirunelveli District

Sir,

Sub: SEIAA-TN – Proposed **Rough Stone, Jelly & Gravel** quarry located at S.F.No 43/1B (Part) & 45/1A2 (Part), Appayanaickenpatti Village,Sivakasi Taluk, Virudhunagar District- issue of Environmental Clearance – Reg.

Ref: 1. Your Application for Environmental Clearance dt: 09.08.2016
2. Minutes of the 80th SEAC held on 01.09.2016 & 02.09.2016
3. Minutes of the SEIAA meeting held on 06.09.2016

Details of Minor Mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	**Name of Project Proponent and address**	Thiru. S. Subburaj No.7/107, South Street Kundampatti Sevalpatti Post Tirunelveli District
2	**Location of the Proposed Activity**	
	Survey Number	43/1B (Part) & 45/1A2 (Part)
	Latitude and Longitude	09°17'54"N to 09°17'59"N 77°41'49"E to 77°41'41.54"E
	Village	Appayanaickenpatti
	Taluk	Sivakasi

Kalyanasundaram
CHAIRMAN
SEIAA-TN

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	District	Virudhunagar
3	**Proposed Activity**	
	i. Minor mineral	Rough Stone, Jelly & Gravel
	ii. Mining Lease Area	1.45.0 Ha
	iii. Approved quantity	74270 cu.m of Rough stone & 6264 cu.m of Weathered Rock & 6600 cu.m of Gravel
	iv. Depth of Mining	32 m
	v. Type of mining	Opencast Semi Mechanized Method
	vi. Category(B1/B2)	B2
	vii. Precise area communication	Rc.No.kv.1/11925/2015, dated: 21.07.2016
	viii. Mining plan approval	Assistant Director Rc.No. KV1/11925/2015, dated: 28.07.2016
	ix. Mining lease period	3 Years
4	**Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:-**	Not attracted. Affidavit furnished
5	**Man Power requirement per day:**	14 Employees
6	**Utilities**	
	i. Source of Water :	Water vendors/Existing bore hole
	ii. Quantity of Water Requirement in KLD:	
	a. Domestic b. Industrial c. Green Belt & Dust Suppression	0.3KLD } 0.7KLD
	iii. Power Requirement: a. Domestic Purpose b. Industrial Purpose	 TNEB 41370 Liters of HSD
7	**Cost** i. Project Cost ii. EMP Cost	 Rs.49.80 Lakhs Rs.3.25 Lakhs
8	**Public Consultation:-**	Not required as per O.M. dated 24.12.2013 of MoEF, GoI.
9	**Date of Appraisal by SEAC:-** **Agenda No:**	01.09.2016 & 02.09.2016 80-88
10	**Date of Review/Discussion by SEIAA and the Remarks:-** The proposal was placed before the SEIAA in its **190** Meeting held on **06.09.2016** and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone, Jelly & Gravel subject to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.	
11	**Validity:** **The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 3 Years from the date of issue whichever is earlier.**	

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CHAIRMAN
SEIAA-TN

Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that

   I. The project has been accorded Environmental Clearance.

   II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.

   III. Environmental Clearance may also be seen on the website of the SEIAA.

   IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

2. The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
14. Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.

Kalyanasil
CHAIRMAN
SEIAA-TN

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15. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
16. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
17. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
18. The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
19. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
20. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
21. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009.
22. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
    i. Roads shall be graded to mitigate the dust emission.
    ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
23. The following measures are to be implemented to reduce Noise Pollution
    i. Proper and regular maintenance of vehicles and other equipment
    ii. Limiting time exposure of workers to excessive noise.
    iii. The workers employed shall be provided with protection equipment and earmuffs etc.
    iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
24. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.
25. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
26. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
27. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
28. The following measures are to be adopted to control erosion of dumps:-
    i. Retention/ toe walls shall be provided at the foot of the dumps.
    ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

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CHAIRMAN
SEIAA-TN

29. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
30. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
31. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
34. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
36. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
37. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site
38. Ground water quality monitoring should be conducted once in 3 Months
39. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
40. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF , GOI.
41. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF , GOI..
42. Bunds to be provided at the boundary of the project site.
43. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

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General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

CHAIRMAN
SEIAA-TN

16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA,TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957,National Commission for protection of Child Right Rules,2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied
23. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

CHAIRMAN
SEIAA-TN

Copy to:

1. The Secretary, Ministry of Mines, Government of India, ShastriBhawan, New Delhi.
2. The Principal Secretary, Environment and Forests Department, Government of Tamil Nadu, Tamil Nadu.
3. The Additional Chief Secretary, Industries Department, Government of Tamil Nadu, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai – 34.
5. The Chairman, Central Pollution Control Board, PariveshBhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai,Guindy, Chennai-32
7. The District Collector, Virudhunagar District
8. The Commissioner of Geology and Mines,Guindy,Chennai-32
9. EI Division, Ministry of Environment & Forests, ParyavaranBhawan, New Delhi.
10. Spare.

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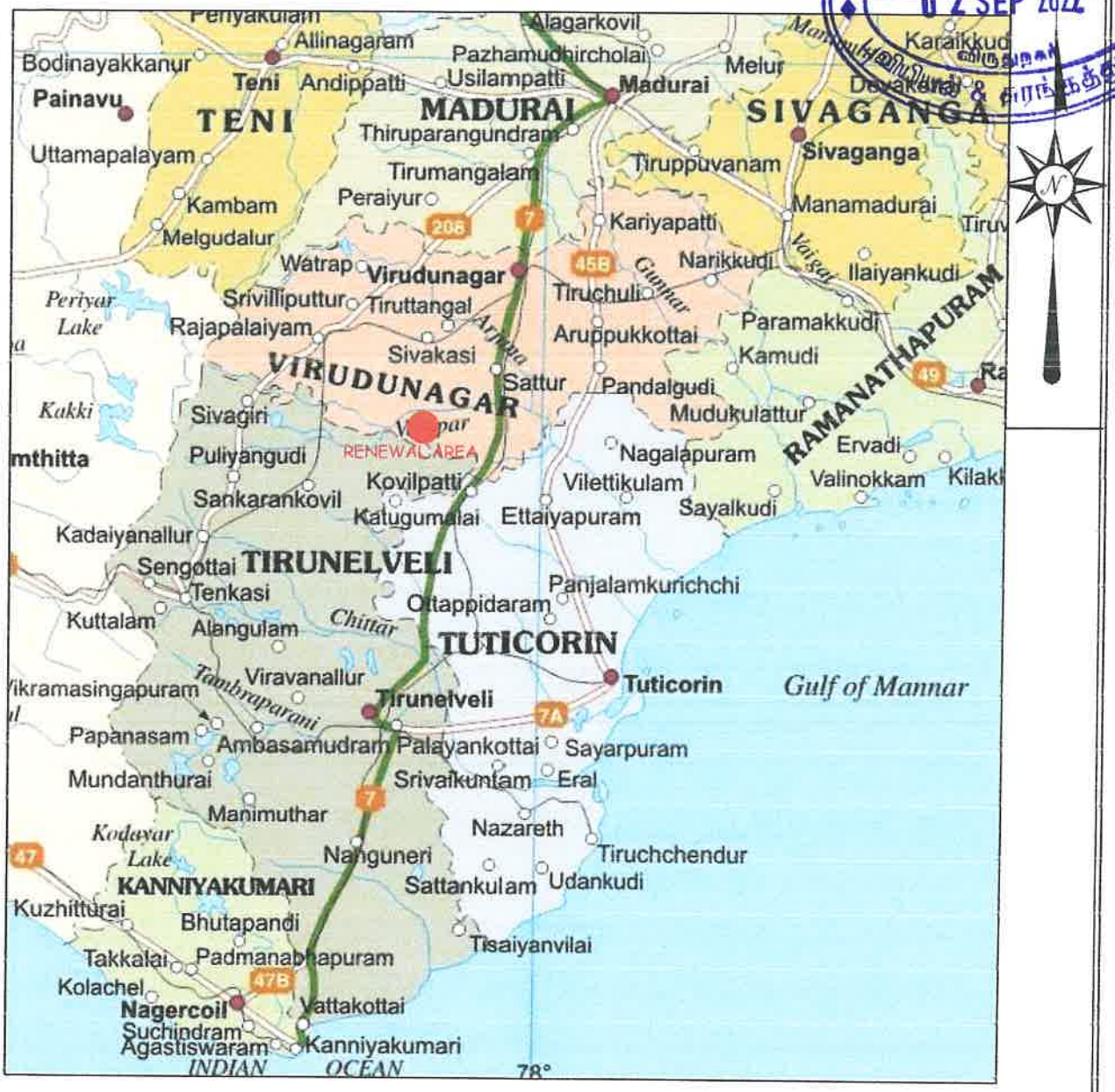

NAME OF THE APPLICANT:

S. SUBBURAJ, S/o. SHANMUGARAJ,
D.No.7/112, KUNDAMPATTI VILLAGE,
SEVALPATTI POST, THIRUVENKADAM TALUK,
TENKASI DISTRICT - 626 140.

PLATE NO. I

ROUGH STONE / JELLY / GRAVEL QUARRY

LOCATION PLAN

SCALE:- 1CM = 12.5KMs

INDEX:-

MINING LEASE RENEWAL AREA

- State capital
- District headquarters
- Other town
- National Highway number
- Golden Quadrilateral
- North-South & East-West Corridors
- National Highway
- Railway

PREPARED BY:-

G.RAVICHANDRAN, M.Sc.,P.G.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

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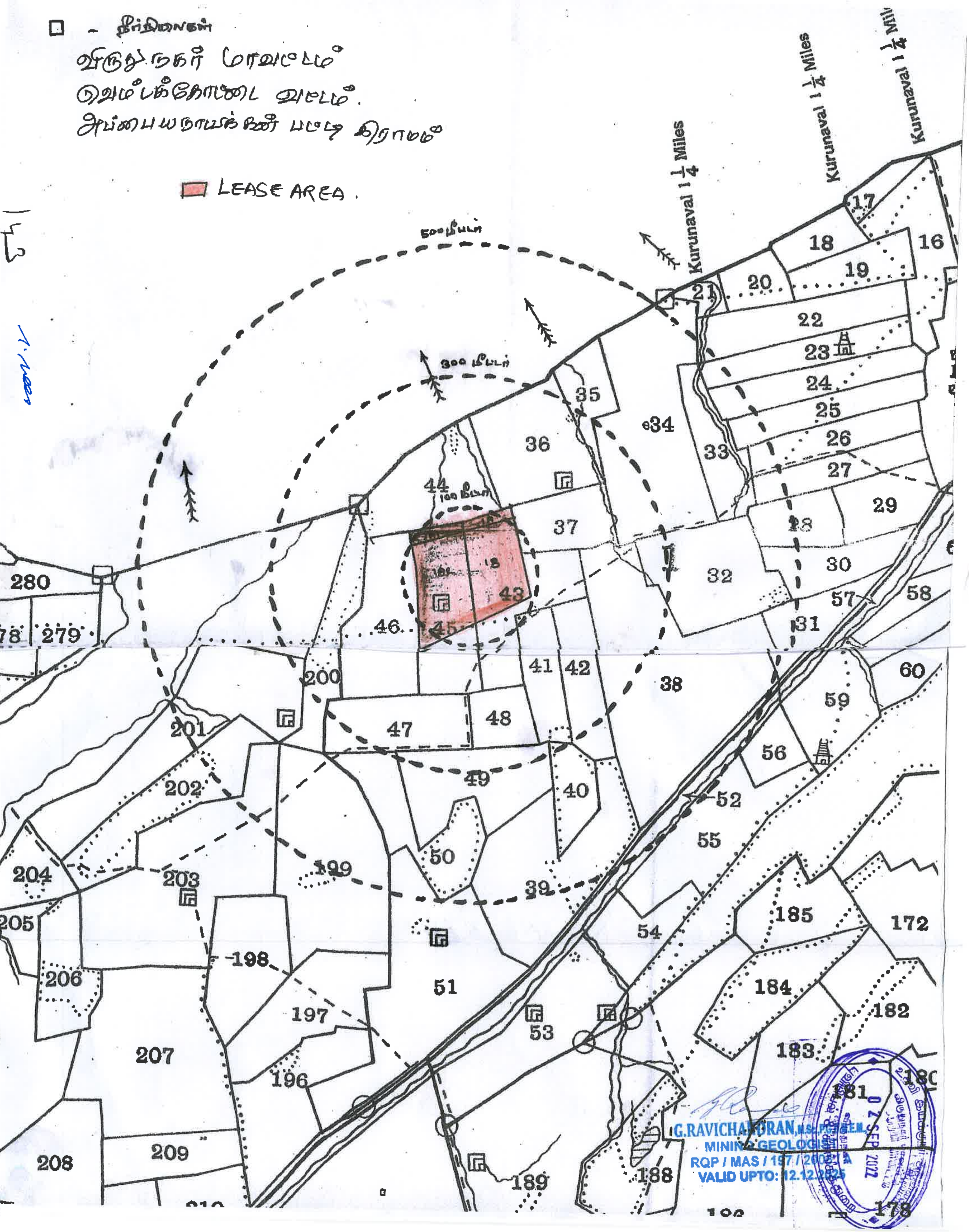
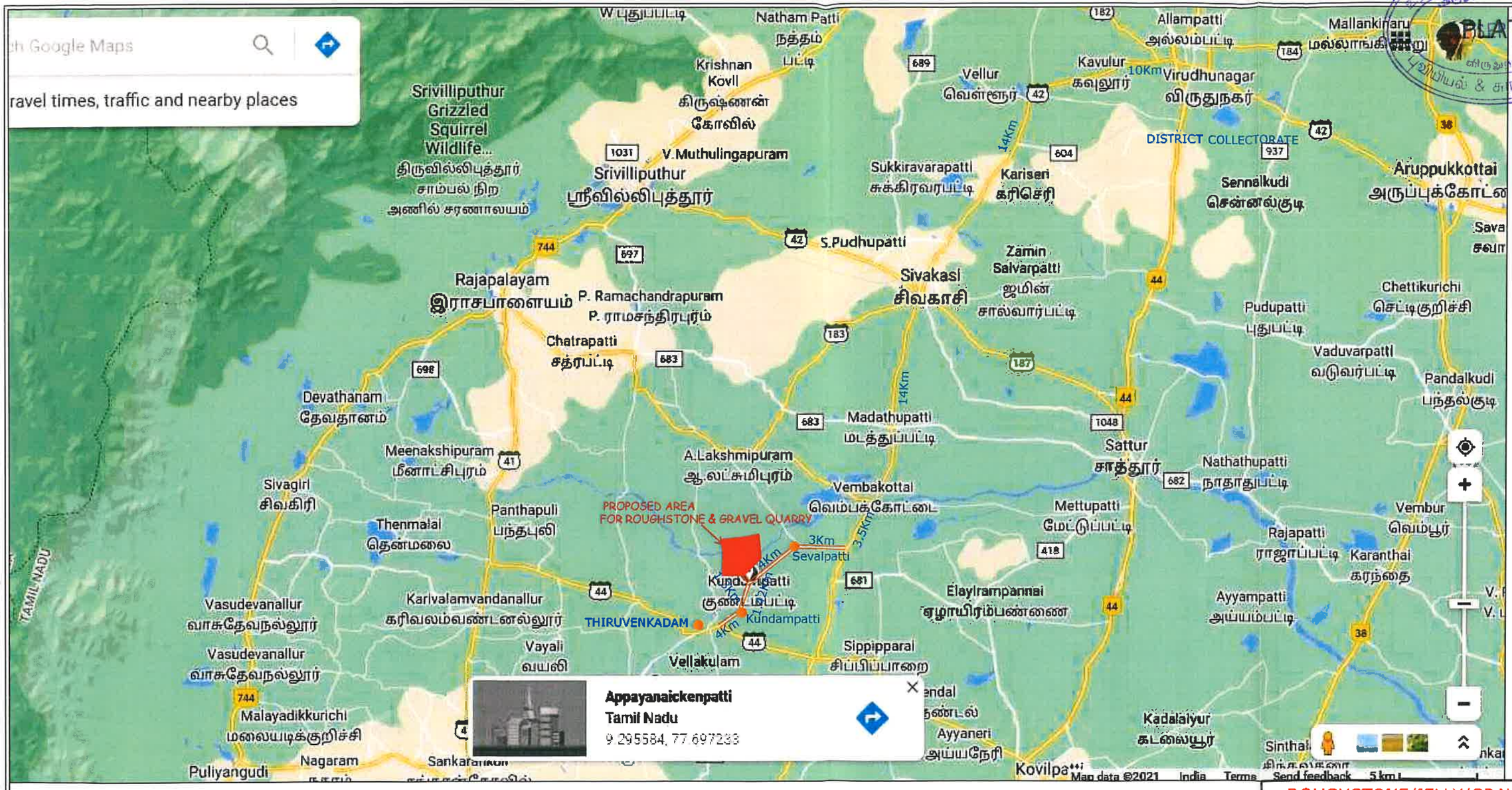


- நீர்நிலைகள்
விருதுநகர் மாவட்டம்
வெம்பக்கோட்டை வட்டம்.
அப்பையநாயக்கன் பட்டி கிராமம்
LEASE AREA.
500 மீட்டர்
300 மீட்டர்
100 மீட்டர்
Kurunaval 1 $\frac{1}{4}$ Miles
Kurunaval 1 $\frac{1}{4}$ Miles
G.RAVICHANDRAN
MINING GEOLOGIST
VALID UPTO: 12.12.2025
02 SEP 2022

PLATE NO. IA



NAME OF THE APPLICANT:

S. SUBBURAJ, S/o. SHANMUGARAJ,
D.No.7/112, KUNDAMPATTI VILLAGE,
SEVALPATTI POST, THIRUVENKADAM TALUK,
TENKASI DISTRICT - 626 140.

DISTRICT	:	VIRUDHUNAGAR
TALUK	:	VEMBAKOTTAI
VILLAGE	:	APPAIYANAICKANPATTI
S.F.Nos	:	43/1A,1B(P) & 45/1A1,1A2(P)
EXTENT	:	1-58.00 HECTARE.

INDEX:-

- RENEWAL AREA FOR ROUGHSTONE & GRAVEL QUARRY
- APPROACH ROAD
- VILLAGE

ROUGHSTONE/JELLY/GRAVEL QUARRY

ROUTE MAP

SCALE:- NOT TO SCALE

PREPARED BY:-

G.RAVICHANDRAN, M.Sc.,PG.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

240 1.Mas

PLATE NO. II

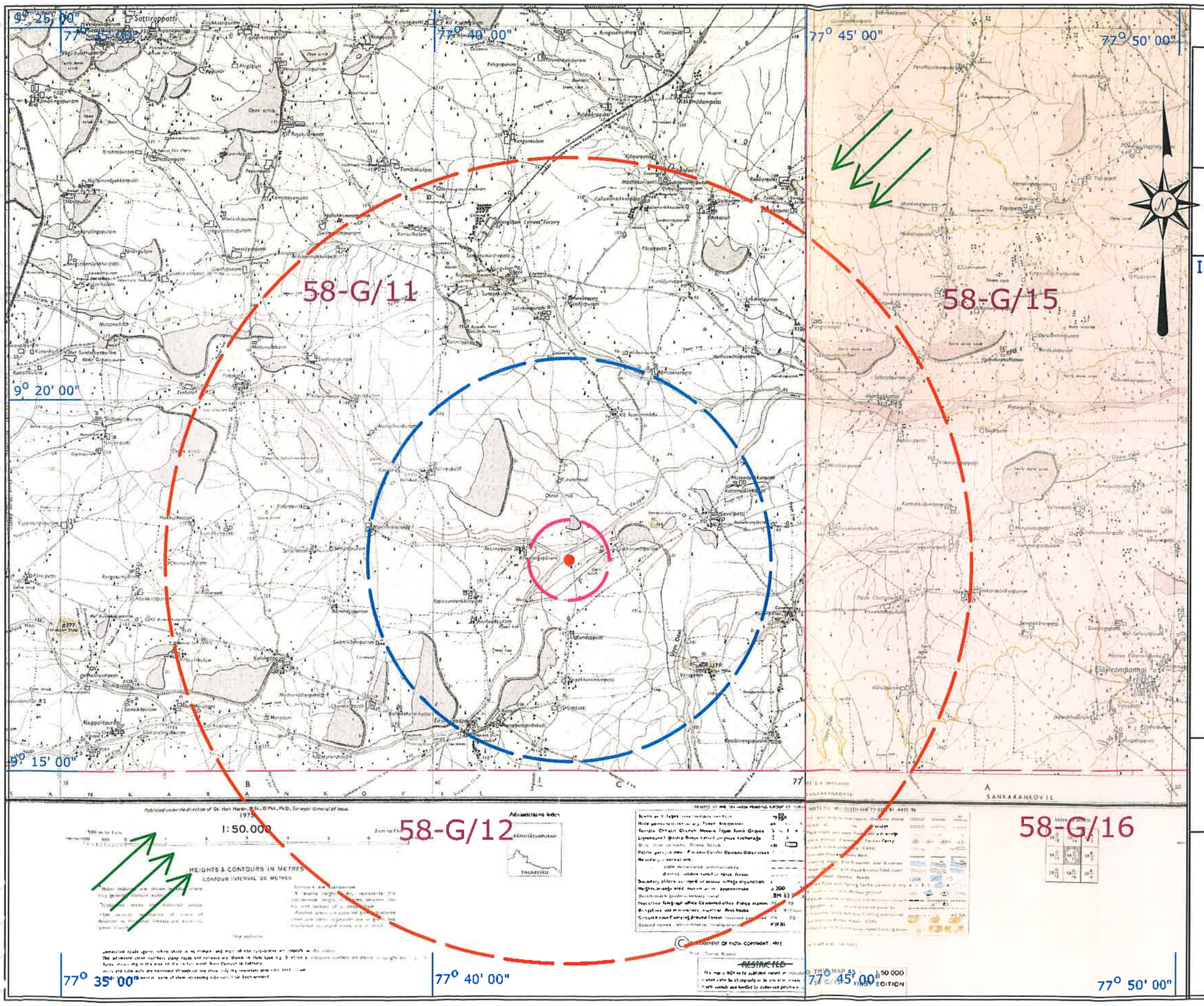
NAME OF THE APPLICANT:

S. SUBBURAJ, S/o. SHANMUGARAJ,
D.No.7/112, KUNDAMPATTI VILLAGE,
SEVALPATTI POST, THIRUVENKADAM TALUK,
TENKASI DISTRICT - 626 140.

TOPO SHEET No.58-G/11

LATITUDE : 9° 17' 52.8" To 9° 17' 57.5"

LONGITUTE :77° 41' 49.9" To 77° 41' 54.6"



INDEX:-

- MINING LEASE RENEWAL AREA
- WIND DIRECTION
- 1KM RADIUS
- 5KM RADIUS
- 10KM RADIUS

CONVENTIONAL SYMBOLS

- Express highway with toll, with bridge, with distance stone
- Roads, metalled according to importance
- Roads, double carriageway according to importance
- Unmetalled road, Cart track, Foot track, with pass, Footpath
- Streams with track in bed, undefined Canal
- Dams masonry or rock filled, earthwork Weir
- River dry with water channel, with island & rocks Tidal river
- Submerged rocks Shoal Swamp Reeds
- Wells lined, unlined Tube-well Spring Tanks perennial, dry
- Embankments road or rail, tank Broken ground
- Railways broad gauge double, single with station, under construc
- Railways other gauges double, single with distance stone do
- Mineral line or tramway Kiln Cutting with tunnel
- Contours with sub-features Rocky slopes Cliffs
- Sand features (1)flat (2)sand-hills(permanent) (3)dunes(shifting)
- Towns or Villages inhabited, deserted Fort

ROUGHSTONE/JELLY/GRAVEL QUARRY

TOPO SKETCH - 10KM RADIUS

SCALE:- 1: 1,00,000

PREPARED BY:-

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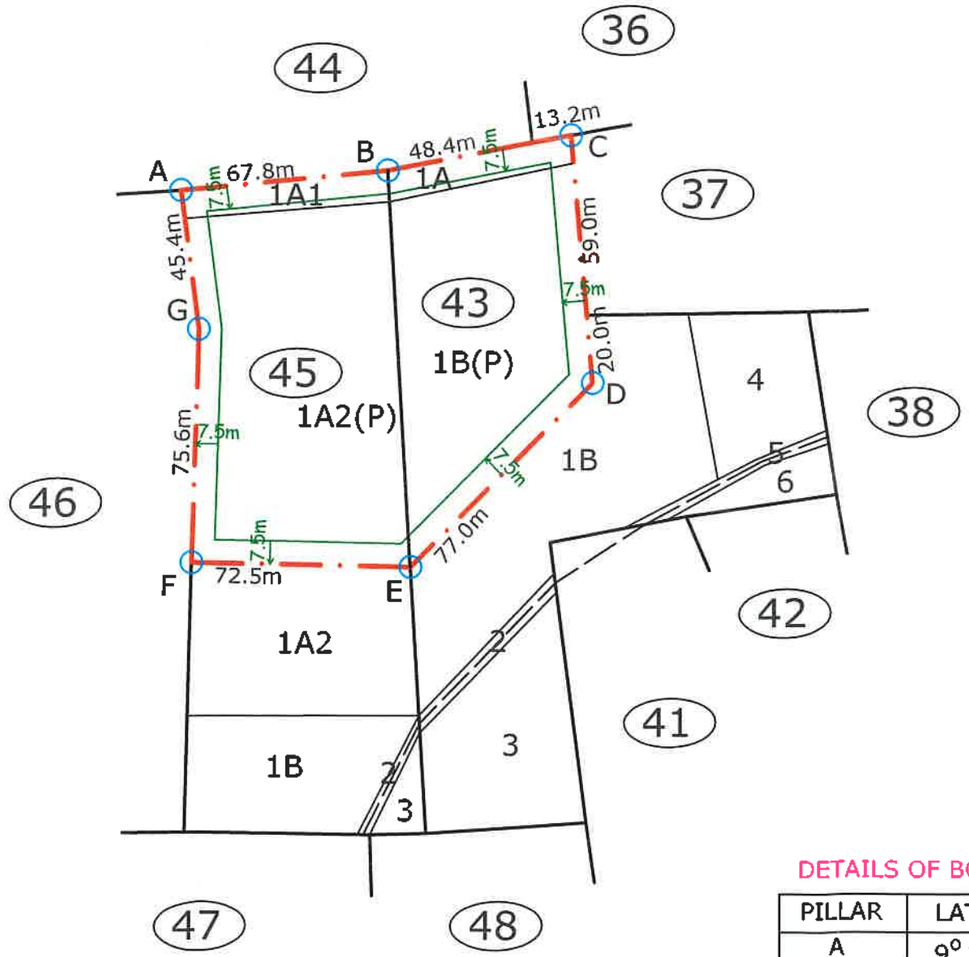

NAME OF THE APPLICANT:

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D.No.7/112, KUNDAMPATTI VILLAGE,
SEVALPATTI POST, THIRUVENKADAM TALUK,
TENKASI DISTRICT - 626 140.

DISTRICT : VIRUDHUNAGAR
TALUK : VEMBAKOTTAI
VILLAGE : APPAIYANAICKANPATTI
S.F.Nos : 43/1A,1B(P) & 45/1A1,1A2(P)
EXTENT : 1-58.00 HECTARE.

S.F.Nos	EXTENT (Ha)
43/1A	0-06.0
43/1B(P)	0-65.0
45/1A1	0-06.5
45/1A2(P)	0-80.5
TOTAL	1-58.0 Ha.

INDEX:-
LEASE RENEWAL BOUNDARY — · —
SAFETY DISTANCE 7.5M ———
BOUNDARY PILLARS ○ A B C . .

DETAILS OF BOUNDARY PILLARS

PILLAR	LATITUDE	LONGITUDE
A	9°17' 56.7"	77°41' 49.8"
B	9°17' 57.0"	77°41' 52.0"
C	9°17' 57.5"	77°41' 54.6"
D	9°17' 55.1"	77°41' 54.5"
E	9°17' 53.0"	77°41' 52.3"
F	9°17' 52.8"	77°41' 49.9"
G	9°17' 55.2"	77°41' 50.0"

ROUGHSTONE/JELLY/GRAVEL QUARRY

LEASE PLAN

SCALE:- 1: 2000

ALL PLANS AND SECTIONS ARE PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

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VALID UPTO: 12.12.2025

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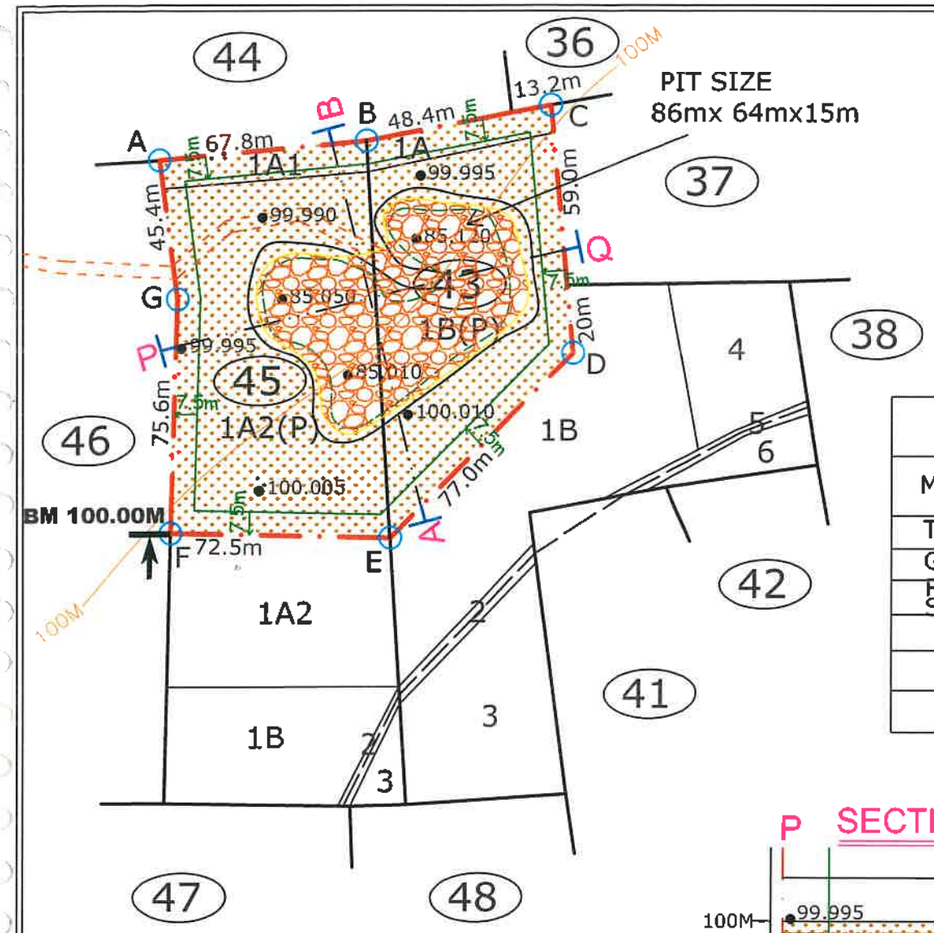

OLD PIT SIZE		
LENGTH[M]	WIDTH[M]	DEPTH[M]
86	64	15.0

GEOLOGICAL RESERVES

MINERAL	SECTION	LENGTH [M]	WIDTH [M]	HEIGHT [M]	VOLUME IN CUM
TOPSOIL	PQ & AB	130	122	2.0	31720
GRAVEL	PQ & AB	130	122	3.0	47580
ROUGH STONE	PQ & AB	130	122	25.0	396500
TOTAL VOLUME IN CU.M.					4,75,800
DEDUCT OLD PIT = 86 x 64 x 15m					-82,560
TOTAL GEOLOGICAL RESERVES					3,93,240 Cu.m.

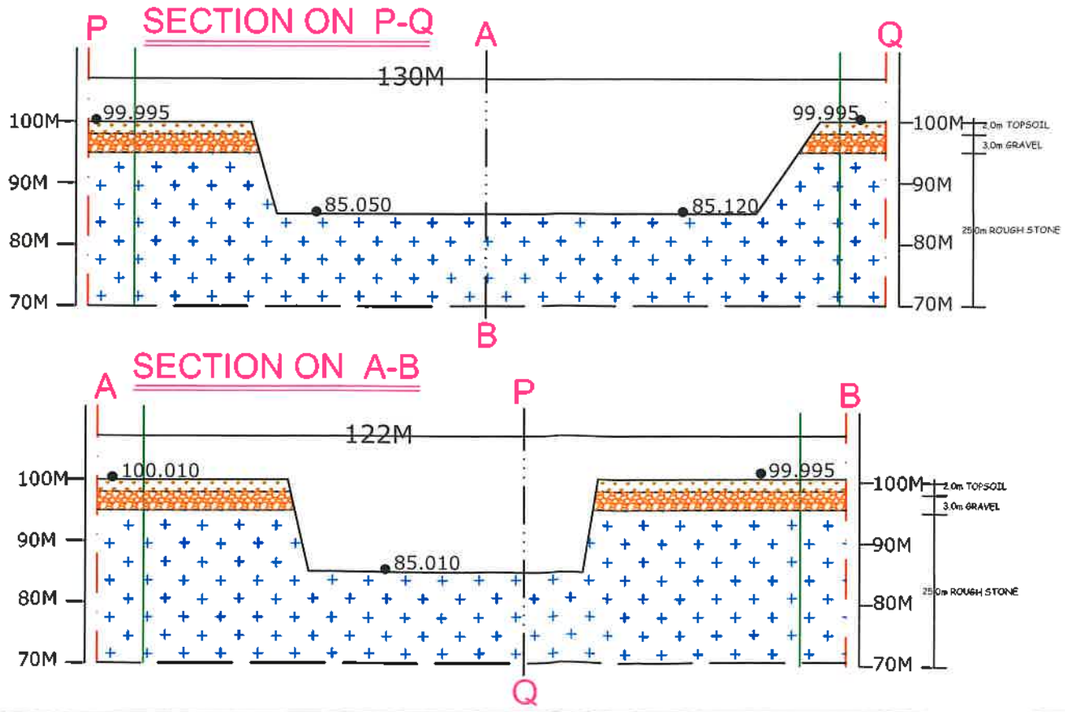

PLATE NO. IV

NAME OF THE APPLICANT:

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TENKASI DISTRICT - 626 140.

INDEX:-

- LEASE RENEWAL BOUNDARY
- SAFETY DISTANCE 7.5M
- BOUNDARY PILLARS — A B C..
- CONTOURS — 100M
- BENCH MARK (M.S.L) — BM 100.000M
- EXISTING PIT
- APPROACH ROAD
- TOP SOIL
- WEATHERED GNEISS(GRAVEL)
- CHARNOKITE (ROUGH STONE)

ROUGH STONE / JELLY / GRAVEL QUARRY

SURFACE CUM GEOLOGICAL PLAN & SECTIONS

PLAN SCALE:- 1: 2000

SECTION SCALE:- HOR- 1: 1000, VER- 1:1000

ALL PLANS AND SECTIONS ARE PREPARED

BY STATE GOVERNMENT.

G.RAVICHANDRAN, M.Sc.,P.G.D.M.E.M.,
MINING GEOLOGIST
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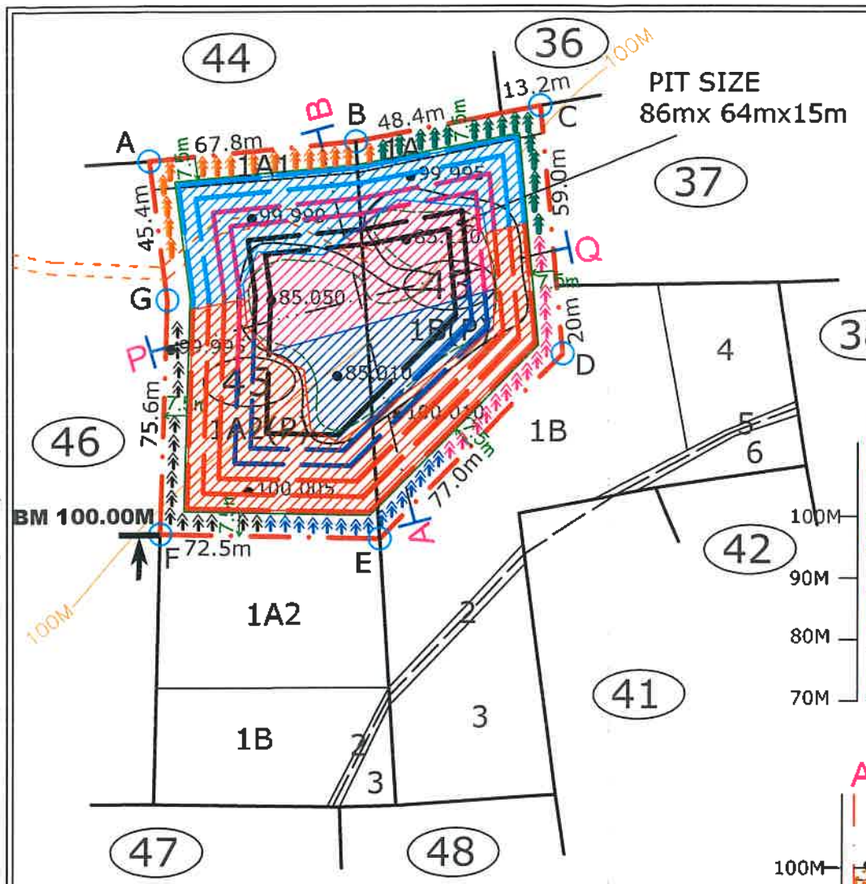
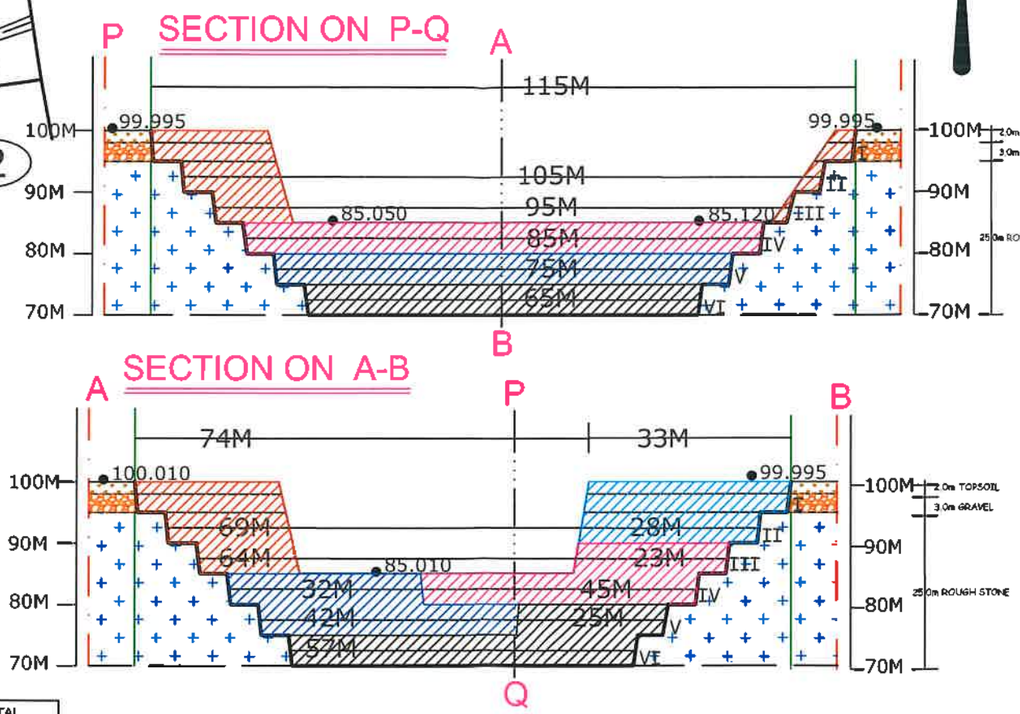
PLATE NO. X



AFFORESATION PROGRAMME

PLANTATION	TYPE	No of TREES	SPACING	AREA (Ha)	SURVIVAL	
I YEAR	NEEM	15	6m x 6m	0-05.40	80%	
II YEAR	NEEM	15	6m x 6m	0-05.40	80%	
III YEAR	NEEM	15	6m x 6m	0-05.40	80%	
IV YEAR	NEEM	15	6m x 6m	0-05.40	80%	
V YEAR	NEEM	15	6m x 6m	0-05.40	80%	
TOTAL PLANTATION AREA				0-27.0Ha		



YEARWISE PRODUCTION SCHEDULE

YEAR	SECTION	BENCH	LENGTH [M]	WIDTH [M]	DEPTH [M]	VOLUME IN CUM TOPSOIL	GRAVEL	ROUGHSTONE	TOTAL PRODUCTION IN CUM
I - YEAR	P - Q & A - B	I	115	74	2.0	6012	---	---	
	DEDUCT OLD PIT = 86x 64x 2.0m=-11008								
	P - Q & A - B	I	115	74	3.0	---	9018	---	
	DEDUCT OLD PIT = 86x 64x 3.0m=-16512								
	P - Q & A - B	II	105	69	5.0				
	P - Q & A - B	III	95	64	5.0				
	DEDUCT OLD PIT = 86x 64x 10.0m=-55040					---	---	11585	26,615
II - YEAR	P - Q & A - B	I	115	33	2.0	7590	---	---	
	P - Q & A - B	I	115	33	3.0	---	11385	---	
	P - Q & A - B	II	105	28	5.0	---	---	14700	33,675
III - YEAR	P - Q & A - B	III	95	23	5.0	---	---	10925	
	P - Q & A - B	IV	85	45	5.0	---	---	19125	30,050
IV - YEAR	P - Q & A - B	IV	85	32	5.0	---	---	13600	
	P - Q & A - B	V	75	42	5.0	---	---	15750	29,350
V - YEAR	P - Q & A - B	V	75	25	5.0	---	---	9375	
	P - Q & A - B	VI	65	57	5.0	---	---	18525	27,900
				TOTAL PRODUCTION		13,602	20,403	1,13,585	1,47,590 Cu.m

NAME OF THE APPLICANT:

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TENKASI DISTRICT - 626 140.

INDEX:-

- LEASE RENEWAL BOUNDARY
- SAFETY DISTANCE 7.5M
- BOUNDARY PILLARS (A B C..)
- CONTOURS (100M)
- BENCH MARK (BM 100.000M)
- APPROACH ROAD
- I YEAR EXCAVATION
- II YEAR EXCAVATION
- III YEAR EXCAVATION
- IV YEAR EXCAVATION
- V YEAR EXCAVATION

ROUGH STONE / JELLY / GRAVEL QUARRY

LAND USE CUM YEARWISE PLAN & SECTIONS

PLAN SCALE:- 1: 2000

SECTION SCALE:- HOR- 1: 1000, VER- 1:1000

ALL PLANS AND SECTIONS ARE PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

G.RAVICHANDRAN, M.Sc.,P.G.D.M.E.M.,
MINING GEOLOGIST
RQP / MAS / 197 / 2005 / A
VALID UPTO: 12.12.2025

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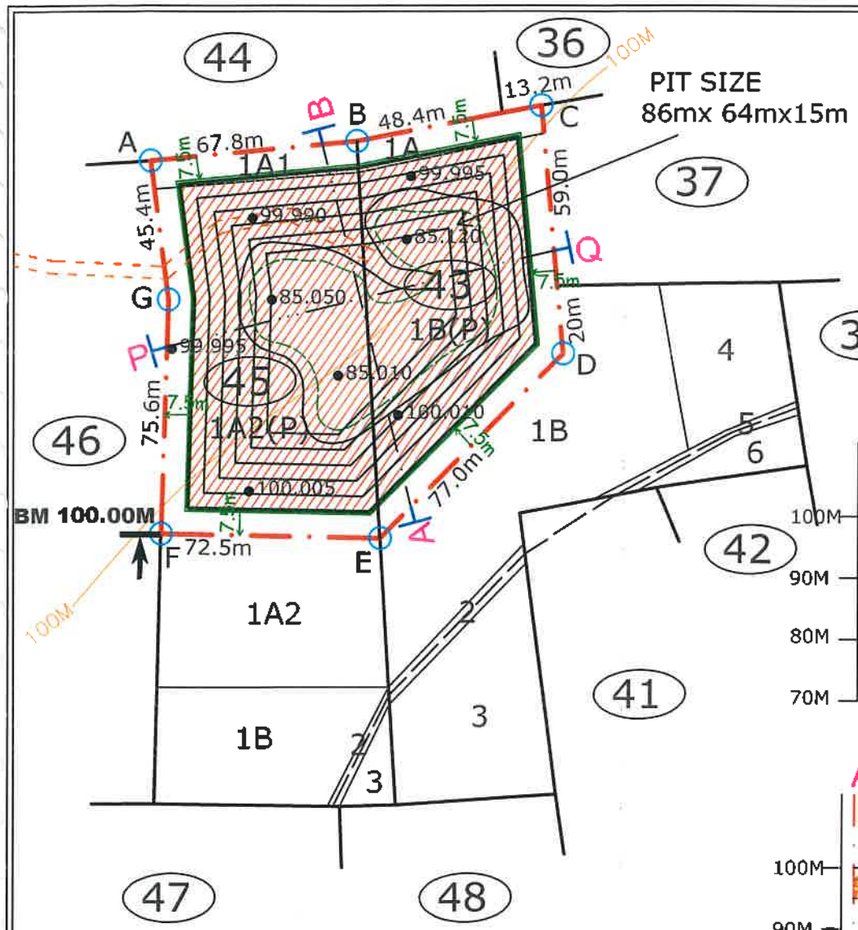
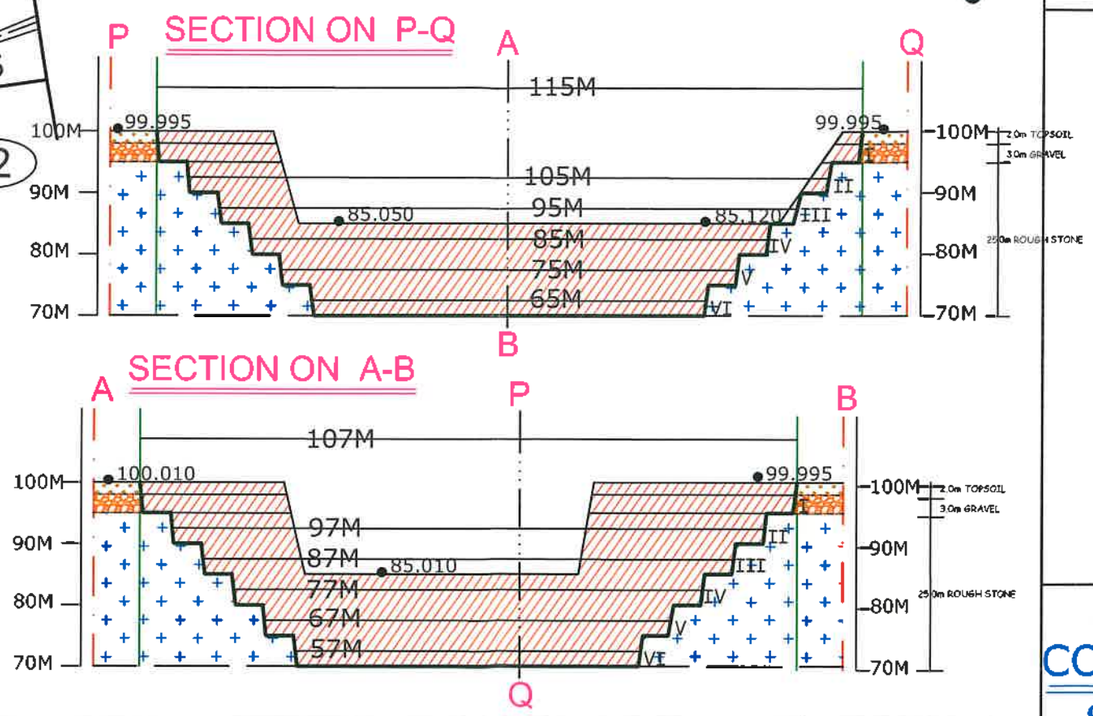
PLATE NO. VI



GEOLOGICAL RESERVES	3,93,240
MINEABLE RESERVES	1,47,590
BALANCE RESERVES	2,45,650



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INDEX:-

- LEASE RENEWAL BOUNDARY
- SAFETY DISTANCE 7.5M
- BOUNDARY PILLARS (O A B C..)
- CONTOURS
- BENCH MARK (BM 100.00M)
- APPROACH ROAD
- WEATHERED GNEISS(GRAVEL)
- CHARNOKITE (ROUGH STONE)
- LAYOUT OF MINE WORKING
- ULTIMATE PIT SLOPE

ROUGH STONE / JELLY / GRAVEL QUARRY

CONCEPTUAL MINING PLAN

SECTIONS

PLAN SCALE:- 1: 2000

SECTION SCALE:- HOR- 1: 1000, VER- 1:1000

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ULTIMATE PIT SIZE			
SECTION	LENGTH[M]	WIDTH[M]	DEPTH[M]
PQ-AB	115	107	30.0

MINEABLE RESERVES							
MINERAL	SECTION	BENCH	LENGTH [M]	WIDTH [M]	DEPTH [M]	VOLUME IN CUM	MINEABLE RESERVES IN CUM
TOPSOIL	PQ & AB	I	115	107	2.0	24610	
	DEDUCT OLD PIT = 86M X 64M X 2 =					- 11008	13,602 Cu.m.
GRAVEL	PQ & AB	I	115	107	3.0	36915	
	DEDUCT OLD PIT = 86M X 64M X 3 =					- 16512	20,403 Cu.m.
ROUGH STONE	PQ & AB	II	105	97	5.0	50925	
	PQ & AB	III	95	87	5.0	41325	
	PQ & AB	IV	85	77	5.0	32725	
	PQ & AB	V	75	67	5.0	25125	
	PQ & AB	VI	65	57	5.0	18525	
	DEDUCT OLD PIT = 86M X 64M X 10 =					- 55040	1,13,585 Cu.m.
					TOTAL MINEABLE RESERVES		1,47,590 Cu.m.

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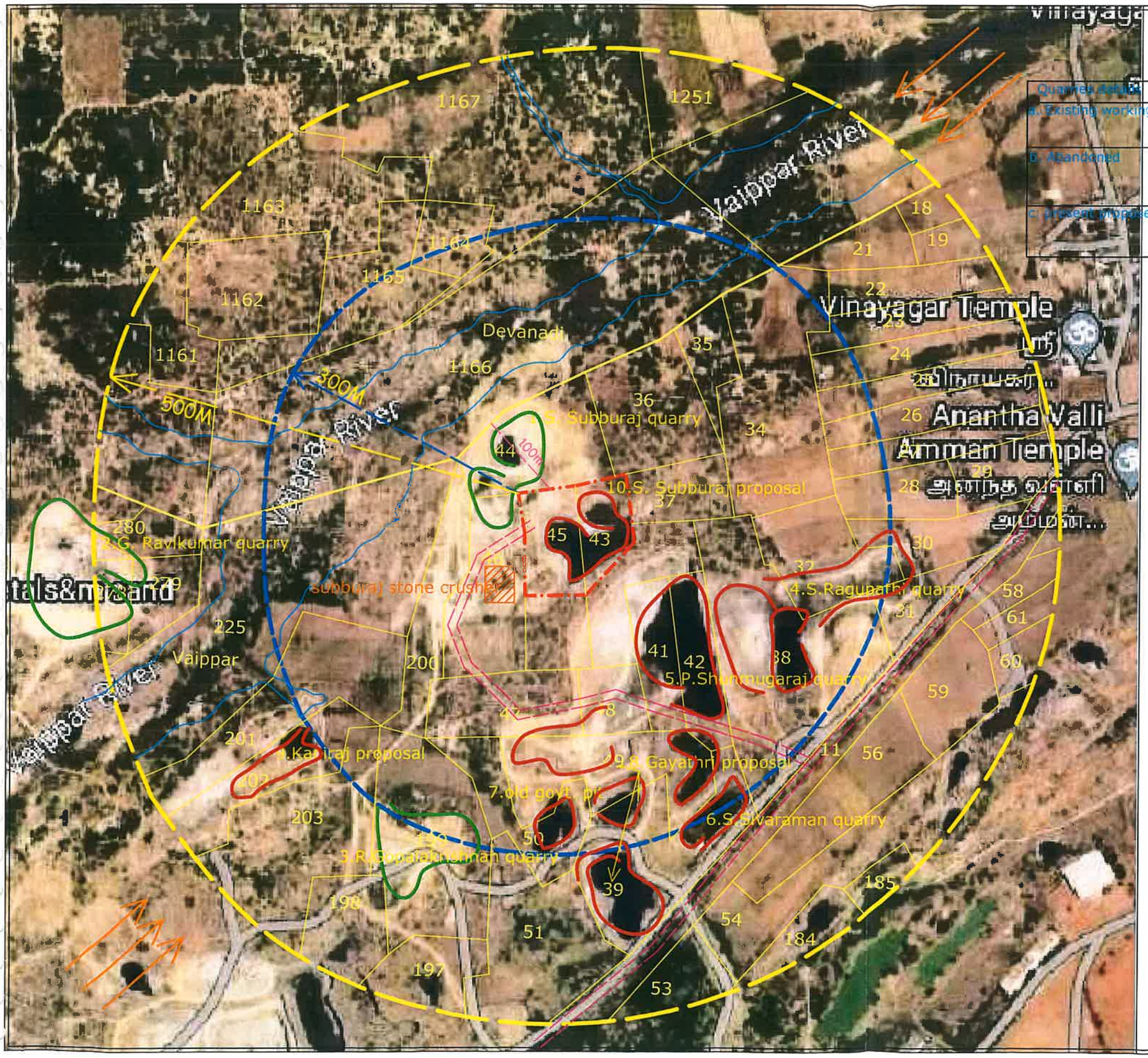
PLATE NO. VII

500m Radius from the proposed quarry

Quarries details	Name of owner	Village name	Survey nos	Extent (Ha)	Distance (m)
a. Existing workings	1.S.Subburaj	Appaiyanaickanpatti	44,46/1	2-20.5	15m
	2.G.Ravikumar	Appaiyanaickanpatti	276,278,etc.,	3-85.5	480m
	3.R.Gopalakrish	Appaiyanaickanpatti	199/6A	1-08.0	290m
b. Abandoned	4.S.Ragupathi	Appaiyanaickanpatti	32/4,38/3Aetc.,	2-91.0	125m
	5.Shunmugaraj	Appaiyanaickanpatti	38,41,42,43etc.,	2-74.5	65m
	6.S.Sivaraman	Appaiyanaickanpatti	39/3	prior 2018	280m
	7.Govt.Pit	Appaiyanaickanpatti	50	prior 2012	260m
c. Present proposed	8.Gayathri	Appaiyanaickanpatti	39/1A,etc.,	1-21.5	135m
	9.G. Kaniraj	Appaiyanaickanpatti	202/1A2	1-30.2	300m
	10. S.Subburaj	Appaiyanaickanpatti	43/1A,1B(P) 45/1A1,1A2(P)	1-58.0	applied
		TOTAL EXTENT (Ha)		16-89.2Ha	



NAME OF THE APPLICANT:

S. SUBBURAJ, S/o. SHANMUGARAJ,
D.No.7/112, KUNDAMPATTI VILLAGE,
SEVALPATTI POST, THIRUVENKADAM TALUK,
TENKASI DISTRICT - 626 140.

INDEX:-

- LEASE RENEWAL BOUNDARY
- WORKING PITS
- ABONDENT PITS
- 300M RADIUS
- 500M RADIUS
- WIND DIRECTION
- APPROACH ROAD

ROUGH STONE / JELLY / GRAVEL QUARRY

ENVIRONMENTAL PLAN

SCALE:- 1: 5000

ALL PLANS AND SECTIONS ARE PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

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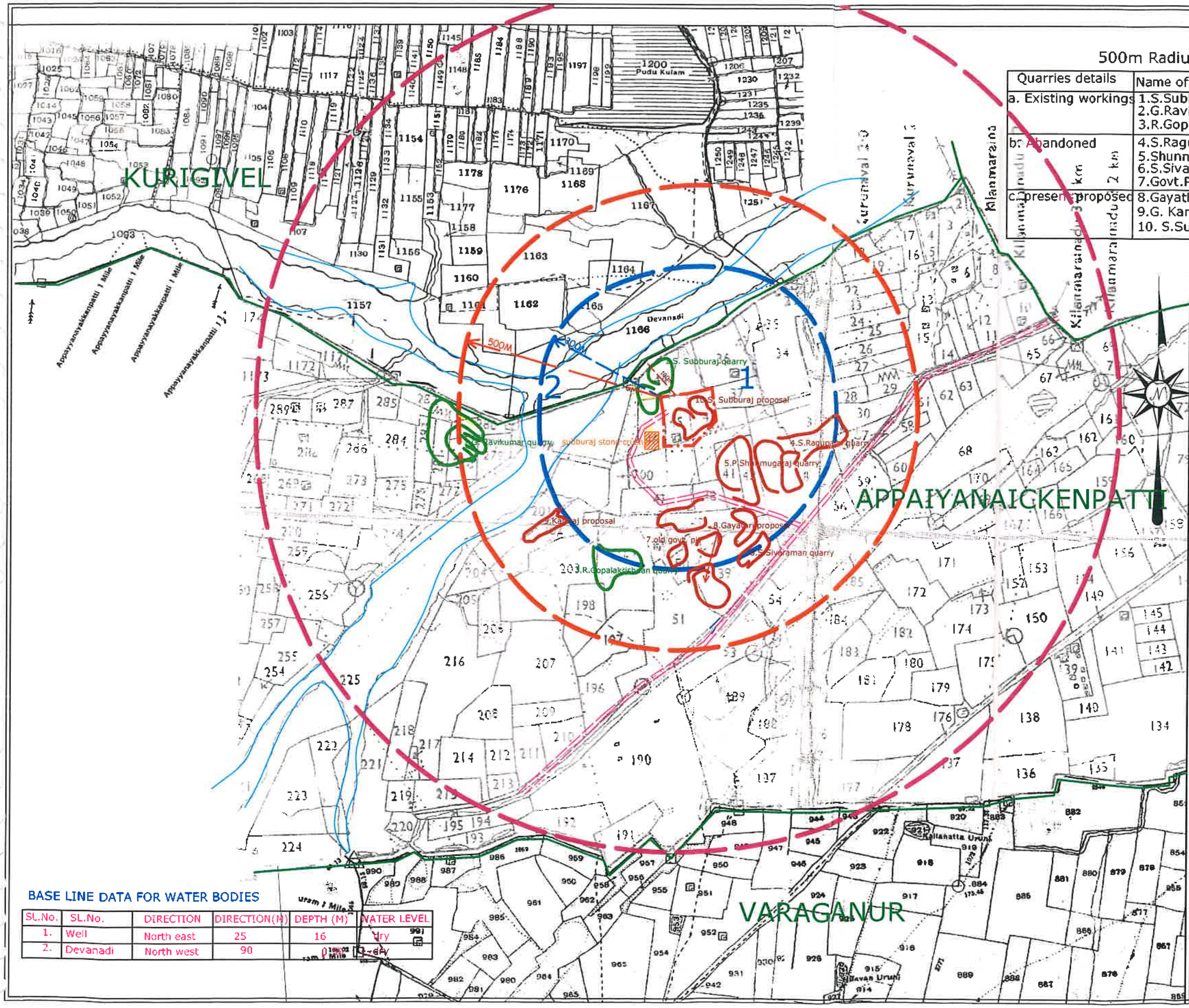
PLATE NO VIIA



500m Radius from the proposed quarry

Quarries details	Name of owner	Village name	Survey nos	Extent (Ha)	Distance (m)
a. Existing workings	1.S.Subburaj	Appaiyanaickanpatti	44,46/1	2-20.5	15m
	2.G.Ravikumar	Appaiyanaickanpatti	276,278,etc.,	3-85.5	480m
	3.R.Gopalakrish	Appaiyanaickanpatti	199/6A	1-08.0	290m
b. Abandoned	4.S.Ragupathi	Appaiyanaickanpatti	32/4,38/3Aetc.,	2-91.0	125m
	5.Shunmugaraj	Appaiyanaickanpatti	38,41,42,43etc.,	2-74.5	65m
	6.S.Sivaraman	Appaiyanaickanpatti	39/3	prior 2018	280m
	7.Govt.Pit	Appaiyanaickanpatti	50	prior 2012	260m
c. present proposed	8.Gayathri	Appaiyanaickanpatti	39/1A,etc.,	1-21.5	135m
	9.G. Kanniraj	Appaiyanaickanpatti	202/1A2	1-30.2	300m
	10. S.Subburaj	Appaiyanaickanpatti	43/1A,1B(P) 45/1A1,1A2(P)	1-58.0	applied
		TOTAL EXTENT (Ha)		16-89.2Ha	

NAME OF THE APPLICANT:

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TENKASI DISTRICT - 626 140.

DISTRICT : VIRUDHUNAGAR
TALUK : VEMBAKOTTAI
VILLAGE : APPAIYANAICKANPATTI
S.F.Nos : 43/1A,1B(P) & 45/1A1,1A2(P)
EXTENT : 1-58.00 HECTARE.

INDEX:-

- AREA RENEWAL FOR QUARRY LEASE
- APPROACH ROAD (GOVT. PROMBOKE ROAD & Applicant own patta land)
- 300M RADIUS LINE (No well, No historical monuments & Vaipar river -100m dist.)
- 500M RADIUS LINE (No habitations, No temples, 3 working quarries with in 500m & No other structures like culverts, head works, bridges etc.,)

ROUGHSTONE/JELLY QUARRY

VILLAGE MAP

showing environmental features

SCALE:- 1: 5000

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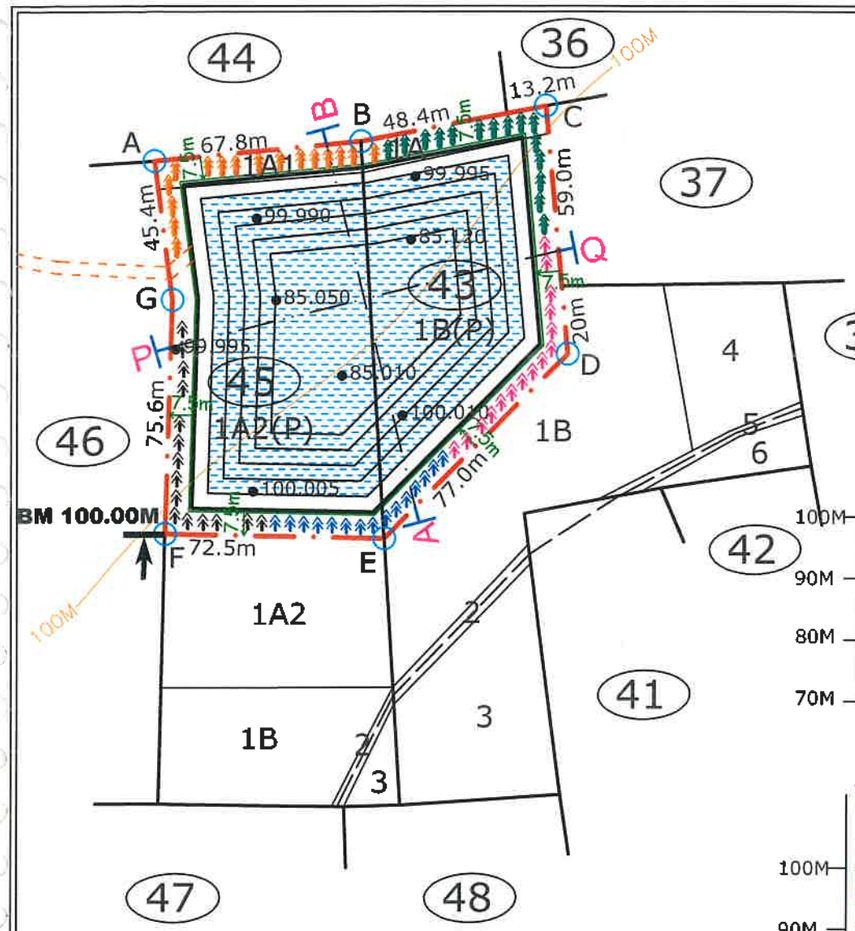
BASE LINE DATA FOR WATER BODIES

SL.No.	SL.No.	DIRECTION	DIRECTION(M)	DEPTH (M)	WATER LEVEL
1.	Well	North east	25	16	dry
2.	Devanadi	North west	90	0	dry



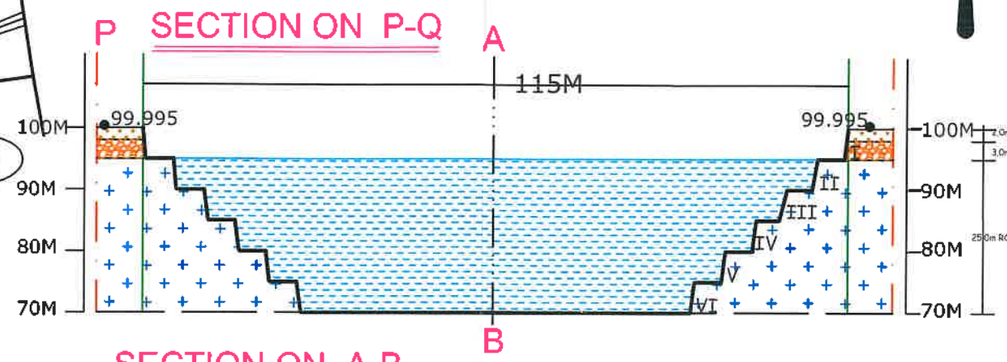
PRESENT MINING LAND USE PLANNING
(BREAKUP ALONG WITH GREENBELT ETC.,)

SL.No.	LAND USE CATEGORY	AT THE END OF LIFE OF MINE
1.	Mining / Excavation	1-23.0 hectare
2.	Storage of Top soil	0-00.0 hectare
3.	Sorting and mineral Dressing yard	0-00.0 hectare
4.	Infrastructure & Road	0-03.0 hectare
5.	Afforesation (greenbelt & plantation)	0-27.0 hectare
6.	Water reservoir	1-23.0 hectare (after closure of mine)
7.	Undisturbed area	0-00.0 hectare
8.	Fencing	0-05.0 hectare
TOTAL		1-58.0 Hectare.

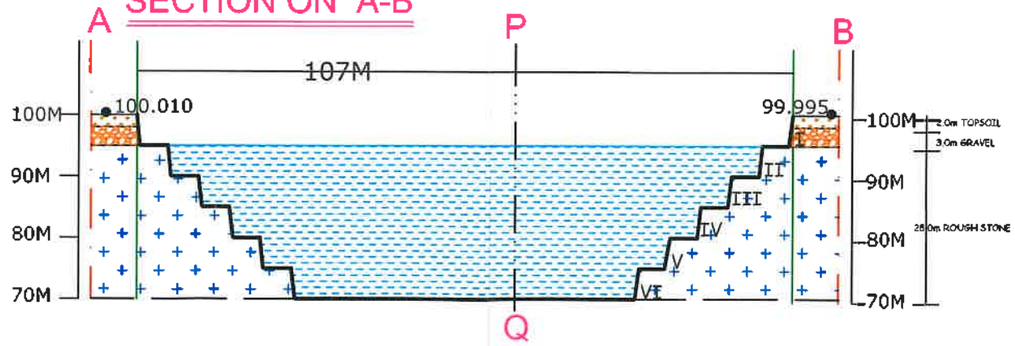
AFFORESATION PROGRAMME

PLANTATION	TYPE	No of TREES	SPACING	AREA (Ha)	SURVIVAL	
I YEAR	NEEM	15	6m x 6m	0-05.40	80%	
II YEAR	NEEM	15	6m x 6m	0-05.40	80%	
III YEAR	NEEM	15	6m x 6m	0-05.40	80%	
IV YEAR	NEEM	15	6m x 6m	0-05.40	80%	
V YEAR	NEEM	15	6m x 6m	0-05.40	80%	
TOTAL PLANTATION AREA				0-27.0Ha		

SECTION ON P-Q



SECTION ON A-B



ULTIMATE PIT SIZE

SECTION	LENGTH[M]	WIDTH[M]	DEPTH[M]
PQ-AB	115	107	30.0

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INDEX:-

- LEASE RENEWAL BOUNDARY
- SAFETY DISTANCE 7.5M
- BOUNDARY PILLARS — A B C..
- CONTOURS
- BENCH MARK — BM 100.000M
- APPROACH ROAD
- LAYOUT OF MINE WORKING (FUTURE WATER RESERVOIR)

ROUGH STONE / JELLY / GRAVEL QUARRY

MINE CLOSURE PLAN & SECTIONS

PLAN SCALE:- 1: 2000

SECTION SCALE:- HOR- 1: 1000, VER- 1:1000

ALL PLANS AND SECTIONS ARE PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

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உதவி இயக்குநர் அலுவலகம்
விருதுநகர் மாவட்டம்
02 SEP 2022
விருதுநகர்
புவியியல் & சுரங்கத்துறை

PLATE NO. VIII

248 trees