

DRAFT EIA & EMP FOR PROPOSED ORDINARY EARTH QUARRY CATEGORY – B1 (CLUSTER)

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

TOR IDENTIFICATION NO. TO24B0108TN5934875N, DATED: 09.10.2024

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	4/1
VILLAGE	KADAGAMPATTU
TALUK	VANUR
DISTRICT	VILUPPURAM
EXTENT	1.22.0 Ha
CLUSTER EXTENT	6.50.45 Ha
PROPOSED PRODUCTION QUANTITY FOR TWO YEARS	ODINARY EARTH : 17,034 m³
LAND	PATTA LAND

(Sector No. 1(a) Sector No.1 as per NABET)

Category of the Project: B1 Cluster Mining, Total Cluster Area – 6.50.45 Ha

Baseline Monitoring Period – October 2024 to December 2024

APPLICANT

**Thiru.E.Amuthaganesamoorthy
No.352, East Street,
Uthangal Village,
Virudhachalam Taluk,
Cuddalore District,
Pin code-607 804**

ORGANIZATION

**M/s. GLOBAL MINING SOLUTIONS
(NABET ACCREDITED & ISO 9001 CERTIFIED CONSULTANT)
PLOT NO.6, SF NO. 13/2, A2, VS CITY, RC CHETTYPATY,
KOTTAMETTUPATTY, OMALUR, SALEM, TAMIL NADU – 636 455
NABET ACCREDITATION NO – NABET/EIA/2326/IA 0110
CONTACT: 97502 23535, 94446 54520**

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APRIL - 2024



AMENDMENT PAGE

SL	Page No.	Section / Clause / Para / Line (as Applicable)	Date of Amendment	Amendment Made	Reasons of amendment	Signature of Person Authorizing Amendment
1						
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ACKNOWLEDGEMENT

M/s. Global Mining Solutions, Salem is very much thankful, Thiru.E.Amuthaganesamoorthy S/o.Eagambaram, Lessee for the confidence and trust placed on the organization for carrying out Environmental Impact Assessment (EIA) study for the proposed Ordinary Earth quarry over a lease extent of 1.22.0 Ha & Cluster extent of 6.50.45 in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State and formulating the Environmental Management Plan (EMP). We also gratefully acknowledge the cooperation and assistance provided by concerned government authorities for collection of secondary information for the preparation of Draft EIA/EMP report. Our sincere thanks to the local people of Kadagampattu Village and the nearby villages for their whole hearted cooperation and constant involvement during the entire field study without which the study would not have been possible.

For: M/s. Global Mining Solutions



(M. Prabu)

Managing Director

UNDERTAKING

In line with MoEF OM No. J – 11013/41/2006-IA.II (I) dated 5th October 2011, we hereby give our undertaking for owning the content and information in the EIA/EMP report submitted for EC of the proposed Ordinary Earth quarry over a lease extent of 1.22.0 Ha & Cluster extent of 6.50.45 Ha located at Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

For: M/s. Global Mining Solutions



Name: M.Manikandan

EIA Coordinator – Mining

UNDERTAKING

In Line with OM no. J-11013/41/2006-IA.II (1) dated 4th Aug 2009 and its Amendments, we hereby confirm that all Terms of Reference issued by Ministry of Environment, Forest and Climate Change vide TOR IDENTIFICATION NO. TO24B0108TN5934875N, DATED: 09.10.2024., have been incorporated in the draft EIA/EMP report of the proposed Ordinary Earth Quarry over a lease extent of 1.22.0 Ha., & Cluster extent of 6.50.45 Ha., located at Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State for the production of 17,034m³ of Ordinary Earth from the proposed lease area and the details has been complied in the Draft EIA/EMP report is factually correct.

The EIA/EMP report has been prepared by M/s. Global Mining Solutions (GMS), Salem. GMS is a NABET accredited consultant for preparation of EIA/EMP report of Mining of Minerals (Opencast only) vide certificate no. NABET/EIA/2326/IA 0110, valid till 04.01.2026.

For: M/s. Global Mining Solutions



Name: M.Manikandan

EIA Coordinator – Mining

**QUALITY COUNCIL
OF INDIA**
Creating an Ecosystem for Quality



**National Accreditation Board
for Education and Training**



Certificate of Accreditation

Global Mining Solutions
Plot No - 6 SF No 13/2 A2, VS City, RC Chettypatty,
Kottamettupatty, Omalur, Salem, Tamil Nadu-636455

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

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals-opencast mining only	1	1 (a) (i)	A

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in IAAC minutes dated February 10, 2023, posted on the QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance with the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/23/2724 dated March 31, 2023. The accreditation needs to be renewed before the expiry date by Global Mining Solutions, Salem following the due process of assessment.


Sr. Director, NABET
Date: March 31, 2023

Certificate No.
NABET/EIA/2326/IA 0110

Valid up to
January 4, 2026

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

Declaration By Expert

Declaration by Experts contributing to the proposed Ordinary Earth Quarry over a lease extent of 1.22.0 Ha. & Cluster extent of 6.50.45 Ha, located at Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

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

EIA Coordinator Name: M. Manikandan


Signature & Date

Period of involvement: October 2024 to December 2024.

Contact information:

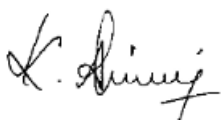
M/s Global Mining Solutions

Plot No.6, SF No. 13/2, A2, VS City, RC Chettypatty,

Kottamettupatty, Omalur,

Salem, Tamil Nadu – 636 455

S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and Date
1	AP	Dhanalakshmi Ramanathan	Assessment of existing air quality, Impact of the project on ambient air and suggested mitigation measures for air pollution. <u>Period: October 2024 to December 2024.</u>	

2	WP	Abirami Kaliaperumal	Assessment of existing water quality, impact of the project on surface and ground water quality, suggested mitigation measures for minimizing the impact. <u>Period: October 2024 to December 2024</u>	
3	SHW	Ramadoss N	Assessment of waste generated from the project, suggested waste management practices. <u>Period: October 2024 to December 2024</u>	
4	SE	Sarasvathy K	Baseline SE studies. Data compilation and assessment. Impact of the project on SE status of the area. Formulation of CER plan. <u>Period: October 2024 to December 2024</u>	
5	EB	Saravanan S	Baseline data collection of related to ecology of the area. <u>Period: Period: October 2024 to December 2024</u>	
6	HG	Ravinthiran N	Hydrogeological feature of the area. Ground water depth and impact of project on ground water of the area. <u>Period: October 2024 to December 2024</u>	
7	AQ	Srilatha Thiruveedhula	Air quality modeling utilizing the area source model. Predication of the ground level concentration of the dust. Suggesting suitable mitigation measures. <u>Period: October 2024 to December 2024</u>	

8	NV	Dhanalakshmi Ramanathan	Ambient noise study of the area. Incremental noise generation due to quarry operation and impact of the noise due to the project. <u>Period: October 2024 to December 2024</u>	R. Dhanu
9	LU	Srilatha Thiruveedhula	Preparation of land use map based on satellite imagery. Land use classification and analysis. Impact prediction of the project on the surrounding land environment. <u>Period: October 2024 to December 2024</u>	T. Srilatha
10	RH	S.V. Prashant	Identification of the Risk related to the mining activities. Preparation of emergency disaster management plan. Plan for supply of safety equipment for the worker. <u>Period: October 2024 to December 2024</u>	S. V. Prashanth
11	SC	Shisupal Sing	Soil monitoring, secondary data collection on soil type, soil management practices, utilization of topsoil. <u>Period: October 2024 to December 2024</u>	Shisupal Singh
12	GEO	Valliappan Meyyappan	Geological map, stability of quarry and dump, management plan for mine stability, after use of mining quarry and geological feature of the area. <u>Period: October 2024 to December 2024</u>	V. Meyyappan

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COMPLIANCE TO **TERMS OF REFERENCE**

1. SEIAA Specific Conditions:

Terms of Reference		
1	The authority noted that the subject was appraised in 497th meeting of SEAC held on 13.09.2024 and SEAC has furnished its recommendations for granting Terms of Reference with Public Hearing subject to the conditions stated therein. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference with Public Hearing for the production quantity of 17,034m³ of Ordinary Earth and the annual peak production of 8,517m³ with the depth of mining upto 2.0m BGL subject to the following TORs, specific conditions as recommended by SEAC in addition to the standard terms of reference for EIA study and details issued by the MOEF & CC in to the conditions in Annexure "B" of this minutes to be included in EIA/EMP Report: 1. The detailed studies on the Loss of Vegetation, Loss of Biodiversity shall be carried out and the action plan to prevent the same shall be included in the EIA report. 2. The detailed studies on the Impact on water bodies and human health shall be carried out and the action plan to prevent the same shall be included in the EIA report. 3. The PP shall furnish the details of EMP addressing the revegetation and restoration activities proposed for the project activity.	Noted

2. SEAC Conditions - Site Specific

Terms of Reference		
1	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organisation chart of the Committee with defining the role of the members (iii) The 'Standard Operating Procedures' (SoP) executing the planned activities.	A cluster management committee including all the proponents of the ordinary earth quarrying projects within the cluster of 500 m radius will be constituted for the effective implementation of green belt development plan, water sprinkling, etc.
2	The PP shall complete the fencing, tree plantation and photographs, videos of the same shall be furnished.	The project proponent shall do barbed wire fencing work and develop a green belt around the lease.
3	The PP shall complete the garland drainage around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.	The project proponent shall do drainage around the lease area.
4	The PP shall carry out drone video survey covering the cluster, green belt, fencing, etc.	It will be furnished final EIA

5	The PP shall propose the mitigation measures for the protection of structures exists within 500 m distance radially from the mine lease against the blast-induced ground & air vibrations, air & water pollution, haul road maintenance, ground water management.	The proposed project not involve blasting activity.
6	The PP shall furnish the details of mitigation measures proposed while carrying out the project activity, since Ousuddu Lake Birds Sanctuary is located at a distance of 9.35km from the project site.	Ousuddu Lake Birds Sanctuary-9.85 Km (SE). Mitigation measures incorporated in chapter 4

3. SEAC Standard Conditions

Terms of Reference		
1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	Not applicable. This is a fresh quarry.

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 certificated attached as Annexure 5
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.	Complied. Enclosed as Annexure 10
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.	A detailed hydrological report will be submitted in the final EIA/EMP.
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	A detailed bio diversity report will be submitted in the final EIA/EMP.
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	The DFO letter stating that the proximity distance of RF & PF to be incorporated at the time of final EIA submission.

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	Not applicable. This is a fresh quarry.
9	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	Proponent undertaking agreement enclosed

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.	Not applicable. There is no drilling and blasting proposed for this quarry.
11	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences	The details to be incorporated at the time of final EIA Submission.
12	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,	Not applicable. This is a fresh quarry project.
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	Not applicable. This is a fresh quarry project.
14	Quantity of minerals mined out. · Highest production achieved in any one year · Detail of approved depth of mining. · Actual depth of the mining achieved earlier. · Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	Not applicable. This is a fresh quarry project.

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).	Project coordinates superimposed in satellite imagery and given as Figure No – 2.2 in Chapter – 2. The geology and geomorphology map are provided in Figure No.3.24, 3.25 Chapter 3. The Soil map is provided under Figure No. 3.26, Chapter-3. The 10km Radius Index plan showing buffer zone is given in Figure No.3.1 & Figure 3.2 in Chapter – 3. Page No.136
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,	This is a proposed quarry. The condition will be complied after commencement of the mining operation.
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.	There are no trees within ML area. Fencing and plantations are under process. Greenbelt / Plantation will be carried out in the surround and near by the lease area to enhance the vegetative growth and aesthetic.
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 geological reserves are estimated to be ordinary earth quarry 24000 m ³ The mineable reserves of ordinary earth quarry 17304 m ³ Page No 79
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.	Complied. Please refer Fig. 10.1 Page No 187

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.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 3 Page No 132
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 for all environments is collected for the period (October to December 2024). Page No 93 to 125
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	Detailed cumulative impact study has been carried and the same is incorporated in the Chapter 4. Accordingly, a detailed Environment Management Plan is prepared considering air, water, noise and soil environment and the details are given in Chapter 7. Page No 147 to 162
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted	NA

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	Satellite imagery has been used to study the lease area and the details of land use is given in Chapter 3. Page No 120
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable. There is no generation of the OB & waste
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.	No proximity to Critically polluted areas.
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 impact of the mining operations due to this quarry on water environment is studied and mitigation measures are proposed. Page No 143
28	Impact on local transport infrastructure due to the Project should be indicated	Since the production is very less, only few trucks of 5/10T will be used for transport. The effect of transport on local transport will be negligible

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.	There are no trees within 150m buffer zone of the project area.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific	Detailed mine closure plan is given in Chapter 7. Page No 182
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	Accepted. It will be done
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.	The mine lease area is devoid of major plantation. Shrubs and bushes are majorly found within the lease area. The proponent has planned to develop green belt like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc., will be planted around the mine lease area. A total of 610 trees are planned to be planted. Spacing will be 3m x 3m. Page No 87
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	Accepted. The photographs showing green belt will be provided once it is completed

	blocks in an organized manner	
34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan is prepared and the details are given in Chapter 7. Page No 181
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.	Risk assessment and its management is given in Chapter 7. Page No 170
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health Impacts of the project and preventive measures are detailed under Chapter 4 Page No 160
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No major impact on public health will be there since the villages are located more than 1km from the lease area. Details of CER and CSR are discussed under Chapter No. 8
38	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Socio economic study is conducted both by visits and secondary data collection. Details are given in Chapter 3 Page No 126

39	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	No litigation is pending
40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc	Benefits of the project is given in Chapter 8
41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	This is a fresh ordinary earth quarry
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.	Agreed

4. SEIAA Standard Conditions:

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.	There are five quarries within a 500-metre radius. The proponent will take the initiative to form a cluster management committee once environmental clearance is obtained for this quarry as well as the other 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.,	Agreed. Will be complied
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.	Agreed. The list of members of the committee formed will be submitted to AD/mines after obtaining Environmental Clearance
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.	Agreed. Details of the Operation plan for cluster mining operations will be submitted once we get environmental clearance for all quarries proposed in the cluster area.

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	Risk management plan for the individual quarry is given in this report. As far as cluster working condition is concerned, once the committee is formed, risk management as a cluster including inundation of clusters and the evacuation plan will be elaborated and the same will be submitted to the EIA.
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Environmental policy for the cluster will be framed by the cluster management committee and the policy will be in accordance with EPA Act, 1986 and its amendments, guidelines by MoEF&CC/SEIAA and other regulatory bodies. This policy will be displayed in the quarry.
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.	Agreed. It will be complied
8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity	Agreed. It will be complied
Agriculture & Agro-Biodiversity		
9	Impact on surrounding agricultural fields around the proposed mining area.	There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly, as shown in

		Section 4.3.6 under Chapter IV in the EIA report page 150-159
10	Impact on soil flora & vegetation around the project site.	Complied. The details are given in Chapter 3. Page No 116
11	Details of type of vegetations including no. of trees & shrubs within the proposed mining area shall be given and if so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Complied. The details are given in Chapter 3. Page No 116
12	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.	Complied. The details are given in Chapter 3. Page No 116
13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	The detailed action plan has been described in the EMP (Chapter 10) for the sustainable management for the project area and its surroundings. Page No 123
14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	Complied. The details are given in Chapter 3. Page No 121
	Forests	

15	The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.	R.Forest - Nil within a 10m Radius Ousuddu Lake Birds Sanctuary- 9.85 Km (SE)
16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	Complied. The details are given in Chapter 3.
17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	Not Applicable. This is a dry barren land.
18	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National parks, corridors and wildlife pathways, near project site.	R.Forest - Nil within a 10m Radius Ousuddu Lake Birds Sanctuary- 9.85 Km (SE)
	Water Environment	

19	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7. Page - 181
20	Erosion control measures.	There is no waste generation (OB) in this quarry has been envisaged. However, there may be erosion due to rainy season and that is limited within quarry area. The control measures are explained in Chapter 8. Page - 184
21	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby villages, waterbodies/rivers & any ecological fragile areas.	Complied. The details are incorporated in Chapter 3. Page - 90
22	The project proponent shall study impact on fish habitats and the food WEB/food chain in the water body and Reservoir.	Not applicable.

23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	The quarry operation without drilling and blasting. The anticipated impacts and mitigation measures are discussed in Chapter 4. Page - 143
24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	An ecological and biodiversity study has been conducted and the same is incorporated in the Chapter 3 of the Draft EIA/EMP report. However, there is no any features mentioned in this condition within the M.L area. However, the impacts anticipated with respect to the environment of the project area is very negligible and it will be minimized within the project area. The details are described in Chapter 10.
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components.	Agreed.
26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	Complied. The details are described in Chapter 3. Page - 89
27	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including environmental stress. c) Sediment geochemistry in the surface streams.	There is no wastewater generation from this Quarry, so this is not applicable.
Energy		

28	The measures taken to control Noise, Air, water, Dust control and steps adopted to efficiently utilise the Energy shall be furnished.	Complied. The details are described in Chapter 4. Page - 142
Climate Change		
29	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Complied. The details are described in Chapter 4. Page - 147
30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Complied. The details are described in Chapter 4. Page - 148
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood	Complied. The details are described in Chapter 4. Page - 147
Mine Closure Plan		
32	Detailed Mine closure plan covering the entire mine lease period as per precise area communication order issued.	Complied. Mine Closure Plan has been incorporated in the approved Mining Plan and the same is incorporated in the Chapter 7. Page - 182
EMP		

33	Detailed Environment Management plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Complied. The details are described in Chapter 10. Page - 186
34	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	Complied. The details are described in Chapter 10. Page - 192
	Risk Assessment	
35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	Complied. The details are described in Chapter 7. Page - 170
	Disaster Management Plan	
36	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Complied. The details are described in Chapter 7. Page - 181
	Others	

37	The project proponent shall furnish VAO certificate with reference to 300 m radius regard to approved habitations, schools, Archaeological sites, structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, river, lake pond, tank etc.	The VAO certificate of 300 m radius is submitted in the Annexure No. 5.
38	As per the MoEF & CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management plan.	Noted. It will be complied in the Final EIA/EMP report.
39	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	Nil

Standard Terms of Reference for (Mining of minerals)

S.No	Terms of Reference

1.1	An EIA-EMP Report shall be prepared for peak capacity (...MTPA) operation in an ML/project area of. ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.	Complied.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for.... MTPA of mineral production based on approved project/Mining Plan for.... MTPA. Baseline data collection can be for any season (three months) except monsoon.	The baseline environment quality represents the background environmental scenario of various environmental components such as land, water, air, noise, biological and socio- economic status of the study area. Field monitoring studies to evaluate the base line status of the project site were carried out covering October – December 2024 with CPCB guidelines. The detailed baseline environmental monitoring studies were carried out and the results are discussed in the Chapter III and Mitigation Measures is given in Chapter 4. Page 147
1.3	Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided	Agreed
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical	Land Use Pattern of 10 km Radial Buffer Area of Project Site is given page chapter-3. Page No 123

	features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also	
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.	Land Use Pattern of 10 km Radial Buffer Area of Project Site is given page chapter-3. Page No 123

1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.	Contour map, Physiography and Drainage is given Chapter-3. Page No 132
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted.	Drainage map is given Chapter-3. Page No 133
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green	Mineral reserves, geological status of the study area is given chapter-2. Page No 83

	field and expansion projects.	
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.	Method of mining Details is Given Chapter-2. Page No 82
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.	Details given chapter-4 Page No 145
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.	Land Use Pattern of 10 km Radial Buffer Area of Project Site is given page chapter-3. Page No 121

1.12	Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazingland/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights Area under Surface Area Under Mining Rights(ha) S.N ML/Project Land use Rights(ha) (ha) Area under Both (ha) 1 Agricultural land 2 Forest Land 3 Grazing Land 4 Settlements 5 Others (specify) S.N. Details Area (ha) 1 Buildings.2 Infrastructur 3. Roads 4.Others (specify) Total	Land Use Pattern of 10 km Radial Buffer Area of Project Site is given page chapter-3. Page No 122

1.13	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.	Flora & fauna of 10 km Radial Buffer Area of Project Site is given page chapter-3. Page No 116

1.14	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one- season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.	The baseline environment quality represents the background environmental scenario of various environmental components such as land, water, air, noise, biological and socio- economic status of the study area. Field monitoring studies to evaluate the base line status of the project site were carried out covering October 2024 - December 2024 with CPCB guidelines. Page No 93
1.15	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and	Details given under description of the environment chapter-3. Page No 90

	CPCB classification wherever applicable. Observed values should be provided along with the specified standards.	
1.16	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided.	Details given under description of the environment chapter-3 Page No 92
1.17	A detailed traffic study along with presence of habitation in 100m distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/EMP report.	Details given in the chapter 7 Page No 179

1.18	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.	Socioeconomic Environment Details Given Chapter-3. Page No 126
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.	Biological Environment Details Given Chapter-3. Page No 116

1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.	Health Details Given Chapter- 4. Page No 159		
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7. Page No 181		
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long- term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone	Abstraction from the mine on the hydrogeology and groundwater regime details is given chapter-3 Page No 181		
1.23	Study on land subsidence including modelling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.	Not applicable. The proposed project is new lease area.		
1.24	Detailed water balance should be provided. The breakup of water requirement as per different activities	Purpose	Quantity	Source
		Dust Suppression	1.0 KLD	The water

	in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.	Green Belt development	1.0 KLD	requirement is purchased from the authorized water vendor.
		Drinking & Domestic	1.0 KLD	
		Total	3.0 KLD	
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs	Quarry project proponent controls air pollution by water sprinkling method on roads and quarry sites and green belt development method is adopted.		
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored	The PP is advised to use LNG/CNG trucks in mining operation because these trucks can control air pollution and noise pollution.		
1.27	PP to evaluate the greenhouse emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.	There is no greenhouse emission in the project lease area.		
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.	Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan given chapter-7. Page No.180		

1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.	Mining method, technology details given chapter-4. Page No.147
1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided	Mineral transportation details given chapter-2. report page 83
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.	Parking, rest areas and canteen, and effluents/pollution load details given chapter -4

1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads To the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.	PP will provide mobile water tankers with a cost of 2.0 lakhs under EMP.
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined-out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.	Final Mine Closure Plan and post mining land use details given in chapter-7 Page No.182
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route	Agreed
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.	EMP cost details given chapter-10.

1.36	Details of R&R. Detailed project specific R&R plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with schedule of the implementation of the R&R plan should be given.	Not Applicable.
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.	CSR details given chapter-8
1.38	Corporate Environment Responsibility:	
1.39	a)	Environment policy details given chapter-10.
	The Company must have a well laid down Environment Policy approved by the Board of Directors.	
1.40	b)	Environment policy details given chapter-10.
	The Environment Policy must prescribe for standard operating process/procedures to bring into Focus any infringements/deviation/violation Of the environmental or forest norms/conditions.	

1.41	c)	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.	
1.42	d)	To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	
1.43	e)	Environment Management Cell and its responsibilities to be clearly spelled out in EIA/ EMP report	
1.44	f)	In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.	
1.45		Status of any litigations/ court cases filed/pending on the project should be provided.	No litigation is pending in any court against this project.

1.46	PP shall submit clarification from DFO that mine does not fall under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.	The DFO letter will be submitted in final EIA report.
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.	Noted
1.48	Details on the Forest Clearance should be given as per the format given: Total ML Total Project Area Forest (ha) land (ha) Date of FC Extent of Forest Land Balance area for which FC is yet to be obtained Status of appl for diversion of forest land If more than one provides details of each FC	Noted
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report	Noted

1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.	The public hearing comments will be submitted during final EIA report.
1.51	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes	Noted
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.	It is not applicable for this project

1.53	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)	Noted
1.54	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter's section.	Noted

CHAPTER 1

INTRODUCTION

1.1 PURPOSE OF THE REPORT

Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

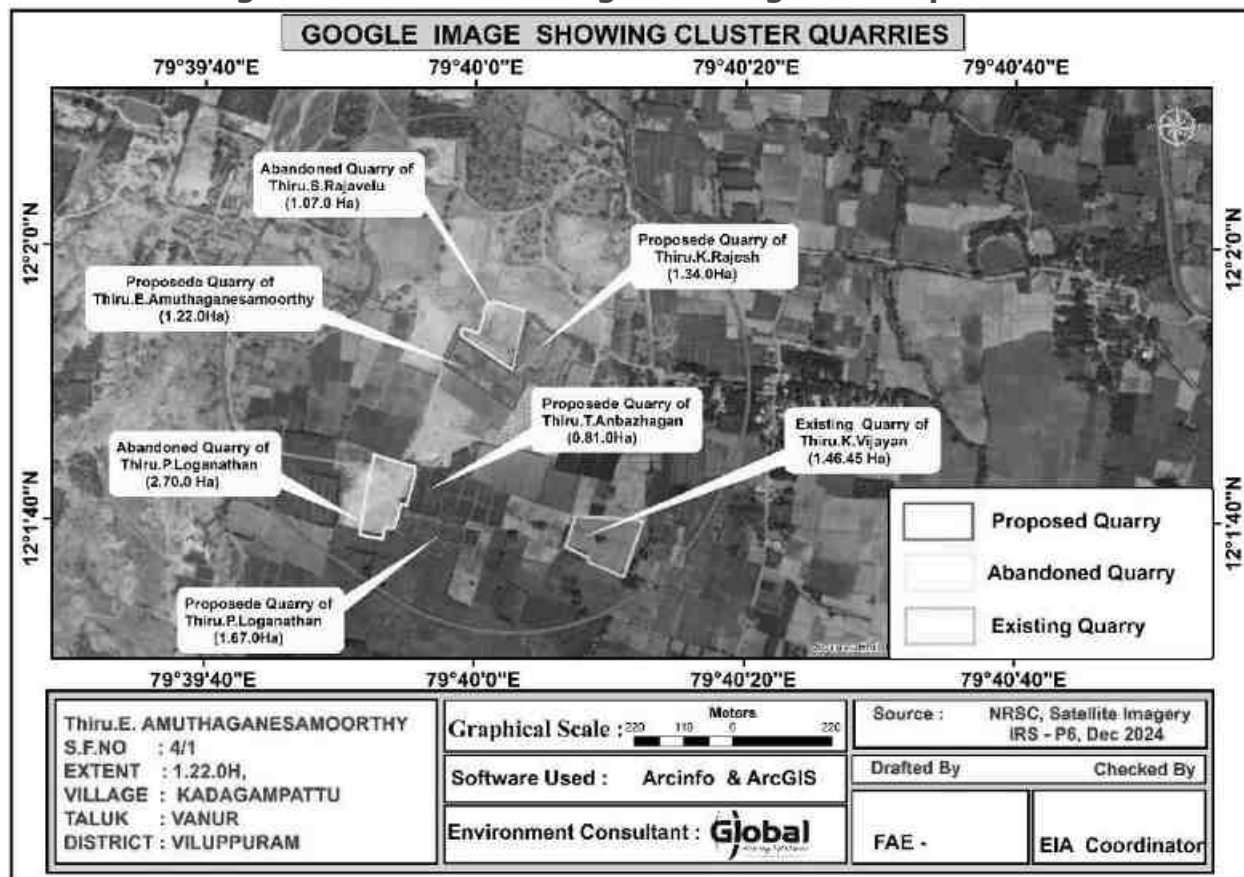
Thiru.E.Amuthaganesamoorthy S/o.Eagambaram, has obtained Precise Area communication letter from the Assistant Director, Geology and Mining, Viluppuram letter vide Rc.No.A/G&M/149/2018, dated 07.05.2024 to quarry out 17,034 m³ of Ordinary Earth over an extent of 1.22.0 Ha., S.F. No. 4/1 of Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State. Hence, this proposed quarry falls under the cluster situation due to the following proposed and abandoned quarries located within 500m radius. The details are given below.

Table 1.1 Cluster Mines Details				
Sl.No	Name of the Lessee	Village & S. F. No.	Extent (Ha)	Lease Status
a. Abandoned Quarries				
1	Thiru.S.Rajavelu, S/o. Subramanian, No.47/1, Mariyamman Kovil Street, Kadagampattu Village, Suthukeni Post, Vanur Taluk, Viluppuram District	6/3 (P), 6/4, 6/5, 6/6 (1.07.0 Ha) Kadagampattu Village	08.03.2019 to 07.03.2021	Lease Expired
2	Thiru.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/1, 31/1, 31/2A, 31/2B, 31/3 (2.70.0 Ha)	17.06.2022 to 16.06.2023	Lease Expired

b. Existing Quarry				
1	Thiru.K.Vijayan, S/o. Kannaiyan, Kadagampattu Village, Vanur Taluk, Viluppuram District	51/7A1, 51/7B, 51/8A, 51/8B1 (1.46.45 Ha)	23.02.2024 to 22.02.2026	Existing lease
c. Proposed Quarries				
1	Thiru.T.Anbazhagan, S/o. Thangavel, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2A (0.81.0 Ha)	-	Proposed
2	Thiru. K.Rajesh, S/o. Kuppan, No.66, Mariamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	6/7, 27/1, 27/2A2 (1.34.0 Ha)	-	Proposed
3	Thiru.P.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2B1, 30/2B2, 30/5C, 30/5D, 30/5E (1.67.0 Ha)	-	Proposed
4	Thiru.E.Amuthaganesamoorthy, S/o.Eagambaram, No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District, Pin code-607 804	4/1 (1.22.0 Ha)	-	Proposed
Area of Proposed Quarry		6.50.45 Ha		

As per EIA notification, 2006 and its subsequent amendments Thiru.E.Amuthaganesamoorthy S/o. Eagambaram proposed Ordinary Earth Quarry, cluster is falls under Schedule 1(a) Mining of Minerals. It is further classified under Category B1 due to the overall extent of cluster area is 6.50.45 Ha which is >5 Ha. Satellite image of Quarries in Cluster is shown in Fig 1.1.

Figure.1.1 Satellite Image showing cluster quarries



The ToR for preparation of EIA/EMP was approved vide ToR TO24B0108TN5934875N, dated: 09.10.2024. This report has been prepared in line with the approved TOR for production of maximum excavation of 17,034m³ of ordinary earth, for a period of two years.

1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT

The proposed project is for mining of Ordinary Earth (under cluster) quarry from the S.F.No. 4/1 over an extent of 1.22.0 Ha in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State. As per EIA notification, 2006 and its subsequent amendments the project comes under Schedule 1 (a) under Category B1 (Lease area >5 to 250 Ha). The proposed project details are given below.

(a) Proposed project details

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Ordinary Earth
4.	Type of Lease	Fresh quarry
5.	Extent of the lease	1.22.0 Ha
6.	Proposed depth of mining	2m below ground level
7.	Method of mining	Opencast method of mechanized.
8.	Proposed lease period	2 Years
9.	Proposed Environmental Clearance	2 Years
10.	Proposed production quantity for two years	17,034m ³ of ordinary earth

(b) Profile of the project proponent

The proposed lessee Thiru.E.Amuthaganesamoorthy S/o. Eagambaram is an individual with sound experience in the identification of quarry, operation and marketing in the field of Ordinary Earth quarry. The proposed land is patta land, please refer **Annexure no -6**.

(c) Project proponent details

Name of the proponent : Thiru.E.Amuthaganesamoorthy
Status of the Proponent : individual
Address Thiru.E.Amuthaganesamoorthy,
S/o.Eagambaram,
No.352, East Street,
Uthangal Village,
Virudhachalam Taluk,
Cuddalore District,
Pin code-607 804

1.3 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY, REGION:

The proposed quarrying operation Opencast Shallow mining method with 2m height, there is no bench proposed for this type of quarrying. The quarry operation without drilling and blasting.

1.3.1 SIZE AND LOCATION OF THE PROJECT

(a) Size of the project

Table 1.2 Proposed project details		
Sl. No.	Feature	Description
1	Type of land	Patta land
2	Extent of lease area	1.22.0 Ha
3	Type of lease	New Project
4	Geological Resource	Ordinary Earth – 24,000 m ³
5	Mineable Resource	Ordinary Earth – 17,034 m ³
6	Proposed production quantity for two years	Ordinary Earth – 17,034 m ³
7	Proposed depth of mining	2m belowground level

Location of the project

The proposed project site is located in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State and its Latitude: 12°01'48.05"N to 12°01'53.31"N and Longitude: 79°39'58.00"E to 79°40'03.96"E with Survey of India Topo Sheet No. 57- P/12.

1.3.2 IMPORTANCE OF THE PROJECT TO THE COUNTRY AND REGION

There is an increasing demand for ordinary earth in India. Since the construction industry is rapidly growing now, there is an increasing demand for ordinary earth. Thus, this project will contribute not only to the demand of ordinary earth, but also provide employment opportunities to the nearby villages.

1.4 SCOPE OF THE STUDY -DETAILS OF REGULATORY SCOPING CARRIED OUT (AS PER TERMS OF REFERENCE):

Any mining project may cause environmental impacts near the project site during its operation. The type and intensity of impacts on various components of the environment may vary depending on the nature of the project, as well as its geographical location. The net impacts of the project can be quantified through Environment Impact Assessment (EIA) studies on Physical, Biological and Socio-economic environment. The EIA studies give a basis for preparing an Environmental Management Plan (EMP) to conserve the environment of the area.

For the purpose of preparing EIA/EMP the SEIAA, Tamil Nadu has issued a Terms of Reference TO24B0108TN5934875N, dated: 09.10.2024 in accordance with the provisions of EIA Notification 2006 and its subsequent amendments. This EIA study includes both Core and Buffer zone i.e., the lease area and 10km radius of the project area respectively. This EIA report prepared based on the data generated from the (October 2024 to December 2024) and all individual components of environment are described in detail. An in-depth analysis of available information has been made for working out an effective Environmental Management Plan.

1.4.1 PRESENT STUDY

The Project Proponent has assigned M/s. Global Mining Solutions, Salem for conducting Environment Impact Assessment / Environmental Management Plan (EIA/EMP) for this project. The Environmental Impact Assessment and Environmental Management Plan of this cluster quarry addressing all the environmental related impacts and mitigation measures. The EMP report is based on the data generated from October 2024 to December 2024 by M/s. Shrient Analytical & Research Labs Private Limited, Chennai and the data generated by the FAE of the M/s. Global Mining Solutions, Salem. The study evaluates the prevailing baseline environmental conditions. The objectives of the present study are given below.

- ✦ To prepare the present baseline scenario through primary field monitoring and secondary data for different environmental descriptors such as air, water, noise, traffic, biodiversity, socio-economic etc.
- ✦ To identify the activities of mining that have bearing on the environment
- ✦ To Assess the impact of proposed project activity
- ✦ To suggest preventive mitigation measures
- ✦ To prepare an Environmental Management Plan (EMP) including environmental monitoring.
- ✦ To Prepare Disaster Management Plan.

1.4.2 STATUS OF LITIGATIONS

This is a fresh Ordinary Earth Quarry project. There is no litigation/court case pending against this project.

a. Precise Area Communication:

Precise area communication letter received from the Assistant Director, Department of Geology and Mining, Viluppuram letter vide Rc.No.A/ G&M/ 149/2018, dated 07.05.2024 The letter copy enclosed as **Annexure – 2.**

b. Mining Plan Approval Letter:

The mining plan for this project was approved by Assistant Director, Department of Geology and Mining, Viluppuram letter vide Rc.No.A/G&M/149/2018, dated 22.05.2024. The approval letter along with approved plan is enclosed as **Annexure – 3.**

c. 500m radius quarry features:

The project proponent has obtained an official letter from Assistant Director, Department of Geology and Mining, Viluppuram letter vide Rc.No.A/ G&M/149/2018, dated 22.05.2024. The letter copy enclosed as **Annexure – 4.**

d. Project Proponent undertaking affidavit:

The project proponent has issued an affidavit under in matter of Common Cause vs Union of India & Ors. The Affidavit copy is enclosed as **Annexure – 12**.

e. Land document of the proposed lease area:

It's a Patta land jointly registered in the name of Thiru.Dhayalan, Thiru.Murugan, Thiru.Tamilmani, Vide Patta No- 73, the applicant has obtained consent from the pattadar.

CHAPTER 2

PROJECT DESCRIPTION

2.1 TYPE OF PROJECT

This is an Ordinary earth quarry located in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the project comes under Schedule 1 (a) under Category B1 (Lease area >5 to 250 Ha), considering cluster situation and the total cluster area is **6.50.45 Ha**. The details of mines located in the cluster area is certified by Assistant, Department of Geology & Mining, Viluppuram letter vide Rc.No.A/ G&M/149/2018, dated 22.05.2024.

Table 2.1 500m Radius Cluster Mines Details

S.No	Name of the Quarry Owner	S.F. Nos, Taluk, Village & Extent (Ha)	Lease Period	Remarks
a. Abandoned Quarry				
1.	Thiru.S.Rajavelu, S/o. Subramanian, No.47/1, Mariyamman Kovil Street, Kadagampattu Village, Suthukeni Post, Vanur Taluk, Viluppuram District	S. F.No. 6/3 (P), 6/4, 6/5, 6/6 (1.07.0 Ha) Kadagampattu Village	08.03.2019 to 07.03.2021	Lease Expired
2.	Thiru.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/1, 31/1, 31/2A, 31/2B, 31/3 (2.70.0 Ha)	17.06.2022 to 16.06.2023	Lease Expired
b. Existing Quarry				
1.	Thiru.K.Vijayan, S/o. Kannaiyan,	51/7A1, 51/7B, 51/8A, 51/8B1 (1.46.45 Ha)	23.02.2024 to 22.02.2026	Existing lease

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

	Kadagampattu Village, Vanur Taluk, Viluppuram District			
c. Proposed Quarry				
1.	Thiru.T.Anbazhagan, S/o. Thangavel, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2A (0.81.0 Ha)	-	Proposed
2.	Thiru. K.Rajesh, S/o. Kuppan, No.66, Mariamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	6/7, 27/1, 27/2A2 (1.34.0 Ha)	-	Proposed
3.	Thiru.P.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2B1, 30/2B2, 30/5C, 30/5D, 30/5E (1.67.0 Ha)	-	Proposed
4.	Thiru.E.Amuthaganesamoorthy, S/o.Eagambaram, No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District, Pin code-607 804	4/1 (1.22.0 Ha)	-	Proposed
Area of Proposed Quarry		6.50.45 Ha		

The proposed production is 17,034m³ of Ordinary Earth by open cast shallow mining method.

2.2 NEED FOR THE PROJECT

The need of the proposed Ordinary Earth quarry of Thiru.E.Amuthaganesamoorthy S/o. Eagambaram.

Table 2.1a Salient features of the project		
S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	Fresh quarry
3	Category	B1
4	Nature of mineral	Minor mineral
5	Life of the mine	2 years
6	Production Quantity for two years	Ordinary earth: 17,034 m ³
7	Waste generation and management	Nil
8	Bench height and width	2m below ground level for the proposed mining plan.
9	Ultimate pit depth	2m below ground level for the proposed mining plan.
10	End use	The excavated ordinary earth will be used for construction industries for Government and Public sector projects besides catering domestic housing and infrastructure projects in and around the district.

2.3 LOCATION (MAPS SHOWING GENERAL LOCATION, SPECIFIC LOCATION, PROJECT BOUNDARY & PROJECT SITE LAYOUT):

This project site is located in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State. This Mine Lease area is accessible from an existing road from the area leads to the Thollamur – Sengamedu village on the eastern side of the area. The nearest railway line is the Chennai – Viluppuram line which is about 13.5km on the western side of the area. The nearest habitation is Sengamedu Village at 1.1 Km distance on the southeastern side of the lease boundary. The general location is given in Figure 2.1. The specific location is given in Figure 2.2.

FIGURE 2.1 LOCATION MAP

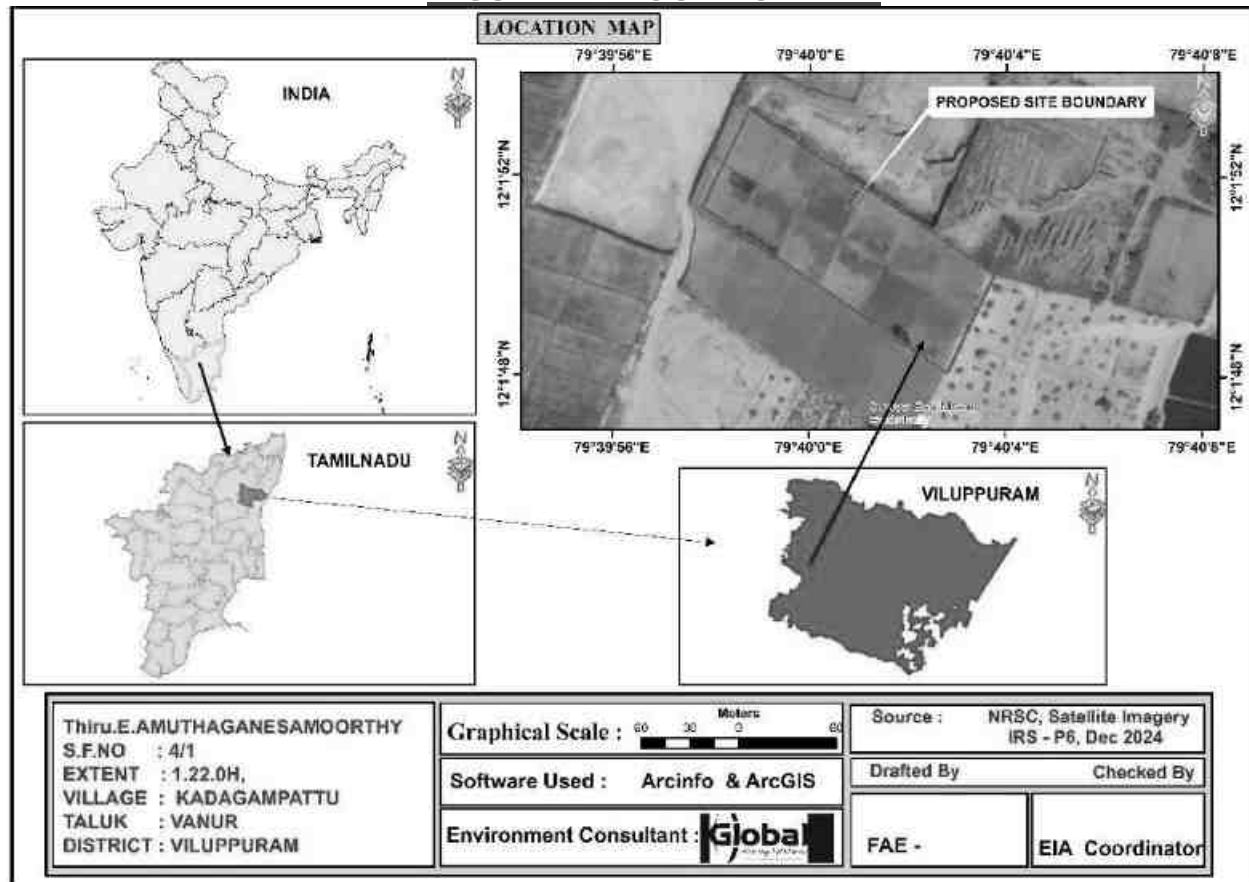
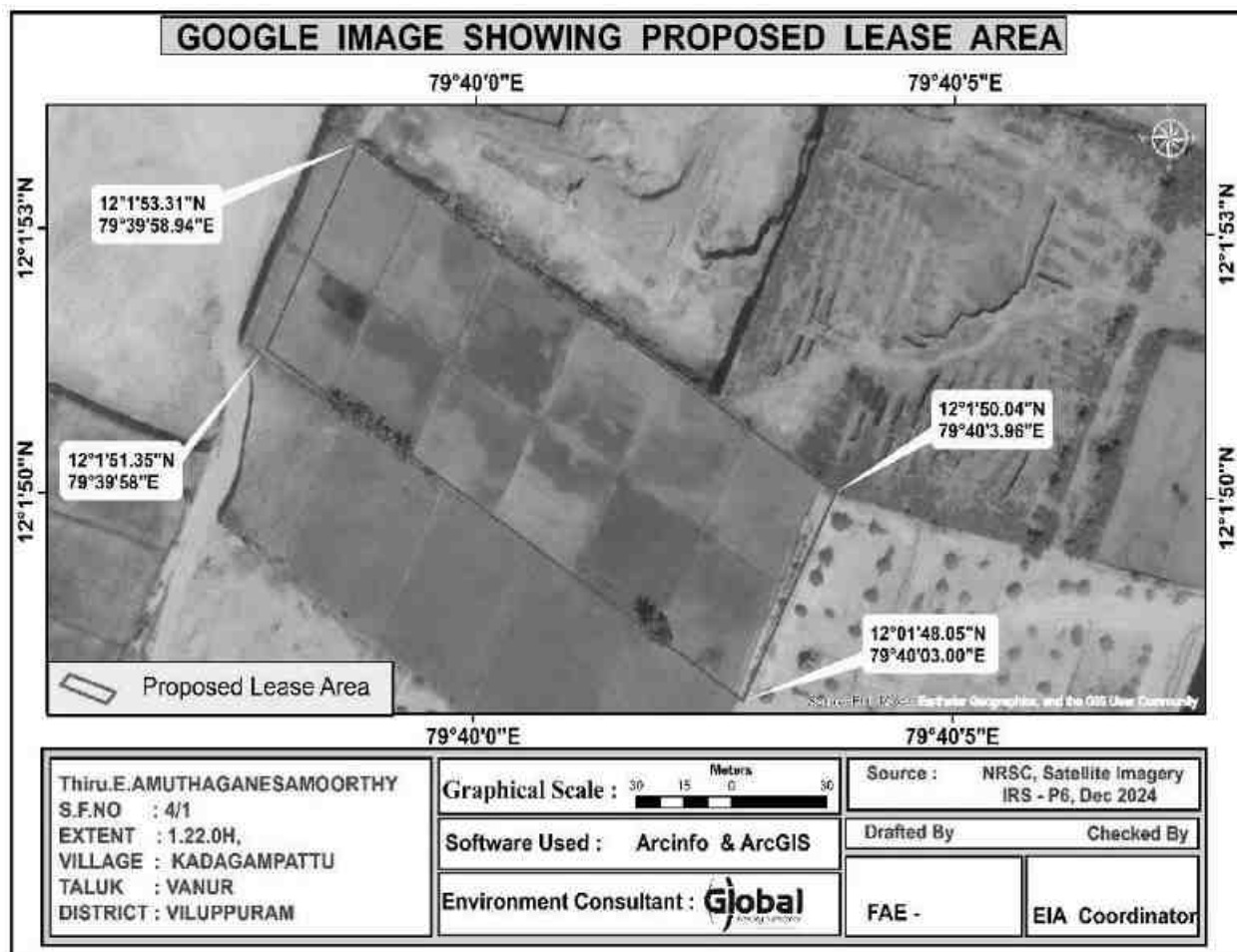


Table 2.2 Co-Ordinates of the Project Site

Corners	Co- ordinates		Distance between the corners
	Latitude	Longitude	
1	12°01'51.35"N	79°39'58.00"E	1-2 =66.4m
2	12°01'53.31"N	79°39'58.94"E	2-3 =181.8m
3	12°01'50.04"N	79°40'03.96"E	3-4 =67.4m
4	12°01'48.05"N	79°40'03.00"E	4-1 =181.8m

FIGURE 2.2 GOOGLE IMAGE SHOWING PROJECT SITE



DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

FIGURE 2.3 SURFACE PLAN OF THE PROJECT AREA

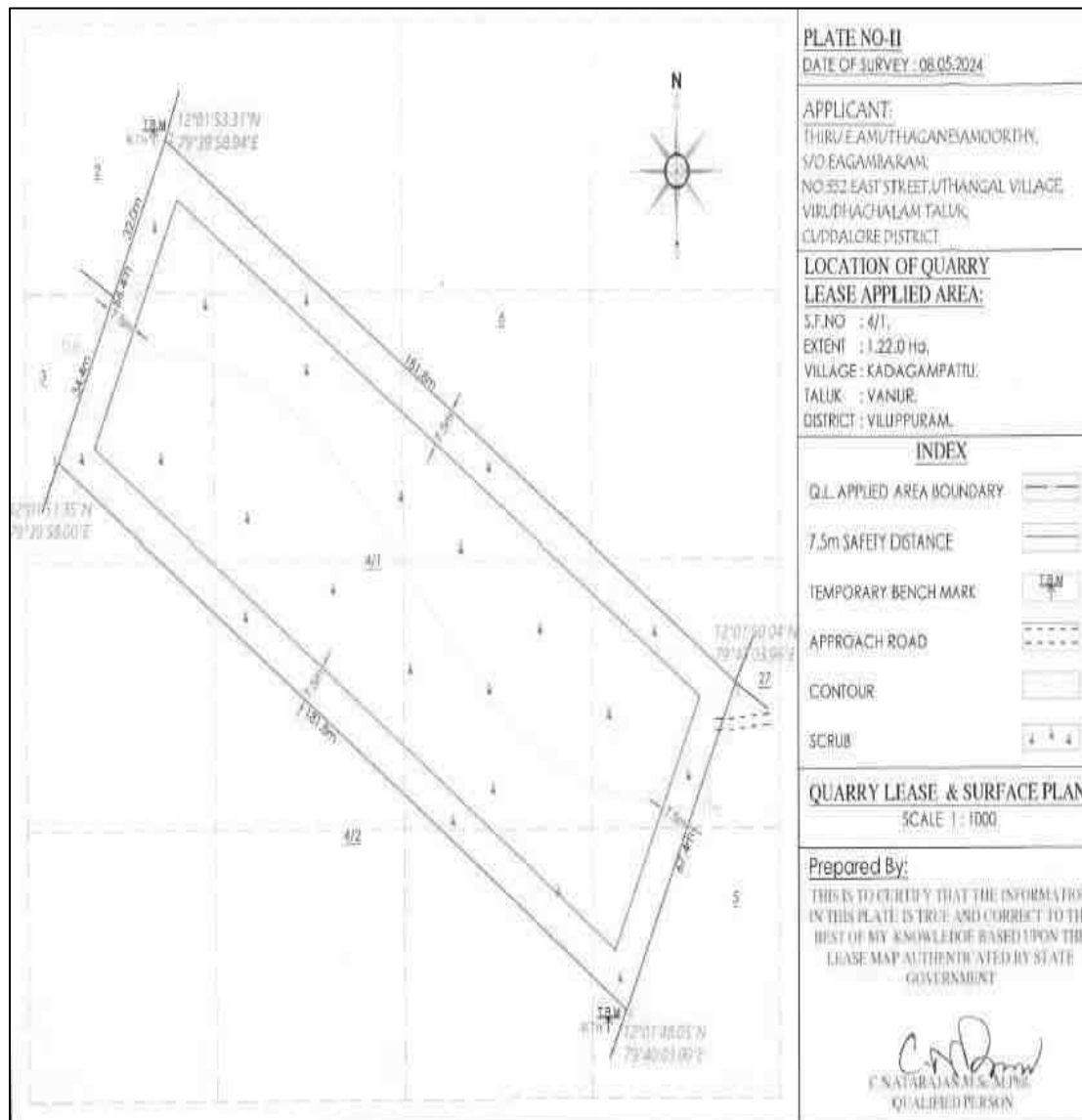
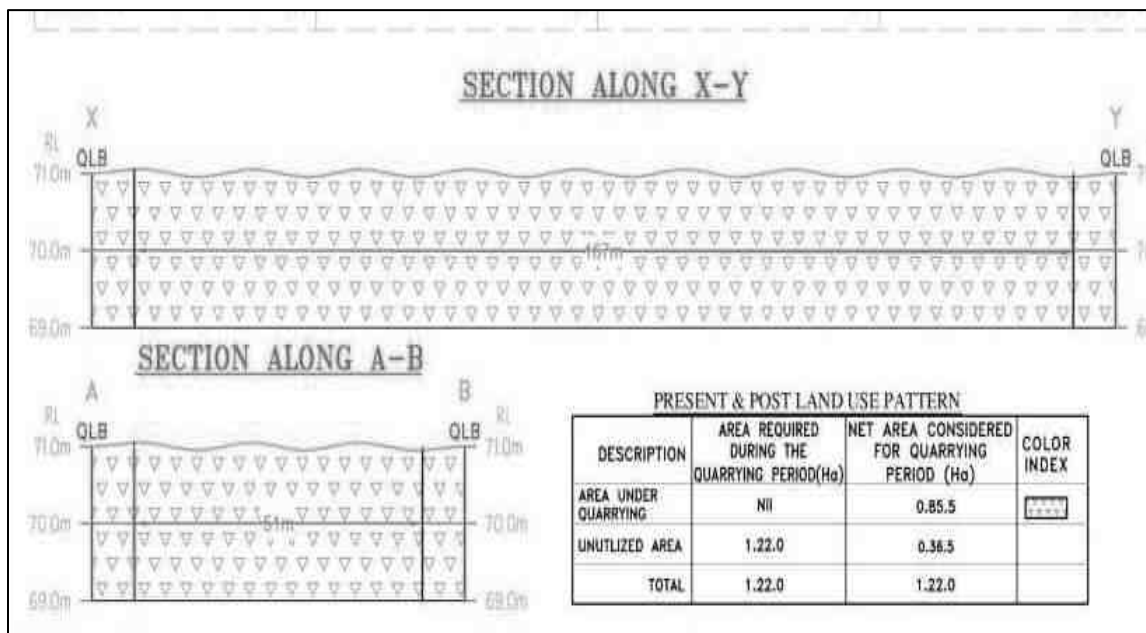
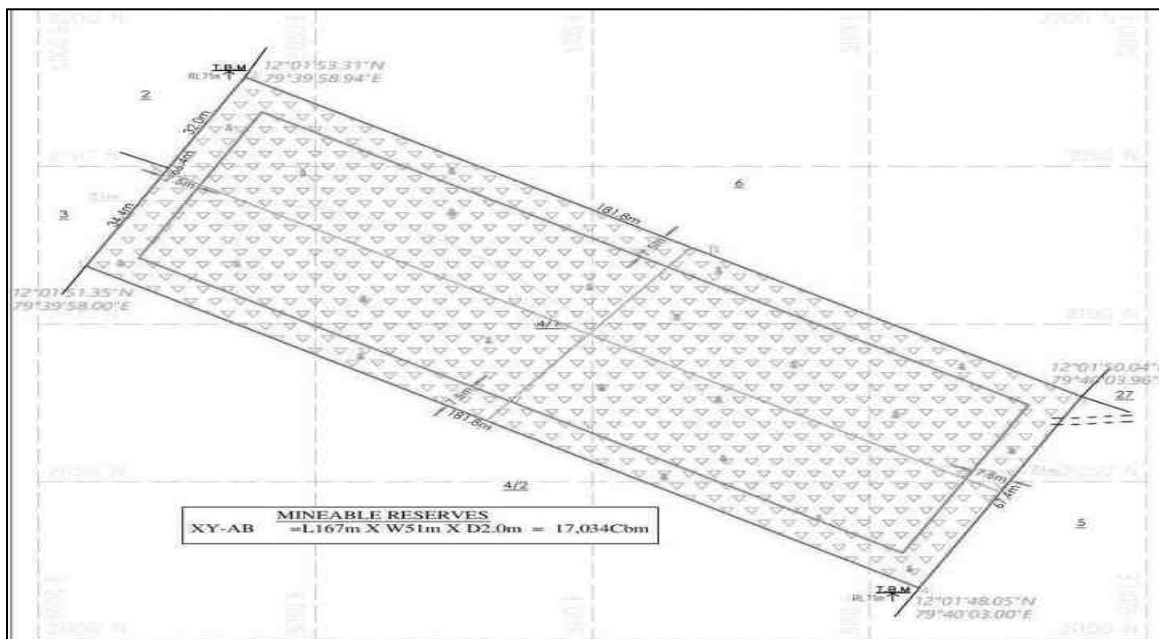


FIGURE - 2.4 GEOLOGY MAP OF PROJECT AREA



2.3.1 LAND USE OF THE PROJECT AREA

The proposed Mine Lease area is Patta land and the Land use pattern of the project site is given below Table 2.3.

Table 2.3 Current Land Use Pattern

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1	Area under Quarrying	Nil	0.85.5
2	Unutilized	1.22.0	0.36.5
	Total	1.22.0	1.22.0

2.3.2 LAND USE AT MINE CLOSURE STAGE

Table 2.4 Land Use at Mine Closure Stage

S. No.	Land Use	Area in use during the quarrying period (Hect)
1	Area under Quarrying	0.85.5
2	Unutilized	0.36.5
	Total	1.22.0

2.3.3 SALIENT FEATURES OF THE LEASE AREA

S.No	Description	Details	Distance & Direction
1	Village	Kadagampattu	0.57 Km (E)
2	Highway	(SH-136) Vellemedupettai – Puducherry Road (NH-32) Tindivanam – Thoothukudi Road	3.8 Km (NE) 10.1 Km (NE)
3	Railway Station	Chennai -Viluppuram line	13.5 Km (W)
4	Airport	Puducherry Airport	17.6Km (SE)

Figure 2.5 Topo Map showing proposed site features

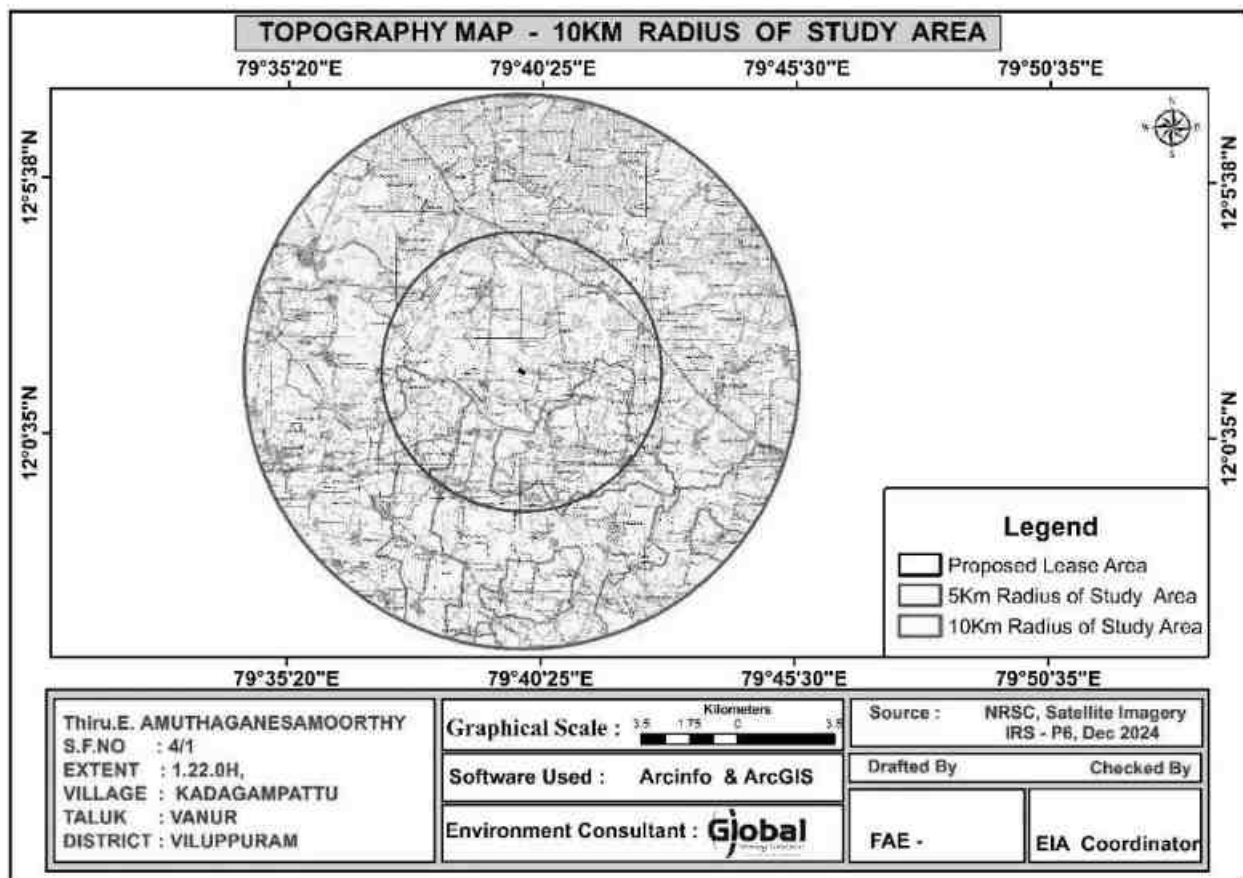


FIGURE 2.6 PROJECT SITE PHOTOGRAPHS



2.4 SIZE OR MAGNITUDE OF OPERATION(INCL.ASSOCIATED ACTIVITIES REQUIRED BY OR FOR THE PROJECT):

The total area of the project is 1.22.0 Ha. It is proposed to mine 17,034 m³ of Ordinary earth through the Opencast Mechanized Mining method for a period of two years.

2.4.1 STATUS OF STATUTORY CLEARANCES, PERMISSIONS, NO OBJECTION CERTIFICATES, CONSENTS:

The mining project will be implemented after getting all the Statutory Clearances, Permissions, No Objection Certificates, and consents etc. which are required/necessary for this project under various Acts, Rules and Regulations is as given in table below:

Table - 2.5 Status of Statutory Clearances, Permissions, NOC, Consents

S.No	Particular	Status
1	Mining Plan Approval Status	The project proponent has prepared mining plan under rule 19(1) 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the same has been approved by the Assistant Director, Department of Geology & Mining, Tiruvannamalai vide Rc.No.A/G&M/149/2018, dated: 22.05.2024.
2	Environment Clearance Status	ToR TO24B0108TN5934875N, Dated: 09.10.2024
3	Grant of Consent to Establish (CTE)	After 30 days from grant of EC (Duration as per TNPCB)
4	Grant of Consent to Operate (CTO)	After 30 days from grant of EC (Duration as per TNPCB)

2.5 PROPOSED SCHEDULE FOR APPROVAL & IMPLEMENTATION

Proposed schedule for approval of the proposed mining project is given as under:

Table - 2.6 Proposed Schedule for Approval

S.N	Activity Description	May 2025	June 2025	July 2025	Aug 2025
1	Submission of Final EIA/EMP Report to SEIAA-TN				
2	Consideration for EC by SEAC				
3	Recommendation of SEAC to SEIAA				
4	Grant of EC by SEIAA				

Proposed schedule has been prepared as per EIA Notification, 2006

Note: Application was submitted to Parivesh Portal on 26.08.2024 (Online Proposal No. SIA/TN/MIN/493587/2024), ToR was granted on 09.10.2024. Baseline data Collection during Season (October to December 2024). After obtaining EC from

SEIAA-TN, CTE and CTO under section 21 of the Air (Prevention and Control Act) 1981 and section 25/26 Water (Prevention and Control of Pollution Act) 1974 will be obtained from Tamil Nadu State Pollution Control Board (TNPCCB).

2.5.1 IMPLEMENTATION

Implementation of the proposed mining project will be done in accordance with the existing Acts and Rules applicable on mining operations as well as in accordance with any Act/Rule/Guidelines issued by Central or State Government from time to time and as per Mining Plan and Progressive Mine Closure Plan approved by Assistant Director, Department of Geology & Mining, Viluppuram vide Rc.No. Rc.No.A/G&M/149/2018, dated 22.05.2024.

2.6 TECHNOLOGY & PROCESS DESCRIPTION

2.6.1 BASIC REQUIREMENTS FOR THE PROJECT

The project requirements such as water, power, man-power, machinery with source of supply is described in the sections below.

2.6.2 WATER REQUIREMENTS

In the proposed mines water will be mainly used for domestic purpose, dust suppression & plantation. Total water requirement for the project is 3 KLD which will be sourced from outside agencies. Negligible sewage of 0.2 KLD will be generated, for which a septic tank with soak pit will be set up. The water balance diagram is given below.

FIG 2.7 WATER BALANCE DIAGRAM

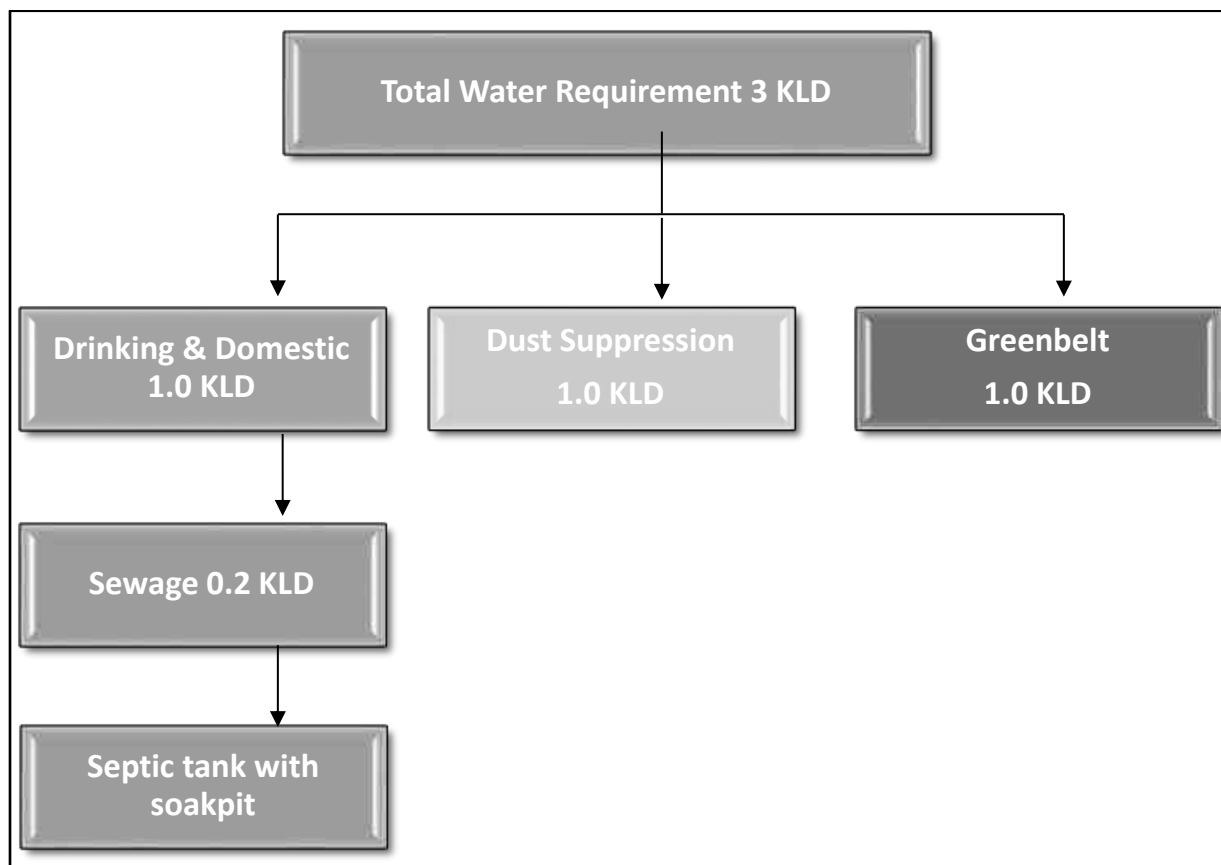


Table - 2.7 Water Requirement

S. No	Particular	Water Requirement (KLD)
1	Dust suppression	1.0
2	Drinking/Domestic	1.0
3	Greenbelt/Plantation	1.0
Total		3.0

2.6.3 POWER REQUIREMENT

Total fuel requirement is 2885 litres for entire life of the project. Power will be used only in the office building.

2.6.4 MAN POWER REQUIREMENT

The following man power is proposed for the ordinary earth quarrying to carry out the day-to-day quarrying activities, aimed at the proposed production target and also to comply with the statutory provisions of the Government norms.

S.No	Description	Employment potential
1	Supervisor	1 No
2	Operator	2 Nos
3	Watchman	1 No
4	Labours	3 Nos
Total		7 Nos

2.6.5 EXTENT OF MECHANIZATION

Table 2.8 Machineries involved in the project				
S.No.	Particulars	capacity	Motive Power	Nos
1.	Excavator	0.60 m ³	Diesel drive	1
2.	Tippers	10/20 Ts	Diesel drive	1

Source: Approved Mining Plan

Note: The mining equipment's of the above capacities are adequate for total material handling requirements for the proposed production of Ordinary Earth in the ML area.

2.6.6 GEOLOGY AND TOPOGRAPHY

Topography

The mine lease area of 1.22.0 Ha is covered in the Survey of India Toposheet 57 P/12 and is bounded by Latitude: 12°01'48.05"N to 12°01'53.31"N and Longitude: 79°39'58.00"E to 79°40'03.96"E. No major river is found nearby the lease applied area. Water table is found at a depth of 40m. The mean daily maximum temperature rises to 38° to 42° degree Celsius and during winter period it drops to 28° to 33° Celsius. The weather is quite hot in May and June and the maximum temperature sometimes reaches 42°Celsius. With the onset of the southwest monsoon by beginning of June, there is some drop in temperature. The average rain fall in the in the region of the project area is 825mm per annum during Southwest and Northeast Monsoons.

The topo map showing the lease area of the proposed quarry is given in Figure 2.1 and Satellite map showing proposed lease area is given in Figure 2.2.

The elevation of the proposed quarry is 71 m (maximum) from MSL. There is no forest land in the mine lease area. The project site is dry land which is not fit for any cropping.

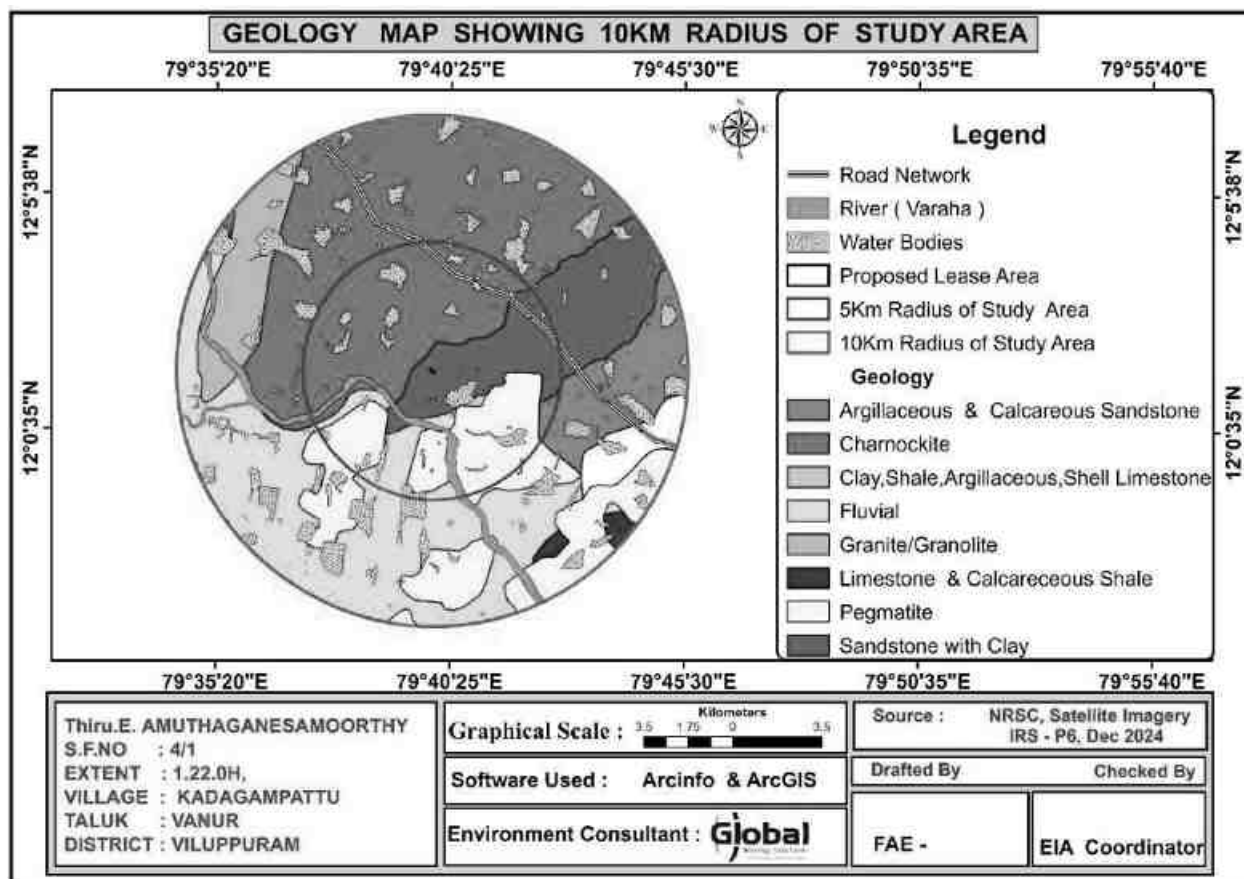
2.6.7 Regional Geology

The Core and 10 Km buffered zone geological features (Figure 2.28) shows that the Villupuram District is mostly underlain by the lithologies of southern granulite Terrain Super Group (SGT) with age ranging from Neoarchaean to Mesoproterozoic except coastal belt in the eastern part of the district. The calc granulite with limestone of Khondalite Group is occurs at north of Mugaiyur. The Charnockite Group contain 3 lithologies such as Charnockite, banded magnetite quartzite and pyrixene granulite. The Charnockite occur at north of Valatti and covers large area from Vikravandi to Ollakur. The linear bands of pyroxene granulite are occurring mostly in the NW parts of the district near valatti and few patches occur at west of Odiyattur. The Migmatite Group contains biotite gneiss which cover large area in the central and NW parts of the district such as west of Muttatur and Mugaiyur and in and around valatti. The grey hornblende biotite gneiss occurs as linear band at east of Vikravandi. The hornblende biotite gneiss occurs in the larger area of the district from Mugaiyur to

north of Gingee. The Migmatite gneiss occur at south of Olakkur and NW of Odiyattur. The bands of pink migmatite are occurs at NE of Gingee and NW of Valatti. The Archaean to Paleoproterozoic in age Closepet Granite within the biotite gneiss of Migmatite Group at west of Valatti. The Proterozoic epidote hornblende gneiss is occurring in and around Gingee with shearing activity. The Mesoproterozoic in age basic intrusive like dolerite dykes are intruded into rocks of Southern Granulite Terrain and these dykes are tendering into NW-SE to E-W direction.

The late carboniferous-early premian in age,boulder conglomerate bad of Talchir Formation is occurs in linear belt at northern part of the district near Olakkur and Ongur.The Late Cretaceous period contains Pondicherry Group which contain sandstone-shale sequence and divided into Vanur and Nesal Formations and occurs in the eastern part of the district. The Cenozoic laterites occurs at west of Marakkanam.The early palaeocene age contains Pondicherry Group and it is divided into Karasur and Manaveli Formations which contains lithologies such as limestone and clay and occurs at east of vanur. The Miocene-Pliocene period are marked by deposits of thick sediments sequence and classified into Panamparai Formation and Cuddalore Formation and contains lithologies such as sandstone, conglomerate and mottled sandstone.

FIGURE 2.8 REGIONAL GEOLOGY MAP-10 Km RADIUS FROM PROJECT AREA



2.6.8 Local Geology: Geological Resources

The area is underlain by a wide range of ordinary earth. The geological formations found in the district are Archaean rocks like Gneisses, Granites, Charnockites basic granulites and calc-gneisses. The younger formations are Quartz veins and pegmatite.

The general geological succession of the area is given as under.

AGE	ROCK TYPE
Recent	- Gravelly soil
	Unconformity
Archaean	- Dolerite dyke
	Charnockite.
	Peninsular

Gneissic complex
and Calc Gneiss

2.7 PROJECT DESCRIPTION INCLUDING DRAWING SHOWING PROJECT LAY OUT COMPONENTS OF PROJECT ETC., SCHEMATIC REPRESENTATION OF THE FEASIBILITY DRAWING WHICH GIVE INFORMATION IMPORTANT For EIA PURPOSE.

2.7.1 PROCESS DESCRIPTION

PROPOSED METHOD OF MINING

Opencast Shallow mining method with 2.0 m height there is no bench proposed for this type of quarrying. There is no overburden, the ordinary earth is to exploit only to a depth of 2.0m below ground level. The applicant proposed to excavate 17,034m³ of ordinary earth for a period of two years

TIMING

Mining will be done on single shift basis. Timing will be 8 hours from 8 AM to 1 Noon and 2 PM to 5 PM. Lunch time will be provided between 1 Noon and 2 PM. Timing may be variable from season to season depending upon the sunrise and sunset. Weekly one day will be declared as holiday.

BENCH GEOMETRY

There is no bench proposed for this type of quarrying.

DEVELOPMENT OF MINING FACES

The proposed mining method is Opencast Shallow mining. Site preparation as such bush cleaning, approach road, office and sanitary facilities will be done after obtaining all the statutory clearances as such Environmental Clearance, Consent to Operate, Lease Deed, etc., Once site is ready will start the quarrying operation and it is anticipated in the month of September 2025.

FIGURE 2.9 FLOW CHART OF THE QUARRY OPERATION

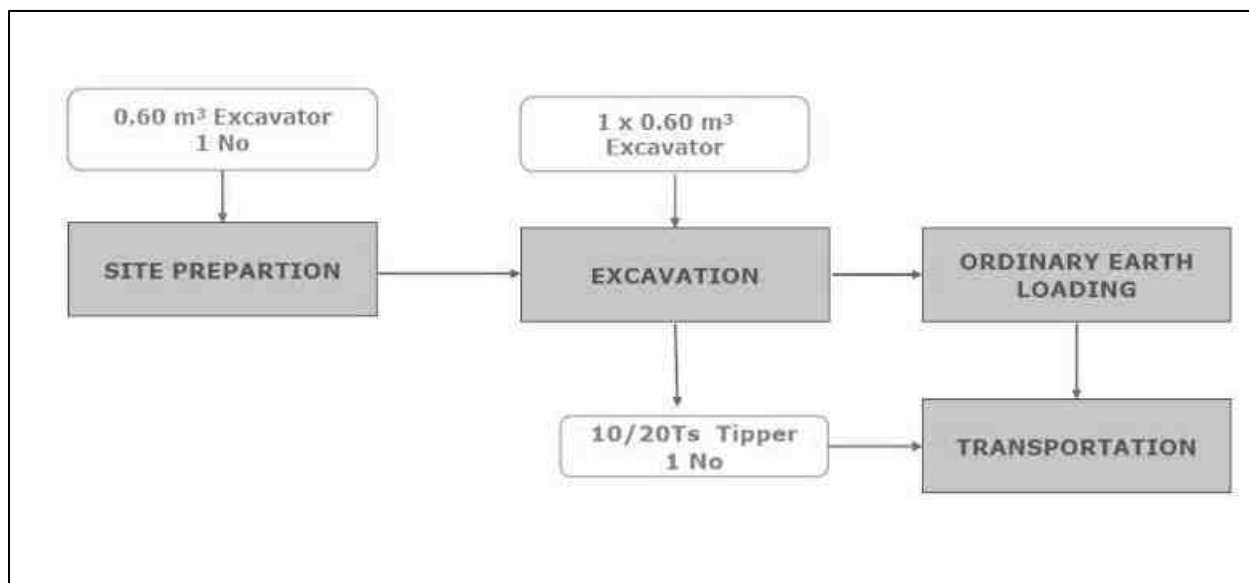


TABLE - 2.9 MINING DETAILS

S.No	Description	Details	Remarks
1.	Method of Mining	Opencast method of shallow mining is proposed, Machineries like excavator are proposed for quarrying ordinary earth 2.0m below ground level depth	Excavator – 1 No Tippers -1 No.
2.	Mineral Use	The Ordinary earth, will be used for construction industries for Government & Public sector projects besides catering domestichousing and infrastructure projects in and around the district	-
3.	Proposed Depth	2m below ground level	-
4.	Proposed Production quantity	17,034 m³ of ordinary earth	Two years
5.	Safety Zone	Around 610 nos. of saplings will be planted in this safety	

6.	Water requirement	3.0 KLD	Procured from the outside water vendors
7.	Energy requirement	2885 liters of HSD (Entire Project Life)	All the equipment will be diesel operated. No electricity is needed for mining operation
8.	Manpower	7 Nos	
9.	Shift	General Shift	8.00 AM – 5.00 PM
10.	Project Cost	37.97 Lakhs	(Including Fixed Asset + Operational & EMP cost)
11.	EMP Cost	27.87Lakhs	-
12.	CER Cost	As per MOEF & CC Notification CER cost arrives for an amount of Rs. 21,440/-, which is equivalent to 2% of the project cost. However, the project proponent has revised the CER cost to Rs. 2.0 Lakhs	The amount will be utilized for the development of nearby Government Schools.

2.7.2 YEAR WISE PRODUCTION & EXCAVATION DETAILS

Year wise Production of Ordinary Earth from the area will be upto maximum capacity. The recovery factor is up to 100% hence no waste expected to be generated. All excavated quantity is saleable. The summary of proposed development and production during the mine plan period is given in Table 2.10.

Table 2.10 Summary of production for 2 Years

Year	Pit No.(s)	Overburden	ROM ore/ Mineral	Saleable ore / Mineral	Sub grade ore / mineral	Mineral rejects	Ore to overburden ratio
First	I	Nil	8,517m ³	8,517m ³	Nil	Nil	Nil
Second	I	Nil	8,517m ³	8,517m ³	Nil	Nil	Nil
Third	The applicant has obtained permission to quarry ordinary earth for a period of two years only						
Fourth							
Fifth							

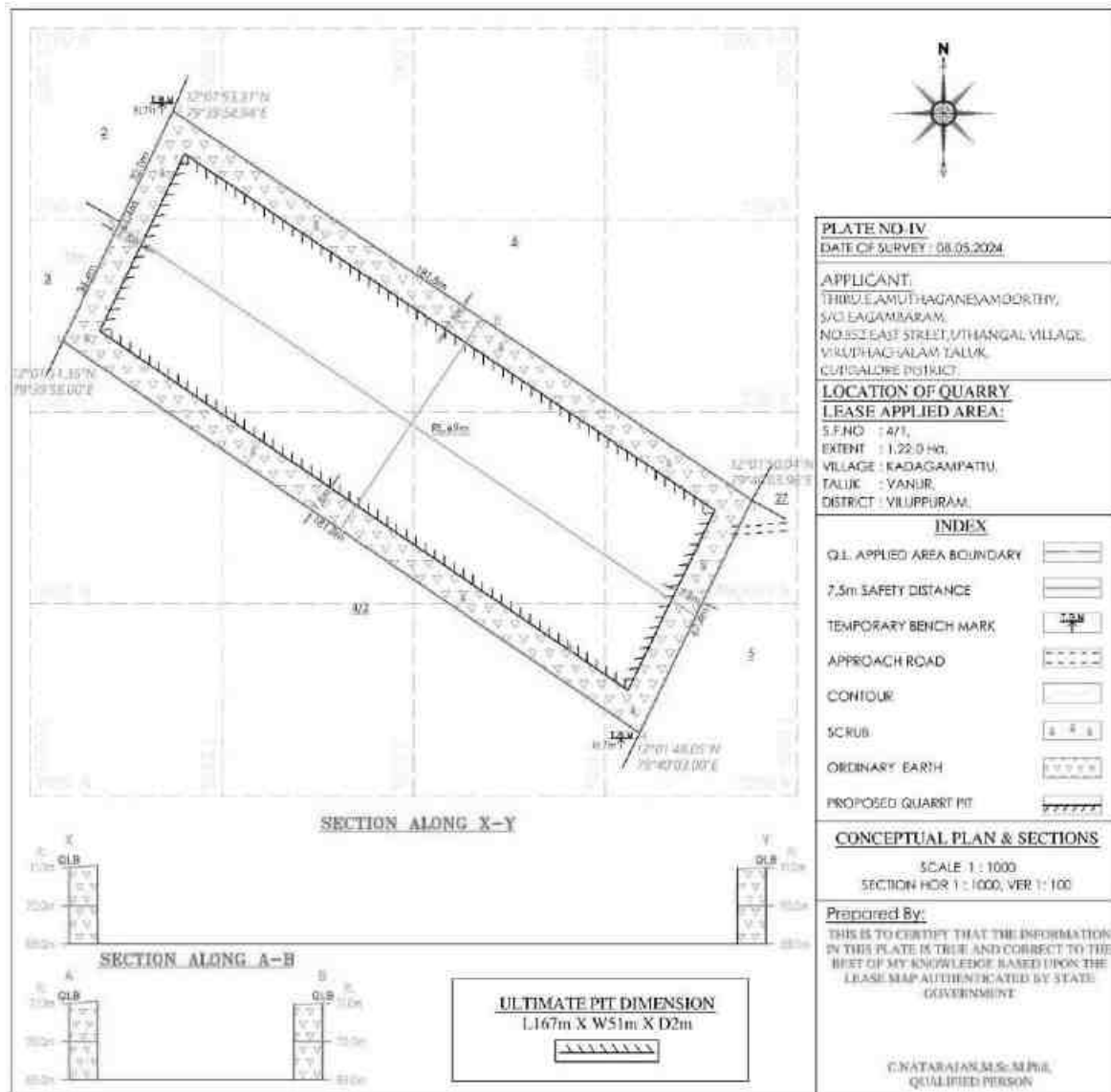
2.7.3 CONCEPTUAL PERIOD

During conceptual stage the mined-out area will be leveled and used for agriculture purpose at the conceptual period. It will also serve the purpose as socio economic and corporate social responsibility of the lessee by way of supplying water for irrigation purpose or at will of the local people. This will help in ground water recharging as well. The conceptual plan and section of mine lease area is given in Figure 2.11. Ultimate extent and size of the quarry at the conceptual stage is given below as Table 2.9 and Land Use pattern is given as Table 2.10 The conceptual plan is given as Figure 2.11.

TABLE 2.11 Ultimate Pit Dimension			
Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)
Ultimate Pit dimension at the end of Mining Plan Period as per approved Mining Plan			
I	167	51	2m below ground level

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

FIGURE 2.10 CONCEPTUAL PLAN



2.8 DESCRIPTION OF MITIGATION MEASURES INCORPORATED INTO THE PROJECT TO MEET ENVIRONMENTAL STANDARDS ENVIRONMENTAL OPERATING CONDITIONS, OR OTHER EIA REQUIREMENTS (AS REQUIRED BY THE SCOPE)

The mitigation measures given in this section are for management of the emissions (particulate or gaseous), Noise pollution, wastewater & surface run-off generated from the mining operations to meet the environmental standards and environmental operating conditions are as follows:

2.8.1 AIR QUALITY MANAGEMENT

It is eco-friendly loose in nature No drilling or blasting is proposed for this type of ordinary earth quarrying, it is an ecofriendly quarrying operation.

Loading & Transportation

- Water spray on haulage roads, access roads, operating benches and proper maintenance of haul roads.
- Development of green belt/plantation around mine boundary, roads and other places will be carried out to control the air pollution.
- Proper maintenance of the HEMMs & transportation vehicles will be done.
- Vehicular emissions will be kept under norms.
- Personal Protective Equipment like dust masks will be provided to all employees.
- Regular air quality monitoring will be carried out.
- Compliance of conditions laid by MoEF&CC and TNPCB to minimize environmental impacts

2.8.2 NOISE MANAGEMENT

It is eco-friendly loose in nature No drilling or blasting is proposed for this type of ordinary earth quarrying, it is an ecofriendly quarrying operation.

Transportation

- Adequate silencers in HEMMs will be provided to reduce generation of noise.

- Proper and regular maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise.
- All HEMMs will be equipped with acoustic a/c closed cabins for operators.
- The workers employed at HEMMs will be provided with protective equipment, earmuffs and earplugs as protective measures from the high noise level generated at the mine site and wherever required.
- Development of green belt & plantation around the mining activity and other areas, will be carried out.
- Regular monitoring of noise will be carried out.

2.8.3 WATER MANAGEMENT

Waste Water

Septic Tanks and soak pits will be provided for the disposal of effluent generated from mine office.

Surface Run-off

- Garland drains are proposed to be constructed around the temporary overburden soil dump to channelize the runoff water from dumps and also around the active pit to restrict rainy water from entering in to the working pit.
- Rain water falling directly into the mine pits will be stored and used for plantation & dust suppression.
- Regular monitoring of water quality will be carried out

GREENBELT/ PLANTATION

The mine lease area is devoid of major plantation. Shrubs and bushes are majorly found within the lease area. The proponent has planned to develop green belt like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc., will be planted around the mine lease area. A total of 610 trees are planned to be planted. Spacing will be 3m x 3m.

2.9 ASSESSMENT OF NEW & TESTED TECHNOLOGY FOR THE RISK OF TECHNOLOGICAL FAILURE:

From the nature and extent of the deposit, the reserves and the quality have been proved with adequate degree of reliability. Considering the type of mineralization, Opencast Shallow mining method is the most feasible method for mining in the proposed mine lease.

CHAPTER 3

DESCRIPTION OF THE ENVIRONMENT

3.1. STUDY AREA, PERIOD COMPONENTS AND METHODOLOGY

The project area is located in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State over an extent of 1.22.0 Ha., The project area is considered as Core zone and the area in the surrounding 10km radius is considered as Buffer Zone. The baseline environmental monitoring was conducted by M/s. Shrient Analytical & Research Labs Private Limited, Chennai it is an NABL and MOEF recognized laboratory for various components of environment, viz. Air, Noise, Water, Land was carried out during n i.e. October 2024 to December 2024 in the study area covering 10 km radial distance from the Ordinary Earth mine. Other environmental data on flora and fauna, land-use pattern, forest etc. were also generated through field surveys and secondary information collected from different State Govt. departments. Sampling methods and analysis. Socio-economic survey was conducted, through interaction with the people, sarpanch and medical officers by floating questionnaires and collection of information are supported by census data for demographic structures, amenities, and infrastructure availability within the study area. Baseline values for various environmental components are discussed in this Chapter.

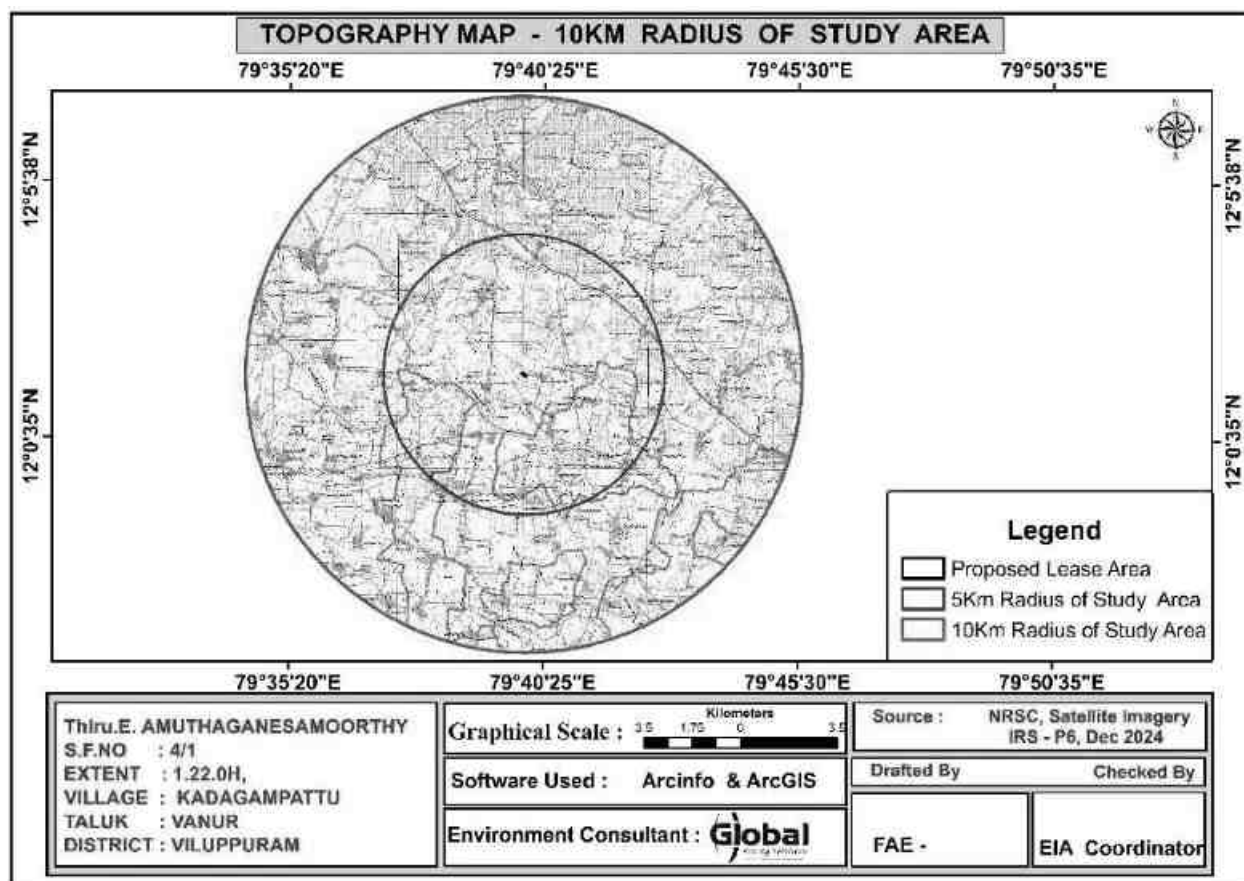
ENVIRONMENTAL SETTING OF THE STUDY AREA

Table 3.1 Description of the lease area		
S.No.	Areas	Distance from project site
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius
2	Areas which are important or sensitive for ecological reasons	

A	Wetlands, water courses or other water bodies,	Water bodies	Distance	Direction
		Odai	0.87 Km	E
		Gingee River	2.06 Km	SW
		Katterikuppam Lake	4.06km	SE
		Thirukannur Lake	5.53 km	SW
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests	Nil within 10km radius		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Ousuddu Lake Birds Sanctuary -9.85 Km (SE)		
4	Inland, coastal, marine or underground waters	Nil within 15km radius		
5	State, National boundaries	Nil within 15km radius		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 15km radius		
7	Defense installations	Nil within 15km radius		
8	Densely populated or built-up area	Vanur- 7.0 Km - E		
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Vanur- 7.0 Km - E		
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil		
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil		

12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.

FIG 3.1 ENVIRONMENTAL SETTING OF THE STUDY AREA



STUDY PERIOD

The relevant information and data (both primary and secondary) were collected in core as well as buffer zone (10 km distance from the mine boundary) during (Oct., to Dec., 2024) in accordance with the guidelines for preparation of EIA studies in

order to assess the impact of the mine site within the 10 Km study area on existing physical, biological and social environment.

3.2 ESTABLISHMENT OF BASELINE FOR VALUED ENVIRONMENTAL COMPONENTS:

Information on the following components/parameters were collected to understand the existing scenario of the core and buffer area:

- ✚ Meteorological environment
- ✚ Air environment
- ✚ Water environment
- ✚ Noise environment
- ✚ Soil environment
- ✚ Biological environment
- ✚ Land use & Land cover
- ✚ Socio economic environment
- ✚ Hydrogeology

BASELINE DATA COLLECTION

Baseline environment data on various components of the environment in the study area were collected during (Oct., to Dec., 2024) to assess the present scenario of the area. Details are given in the table given below.

Baseline data collection During Post Monsoon Season (Oct., to Dec., 2024)

Sr.No	Environmental Component	Primary data		
		Parameters	Frequency	Monitoring/Sampling locations
1	Land	Agriculture, Habitation, Industry, Stony waste/ Quarries, Forest area, Plantation/ Vegetation, Open scrub, Water bodies etc.	Once in a Season	10 km radius study area
2	Meteorology	Temperature, Relative Humidity, Wind Speed, Wind Direction.	Hourly	1

3	Air	PM10, PM2.5, SO ₂ , NO ₂ , CO & PAH	twice a week (24 hourly)	6
4	Noise	Equivalent noise levels in Leq in dB (A)	Once in a season (day & night time)	6
5	Water	Parameters as per IS 10500 – 2012	Once in a season	
A	Surface Water	Parameters as per IS 10500 – 2012	Once in a season	2
B	Ground Water	Parameters As per IS 2720/USDA	Once in a season	6
6	Soil	Parameters As per IS 2720/USDA	Once in a season	6
7	Biological Environment	Flora and Fauna	Once in a season	Study Area
8	Socio- Economic Environment	Socio-Economic Environment	Once in a season	Study Area

INSTRUMENTS USED FOR ENVIRONMENTAL BASELINE DATA COLLECTION

The following instruments were used at the site for environmental baseline data collection work.

- Respirable Dust Sampler with attachment for gaseous Pollutants, Envirotech APM 460.
- Fine Particulate Matter (FPS) Sampler APM 550
- Sound Level Meter Model Envirotech SLM - 100
- Digital D.O. Meter Model - 831 E (CPCB Kit)
- Weather Monitoring Station Model Enviro WM 271
- Water Level Indicator and
- Global Positioning System (GPS) Apart from collecting samples of air, water, noise and soil from representative sampling points given in proceeding sections, the data on land use, vegetation and agricultural crops were also collected by the field team through interaction with a large number of local inhabitants of the study area and different Government departments/agencies. This provided an excellent opportunity to the members of the field team for obtaining clear scenario of the existing environment of the study area.

3.3. BASE MAP OF ALL ENVIRONMENTAL COMPONENTS

(ENUMERATION OF THE STRUCTURES LOCATED WITHIN 500M RADIUS FROM THE PROPOSED QUARRY SITE)

A site survey has been conducted to identify and list structures located within a 500 m radius from the proposed Quarry and are detailed below. There are permanent structures within a 500 m radius from the project site. The PP has obtained a letter from Village Administrative Office (VAO), Kadagampattu stating that there are no structures situated within 300m radius.

FIG 3.2 GOOGLE MAP SHOWING 50M INTERVAL FOR 500M RADIUS FROM THE LEASE AREA

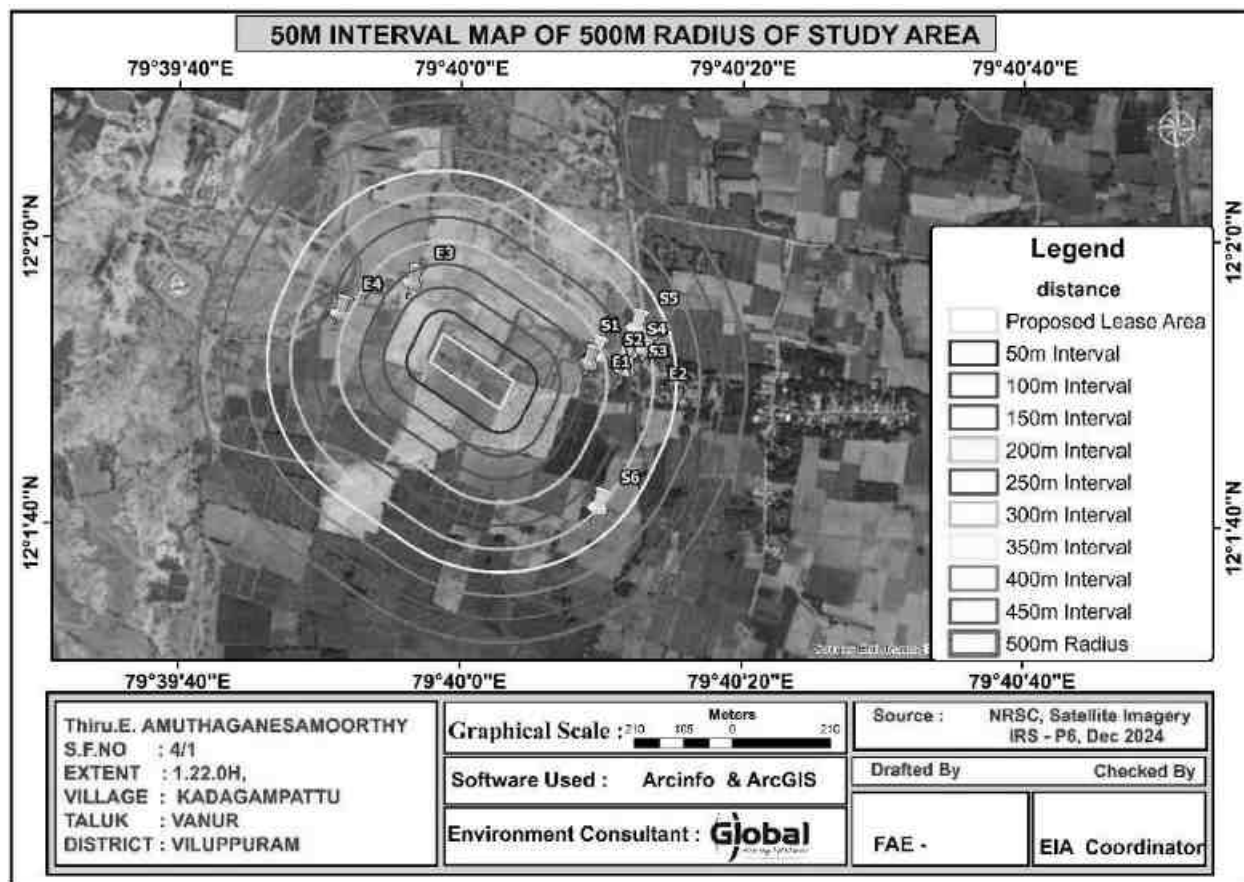
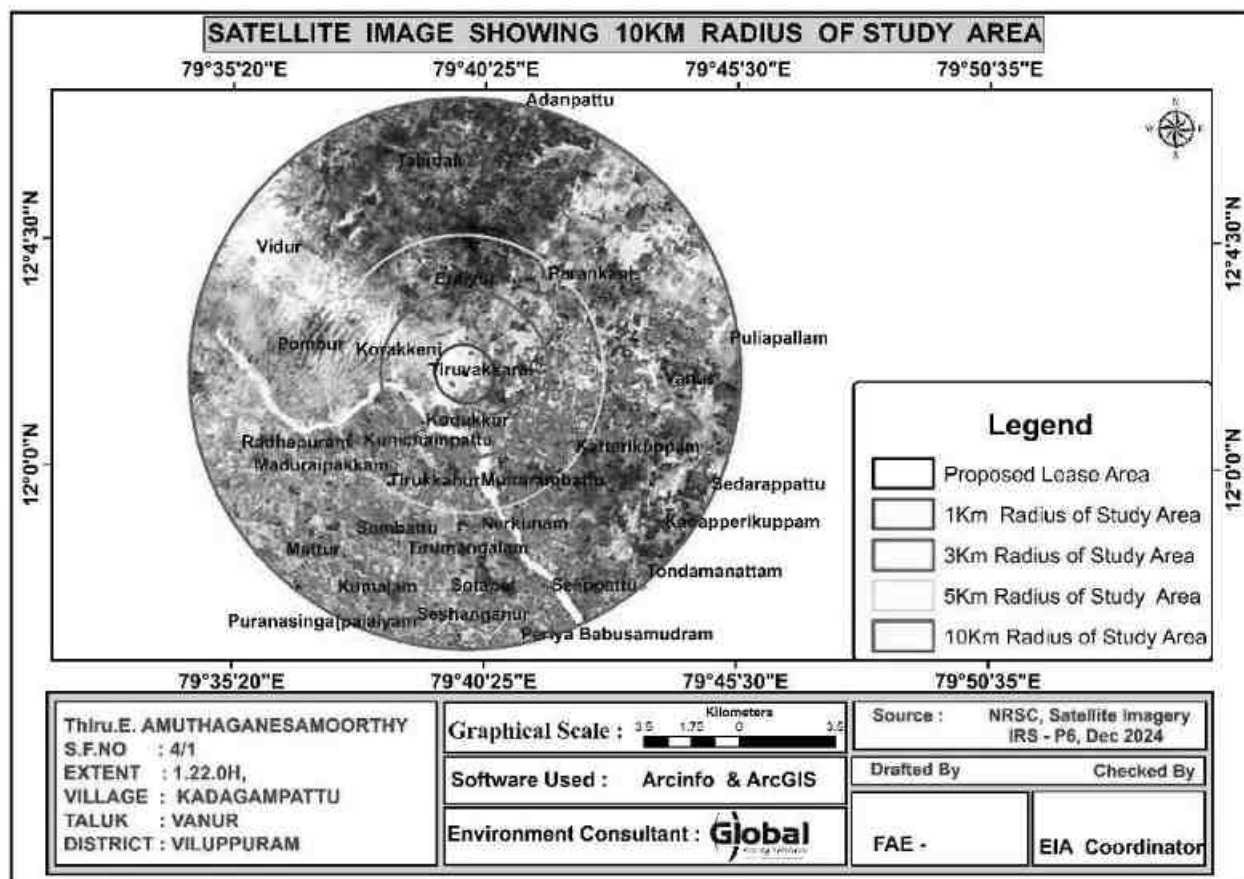


FIGURE - 3.2a SATELLITE MAP OF THE PROJECT AREA (10 KM RADIUS)



3.3.1 METEOROLOGICAL ENVIRONMENT

Meteorological conditions prevailing in the buffer zone is given below

Climate

The climate of Viluppuram District is tropical. The period from the weather is pleasant during the period from November to January. The normal temperature varies between 18°C to a maximum of 42°C during summer, whereas the hottest climate experiences from March to May with mercury reaching 38.5°C at the highest.

Rainfall

Viluppuram district generally experiences hot and humid climate conditions. The district receives rain under the influence of both southwest and northeast monsoons.

Most of the precipitation occurs in the form of cyclonic storm caused due to depressions in Bay of Bengal chiefly during NE monsoon period. The SW monsoon is highly erratic and summer rains are negligible. Rainfall of this area is about 800 mm to 900 mm during the both NE & SW monsoons. The excess rainfall is 192% (Source: Mausam.imd.gov.in)

Rainfall received from 2017 to 2021 is given below.

Table 3.2 Rainfall data					
Actual Rainfall in mm					Normal rainfall in mm
2017	2018	2019	2020	2021	
1231.8	750.3	1022.6	1077	1521.2	980

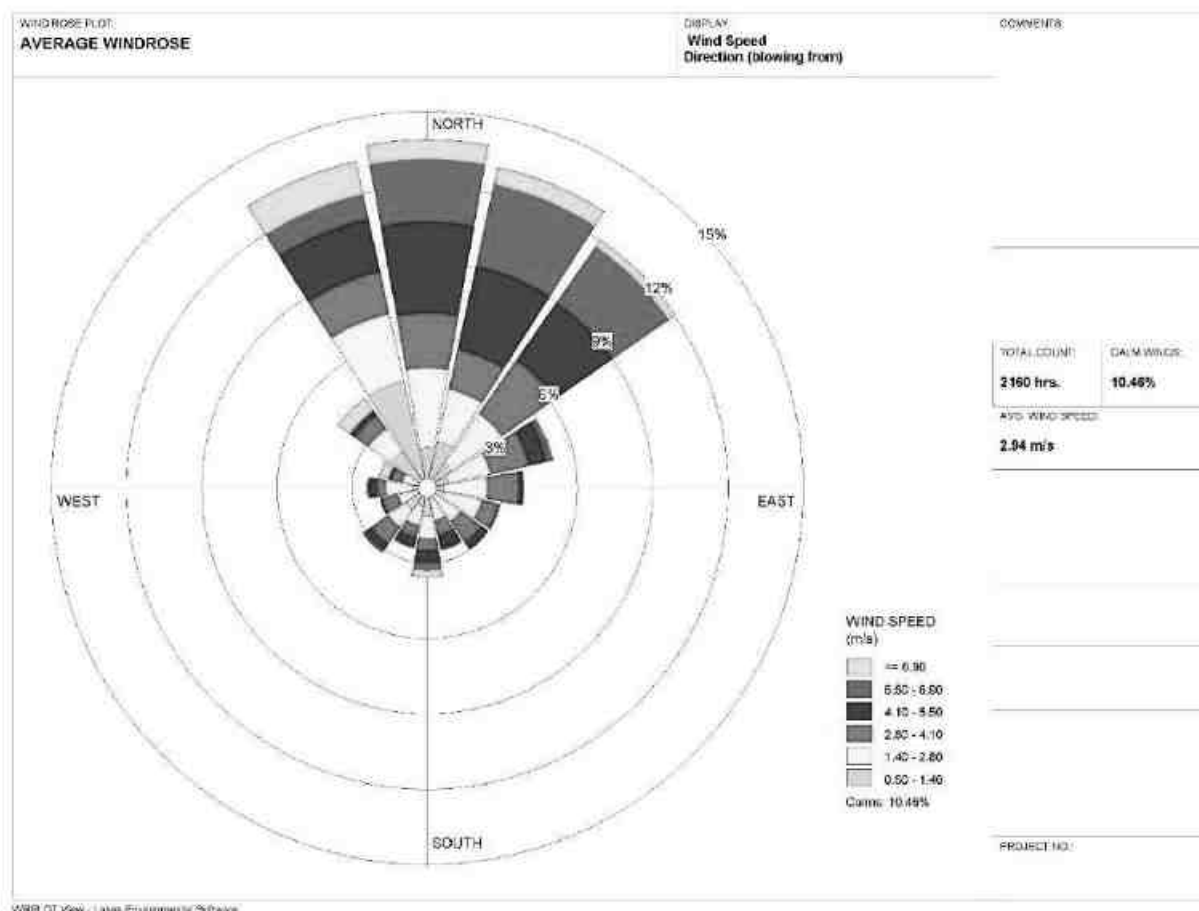
Relative Humidity

The relative humidity, in general around the year is between 55 and 65% in most parts of the district, except during the north-east monsoon season when it is over 65%. However, the coastal areas will be comparatively more humid.

Seismic information

The study area falls in Zone II, which comes under the least active zone. The seismic map of India is given as Fig 3.3.

FIG 3.4 WIND ROSE PLOT DURING OCTOBER TO DECEMBER 2024



Meteorological data of the project area

The meteorological data collected in the study area from October 2024 to December 2024 which includes Temperature, Wind speed, Wind direction and Relative humidity. The predominant wind blows from West. The temperature of the area is reported to be

24.4°C and 27.1°C during summer.

3.3.2 AMBIENT AIR MONITORING DATA

Ambient air quality monitoring has been carried out in 6 locations. One in the core zone and remaining four locations in the buffer zone areas. Monitoring locations have been chosen such that the measurement represents the overall air condition

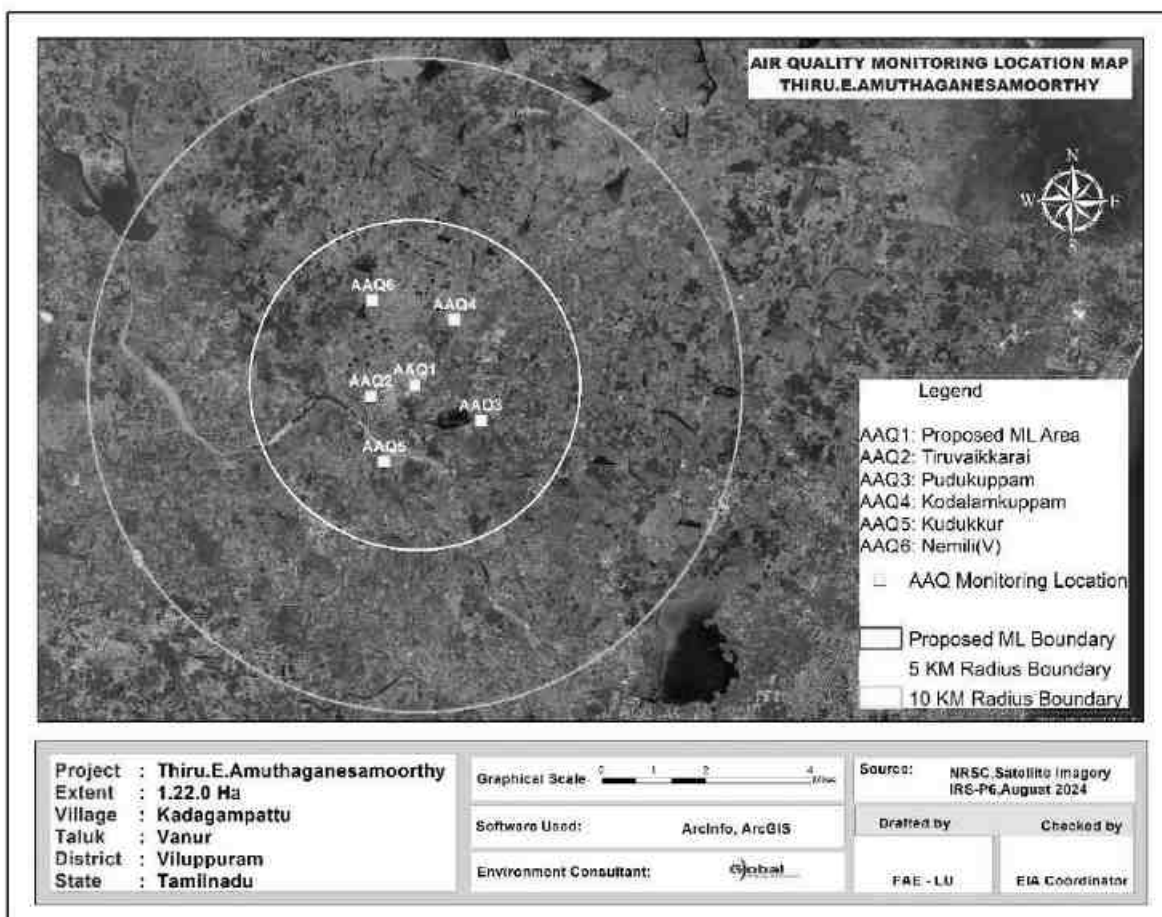
prevailing in the area. The study area represents mostly rural environment with quarries.

The regional climatologically data, was used as a guideline to know the predominant wind direction during study period. The locations were identified keeping in view predominant wind directions prevailing during study period, sensitive receptors, human settlements, and mining activities around.

The levels of Respirable Particulate Matter (PM₁₀), Fine Particulates (PM_{2.5}), Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) were monitored for establishing the baseline status. PM₁₀ were sampled with the help of Respirable Dust Samplers on filter papers and SO₂ & NO_x were absorbed in the respective absorption media in the impingers attached to RD samplers and analyzed Spectro-photometrically. PM_{2.5} was monitored with the help of Fine Particulate Samplers. The monitoring locations for ambient air study are given in Table – 3.3 and Figure 3.5 below.

Table 3.3: Details Of Ambient Air Quality Monitoring Locations				
S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Proposed Mine Site	Core Zone	12° 1'47.29"N 79°40'25.46"E
2	AAQ 2	Tiruvaikkarai Village	1.09 km, W	12° 1'45.87"N 79°39'17.92"E
3	AAQ 3	Pudukuppam Village	2.44 km, SE	12° 1'20.41"N 79°41'19.10"E
4	AAQ 4	Kondalamkuppam Village	2.33 km, E	12° 2'27.43"N 79°40'54.01"E
5	AAQ 5	Kudukkur Village	2.76 Km, S	12° 0'39.03"N 79°39'7.93"E
6	AAQ6	Nemili Village	3.08 Km, NW	12° 3'19.48"N 79°39'13.85"E

FIG 3.5 BASE MAP OF AMBIENT AIR MONITORING LOCATIONS



The concentrations of various air pollutants at the 6 locations are given below. For all the components in the table, the unit are in $\mu\text{g}/\text{m}^3$.

Table.3.4 Results of Air sampling Analysis in 6 locations

Station ID	Min	Max	Avg.
Particulate matter PM-10 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	40.7	52.8	46.75
AAQ-2	38.2	51.5	44.85
AAQ-3	48.3	58.3	53.3
AAQ-4	48.3	57.5	52.9
AAQ-5	46.5	55.3	50.9
AAQ-6	45.9	57.3	51.6
CPCB NAAQS 2009 for PM₁₀ - 100 $\mu\text{g}/\text{m}^3$			
Particulate matter PM-2.5 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	18.9	23.9	21.4

Station ID	Min	Max	Avg.
AAQ-2	17.4	23.9	20.65
AAQ-3	21.5	26.6	24.05
AAQ-4	22.3	30.7	26.5
AAQ-5	22.1	26.4	24.25
AAQ-6	20.1	26.5	23.3
CPCB NAAQS 2009 for PM_{2.5} - 60 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	4.5	6.7	5.6
AAQ-2	4.1	6.1	5.1
AAQ-3	3.7	5.4	4.55
AAQ-4	5.6	9.2	7.4
AAQ-5	3.9	5.7	4.8
AAQ-6	4.1	5.9	5
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	8.6	10.9	9.75
AAQ-2	7.4	9.7	8.55
AAQ-3	7.9	9.8	8.85
AAQ-4	9.3	13.7	11.5
AAQ-5	8.7	11.4	10.05
AAQ-6	8.1	10.0	9.05
CPCB NAAQS 2009 for NO₂ - 80 µg/m³			

The results are summarized in graph and given as below Fig. 3.6

FIG 3.6 AMBIENT AIR QUALITY DATA A1 - MINE LEASE AREA

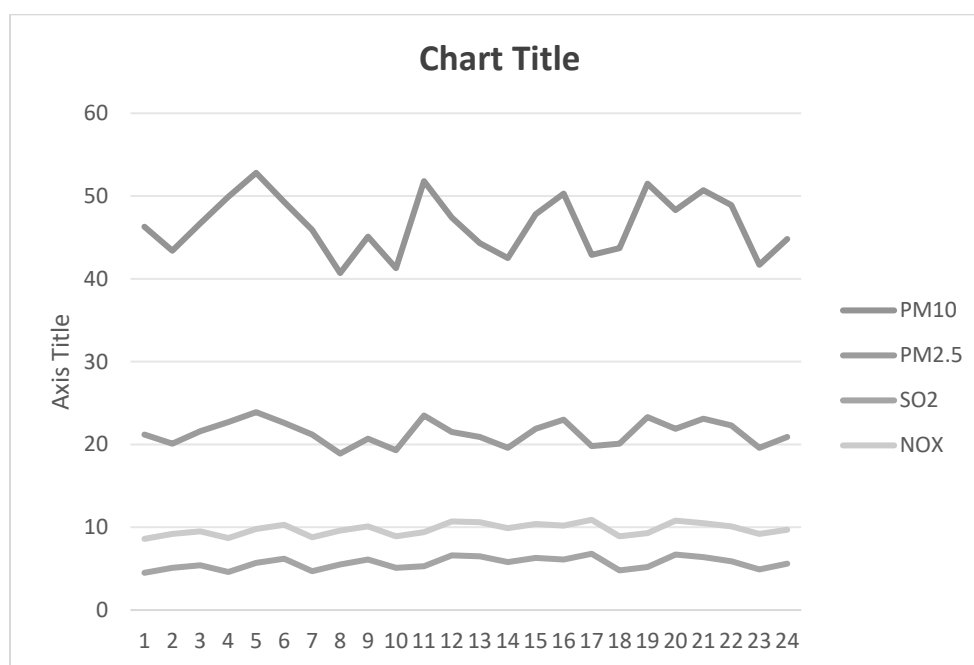


FIG 3.7 AMBIENT AIR QUALITY DATA A2 - TIRUVAIKKARAI VILLAGE

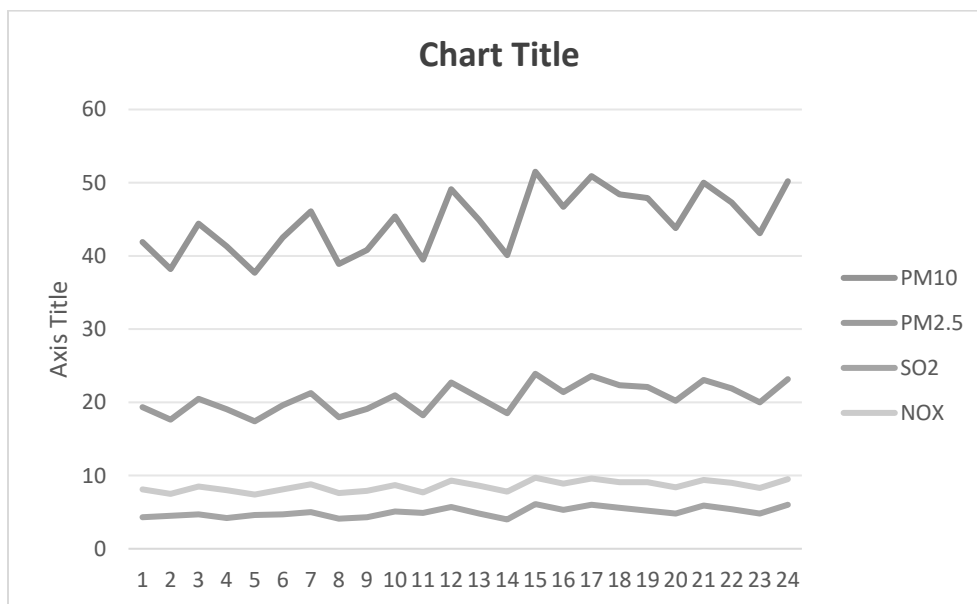


FIG 3.8 AMBIENT AIR QUALITY DATA A3 - PUDUKUPPAM VILLAGE

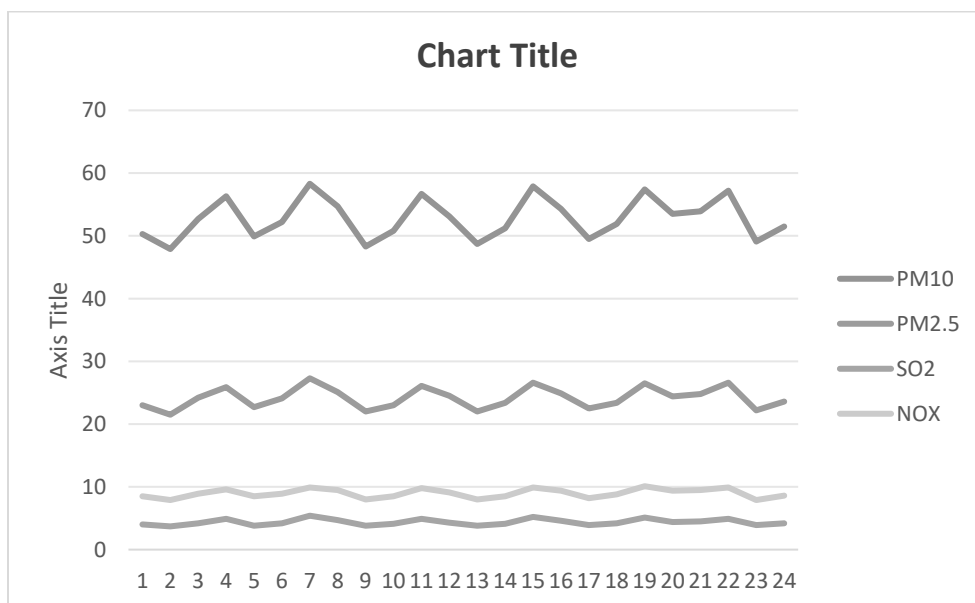


FIG 3.9 AAQ DATA A4 - KODALAMKUPPAM VILLAGE

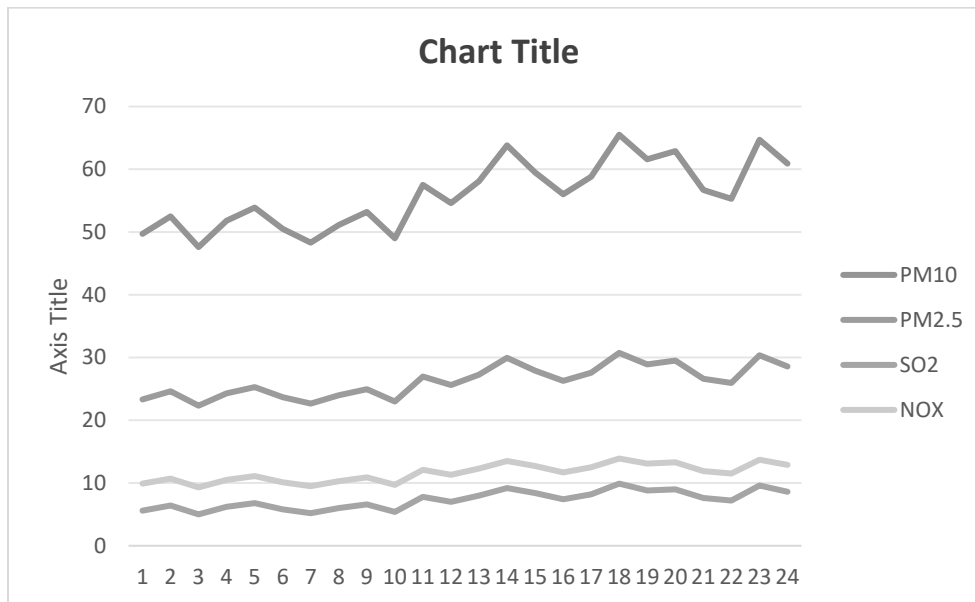


FIG 3.10 AMBIENT AIR QUALITY DATA A5 - KUDUKKUR VILLAGE

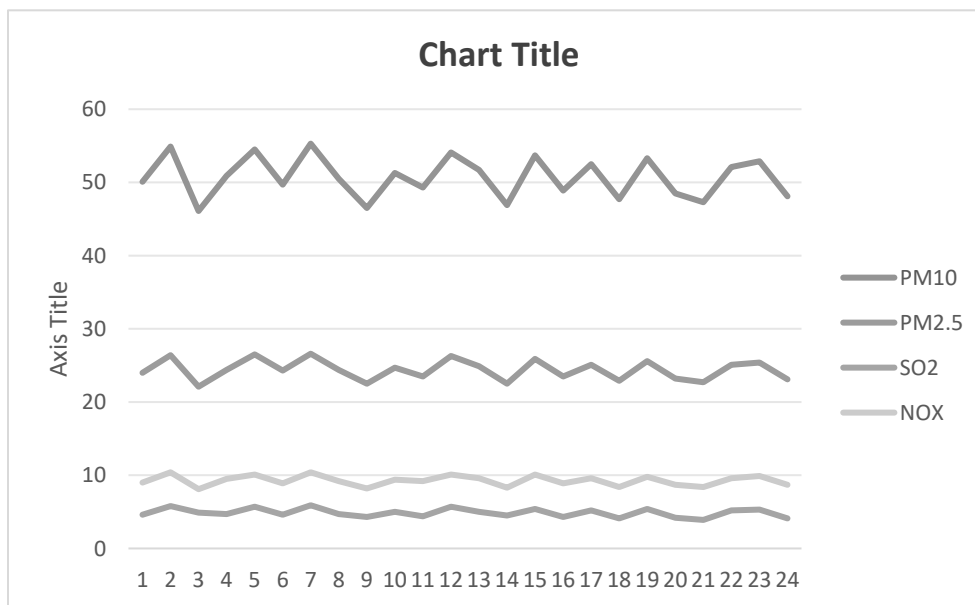
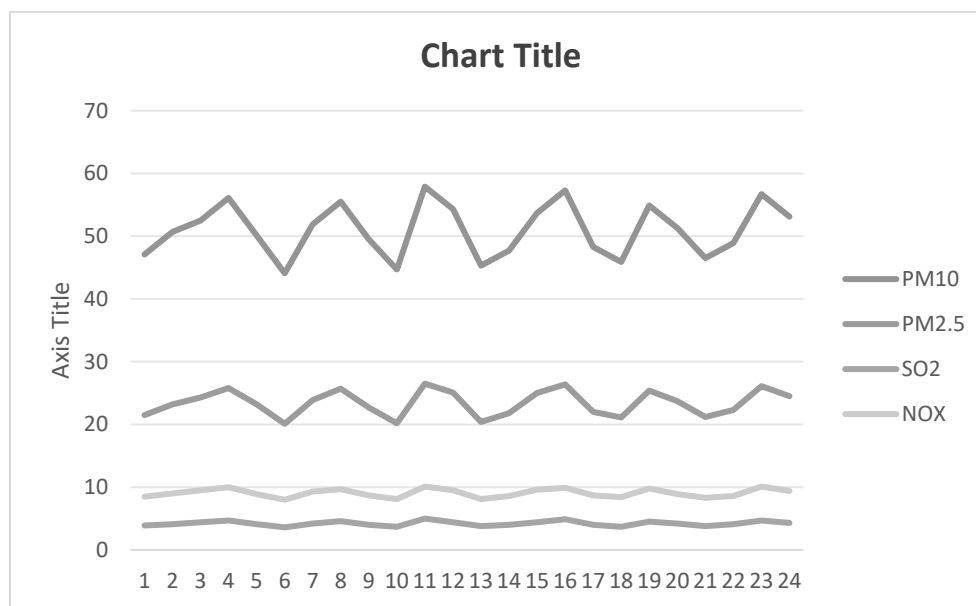


FIG 3.11 AMBIENT AIR QUALITY DATA A6 - NEMILI VILLAGE



From the above results, it is observed that the ambient air quality with respect to PM₁₀, PM_{2.5}, SO₂, and NO₂ at all the monitoring locations was within the permissible limits specified by CPCB.

3.3.3 WATER ENVIRONMENT

Assessment of baseline data on water environment includes:

- Identification of water resources
- Collection of water samples
- Analyzing water samples collected for physico-chemical parameters as per standards.

Surface Water

There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater. The prevailing status of surface water quality has been assessed during the study period. Surface water quality locations and results are provided in Table 3.14 and Figure 3.11.

Ground Water

The rainfall is the main source for the availability of water both in surface and sub-surface. The quantum of rainfall varies every year depending upon the monsoon. However, the extraction of surface and sub-surface water is increasing year by year. It leads to environmental impact on the water sources like depletion of water level, deterioration of water quality. It makes the demand for the quantification of available water and also its quality for various purposes like agriculture, industries, drinking and domestic purposes. Total six (06) ground water monitoring locations were identified for assessment in different villages around the project site based on the usage of sub surface water by the settlements/ villages in the study area. The groundwater results are compared with the acceptable and permissible water quality standards as per IS: 10500 (2012) for drinking water. Groundwater quality monitoring locations and results are given in Table 3.5 and Figure 3.11.

Sampling Locations

Two (2) surface water samples and six (6) ground water samples were collected from the study area and were analysed for physio-chemical, heavy metals and bacteriological parameters in order to assess the effect of mining and other activities on water bodies. The samples were analysed as per the procedures specified by CPCB, IS-10500:2012. The water sampling locations are given in Table 3.5 and shown as Figure 3.12.

The monitoring locations were selected based on:

- Location of the major water bodies
- Location of project site,
- Likely areas that can represent baseline conditions

Water bodies nearby

Table 3.5 Water Sampling Locations

S.NO	Location Code	Monitoring Locations	Latitude and longitude
Surface Water			
1	SW1	Gingee River (US)	12° 1'25.97"N 79°38'9.57"E
2	SW2	Gingee River (DS)	12° 0'29.73"N 79°40'26.79"E
Ground Water			
1	GW1	Proposed Mine Site	12° 1'47.29"N 79°40'25.46"E
2	GW2	Tiruvaikkarai Village	12° 1'45.87"N 79°39'17.92"E
3	GW3	Pudukuppam Village	12° 1'20.41"N 79°41'19.10"E
4	GW4	Kondalamkuppam Village	12° 2'27.43"N 79°40'54.01"E
5	GW5	Kudukkur Village	12° 0'39.03"N 79°39'7.93"E
6	GW6	Nemili Village	12° 3'19.48"N 79°39'13.85"E

FIG 3.12 BASE MAP OF GROUND WATER SAMPLING LOCATIONS

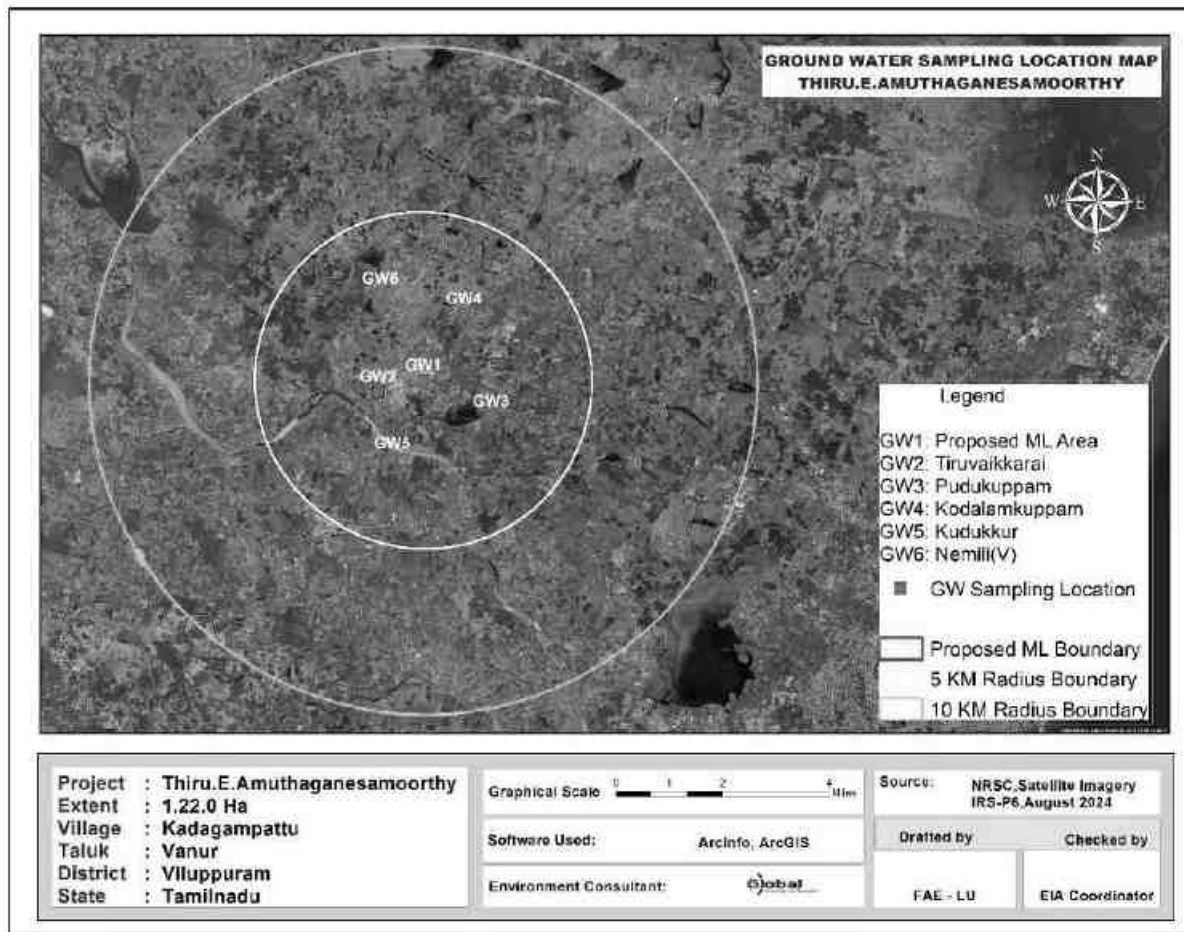


FIG 3.12a BASE MAP OF SURFACE WATER SAMPLING LOCATIONS

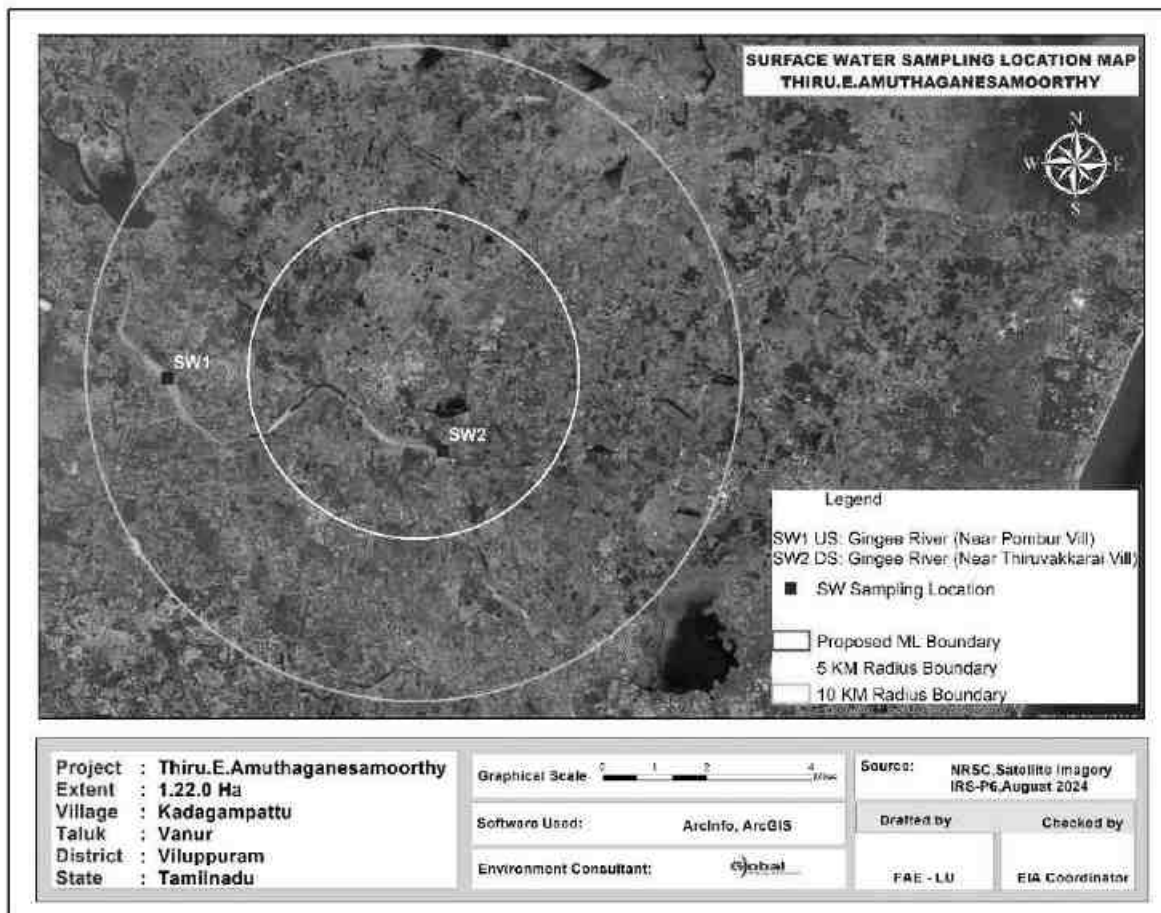


Table 3.6 Surface Water Analysis Results

Sr.No	Parameter	Unit	SW1	SW2	Surface water standards (IS 2296 Class-A)
1	pH	-	7.08	7.65	6.5-8.5
2	EC	µs/cm	146.9	278.6	
3	Turbidity	NTU	<1.0	<1.0	1
4	Odour	mg/l	AGREEABLE	AGREEABLE	
5	T.hardness	mg/l	51.5	83.2	
6	C.hardness	mg/l	36.8	49.5	
7	M.hardness	mg/l	14.7	33.7	
8	Calcium	mg/l	14.7	19.8	300
9	Magnesium	mg/l	3.52	33.7	
10	T.alkalinity	mg/l	41.1	78.9	
11	Chloride	mg/l	18.6	26.7	
12	Sulphate	mg/l	20.6	35.8	400
13	Manganese	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	0.5
14	Iron	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	1.0
15	Nitrate	mg/l	BDL(DL-1.0)	BDL(DL-1.0)	20
16	Fluoride	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	1.5
17	TDS	mg/l	92	170	500
18	FRC	mg/l	BDL(DL-0.2)	BDL(DL-0.2)	250
19	TSS	mg/l	BDL(DL-4.0)	BDL(DL-4.0)	
20	COD	mg/l	BDL(DL-2.0)	BDL(DL-2.0)	
21	BOD	mg/l	BDL(DL-4.0)	BDL(DL-4.0)	
22	DO		6.3	6.5	

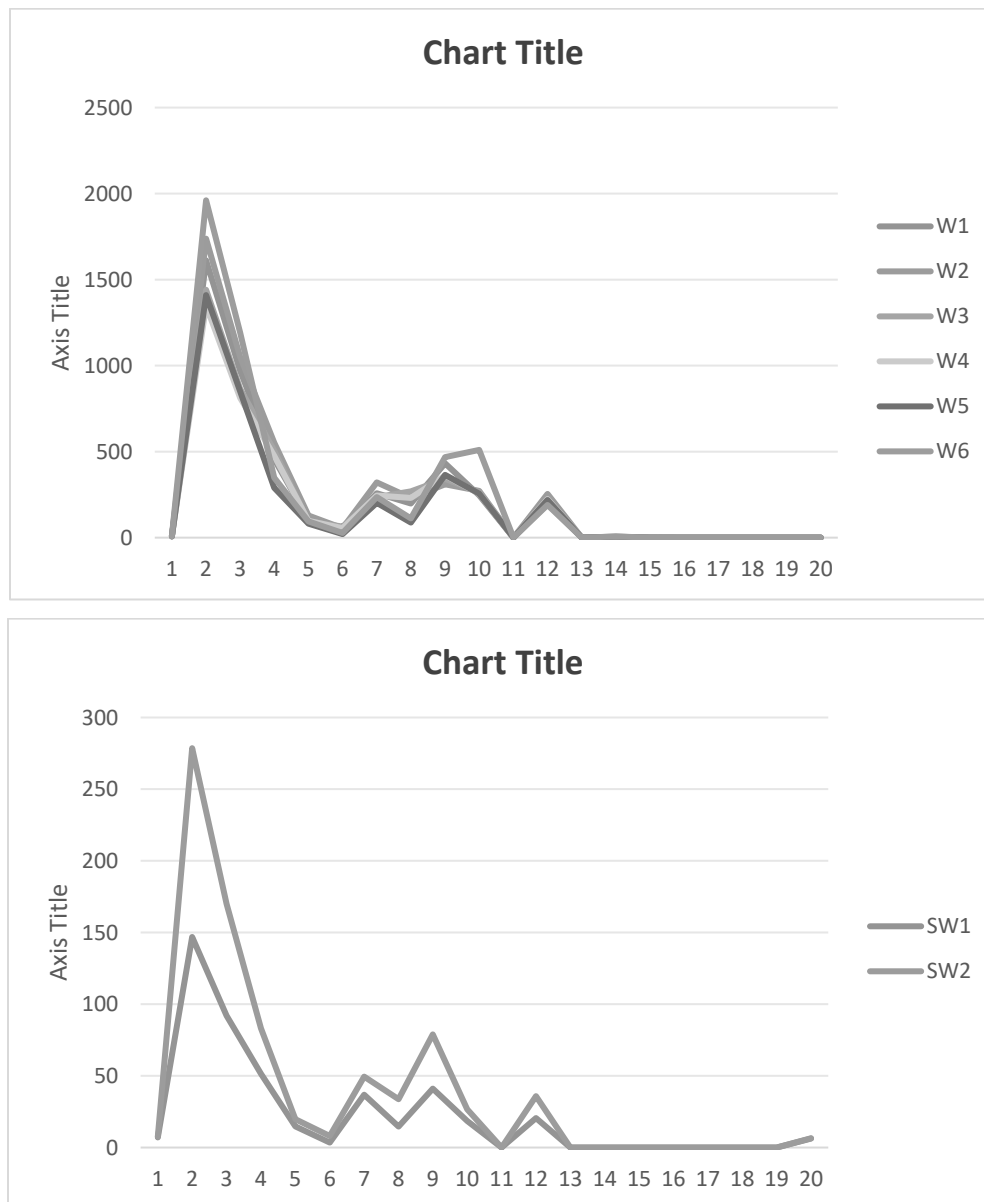
The samples were analyzed by Shrient Analytical & Research Labs Private Limited; Chennai and the results are summarized below.

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

Table 3.7 Results of Ground Water sampling Analysis in 6 locations							Specification/ Limit As per IS:10500: 2012	
	W1	W2	W3	W4	W5	W6	Desirabl e	Permissibl e
Odour	AGREEABLE	AGREEABLE	Agreeable	AGREEABLE	AGREEABLE	AGREEABLE	Agreeabl e	Agreeable
Turbidity	<1	<1	<1.0	<1	<1	<1.0	Agreeabl e	Agreeable
pH at 25 °C	7.05	6.89	7.32	7.25	7.69	7.36	6.5 - 8.5	No Relaxation
Electrical Conductivity	1612	1738	1441	1349	1410	1961	1	5
Total Dissolved Solids	970	1050	865	812	850	1192	500	2000
Total hardness as CaCO3	456	552	505	476	290	348	1	15
Calcium as Ca	103	128	94.4	98.0	80.8	94.4	200	600
Magnesium as Mg	47.5	55.4	64.6	55.4	21.1	26.9	200	600
Calcium as CaCO3	258	321	236	245	202	236	75	200
Magnesium as CaCO3	198	231	269	231	88	112		
Total alkalinity as CaCO3	432	310	342	362	365	468		
Chloride as Cl-	246	272	264	255	256	510	250	1000
Free Residual chlorine as Cl-	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(DL- 0.2)	30	100
Sulphates as SO42-	196	254	202	224	219	190	45	No Relaxation
Iron as Fe	0.05	0.08	0.09	0.07	0.05	BDL(DL- 0.01)	200	400
Nitrate as NO3	3.22	4.32	2.59	3.32	5.6	6.5	1	No Relaxation
Fluoride as F	0.32	0.56	0.44	0.42	0.53	0.58	0.1	0.3
Manganese as Mn	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(DL- 0.05)	Not Specified	Not Specified

Some of the common parameters including EC, TDS, Total Hardness, Total Alkalinity, Chlorides and Sulphates in the 6 locations were plotted and the graph is provided below.

FIG 3.13 VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS



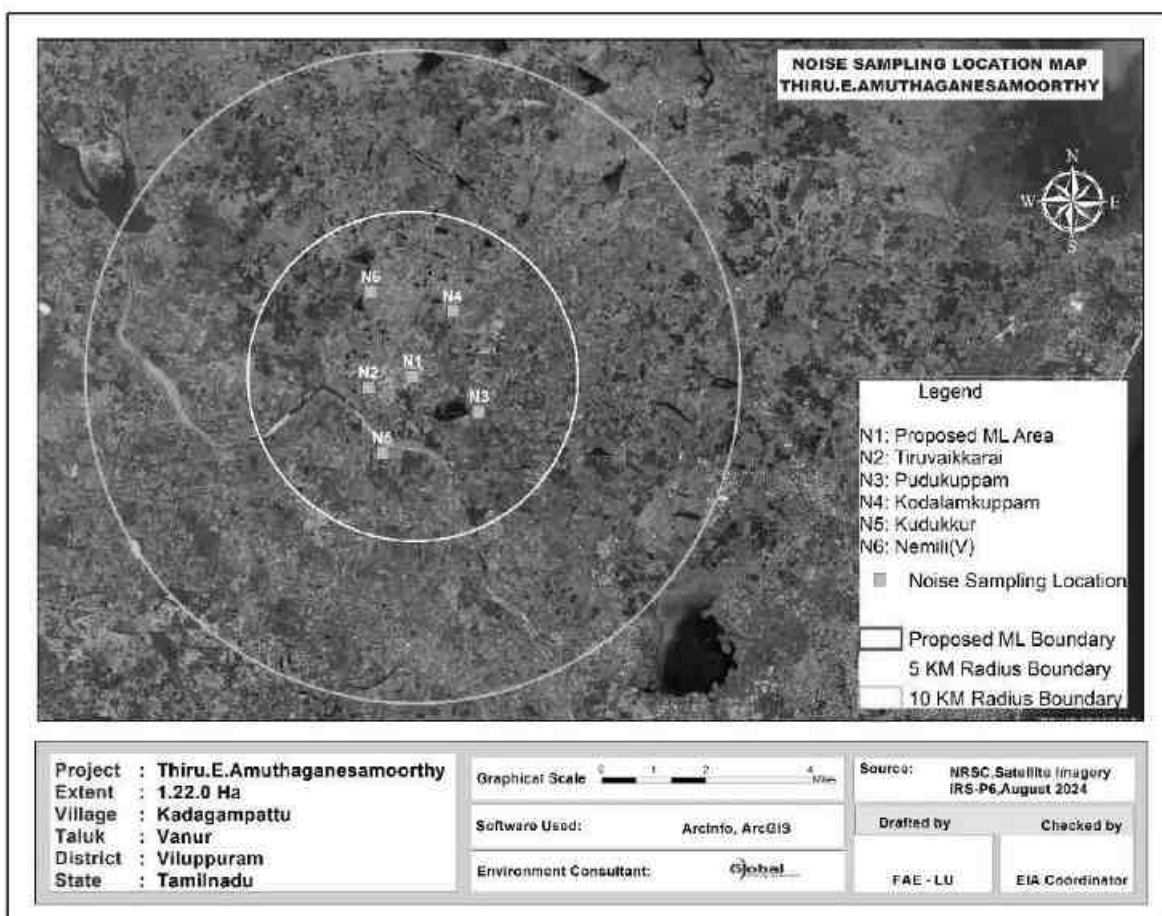
All the values were found to be within the permissible limits.

3.3.4 NOISE MONITORING

Noise level monitoring was calculated using a noise level meter by NABL Accredited lab and the results are summarized below.

The noise monitoring locations are given in Fig 3.14

FIG 3.14 BASE MAP OF NOISE MONITORING LOCATIONS

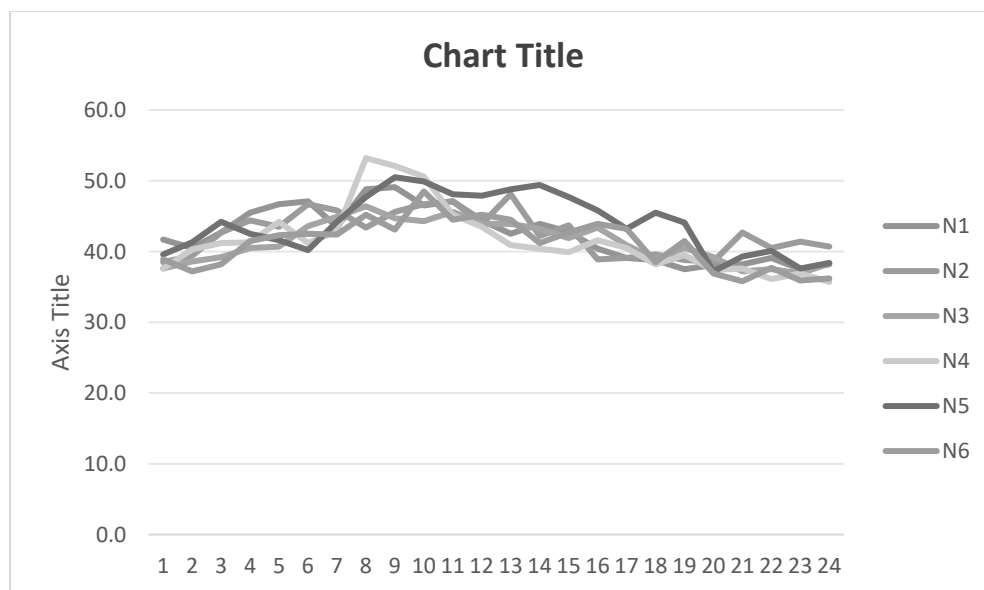


The results are given in Table below.

Table 3.8 Noise monitoring results					
S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Proposed Mine Site	45.4	38.4	75	70
2	Tiruvaikkarai Village	44.6	40.4		
3	Pudukuppam Village	43.3	38.9		
4	Kodalamkuppam Village	46.4	38.0		
5	Kudukkur Village	46.8	41.7		
6	Nemili Village	43.5	39.1		

The results are plotted as below.

FIG 3.15 DAY AND NIGHT EQUIVALENT VALUES IN 6 LOCATIONS

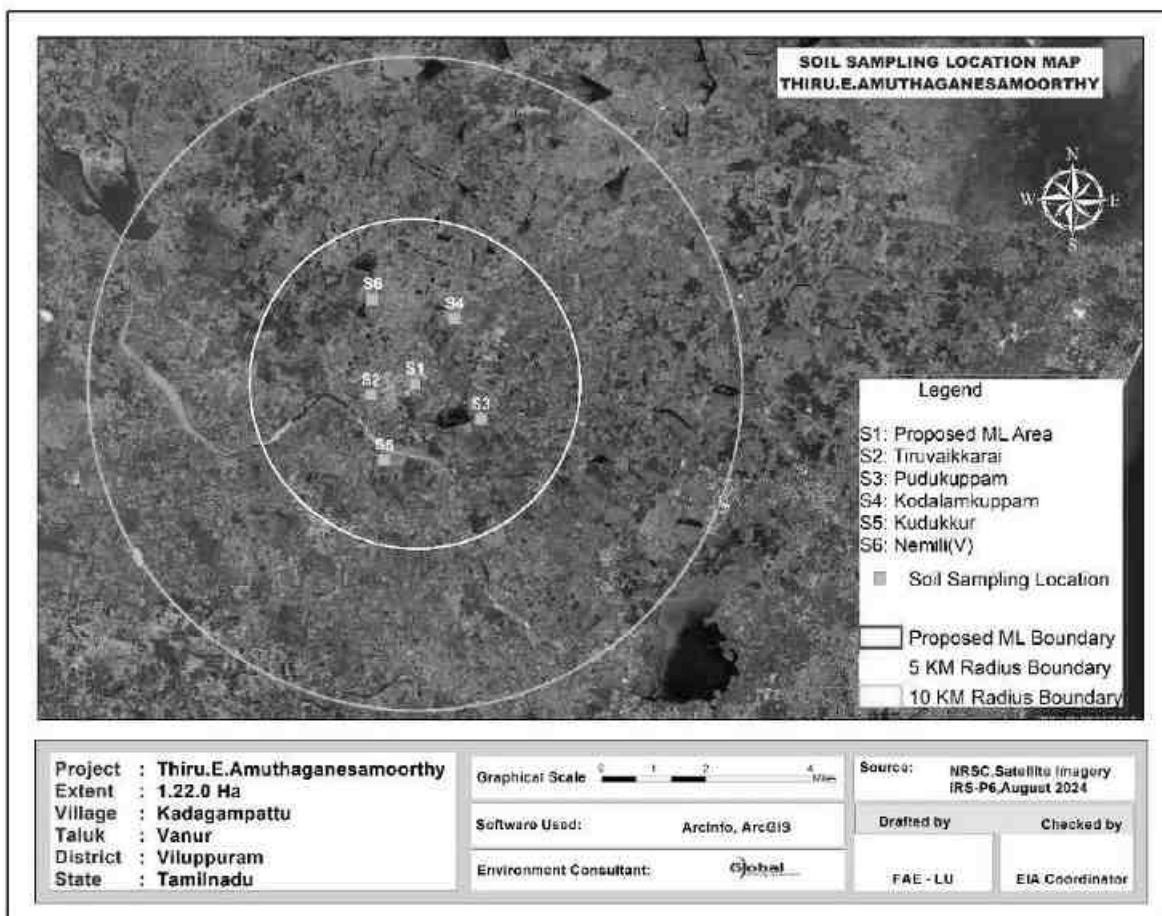


All the values are found to be within CPCB norms.

3.3.5 SOIL SAMPLING ANALYSIS

Soil samples have been collected from the mine lease area and 5 other locations from tiruvaikkarai village, pudukuppam village, kodalamkuppam village, kudukkur village and nemili village So Villages. The locations are shown in figure below.

FIG 3.16 BASE MAP OF SOIL SAMPLING LOCATIONS



The results are summarized in the table below.

Table 3.9 Results of Soil Sample Analysis								
S.No	Parameter	Unit	S1	S2	S3	S4	S5	S6
1	pH at 25 °C	-	7.94	6.44	7.86	6.96	7.43	7.68
2	Electrical Conductivity	µmhos/cm	75.12	67.54	89.23	91.85	58.33	99.76
3	Dry matter content	%	93.49	95.03	95.39	92.26	94.26	91.90
4	Water Content	%	6.51	4.97	4.61	7.74	5.74	8.10
5	Organic Matter	%	1.07	1.22	0.76	0.53	1.01	1.60
6	Soil texture	-	SILT LOAM	SILT LOAM	LOAM	LOAM	SILT LOAM	LOAM
7	Grain Size Distribution	%.	30.68	26.89	44.15	40.25	23.98	45.86
	i. Sand							
	ii. Silt							
9	iii. Clay	%	17.70	10.97	9.98	11.06	17.80	9.78

10	Phosphorous as P	mg/kg	1.10	1.84	1.79	2.60	1.74	2.13
11	Sodium as Na	mg/kg	715	689	814	579	846	417
12	Potassium as K	mg/kg	797	765	929	652	994	575
13	Nitrogen and Nitrogenous Compounds	mg/kg	236	344	180	178	264	460
14	Total Soluble Sulphate	%	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)
15	Porosity	%	24.1	25.9	27.6	21.7	30.4	22.1
16	Water Holding Capacity	Inches/foot	3.5	3.6	3.9	3.7	4.1	3.8

3.3.6 BIOLOGICAL ENVIRONMENT

The biological study of the area has been conducted in order to understand the ecological status of the existing flora and fauna to generate baseline information and evaluate the probable impacts on the biological environment. The details are given below.

Flora in the study area

Field survey is done. For measuring the extent of flora present in the study area, the area is divided into 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Also, data from the State Forest department is used.

Core Zone

During the field visit, it is observed that there are no national parks / Sanctuaries / forests in the 10km buffer area. The study area is devoid of any major plantations.

Table 3.10 Flora in Core Zone			
S.No.	Scientific name	Vernacular/English name	Type of flora
1	Calotropis gigantea	Erukku	Shrubs
2	Cassia auriculata	Aavarai	
3	Achyranthes aspera	Nayuruvi	

Buffer zone

Only common trees, shrubs, bushes, etc. are found. The list is given below.

Table 3.11 Flora in Buffer zone			
S.No.	Scientific name	Vernacular/English name	Type of flora
1	Azadirachta indica	Neem	Trees
2	Carica papaya	Papaya	
3	Mangifera indica	Mango	
4	Acacia leucophloea	Velamaram	
5	Acacia nilotica	Karu- velamaram	
6	Moringa oleifera	Murungai	
7	Tamarindus indica	Puli	
8	Tectona grandis	Theku	
9	Manilkara zapota	Sappota	
10	Musa paradisiaca	Valzhlai	
11	Borassus flabelliformis	Panna-maram	
12	Ficus benghalensis	Alamaram	
13	Ficus religiosa	Arasamaram	
14	Phyllanthus emblica	Nelli	
15	Calotropis gigantea	Yerukku	Shrubs
16	Cassia auriculata	Aavarai	
17	Ricinus communis	Aamanakku	
18	Tecoma stans	Arali	
19	Aloe vera	Kathalai	Herbs
20	Catharanthus roseus	Nithyakalyani	
21	Acalypha indica	Kuppaimeni	Climbers
22	Coccinia grandis	Kovai	
23	Cissus quadrangularis	Pirandai	
24	Jasminum angustifolium	malli	
25	Ziziphus oenopia	Ilandai	Grasses
26	Cymbopogon	Kanam	
27	Cyperus rotundus	Kora grass	
28	Cynodon dactylon	Arugu	

Fauna in the study area

There is no specific Fauna found within ML area. The buffer zone Fauna in the area is studied by direct observation method. Secondary data collected from Forest department and the same is used in this report. People in the nearby locality were also consulted. The commonly found fauna in the area are given below.

Table 3.12 Fauna in buffer zone

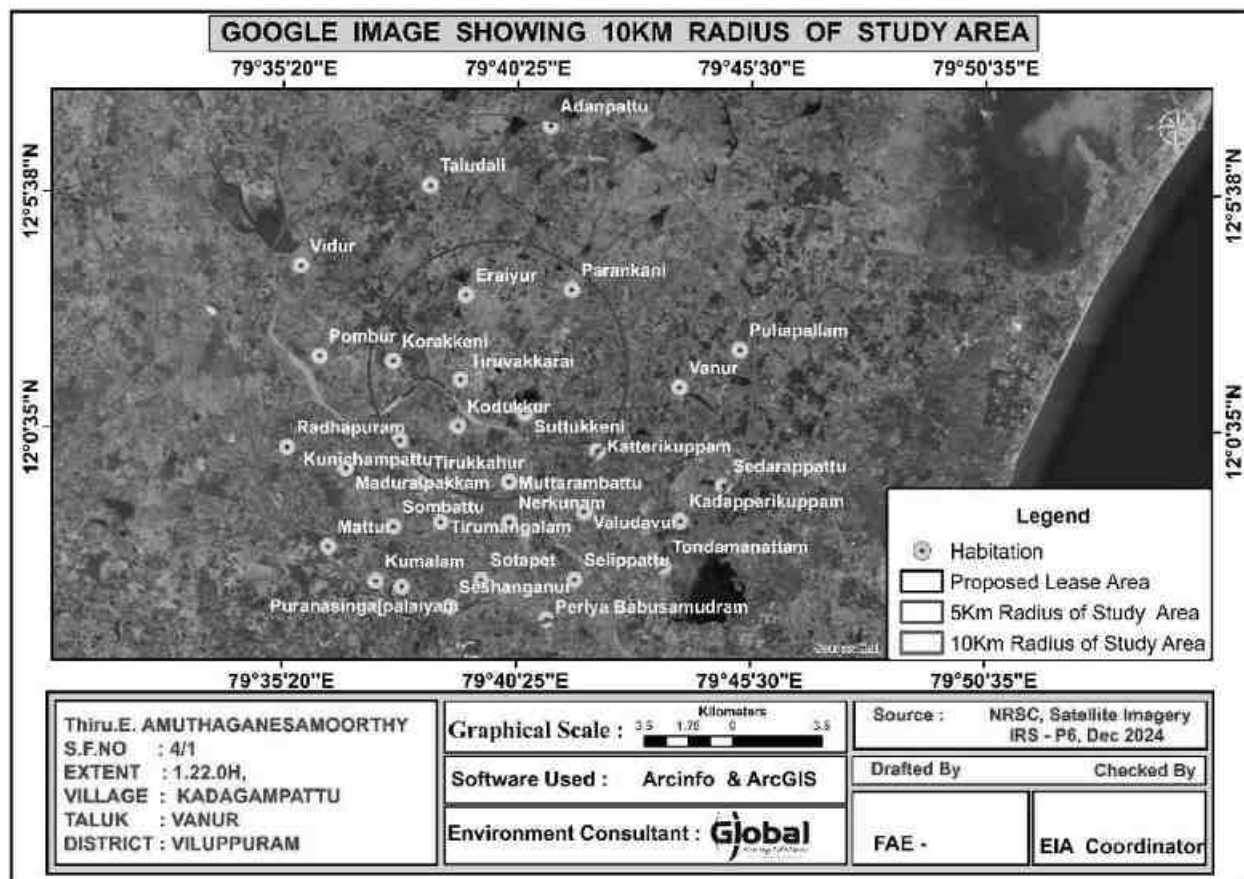
S.No.	Scientific name	Common name	Type of fauna	Schedule to which the species belong
1	Canis familiaris	Common dog	Mammals	IV
2	Felis catus domesticus	Domestic cat		IV
3	Golunda ellioti	Indian bush rat		IV
4	Funambulus palmarum	Squirrel		IV
5	Lepus nigricollis	Indian hare		IV
6	Bos indicus	Domestic cow		IV
7	Common Crow	Corvus splendens	Birds	V
8	House Sparrow	Passer domesticus		IV
9	Common Myna	Acridotheres tristis		IV
10	Streptopelia chinensis	Pigeon		IV
11	Calotes versicolor	Lizard	Amphibia	IV
12	Ptyas mucosa	Snake		IV
13	Rana hexadactyla	Frog		IV

3.3.7 LAND USE

Remote Sensing Satellite Data Used for the Study

For Land-use and land cover study, sensing satellite data of Geo EYE has been used as per Figure No. 1. A land use map showing 10 Km radial distance. The geographical coordinates of the project are Latitude 12°01'48.05"N to 12°01'53.31"N and Longitude: 79°39'58.00"E to 79°40'03.96"E.

Figure No. 3.17: Remote Sensing Satellite Image



Selection of remote sensing satellite image (RSI) is on the availability of cloud free data and interpretability of predominant landuse and land cover (LULC) category. The examination of satellite data showed that the region is always covered by clouds with lesser percentage during summer due to cluster habitation. But rained crops are cultivated during southwest monsoon and hence a data acquired during first onset of precipitation is preferred so as to delineate crop and fallow land parcels of agricultural category. Delineation of scrub land is also possible since land with scrub could be easily distinguished from crop vegetation and separated. This may be an arduous task during monsoon since the entire area would be witnessed with sudden sprout of lush natural vegetation, mostly *prosopis*, with first onset of precipitation.

Methodology Adopted for the Land Use Study

Present study involves micro level analysis of landuse pattern showing 10 km radius and changes in landuse pattern using satellite data. This necessitates a careful analysis of satellite data adopting a well-defined methodology.

To cater the requirement, a preliminary assessment of terrain using digital analysis helping to infer relationship between terrain and landuse has been carried out. Such an approach provides lucid understanding of landuse units and enhances the knowledge on the landuse pattern assisting in impact assessment.

The knowledge base thus generated is used to delineate various landuse units while carrying out interpretation of the satellite image. The derived landuse information is transformed into a GIS based spatial database using geo-referencing techniques. Besides, a limited but well focused field investigation also carried out and coordinates of significant landuse units using handheld GPS (Global Positioning System) are gathered to be used as control points for geo-referencing. Interpreted landuse units are verified in the field to carryout necessary corrections wherever is required before preparing final landuse map.

Using the image elements such as color, tone, texture, size, shape and associated elements various landuse units are delineated following the categorization and nomenclature adopted for the national level landuse classification system as recommended by National Remote Sensing Centre (NRSC), Department of Space, and Government of India. Some of the landuse units that are identified in the study area are listed in **Table No. 3.13** given below.

Field Verification:

Field verification involved collection, verification and record of the different surface features that create specific spectral signatures / image expressions on FCC. In the study area, doubtful areas identified in course of interpretation of imagery is systematically listed and transferred on to the corresponding SOI topographical maps for ground verification. In addition to these, traverse routes were planned with reference to SOI topographical maps to verify interpreted LU/LC classes in such a manner that all the different classes are covered by at least 5 sampling areas, evenly

distributed in the area. Ground truth details involving LU/LC classes and other ancillary information about crop growth stage, exposed soils, landform, nature and type of land degradation are recorded and the different land use classes are taken the Land use map.

Table No.3.13: Major Land use Units of the Study Area

Sr. No.	1st level classification	2nd level classification
1	Built-Up Or Habitation	Residential
		Commercial / Industrial
2	Agriculture	Crop / Fallow Land
		Plantation
3	Water Bodies	Reservoir / Lake / Pond
		River
4	Vegetation Cover	Scrub
		Open Vegetation
		Close Vegetation
		Mangroves
5	Waste Land	Open Without Scrub
		Open With Scrub
6	Others	Mudflow
		Salt Pan
		Brick Manufacturing

Land Use Pattern of 10 km Radial Buffer Area of Project Site

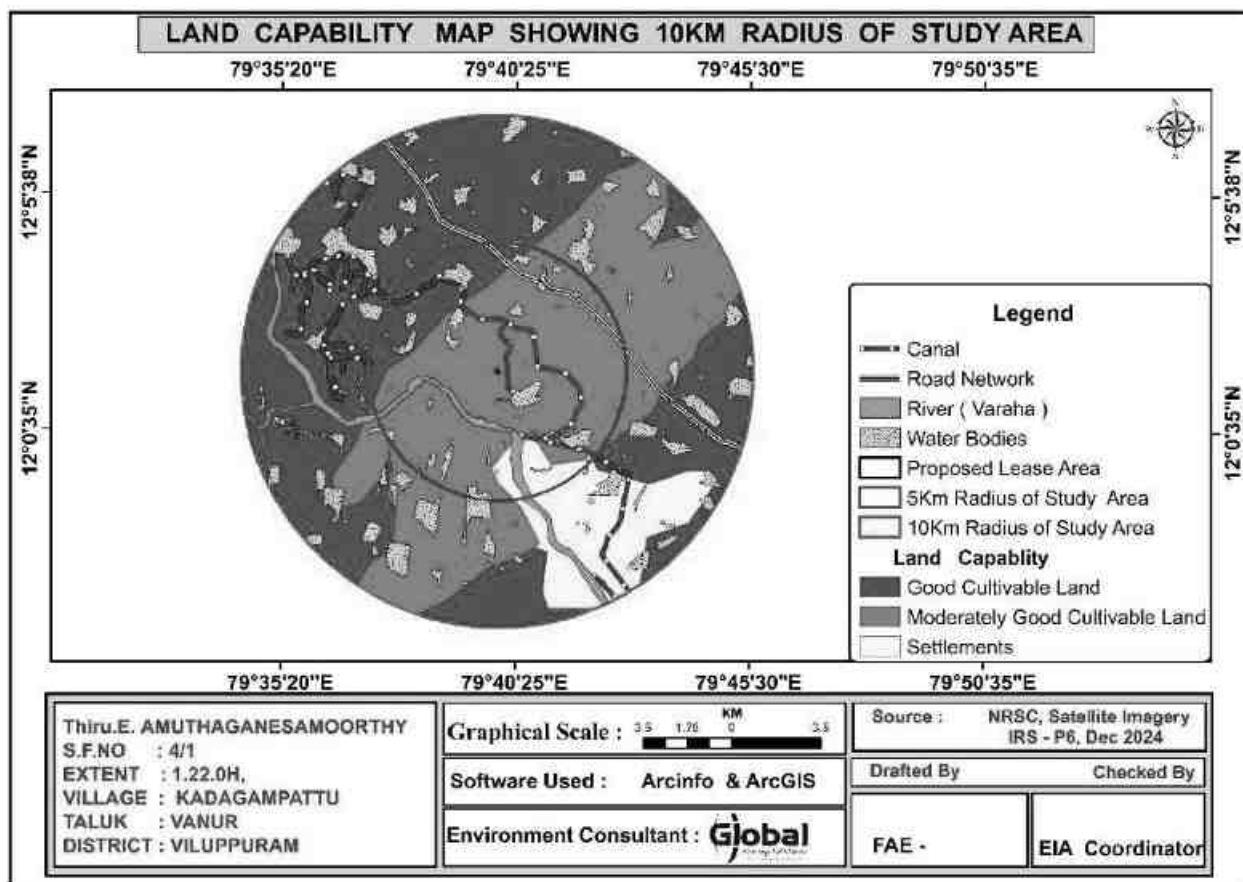
The existing land use pattern and land cover distribution of the whole acquired block, have been studied from the satellite imagery and subsequent ground checking during the field surveys.

It mainly comprises of agricultural land with bi-annual crops of Kharif (Kharif: Jowar, Bajra, Cotton, etc. Season: July to October) and Rabi (Rabi: Wheat, Rai etc. Season: December to March). The presence of the agricultural land is followed by few dense settlements Kadagampattu village natural or man-made pond etc. The shortage of rainfall, availability of ground water at deeper level and other climatic condition do not support good agricultural productivity inspite of having enough land. There is no

demarcated forest land within the study area, however, some scattered forest is found throughout the 10 km radius, especially along the periphery of the villages.

The general landuse pattern of the core and buffer may be broadly classified into four major types – Buildup or habitation, Agriculture, Water Bodies, Waste land and Other categories. Under buildup or habitation category covered villages, town and infrastructure. Under agriculture category considered crop land/fallow land and plantation. Under the water body categories Reservoir/ lake, pond, River and stream. Under wasteland category considered landwith scrub and land without scrub is interpreted. Lastly other category's covered Mines area and forest are interpreted under this category. These categories are delineated from the selected satellite image using image elements such as color, tone, texture, size, shape and associated elements. The delineated landuse units are transformed into a spatial database in GIS environment. Estimated for area and representation of each category in the study area. The total area of LULC in the study area is calculated as 322 sq. km and spatial distribution of various LULC categories within buffer area are discussed below. The 5km and 10km radius landuse map is shown above. The details are given below.

FIG 3.18 LAND USE/LAND COVER MAP OF THE STUDY AREA



Land Use / Land Cover Classification classified into first level classification and second level classification and major land use/land cover classes were demarcated in the study area following Level II classification. A thematic map of 1:50,000 scale was generated incorporating these classified categories considering the area of the project.

Built-up / Settlements

Settlements in the study area are generally small to medium size in stature and area scattered. Vanur is the relatively larger settlements observed at the north part of the study area.

Interpretation of settlement from the satellite image is based upon the image elements such as color, tone, texture and association. It is delineated by their typical red color. Association with linear features such as roads reaffirmed the presence of delineation of settlements. The spatial extent of settlement is estimated as 25.76 sq. km representing 8.05 % of the study area and Industrial + Commercial area covers 2.02 sq. km with 0.63%.

Agricultural Land

Under the broad category of agriculture crop land, fallow land and plantation is delineated. Cultivation is mostly dependent upon river water for irrigational activities are good. River, Ponds and tanks in each village act as rainwater storage units and do support domestic requirement and even cultivation to some extent. Because of these conditions, minimal water requiring crops such as corn, sunflower, oil seeds, grams, millets and coriander are cultivated. Cultivation is the most predominant crop cultivated and even if it failed their stalks are used as fodder for cattle.

Crop and Fallow land are interpreted using their image elements such as light to green, smooth to medium tone, they are the second most predominant landuse category delineated in the buffer area. As explained earlier, cultivation mostly depends upon river, canal and rainfall and majority of the land parcels are tilled and ready for cultivation with even a scanty Canal. Hence, cropland is the predominant category estimated at 254.93 Sq.km representing 80.17% of the buffer area.

Wasteland

The last category of the landuse units in the study area is "Wasteland" which denotes land parcels that could not be utilized for cultivation even after conservation measures – such as land with scrub, land without scrub area.

Next to agricultural area, natural vegetation such as land with scrub forms the predominant LULC category of the buffer area. Land with scrub is sparse and delineated as patches scattered in all the parts of the buffer area. The spatial pattern of scrub suggests it is closely associated with water courses. This category occupies

land with scrub an area of 11.02 sq.km representing 3.42 % of the total core and buffer area.

Land without scrub, on the other hand is interpreted using brown to white color, medium tone and medium texture and is generally restricted around land covered with scrub and fallow land. They occur as small patches and very minimal area covering 2.27 sq.km representing 0.74 % of the buffer area.

Water bodies

Many Streams small and big water bodies are seen in the study area distributed all over the study area. They support the domestic water requirements and for cattle. At some places, they may also use for irrigation purpose and are very limited. Few dry stream courses are also seen in the study area. In the satellite image, water bodies are interpreted by their light blue to greyish blue color, smooth tone and smooth texture.

Most of the water bodies retain water for a shorter period after precipitation due to the soil constraint and hence go dry soon. Spatial extent of rivers, stream and water bodies is estimated at 35.45 sq.km and 11.01 %.

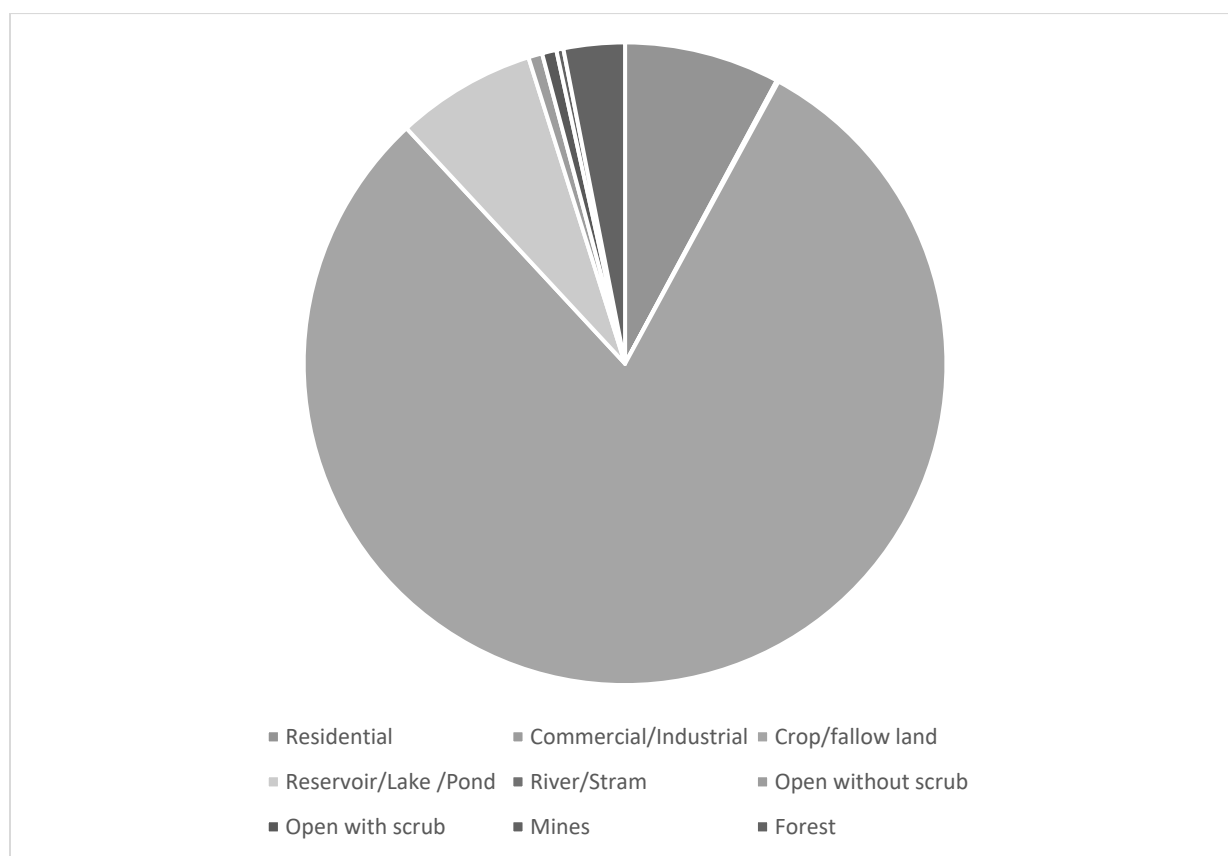
Mining area

Mining area seen in the study area distributed all over the study area. Major domestic income from mining business. Spatial extent of mining is estimated at 7.28 sq.km 2.26 %.

Table No. 3.14: Major Land Use Units of the Study Area in Percentage

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	17.23	5.35	Residential	16.94	5.26
				Commercial/Industrial	0.29	0.09
2	Agriculture	247.3	76.80	Crop/fallow land	247.3	76.80

3	Water bodies	35.96	11.17	Reservoir/Lake /Pond	35.45	11.01
				River/Stram	0.51	0.16
4	Waste Land	13.39	4.16	Open without scrub	2.37	0.74
				Open with scrub	11.02	3.42
5	Mines	7.28	2.26	Mines	7.28	2.26
6	Forest	0.85	0.26	Forest	0.85	0.26
Total		322	322	100	322	100



3.3.8 SOCIOECONOMIC ENVIRONMENT

The socio-economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used. The following data area collected from secondary data:

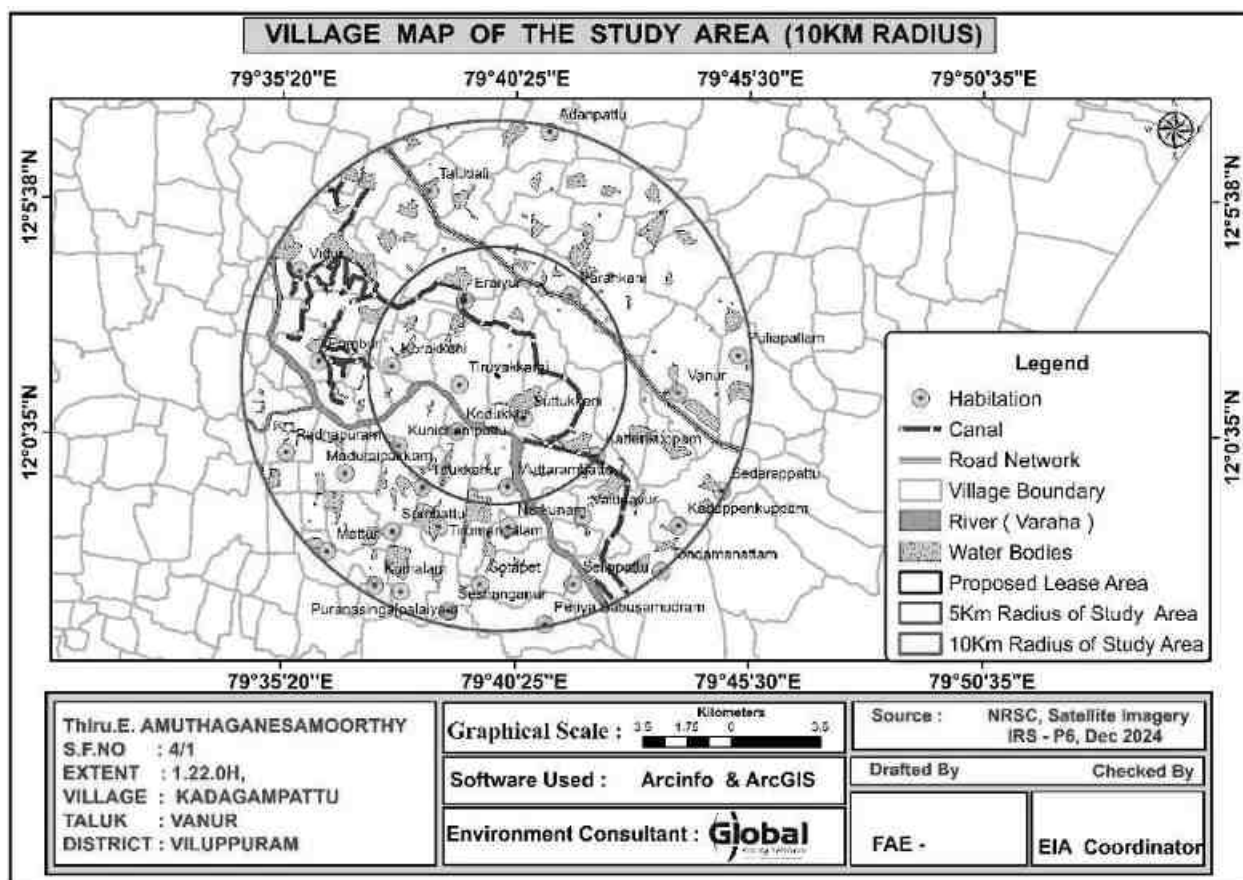
- Demographic pattern.

- Health pattern
- Occupational structure.

3.11.1 DETAILS OF VILLAGES

The profile of the villages located in the study area is given in Fig 3.19 below.

FIG 3.19 VILLAGE MAP OF THE STUDY AREA



DETAILS OF VILLAGES

The study area covers 21 villages including Agaram (Then), Ambuzhukkai, Eraiyur, Ilvampattu, Kadagampattu, Karasanur, Kenippattu, Kodukkur, Korakkeni, Kunnam, Nemili, Ottai, Parangani, Kaluperumbakkam, Semangalam, Sengamedu, Tiruvaikkarai, Tollamur, V. Pudukkham, Vanur. As Kodanlankuppam is the village in which the proposed project site is located, the summary of population facts for the village is exclusively provided in Table 3.15 and for other 27 villages. List of villages are given below.

Table 3.15 Village details in study area	
Number of Households	96

Population	353
Male Population	175
Female Population	178
Children Population	31
Sex-ratio	1017
Literacy	83.85%
Male Literacy	90.57%
Female Literacy	77.30%
Scheduled Tribes (ST) %	0
Scheduled Caste (SC) %	97
Total Workers	184
Main Worker	177
Marginal Worker	7

Table 3.15a Village details in study area				
S.No.	Village/Town Name	Radius	Taluk Name	District Name
1	Kilpasar	1-5km	Tindivanam	Villupuram
2	Atchipakkam			
3	Sendamangalam			
4	Andapattu			
5	Kilsevir			
6	Karuppur			
7	Kilmannur			
8	Kilnemili			
9	Buderi			
10	Tennampundi			
11	Kunnappakkam			
12	Senalur			
13	Perumukkal		Marakanam	
14	Kilarungunam			
15	Mandaperumpakkam			
16	Endur			
17	Kurur			
18	Alanguppam			
19	Alagaipakkam			
20	Bramaddesam			
21	Ongur			
22	Olakkur Kilpadi			
23	Padiri			
24	Kambur			
25	Kalavoi Vada			
26	Annambakkam			
27	Kadavambakkam			
28	Kadur S			

29	Nallathur	6-10km	Tindivanam	
30	Nangunam			
31	Saram			
32	Pallipakkam			
33	Avanipur			
34	Kiladanur			
35	Eppakkam			
36	Panaiyur			

Table 3.16 Population profile of the study area		
Particulars	No of Population	Percentage (%)
A. Population break-up by Gender		
Male Population	53580	50
Female Population	52898	50
Total	106478	100
B. Population break-up by Caste		
Scheduled Caste	43384	40
Scheduled Tribes	1861	2
Others	61233	58
Total	106478	100
C. Literacy Level		
Male Literate Population	37714	35
Female Literate Population	28514	27
Male Illiterate	15866	15
Female Illiterate	24384	23
Total	106478	100
D. Occupational structure		
Main workers	37737	-
Marginal workers	17377	-
Total Workers	55114	52
Total non-workers	51364	48
Total	106478	100

The above table shows that the male and female population ratios are almost equal. Among the total population 2 % belong to Scheduled Tribes, 40 % are

Scheduled Caste and the balance 58 % people belong to other castes. Among the total population 62 % of the people are literate. Among the total population, 35 % are literate males and 27 % are literate females. This shows that the male literates are higher than the female literates. The results are plotted in figures below.

FIG 3.20 GENDER-WISE POPULATION DISTRIBUTION

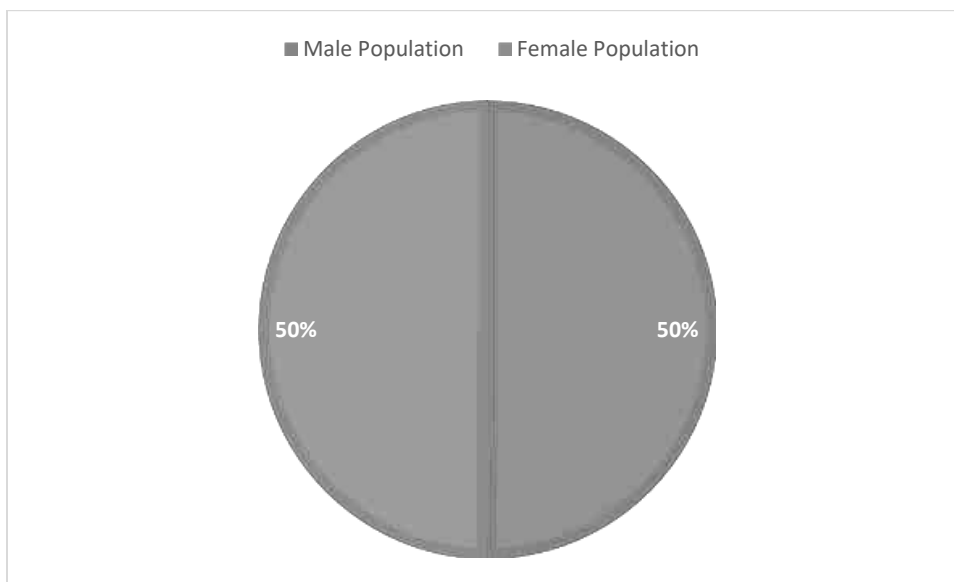


FIG 3.21 GENDER WISE LITERACY DISTRIBUTION

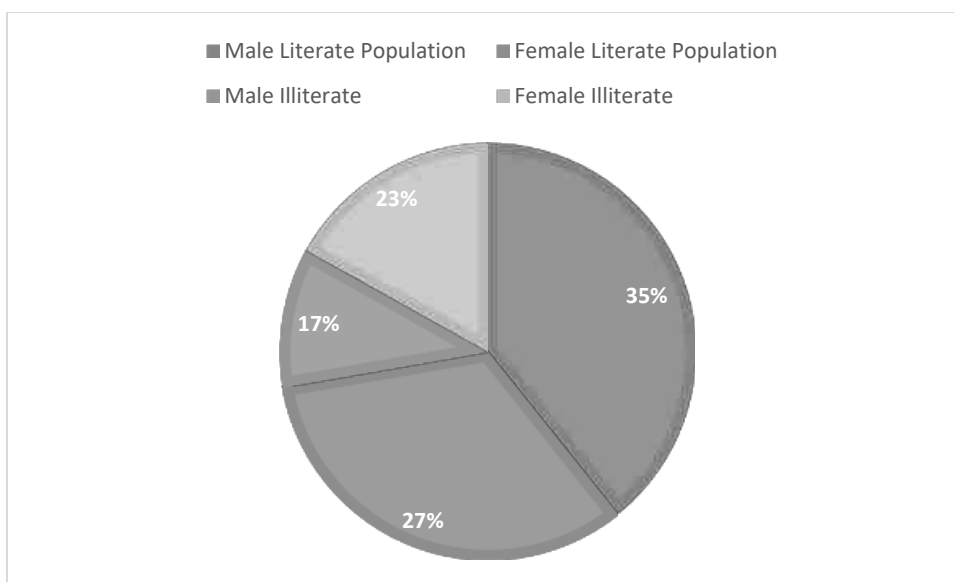
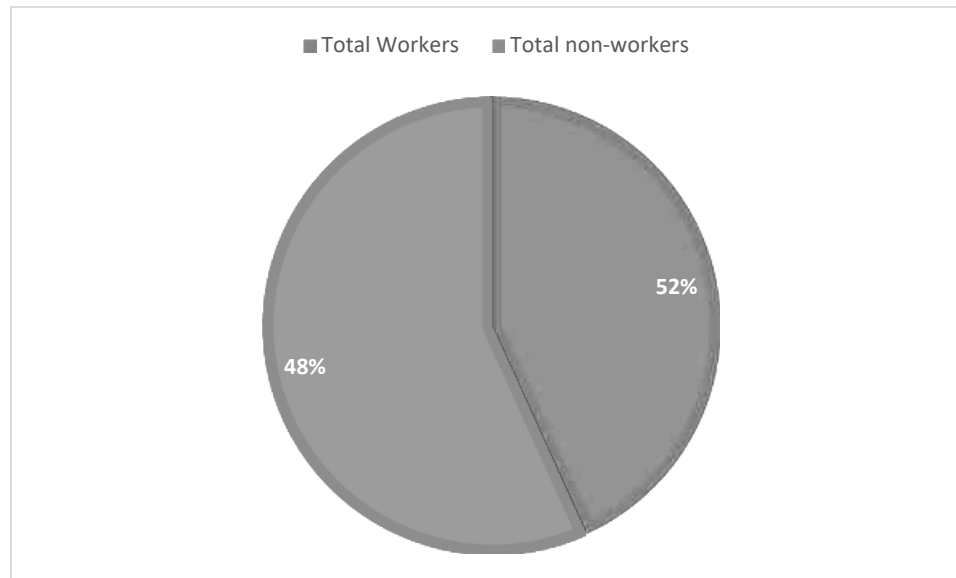


FIG 3.22 OCCUPATIONAL STRUCTURE WITHIN BUFFER ZONE



Infrastructure facilities in the study area

Education

Table 3.17 Educational infrastructure -10 km radius from proposed mine lease

S. No.	Particulars	Available in village (Nos)
1	Govt. Primary School	Vanur - 20
2	Govt. Middle School	18
3	Govt. Secondary School	14
4	Govt. Senior Secondary School	15
5	Govt. Arts and Science Degree College	23
6	Govt. Engineering College	1
7	Govt. Medicine College	0
8	Govt. Management Institute	0
9	Govt. Polytechnic	0
10	Govt. Vocational Training School/ITI	0

Healthcare

In the study area, the following facilities are available.

Table 3.18 Medical Infrastructure-10 km radius from proposed mine lease		
S.No.	Particulars	Available in village (Nos)
1	Community Health Centre	10
2	Primary Health Centre	5
3	Primary Health Sub Centre	26
4	Maternity And Child Welfare Centre	16
5	TB Clinic	10
6	Hospital Allopathic	0

Other Infrastructure

The other infrastructure facilities available are given below.

Table 3.19 Other Infrastructure-10 km radius from proposed mine lease		
S.No.	Particulars	Available in village
1	Tap Water-Treated	45
2	Covered Well	15
3	Hand Pump	18
4	Tube Wells/Borehole	16
5	Post office	9
6	Public bus services	30
7	Commercial Bank	16
8	Cooperative bank	24

3.3.9 HYDROGEOLOGY OF THE STUDY AREA

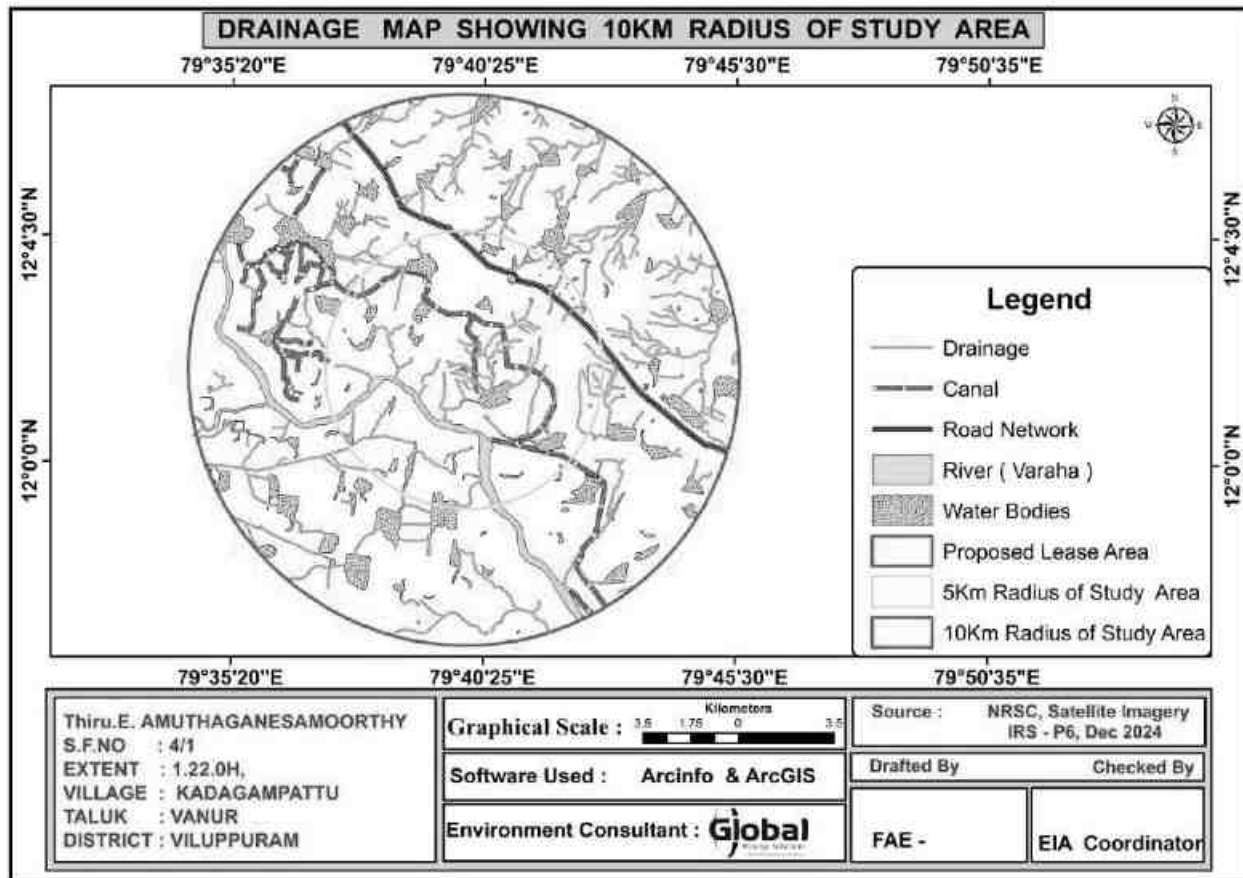
There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. The hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

HYDROGEOLOGICAL STUDY

To assess the hydrogeological condition of the surrounding proposed mine lease area. The study area is located in Kadagampattu Village, Vanur Taluk, Viluppuram District is considered to understand the nature of the general hydrogeological conditions of the surrounding proposed mine lease area. The hydrogeological study from a reputed

institute is in progress; however, the final EIA submission report will be incorporated final EIA

FIGURE 3. 23 10 KILOMETER RADIUS OF THE DRAINAGE MAP



PHYSIOGRAPHY AND DRAINAGE

Physiography: The lease applied area exhibits almost plain topography covered with ordinary earth which does not sustain any type of vegetation due to the topography of the land. The altitude of the area is 71m (Maximum) from MSL, the slope of the area is gentle towards southeastern side.

Drainage: The drainage pattern study reveals that from the proposed mine lease area with around 1 Km radius and 10 Km study observed in Figure 3.20. There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area.

GEOLOGY, GEOMORPHOLOGY AND SOIL

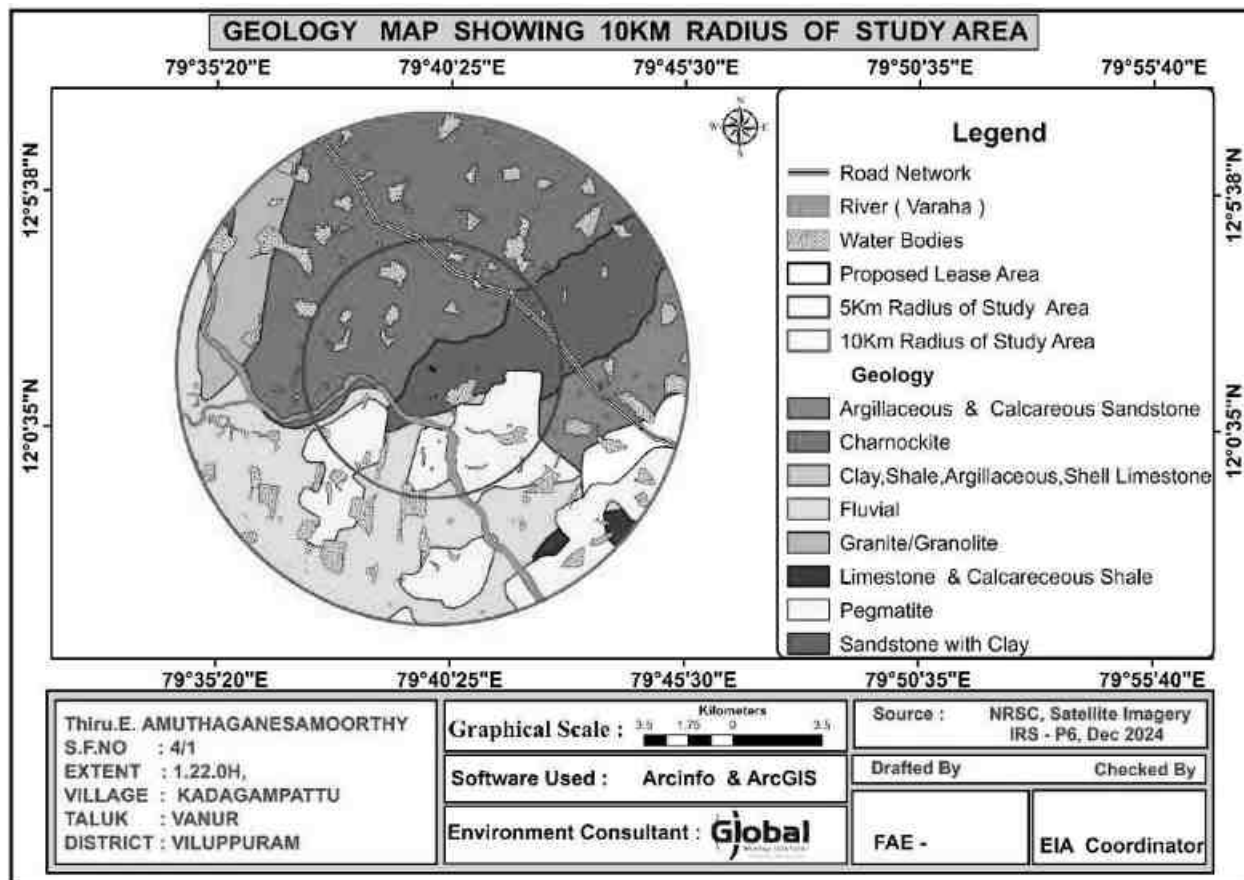
Geology:

The Core and 10 Km buffered zone geological features (Figure 3.24) shows that the Villupuram District is mostly underlain by the lithologies of southern granulite Terrain Super Group (SGT) with age ranging from Neoarchaeon to Mesoproterozoic except coastal belt in the eastern part of the district. The calc granulite with limestone of Khondalite Group is occurs at north of Mugaiyur. The Charnockite Group contain 3 lithologies such as Charnockite, banded magnetite quartzite and pyrixene granulite. The Charnockite occur at north of Valatti and covers large area from Vikravandi to Ollakur. The linear bands of pyroxene granulite are occurring mostly in the NW parts of the district near valatti and few patches occur at west of Odiyattur. The Migmatite Group contains biotite gneiss which cover large area in the central and NW parts of the district such as west of Muttatur and Mugaiyur and in and around valatti. The grey hornblende biotite gneiss occurs as linear band at east of Vikravandi. The hornblende biotite gneiss occurs in the larger area of the district from Mugaiyur to north of Gingee. The Migmatite gneiss occur at south of Olakkur and NW of Odiyattur. The bands of pink migmatite are occurs at NE of Gingee and NW of Valatti. The Archaeon to Paleoproterozoic in age Closepet Granite within the biotite gneiss of Migmatite Group at west of Valatti. The Proterozoic epidote hornblende gneiss is occurring in and around Gingee with shearing activity. The Mesoproterozoic in age basic intrusive like dolerite dykes are intruded into rocks of Southern Granulite Terrain and these dykes are tendering into NW-SE to E-W direction.

The late carboniferous-early premian in age, boulder conglomerate bed of Talchir Formation is occurs in linear belt at northern part of the district near Olakkur and Ongur. The Late Cretaceous period contains Pondicherry Group which contain sandstone-shale sequence and divided into Vanur and Nesal Formations and occurs in the eastern part of the district. The Cenozoic laterites occurs at west of Marakkanam. The early palaeocene age contains Pondicherry Group and it is divided into Karasur and Manaveli Formations which contains lithologies such as

limestone and clay and occurs at east of vanur. The Miocene-Pliocene period are marked by deposits of thick sediments sequence and classified into Panamparai Formation and Cuddalore Formation and contains lithologies such as sandstone, conglomerate and mottled sandstone.

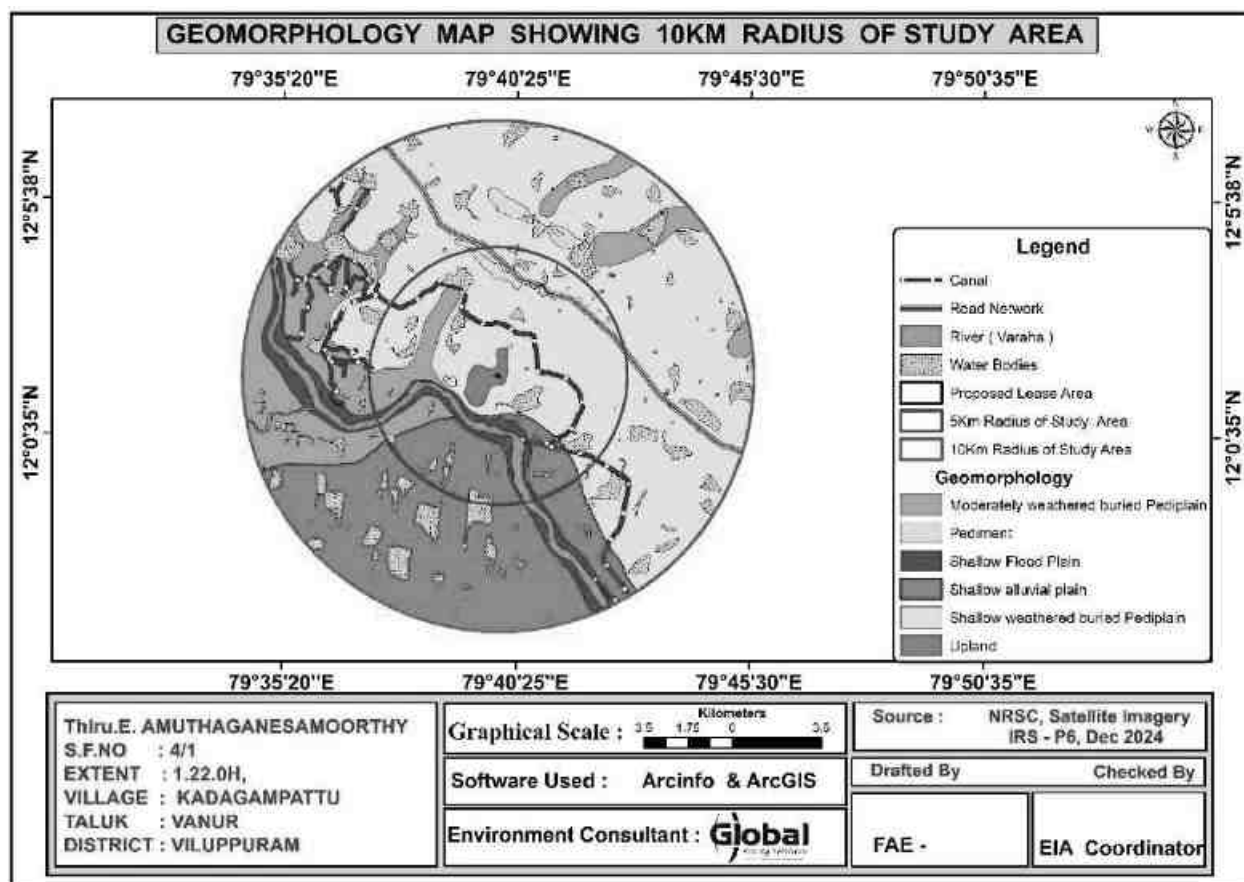
FIGURE 3. 24 10 KILOMETER RADIUS OF THE GEOLOGY MAP



Geomorphology: The Core and 10 Km buffered zone geomorphological features (Figure 3.22) shows that the viluppuram district forms part of the upland plateau region of Tamil Nadu with many hill ranges, hillocks and undulating terrain with a gentle slope towards east. The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Structural hills, 2) Bazada zone, 3) Valleyfill, 4) Pediments, 5) Shallow Pediments and (6) Deep Pediments. A number of hill ranges are located in the eastern and north-eastern parts of the district, whereas the southern, western and northern parts of the district are plain to undulating,

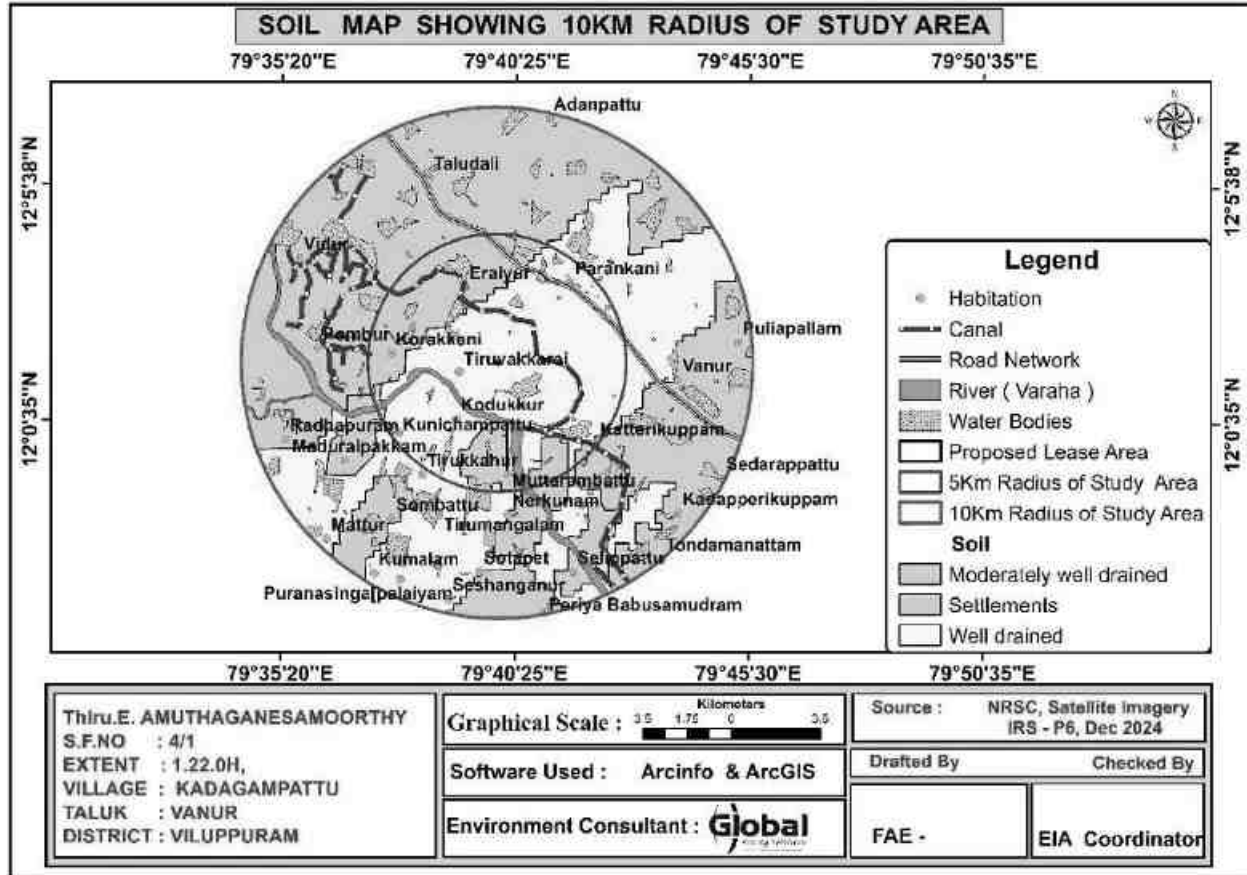
dotted with a few isolated hillocks. The important hill ranges in the district are Karuvakshi Malai. 292 m (prom: 185 m), Athima Malai. 273 m (prom: 108 m), Kadaiya Malai. 263 m (prom: 132 m), Velliampattu Malai. 256 m (prom: 152 m), Palayam Malai. 255 m (prom: 148 m), Muttattur Malai. 200 m (prom: 126 m), Adangulam Malai. 161 m (prom: 68 m), Papa Malai. 304 m (prom: 174 m).

FIGURE 3. 25 10 KM RADIUS OF THE STUDY AREA GEOMORPHOLOGY MAP



Soil: The soil types in the study area are mostly Calcareous black soil, Red loamy soil, clayey soil and Calcareous clayey soil (Figure 3.23.). Calcareous black soil (177.25 sq.km) was distributed over the study area. Red loamy soil is found in north, east, west and central part of the study area (108.43 sq.km). Clayey soil is found in north-western part of the study area (34.93 sq.km).

FIGURE 3.26 10 KM RADIUS OF THE STUDY AREA SOIL TYPE MAP



BELOW GROUND LEVEL (BGL)

Figure 3.26 & 3.27 shows the Non-Monsoon and Monsoon water level map of the study area.

FIGURE 3.27 NON MONSOON WATER LEVEL MAP OF THE STUDY AREA

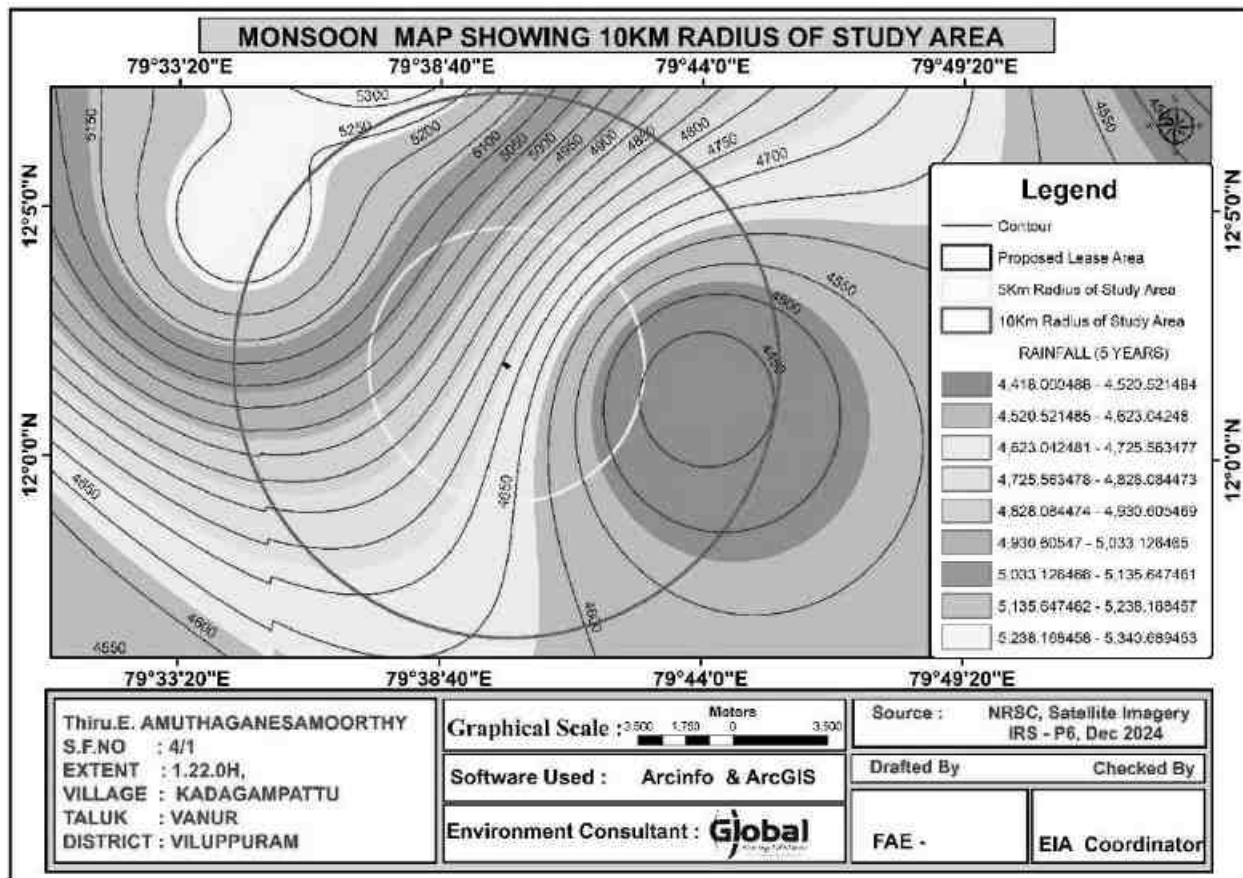
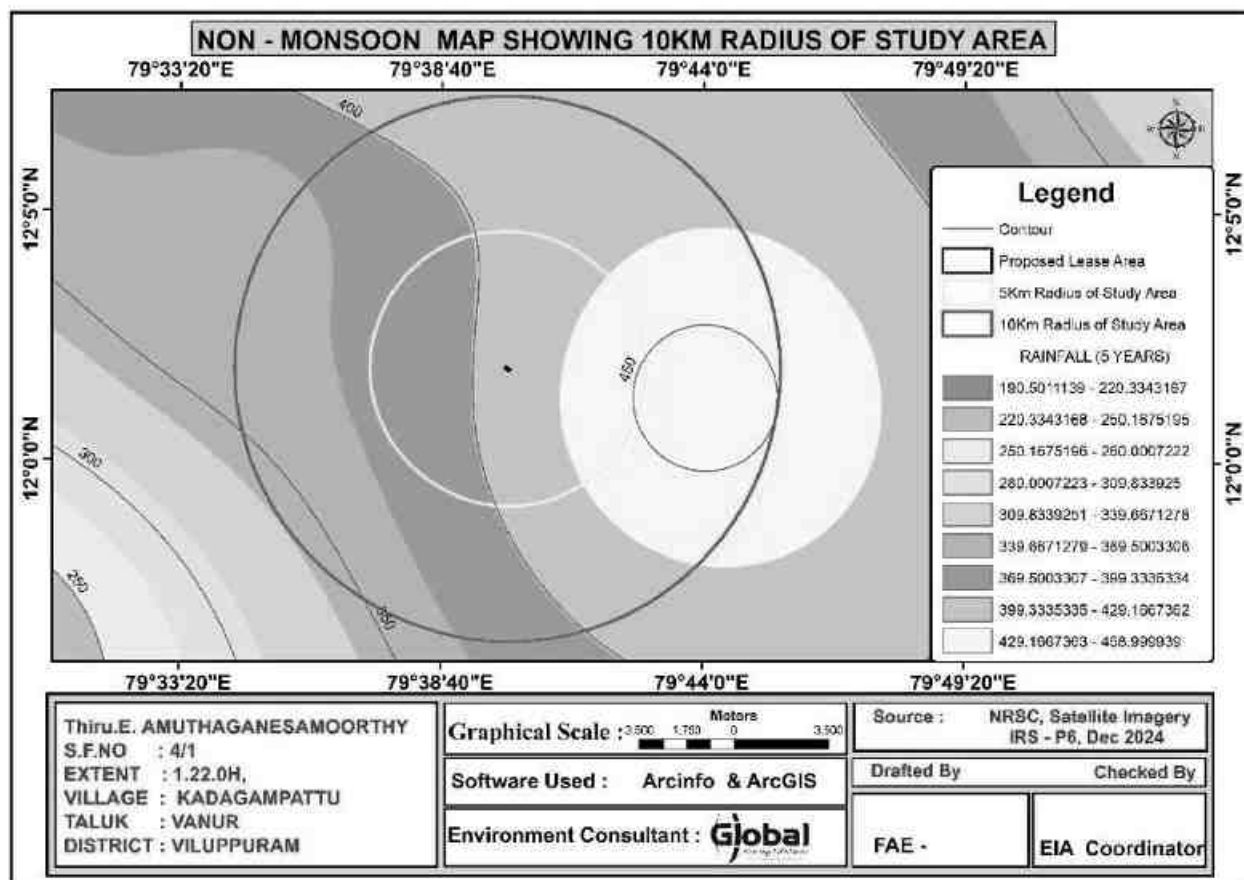


FIGURE 3.28 MONSOON WATER LEVEL MAP OF THE STUDY AREA



FIELD INVESTIGATION

The temporary seasonal streams water flow from center to outer most area. There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. The water is temporarily found only during the rainy season.

In this representation in the two seasons, the water level substantially gets fall-down in the non-monsoon season, because of the rainfall impact and it extended up to the Monsoon season. Some of the wells water level is shallow depth in both seasons. These dug wells are located nearby water bodies. So, clearly shows that surface water is impact in these wells.

The shallow depth of groundwater level in the monsoon season. It is interesting to note that the water level is increased because of heavy rainfall during the southwest and northeast monsoon. The groundwater table level is substantially increased in the monsoon season.

In the study area, the shallow aquifer is developed through dug wells and deeper aquifer through tube wells. The study has revealed that potential fractures are encountered at deeper levels. The water in the wells are available mainly monsoon and it reduces during non-monsoon demanding the groundwater. Bore wells are deep and it reflects that the yield is only better at deeper water levels.

Rain water collected in the tanks in the region acts as a good source of water during monsoon season. In order to increase the recharge, tanks, and percolation ponds may be provided with the recharge wells/recharge shafts penetrating this impervious layer to make it more effective in recharging the aquifer.

CHAPTER 4

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

INTRODUCTION

This chapter deals with the various anticipated environmental impacts and mitigation measures of the proposed mining activity. The proposed method of mining is Opencast Shallow mining and the quarry operation without Drilling and Blasting.

In order to maintain the existing environmental scenario of the proposed mine lease area it is mandatorily required to assess the present ecology and environment of the proposed mine lease area and buffer area of the project before starting mining operations. The various environmental impacts which are identified by the proposed quarrying activities have been discussed below and its subsequent paragraphs.

- ❖ Land Environment
- ❖ Soil Environment
- ❖ Water Environment
- ❖ Air Environment
- ❖ Noise Environment
- ❖ Biological Environment
- ❖ Socio Economic Environment

4.1 DETAILS OF INVESTIGATED ENVIRONMENTAL IMPACTS DUE TO PROJECT LOCATION POSSIBLE ACCIDENTS, PROJECT DESIGN, PROJECT CONSTRUCTION, REGULAR OPERATIONS FINAL DECOMMISSIONING OR REHABILITATION OF A COMPLETE PROJECT.

This is a proposed Ordinary Earth Quarry of S.F.No. 4/1 over an extent of 1.22.0 Ha in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State. The method of mining is Opencast Shallow mining with a bench width and height of 2m. It is proposed to excavate to 17,034 m³ of Ordinary Earth up to a depth of 2m below ground level for the period of two years. There is no stream/odai within the mine lease area.

The main anticipated impact on the Land Environment due to quarrying operation is change in Landscape, change in Land – use Pattern.

The entire mine lease area is patta land. The project area of 1.22.0 Ha. The ultimate depth of quarrying is proposed with maximum depth of 2m below ground level and will not intersect the ground water table.

4.2 MEASURES FOR MINIMIZING AND /OR OFFSETTING ADVERSE IMPACTS IDENTIFIED

Aspect	Impact	Mitigation measures																				
Topography	The lease applied area exhibits slightly undulated terrain covered with Ordinary earth which does not sustain any type of vegetation due to the topography of the land. Quarrying activity will lead to change in geological setting of the area i.e., Due to the quarrying activity in the mine lease area will leads to affect the aesthetic view on the environment. Further, due to the movement of heavy vehicles in and around the mine lease area will leads to affect the surrounding agricultural lands, ecology and biodiversity, human habitations due to the emissions from vehicles like SO₂, NO_x, PM₁₀, PM_{2.5}, etc., The existing land use pattern is given as under. <table><tr><th>Land Use</th><th>Present Area (Hect)</th><th>Area in use during the quarrying period (Hect)</th></tr><tr><td>Area under Quarrying</td><td>Nil</td><td>0.85.5</td></tr><tr><td>Unutilized</td><td>1.22.0</td><td>0.36.5</td></tr><tr><td>Total</td><td>1.22.0</td><td>1.22.0</td></tr></table>	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)	Area under Quarrying	Nil	0.85.5	Unutilized	1.22.0	0.36.5	Total	1.22.0	1.22.0	The major impact due to this project on land environment is the change in land use. Mining activity will be carried out upto a depth of 2m below ground level. At the end of mining period, the quarried pit will act as a water reservoir to store the rain water. Land Use at the end of mine will be as follows. <table><tr><th>Land Use</th><th>Area in use during the quarrying period (Hect)</th></tr><tr><td>Area under Quarrying</td><td>0.85.5</td></tr><tr><td>Unutilized</td><td>0.36.5</td></tr><tr><td>Total</td><td>1.22.0</td></tr></table> This Eco – Friendly quarrying for a depth of 2.0m below ground level does not require any backfill, Reclamation and Rehabilitation, the quarried out lands will be leveled and used for agriculture purpose any how the closure plan will be prepared after removing the specify quantity. Greenbelt shall be developed around the mine lease area and the details has been given below.	Land Use	Area in use during the quarrying period (Hect)	Area under Quarrying	0.85.5	Unutilized	0.36.5	Total	1.22.0
		Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)																		
		Area under Quarrying	Nil	0.85.5																		
		Unutilized	1.22.0	0.36.5																		
		Total	1.22.0	1.22.0																		
Land Use	Area in use during the quarrying period (Hect)																					
Area under Quarrying	0.85.5																					
Unutilized	0.36.5																					
Total	1.22.0																					

	The ultimate pit dimension of the mine lease area is given below. <table><tr><th colspan="4">Ultimate Pit dimension at the end of Mining plan Period</th></tr><tr><th>Pit No.</th><th>Length (max) (m)</th><th>Width (Avg) (m)</th><th>Depth (max) (m)</th></tr><tr><td>I</td><td>167</td><td>51</td><td>2m below ground level</td></tr></table> If mining is not done systematically it will leads to the dumping failure in the mining area.	Ultimate Pit dimension at the end of Mining plan Period				Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)	I	167	51	2m below ground level	<table><tr><th>Year</th><th>Species</th><th>No. of trees</th><th>Spacing</th><th>Survival</th></tr><tr><td>I</td><td rowspan="2">Neem/ Pungan</td><td>610</td><td rowspan="2">3m x 3m</td><td rowspan="2">80%</td></tr><tr><td>II</td><td>-</td></tr><tr><td colspan="2">Total</td><td>610</td><td></td><td></td></tr></table>	Year	Species	No. of trees	Spacing	Survival	I	Neem/ Pungan	610	3m x 3m	80%	II	-	Total		610		
Ultimate Pit dimension at the end of Mining plan Period																															
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I	167	51	2m below ground level																												
Year	Species	No. of trees	Spacing	Survival																											
I	Neem/ Pungan	610	3m x 3m	80%																											
II		-																													
Total		610																													
Drainage	Mine drainage is surface water or groundwater that drains from an active or abandoned mine. One of the adverse impact of mine drainage is it will contaminate the ground water.	As per the approved mining plan the ultimate pit limit is 2m below ground level). The ground water table is reported as 40 m. In the proposed mining plan only 2m below ground level has been envisaged as workable depth for safe & economic quarrying for the entire lease period. Hence the quarrying operation may not affect the ground water.																													
Soil Quality and Agriculture	In monsoon seasons due to the excavation of minerals soil erosion and sediment deposition will occur in the nearby water bodies.	It is proposed to quarry upto a depth of 2m below ground level. So, the mining activity will not affect the ground water. To prevent the soil erosion during monsoon season, garland drain will be constructed with silt traps.																													

4.2.1 SOLID WASTE GENERATION AND MANAGEMENT

The plastic waste generation is very negligible and it will be collected from the source level in specific dustbin and disposed through the municipal bins.

- Identification of solid waste generations
- Providing dustbins to collect with different color coding
- Creating awareness among the employees
- Developing common storage yards
- Disposal to the nearby municipal yards
- Record keeping
- Review once in quarter

4.2.2 WATER ENVIRONMENT

Impact on Surface Water Resources

There is no seasonal or perennial Odai within the M.L area. The drainage pattern of the region is plane to sub-dendritic. Surface run-off water of the M.L. area is drained through proposed drainage and collected in the bottom of the quarry and collected water will be used for same quarry operation as such for plantation & dust suppression.

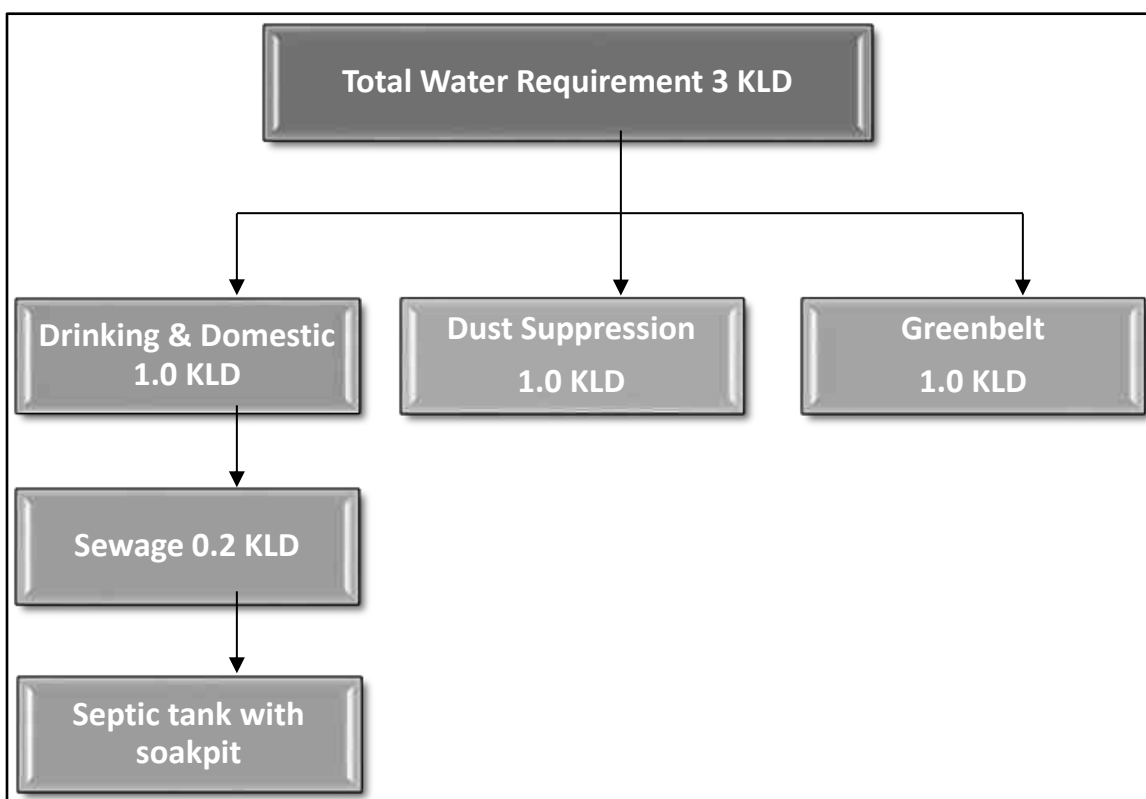
There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. Water table is found at a depth of 40m.

Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made into these water bodies, there is no major impact. The project proponent will restrict the mining operation only within the lease and no other work will be carried out near the canal or any area outside the mining lease.

Impact due to Water use in Mines

In the proposed mines water will be mainly used for domestic purpose, dust suppression & plantation. Total water requirement for the project is 3.0 KLD which will be sourced from outside agencies. Negligible sewage of 0.2 KLD will be generated, for which a septic tank with soak pit will be set up. The water balance diagram is given below.

FIG 4.1 WATER BALANCE DIAGRAM



Impact on Ground Water

The mining activity is not likely to intersect ground water as the ground water table occurs at a depth of 40m. The mining will go up to the maximum depth of 2m below ground level. So, there will be no chance of intersecting the ground water table by the mining activity. So, the impact of mining on the ground water is not envisaged.

Mitigation measures

- Entire lease area will be provided with proper garland drains.
- Check wears will be provided to prevent solids from wash off.
- Construction of garland drains around freshly excavated so that flow of water with loose material is prevented.
- The mine water will be passed through the natural slopes and valleys and gets accumulated in the settling tank (Bottom pit)

Ground water environment in buffer zone

The scenario of ground water in Villupuram Districts is given below.

TABLE 4.1 Ground Water Level Status in viluppuram District							
S. No.	Assessment Unit (Firka)	Net Annual Ground water availability	Existing gross ground water consumption for irrigation	Existing gross ground water consumption for domestic and industrial water supply	Existing gross ground water consumption for all uses	Stage of ground water development	Category
1	Vilupuram	1572.03	1898.95	46.96	1945.91	124 %	Over Exploited

Source: nwm.gov.in

It is planned to carryout appropriate rainwater harvesting schemes and artificial recharge schemes in the area.

4.2.3 VEGETATIONVEGETATION IN THE CORE ZONE

The mine lease area is devoid of major plantation. Shrubs and bushes are majorly found within the lease area. The proponent has planned to develop green belt like Trees like Neem/Pungan will be planted around the mine lease area. A total of 610 trees are planned to be planted. Spacing will be 3m x 3m.

FAUNA

There are no sanctuaries/national parks in the buffer zone of 10km study area. The commonly found fauna in the buffer zone are given in Chapter III. During mining activity the impacts and mitigation measures for Fauna are given in below table.

Table 4.2 Impacts and mitigation measures for Fauna		
S.No.	Impact	Mitigation measure
1	Dust generation due to mining activities	To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants.
2	Change in land use of the lease area	After the mine closure stage, After the completion of the quarrying operation, the land will be leveled and used for agriculture purpose.
3	Accidental falling of animals	To prevent entry of animals, the mine lease surrounding area will be properly fenced with barbed wire.

4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF ENVIRONMENTAL COMPONENTS.

4.3.1 IMPACT DUE TO MINING OPERATION

Impact prediction is a very important phenomenon in evaluating the environmentally potential adverse impacts for any proposed mine project. The impact prediction is always carried out under worst possible conditions so as to mitigate or to eliminate the environmental hazards. These predictions thus calculated are superimposed over the baseline data to calculate the net impact on the environment after the proposed mine Project comes into production.

4.3.2 IMPACT ON AIR ENVIRONMENT

The impacts on air environment from a mining activity depend on various factors like production capacity, machinery involved, operations and maintenance of various

equipments and vehicle. Apart from these, there will be other activities associated viz transportation of mineral and waste, stocking facilities and dump management within the mine lease area that may contribute to pollution.

4.3.3 Air Emissions

The impacts on air environment from a mining activity depend on various factors like production capacity, machinery involved, operations and maintenance of various equipments and vehicle. Apart from these, there will be other activities associated viz transportation of mineral and waste, stocking facilities and dump management within the mine lease area that may contribute to pollution.

4.3.4 Quantitative Estimation of Impacts on Air Environment

An attempt has been made to predict the incremental rise of various ground level concentrations above the baseline status in respect of air pollution due to proposed is 17,034 m³ of Ordinary Earth by the open cast shallow mining method.

The pollutants released into the atmosphere will disperse in the down wind direction and finally reach the ground at farther distance from the source. The concentration of ground level concentrations mainly depends upon the strength of the emission source and micrometeorology of the study area.

In order to estimate the ground level concentrations due to the emission from the proposed project, EPA approved Industrial Source Complex ISC AERMOD View Model has been employed.

The mathematical model used for predictions on air quality impact in the present study is ISC-AERMOD View-6.8.6. It is the next generation air dispersion model, which incorporates planetary boundary layer concepts.

The AERMOD is actually a modeling system with three separate components:

AERMOD (AERMIC Dispersion Model), AERMAP (AERMOD Terrain Preprocessor) and AERMET (AERMOD Meteorological Preprocessor).

Special features of AERMOD include its ability to treat the vertical inhomogeneity of the planetary boundary layer special treatment of surface releases, irregularly shaped area sources, a plume model for the convective boundary layer, limitation of vertical mixing in the stable boundary layer, and fixing the reflecting surface at the stack base.

The AERMET is the meteorological preprocessor for the AERMOD. Input data can come from hourly cloud cover observations, surface meteorological observations and twice-a-day upper air soundings. Output includes surface meteorological observations and parameters and vertical profiles of several atmospheric parameters.

The AERMAP is a terrain preprocessor designed to simplify and standardize the input of terrain data for the AERMOD. Input data include receptor terrain elevation data. Output includes, for each receptor, location and height scale, which are elevations used for the computation of airflow around hills.

Salient features of the AERMOD model are given hereunder:

- ❖ Excavation operations are considered as area sources.
- ❖ Transportation of material on haulage roads has been considered as line source

The predicted ground level concentrations for study period computed using AERMOD model are plotted as isopleths.

4.3.5 Sources of Dust Emission

The proposed mining is carried out by mechanized opencast method. The air borne particulate matter generated by ore handling operations, transportation and screening of ore is the main air pollutant. The emissions of sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) contributed by diesel operated excavation/loading equipment and vehicles plying on haul roads are marginal. Prediction of impacts on air environment has been carried out taking into consideration proposed production and net increase in emissions. Based on the various operations involved in the

production of minerals, the various emission sources has been identified as given below.

- a. Area sources.
- b. Line sources.

Extraction of mineral from mine, are considered as area sources. Transportation of material from mining benches to various end points are considered as line sources. The impact of above sources on air environment is discussed below:

The other sources of air pollution are the dust generated during the movement of tippers on the haul road. Water tankers with spraying arrangement will be used for regular water sprinkling on the haul roads to ensure effective dust suppression. The tippers are well maintained so that exhaust smoke does not contribute abnormal values of noxious gases and un-burnt hydrocarbons.

4.3.6 Emission Details

All the emissions discussed above are quantified for proposed maximum production of is 17,034 m³ of Ordinary Earth by the open cast shallow mining method. The existing air quality levels are covered in the baseline scenario. Excavation, loading and transportation through tippers are the major sources, which are of significance.

The emissions are computed based on AP-42 emission factors. Operational hours, activity rate, wind speed and moisture content have been considered for estimation of emissions from point and area sources. For line source, apart from operational hours, activity rate, moisture, silt content and vehicle weight have been considered. Predictions are carried out for the worst-case scenario of simultaneous operation of excavators (area sources) and tippers for transportation from mine pit to loading pit (line sources) over a distance of 500 m.

The number of working days has been taken at 300 days per year with 8 hours of operation/day, hence the concentrations predicted are considered to be the worst

case. With control measures, the emissions have been taken at 30% of uncontrolled emissions for handling and 10% of uncontrolled emissions for transportation.

4.3.7 Meteorological Data

The meteorological data recorded continuously during the month of October 2024 – December 2024 on hourly basis on wind speed, wind direction and temperature has been processed to extract the 24- hourly mean meteorological data as per the guidelines of IMD and MoEF for application of AERMOD model. Stability classes computed for the mean hours is based on guidelines issued by CPCB on modeling. Mixing heights representative of the region have been taken from the available published literature.

4.3.8 Summary of Predicted Ground Level Concentrations

Ground level concentrations due to the mining activities have been estimated to know the incremental raise and extent of impact in the study area.

The maximum ground level concentration is estimated to be about 0.21 $\mu\text{g}/\text{m}^3$ of PM_{2.5} & 0.539 $\mu\text{g}/\text{m}^3$ of PM₁₀ within the mine area and surrounding cluster area 1.96 $\mu\text{g}/\text{m}^3$ of PM_{2.5} & 2.62 $\mu\text{g}/\text{m}^3$ PM₁₀, where mining operations are being carried out. The impact of mining operations would be negligible beyond 0.5 km.

Figure – 4.1 represents the spatial distribution of the predicted ground level concentrations of PM₁₀ due to emissions from mine.

4.3.9 Emission sources & Quantification

Various point and non-point sources of emissions from Proposed ordinary earth Quarry of Thiru.E.Amuthaganesamoorthy is quantified and presented below:

FIG 4.2 Isopleth of GLC Prediction for PM_{2.5}

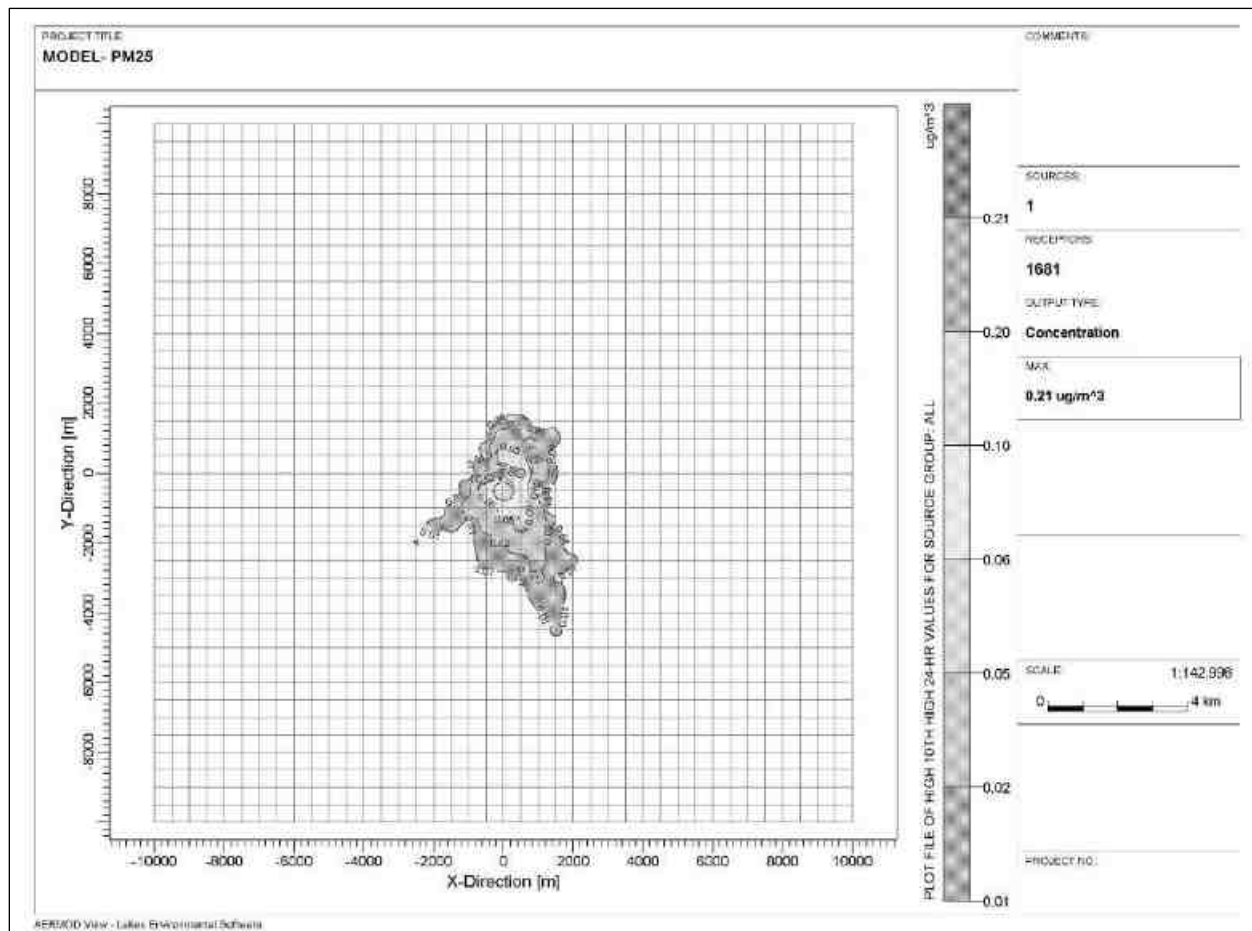


FIG 4.3 Isopleth of GLC Prediction for PM₁₀

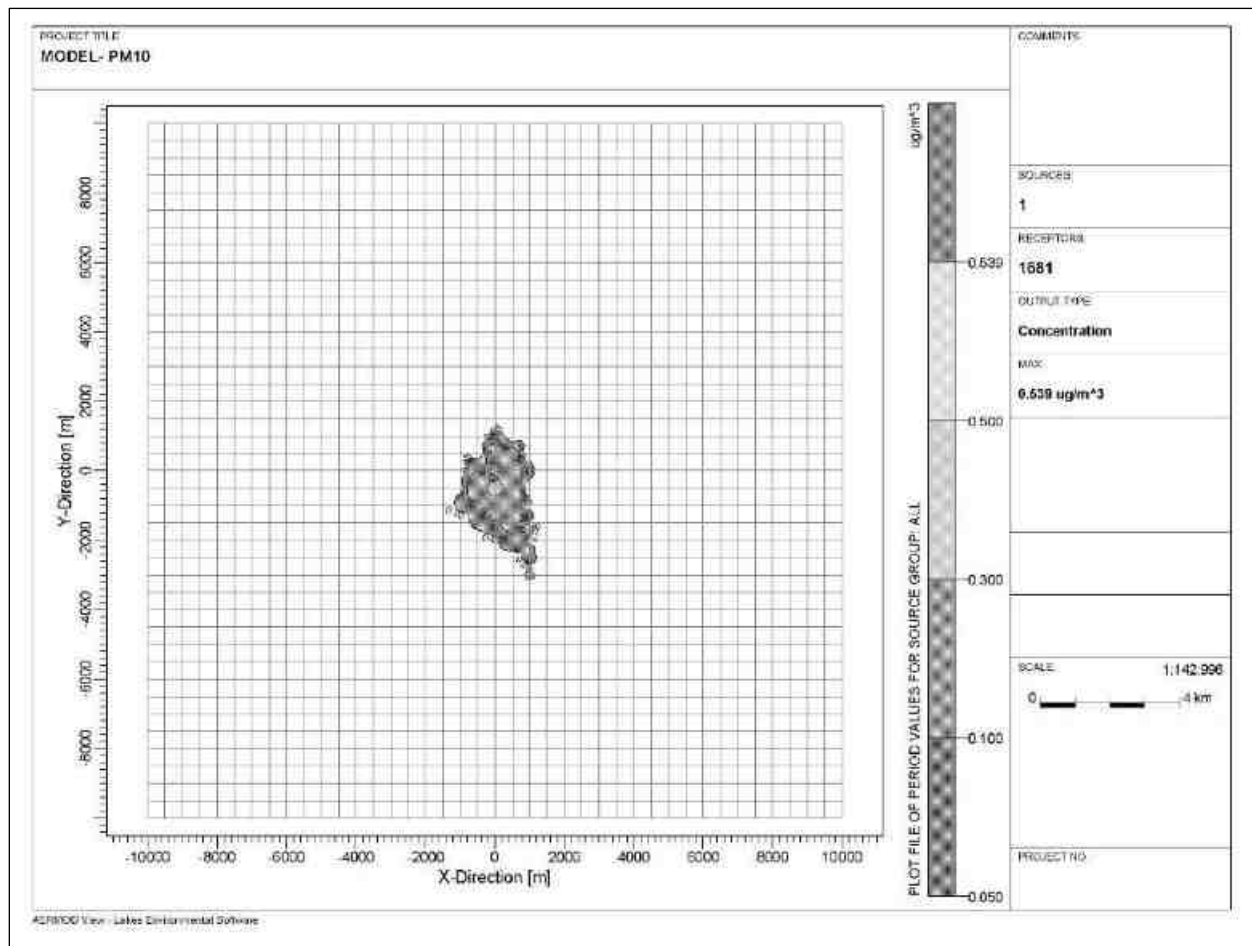


FIG 4.4 Isopleth of GLC Prediction –cluster Cumulative for PM_{2.5}

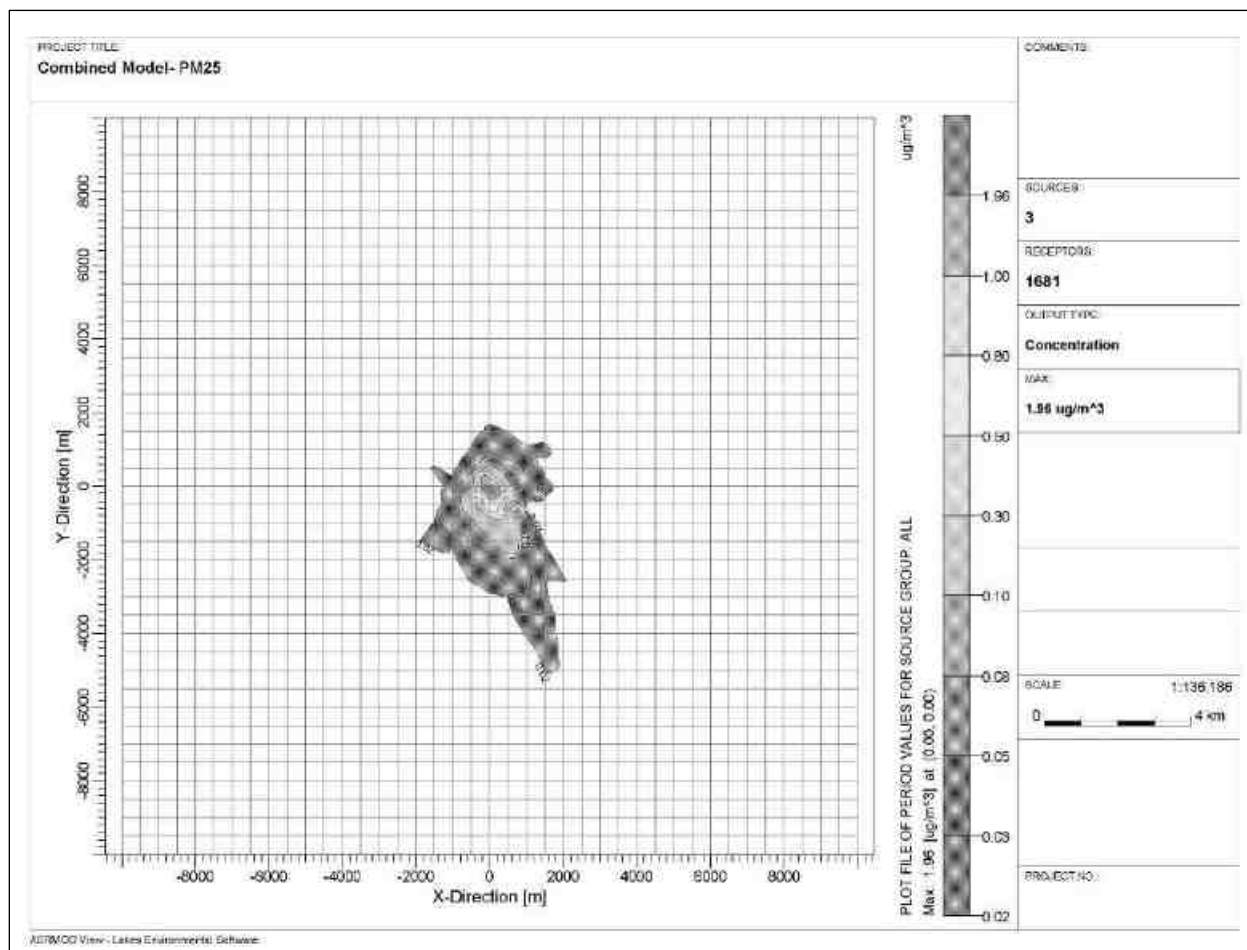
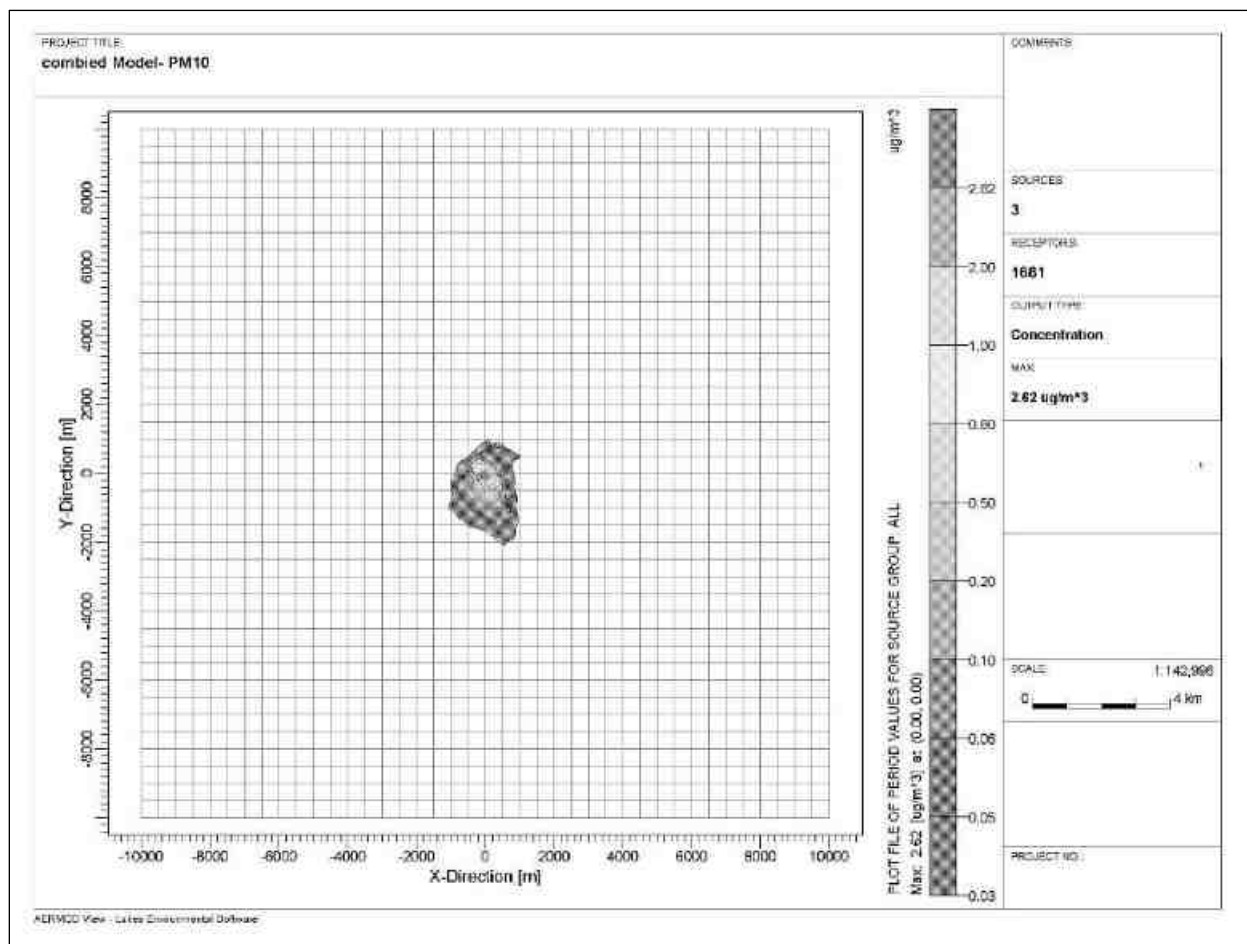


FIG 4.5 Isopleth of GLC Prediction – Cluster Cumulative for PM₁₀



PREDICTED AMBIENT AIR QUALITY:

The post project Concentrations of PM₁₀, PM_{2.5}, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No - 4.7 to 4.8.

Table 4.3 Concentrations of PM _{2.5} after Project Implementation					
SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in µg/m ³
1	Proposed Mine Site	21.4	0.21	21.61	60
2	Tiruvaikkarai Village	20.65	0.20	20.85	
3	Pudukuppam Village	24.05	0.10	24.15	

4	Kondalamkuppam Village	26.5	0.06	26.56	
5	Kudukkur Village	24.25	0.05	24.3	
6	Nemili Village	23.3	0.02	23.32	

Table 4.3a Cluster Concentrations of PM2.5 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	21.4	1.96	23.36	60
2	Tiruvaikkarai Village	20.65	1.00	21.65	
3	Pudukuppam Village	24.05	0.80	24.85	
4	Kondalamkuppam Village	26.5	0.50	27	
5	Kudukkur Village	24.25	0.30	24.55	
6	Nemili Village	23.3	0.08	23.08	

Table 4.3b Concentrations of PM10 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	46.75	0.539	47.289	100
2	Tiruvaikkarai Village	44.85	0.500	45.35	
3	Pudukuppam Village	53.3	0.300	53.6	
4	Kondalamkuppam Village	52.9	0.100	53	
5	Kudukkur Village	50.9	0.050	51.4	
6	Nemili Village	51.6	0.050	51.65	

Table 4.3c Cluster Concentrations of PM10 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	46.75	2.62	49.42	100

2	Tiruvaikkarai Village	44.85	2.00	46.85	
3	Pudukuppam Village	53.3	1.00	54.0	
4	Kondalamkuppam Village	52.9	0.60	53.5	
5	Kudukkur Village	50.9	0.50	51.4	
6	Nemili Village	51.6	0.20	51.8	

The above report seems that, even in the worst-case scenario, the resultant added concentrations with baseline figures show that the values of ambient air quality for PM₁₀ are in the range of 47.28 µg/m³ to 53.0 µg/m³ and for PM_{2.5} are in the range of 20.56 µg/m³ to 26.56 µg/m³ and PM₁₀ are surrounding (cluster) area range of 46.85 µg/m³ to 54.0 µg/m³ and for PM_{2.5} are in the range of 21.65 µg/m³ to 24.55 µg/m³ which are within the statutory limits in each case. The mitigation measures undertaken in the mine for control of air pollution are given below.

- Water sprinkling will be done in haul roads & loading etc.
- The mines workers are provided with the dust masks.
- Three-layer plantation in the safety zone.
- DG sets shall be periodically maintained as per manufacturer's specifications.

4.4 ASSESSMENT OF SIGNIFICANCE OF IMPACTS (CRITERIA FOR DETERMINING SIGNIFICANCE, ASSIGNING SIGNIFICANCE).

4.4.1 NOISE ENVIRONMENT

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

4.4.2 Likely Noise Levels in Lease Area due to mining activity

S.No.	Source Name	Noise Level in dB (A)
1	Diesel generator	90

2	Excavator Operation	86
3	Trucks movement	82

It is expected that the generated noise will be limited within the mine lease area and there will be no profound effect of noise on the buffer zone. The noise level will be maintained below the threshold limit by vigorous maintenance of the machineries.

Noise levels were measured in the lease area and in the nearby villages Tiruvaikkarai, Pudukuppam, Kodalamkuppam, Kudukkur and Nemili So villages, the values are given below.

TABLE 4.4 Noise Levels in Monitoring Locations				
S. No.	Location	Distance and direction from Mine lease area	Day Equivalent (in dBA)	Night Equivalent (dBA)
1	Proposed Mine Site	Core Zone	45.4	38.4
2	Tiruvaikkarai Village	1.09 km, W	44.6	40.4
3	Pudukuppam Village	2.44 km, SE	43.3	38.9
4	Kodalamkuppam Village	2.33 km, E	46.4	38.0
5	Kudukkur Village	2.76 Km, S	46.8	41.7
6	<u>Nemili Village</u>	<u>3.08 Km, NW</u>	<u>43.5</u>	<u>39.1</u>

The noise levels are within the MoEF & CC limits of 70 dB(A) in the working area and in the buffer areas, the values are below the limit of 75 dB(A). Since, the residential area norm has been considered for all five locations mentioned above, during mining operation mine lease area will be considered as industrial area/quarry area for which DGMS norms 85 dB(A)/CPCB guidelines 75 dB(A).

4.4.3 Impact of Noise due to mining

- ✚ There is no drilling and blasting activity in the proposed site

4.5 MITIGATION MEASURES

4.5.1 Noise level control.

- ✚ Proper maintenance, oiling and greasing of machines will be done every week to reduce generation of noise
- ✚ Provision of sound insulated chambers for the workers working on machines (HEMM) producing higher levels of noise.
- ✚ Silencers / mufflers will be installed in all machineries
- ✚ Green Belt/Plantation will be developed around the project area and along the haul roads.
- ✚ The plantation minimizes propagation of noise
- ✚ Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM and their use will be ensured through training and awareness
- ✚ Regular medical check-up and proper training to personnel to create awareness about adverse noise level effects.

4.5.2 IMPACTS DUE TO VIBRATION

- ✚ There is no drilling and blasting activity in the proposed site

4.5.3 SOCIO ECONOMIC IMPACT

The lease area is patta land. The proponent has planned to spend INR 2,00,000 for CER activities.

4.5.4 OCCUPATIONAL HEALTH

Impacts on humans due to various mining activities

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

- Respiratory hazards

- Noise
- Physical hazards

Mitigation measures

Respiratory Hazards

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

✚ Cabins of excavators and tippers will be enclosed with AC and sound proof

✚ Use of personal dust masks will be made compulsory

Noise

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

✚ The use of hearing protection will be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110 dB(A)

✚ Ear muffs provided will be capable of reducing sound levels at the ear to at least 85 dB(A)

Physical Hazards

The following measures are proposed for control of physical hazards

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

✚ Natural barriers, temporary railing, or specific danger signals will be provided along rock benches or other pit areas where work is performed at heights more than 2m from ground level;

✚ Maintenance of yards, roads and footpaths, providing sufficient water drainage and preventing slippery surfaces with an all-weather surface, such as coarse gravel will be taken up.

4.5.5 WASTE MANAGEMENT

Solid Waste

Since the entire mined out material will be utilized there will not be any solid waste generation from this project. However, the Solid waste (MSW) generated from administrative activities will be properly collected and disposed to Govt. Authorized yards / Re-cylers / Disposers.

Liquid Waste

There is no process effluent generation from this mine. Hence no liquid waste is generated. Domestic wastewater i.e 0.2 KLD will be discharged in soak pit via septic tank.

Hazardous Waste Management

In this project the following management practices will be followed:

In the quarrying operation, the source of hazardous waste is from machinery maintenance activities that are waste oil/ Waste lubricants / Used filters / Used Hydraulic hoses. The said hazardous waste are very negligible quantity, it will be properly collected in the source level, stored in impervious storage yards and disposed of as per the Hazardous waste (Trans-boundary Movement) Management Rules, 2016.

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.

CHAPTER 5

ANALYSIS OF ALTERNATIVES

5.1 DESCRIPTION OF EACH ALTERNATIVE

Analysis of alternative site helps in selection of best possible site for the project. On one hand it helps to closeness to the existing infrastructure and on other hand it also helps to minimize the impact of project on environment.

5.2 SUMMARY OF ADVERSE IMPACTS OF EACH ALTERNATIVE

The project proponent has prepared mining plan under rule 19(1) 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the same has been approved by the Assistant Director, Department of Geology & Mining, Viluppuram vide Rc.No.A/G&M/149/2018, dated 22.05.2024.

- There is no forest land or other Eco-sensitive places.
- Proposed mine site is selected on the basis of occurrence of mineral for suitable end use.

Hence seeking alternative site is not required.

5.3 MITIGATION MEASURES PROPOSED FOR EACH ALTERNATIVE

The mining technology is mechanized shallow in single-shift operation without any change in technology. The operation will be carried out as per DGMS norms. No alternate technology will be used. Details of the technology used are given in Chapter II.

5.4 SELECTION OF ALTERNATIVE

In case of Mining projects alternate site selection is not necessary as the mining is site specific and the area in which mining will be carried out has been adequately proved for presence of mineral. The deposit is also having good infrastructural facilities for access and development.

The mining technology is mechanized Opencast in single-shift operation without any change in technology. The operation will be carried out as per DGMS norms. No alternate technology will be used. Details of the technology used are given in Chapter II.

CHAPTER 6

ENVIRONMENTAL MONITORING PROGRAMME

6.1 TECHNICAL ASPECTS OF THE MONITORING THE EFFECTIVENESS OF MITIGATION MEASURES (INCL MEASUREMENTS, METHODOLOGIES, FREQUENCY LOCATION DATA ANALYSIS, REPORTING SCHEDULES EMERGENCY PROCEDURES DETAILED BUDGET AND PROCUREMENT SCHEDULES)

6.1.1 ENVIRONMENTAL MONITORING

Monitoring is done to measure the efficiency of control measures implemented. Regular monitoring of various environmental parameters like air, water, noise and soil environments is needed to assess the status of environment during the project operation.

A schedule is framed with timeline to monitor various parameters during the operation of the project. The schedule is framed based on MoEF & CC and Tamil Nadu State Pollution Control Board. In case the SEIAA/TNPCB/MoEF & CC or other statutory bodies demand monitoring of any additional parameter/factor, the same will also be done.

The proposed quarry is a small quarry. Hence the Mines-in-charge will be responsible for environmental related activities. After obtaining EC, the conditions mentioned in EC will be strictly followed. The Mines-in-charge will be responsible for implementing the conditions. EC compliance report will also be submitted periodically.

6.1.2 OBJECTIVES OF ENVIRONMENTAL MONITORING

The objectives of Environmental Monitoring are as follows.

- ✚ Monitoring and analysis of air and water samples
- ✚ Implementing the control and protective measures.

- ✚ Coordinating the environment related activities within the project as well as with outside agencies. Collecting statistics of health of workers and population of the surrounding villages. Green belt development etc.
- ✚ Monitoring the progress of implementation of Environmental Management Programme.
- ✚ Monitoring the noise generation in and around the project areas.
- ✚ Monitoring of wastewater treatment and disposal of solid waste.
- ✚ The laboratory will be suitably equipped for sampling/testing for various environmental pollutants.

6.1.3 ENVIRONMENTAL MONITORING SCHEDULE

To evaluate the effectiveness of Environmental Management Programme, regular monitoring of the important environmental parameters will be taken up. The frequency of monitoring different parameters is given in table 6.1.

Table 6.1 Environmental Monitoring Schedule			
Sl.No.	Description of Parameters	Parameters	Frequency
1	Air	Air Quality for SPM, PM-10, PM-2.5, SO ₂ and NO _x	24-hour average samples Once in a 3 month.
2	Water	General, Physical, and chemical parameters	Once per season
3	Noise	Leq, L _{max} , L _{min} , Leq Day & Leq Night dB(A)	8-hour average samples Once in a 3 month.
4	Soil	Physical and Chemical characteristics.	Once per season

6.1.4 LOCATION

Monitoring of the above-mentioned environmental parameters would be done at appropriate and sensitive areas. The exact location of monitoring is given as Figure – 3.4, 3.10, 3.12 & 3.14.

6.1.5 MEASUREMENT METHODOLOGY

(a) Ambient Air Quality

Ambient air quality will be monitored for SO₂, NO_x, PM₁₀ and PM_{2.5}. The instruments like high volume air samplers and Respirable dust samplers would be used for this purpose. These parameters will be monitored as mentioned in the monitoring schedule previously.

(b) Water Quality

Water quality analysis will be done quarterly and the monitored parameters include pH, Temperature, TDS, etc. as specified by SPCB from time to time.

(c) Noise Monitoring

Noise level will be monitored in working environment mainly noise producing sources over the boundary and around the mining area.

(d) Green Belt and Afforested Areas

Continuous vigilance and monitoring of green belt will be done for performance and survival rate of the saplings. Watch and ward personnel will properly guard the plantation. Provision will be made for fertilizers application and watering on schedule.

(e) Socio-Economics

Socio-economic of the core and buffer zone details elaborated in Chapter-3.

6.1.6 TECHNICAL ASPECTS OF MONITORING THE EFFECTIVENESS OF MITIGATION MEASURES

The above monitoring schedule will be followed periodically. After collection of the data, the mines-in-charge will analyze the data obtained. The data thus obtained will be incorporated in the EC Compliance report submitted to the regional office, MoEF & CC. The measurement methodologies will be as per CPCB/BIS/MoEF & CC/DGMS norms.

6.1.7 EMERGENCY PROCEDURES

In case of any emergency due to environmental conditions, the mines in-charge will immediately report to the top-level management and the emergency response protocol will be implemented as per MoEF & CC/ SPCB / DGMS norms.

6.1.8 REPORTS TO BE GENERATED

The Project Proponent will maintain records of each test and its interpretation so as to formulate an adequate Environmental Management Plan. The set of records planned to be maintained by Project Proponent are given in below table 6.2.

Table 6.2 Important Records to be maintained by PP	
S.No.	Particulars
1	Monitoring results for Air, Water & Soil.
2	Records of slope failure, land erosion & drainage.
3	Plantation Records
4	Environmental and related standards/ norms
5	Records pertaining to statutory consents, approvals.
6	Periodic Medical examination (PME) records.
7	Complain register (Environmental pollution)
8	Records on water and electricity consumption
9	Periodic progress records.
10	Environmental Expenses Records

6.1.9 DETAILED BUDGET AND PROCUREMENT SCHEDULES

The budget planned for environmental monitoring is given below.

Table 6.3 - Environmental Management Plan Budget

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	0.12	0.12
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	8.00	0.50
	No overloading of trucks/tippers/tractors	0.00	0.01
	Mineral carrying trucks will be covered by tarpaulin	0.00	0.10
	Enforcing speed limits of 20 km/hr within ML area	0.05	0.01
	Regular monitoring of exhaust fumes as per RTO norms	0.00	0.05
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	0.00	0.24
	Installing wheel wash system near gate of quarry	0.50	0.20
Sub-Total (A)		8.67	1.23
Waste Management	Provision for domestic waste collection and disposal through authorized agency	0.25	0.20
	Installation of dust bins	0.05	0.02
Sub-Total (B)		0.30	0.22

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Mine Closure	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	0.12	0.05
	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	2.44	0.10
	Plantation inside ML area (400 Nos.)	0.80	0.12
	Plantation outside ML area (210 Nos.)	0.63	0.06
Sub-Total (C)		3.99	0.33
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	0.10	0.01
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	0.00	0.50

	Workers will be provided with Personal Protective Equipment's	0.28	0.07
	Health check up for workers will be provisioned	0.00	0.07
	First Aid facility Provision	0.00	0.02
	Signage & boards for safety precautions	0.10	0.02
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	0.61	0.10
	Installation of CCTV cameras in the mines and mine entrance	0.30	0.05
	Implementation as per Mining Plan and ensure safe quarry working (Statutory)	0.00	3.00
Sub-Total (D)		3.39	3.84

PROPOSED ENVIRONMENTAL MANAGEMENT PLAN COST			
Total EMP Cost			
Sl. No	Mitigation Measure	Capital cost	Recurring Cost per Annum
A	Air Environment	8.67	1.23
B	Waste Management	0.30	0.22
C	Mine Closure	3.99	0.33
D	Implementation of EC, Mining Plan & DGMS Condition	3.39	3.84
Grant Total (A+B+C+D)		16.35	5.62

Total EMP Cost for 2 years is 27.87 lakhs

i.e., Rs. 16.35 Lakhs of Capital Cost + Rs. 11.52 Lakhs of Recurring cost (For 2 Years)

Sl. No	YEAR	Recurring Cost (in lakhs) @ 5% escalation
1	YEAR 1	5.62
2	YEAR 2	5.90
Total		11.52

CHAPTER 7

ADDITIONAL STUDIES

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

- Public consultation
- Risk Assessment
- Social Impact Assessment, R&R Action Plans
- Cumulative Environmental Impact Assessment Study
- A detailed Hydrogeological Study
- Slope Stability plan

7.1 PUBLIC CONSULTATION

After the preparation of the draft EIA/EMP report, it must be submitted to the State Pollution Control Board. A public consultation will be conducted on behalf of the Pollution Control Board through the District Collector and the officials from the PCB. A prior notice must be issued about the event, along with the time and date, in two leading newspapers. The opinions, suggestions, demands, and objections of people, NGO environmentalists, etc. are sought, and the proceedings are recorded. The replies of the proponent and corresponding officials will be recorded in the final EIA/EMP report.

7.2 RISK ASSESSMENT & MANAGEMENT

(a) Objectives

Risk assessment is a method in which possible threats/hazards which may arise during mining operations are identified so that adequate machinery/equipment are made available in precaution. The objectives of environmental risk assessment are governed by the following, which excludes natural calamities:

- ✚ To identify the potentially hazardous areas so that necessary design safety measures can be adopted to minimize the probability of accidental events.
- ✚ To identify the potential areas of environmental disaster which can be prevented by proper design of the installations and its controlled operation.
- ✚ To manage the emergency situation or a disastrous event, if any, from the mining operation.

The major hazards related to the mining activities are as follows

- ✚ Open cast bench slope failure
- ✚ Accident due to fall of quarry sides
- ✚ Accident due to machineries
- ✚ Accident due to explosives
- ✚ Accident due to large block cutting, separation and loading

Some of the common hazards are identified and the corresponding precautionary measures are drafted.

Table 7.1 Hazards and Precautionary measures		
S.No.	Hazard	Precautionary measures
1	Fire	Fire suppressants will be made available at mines office and explosive storage room.
2	Combustion of chemicals or hazardous substances	Combustible Substances are stored with all precautionary measures. Fire suppressant is made available at storage site
3	Landslide	Width, height and slope will be maintained as suggested by DGMS
4	Accidents during handlings	All vehicles will be properly maintained. Overloading will not be done. Only trained/certified people will be employed.

5	Accidental fall of people or animals	The lease area will be fenced properly. Only people working in the mines will be permitted to enter.

7.3 REHABILITATION AND RESETTLEMENT (R & R) PLAN

No land is acquired from people dwelling in the area. The lease area is an uninhabited land. No R & R plan is proposed.

7.3.1 CUMULATIVE ENVIRONMENTAL IMPACT ASSESSMENT STUDY

The details of other quarries located within the 500m radius of this project are provided below:

Table 7.2 Cluster Mines Details				
S.No	Name of the Quarry Owner	S.F. Nos, Taluk, Village & Extent (Ha)	Lease Period	Remarks
d. Abandoned Quarry				
1.	Thiru.S.Rajavelu, S/o. Subramanian, No.47/1, Mariyamman Kovil Street, Kadagampattu Village, Suthukeni Post, Vanur Taluk, Viluppuram District	T. F.No. 6/3 (P), 6/4, 6/5, 6/6 (1.07.0 Ha) Kadagampattu Village	08.03.2019 to 07.03.2021	Lease Expired
2.	Thiru.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/1, 31/1, 31/2A, 31/2B, 31/3 (2.70.0 Ha)	17.06.2022 to 16.06.2023	Lease Expired
e. Existing Quarry				
1.	Thiru.K.Vijayan, S/o. Kannaiyan, Kadagampattu Village, Vanur Taluk, Viluppuram District	51/7A1, 51/7B, 51/8A, 51/8B1 (1.46.45 Ha)	23.02.2024 to 22.02.2026	Existing lease
f. Proposed Quarry				

1.	Thiru.T.Anbazhagan, S/o. Thangavel, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2A (0.81.0 Ha)	-	Proposed
2.	Thiru. K.Rajesh, S/o. Kuppan, No.66, Mariamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram Distric	6/7, 27/1, 27/2A2 (1.34.0 Ha)	-	Proposed
3.	Thiru.P.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2B1, 30/2B2, 30/5C, 30/5D, 30/5E (1.67.0 Ha)	-	Proposed
4.	Thiru.E.Amuthaganesamoorthy, S/o.Eagambaram, No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District, Pin code-607 804	4/1 (1.22.0 Ha)	-	Proposed
Area of Proposed Quarry		6.50.45 Ha		

A cumulative impact of these two proposed quarries has been studied and the details are given in Chapter IV.

7.3.2 AIR QUALITY IMPACT PREDICTION FOR THE CLUSTER

The AERMOD atmospheric dispersion modeling (AERMOD Cloud remote version) is used for assessment of incremental Ground level concentration (GLC) for the cluster area. Area source model taken into consideration taking into consideration of wet drilling and loading of the cluster mines. Further line source model was taken into consideration for transportation through haul road. Baseline meteorological studies were conducted for the period of October to December 2024. The following sources

are considered.

FIG 7.1 Isopleth of GLC Prediction for PM_{2.5}

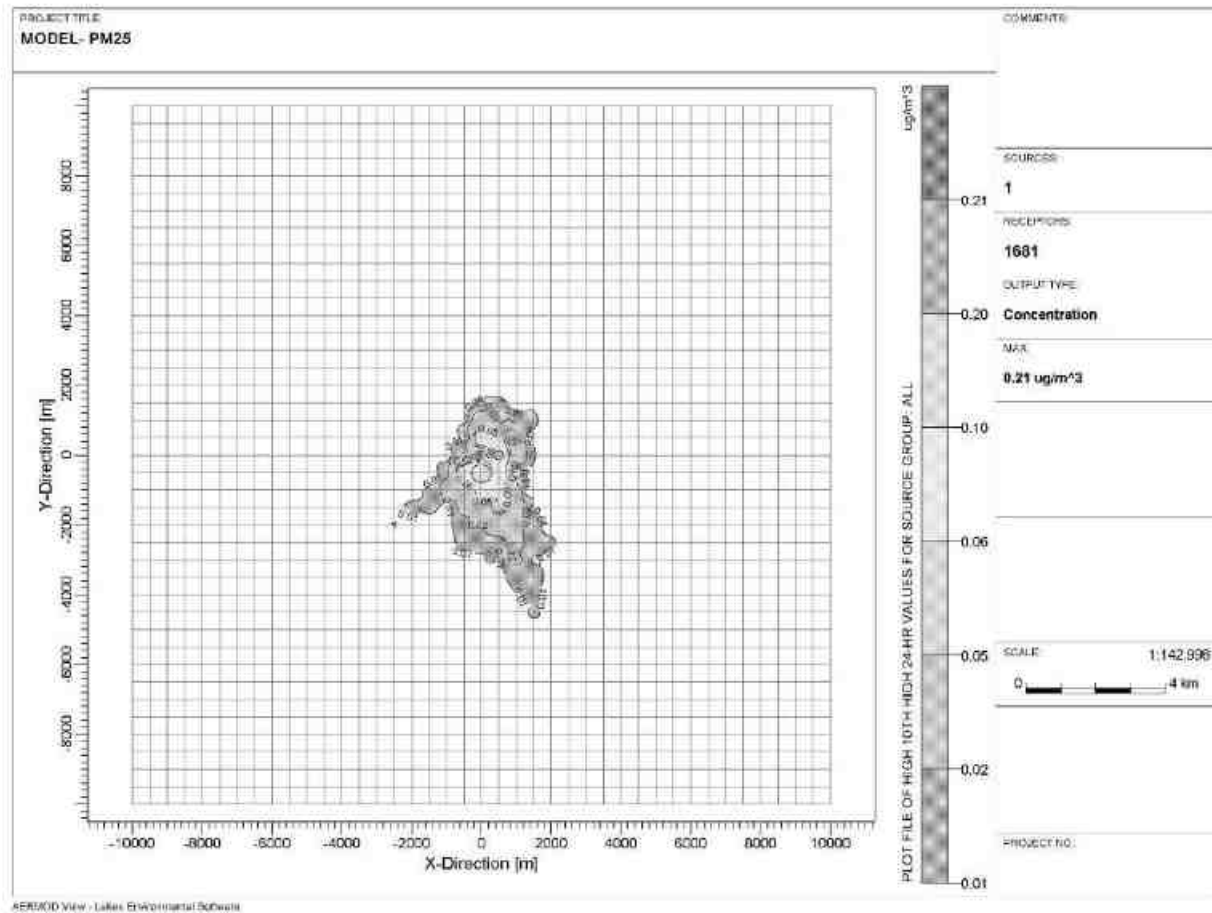


FIG 7.2 Isopleth of GLC Prediction for PM₁₀

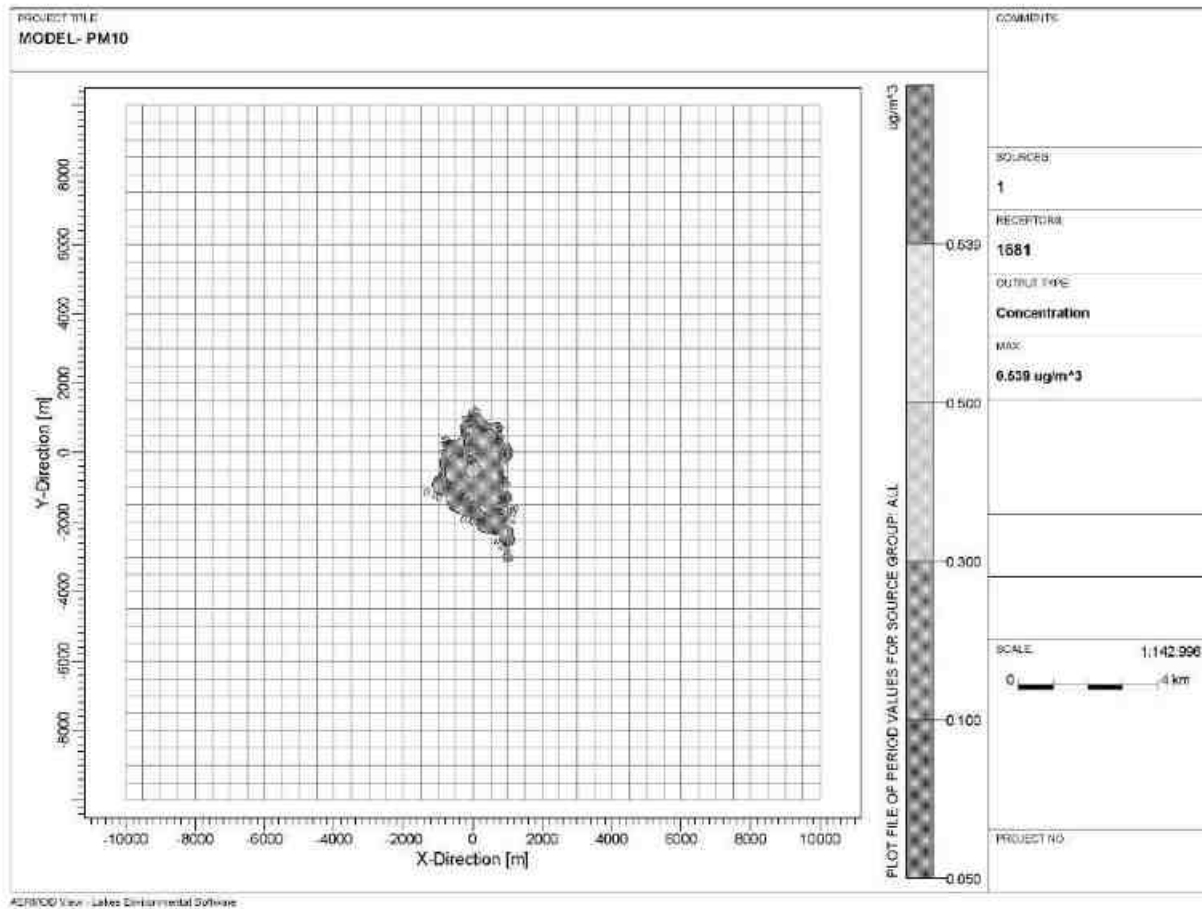


FIG 7.3 Isopleth of GLC Prediction –Cluster Cumulative for PM_{2.5}

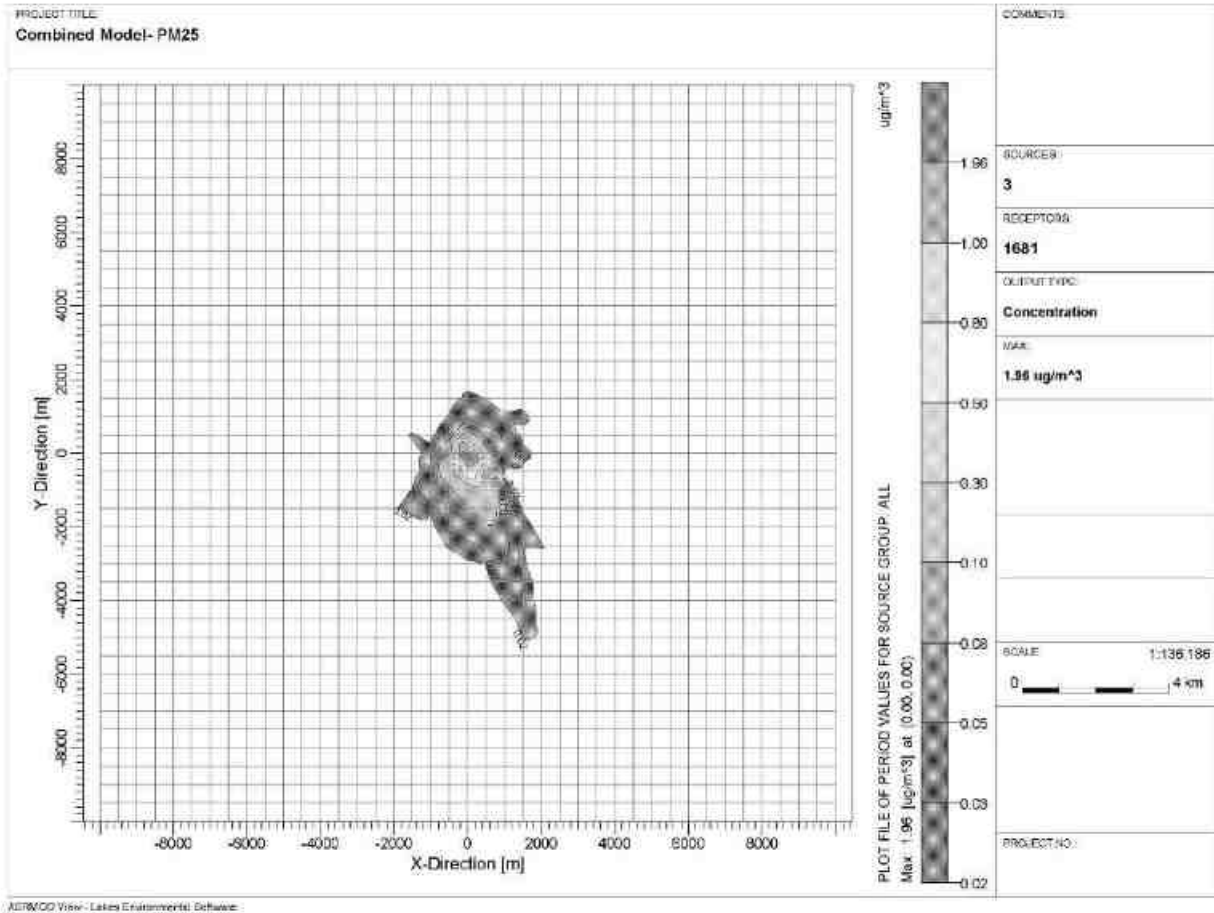
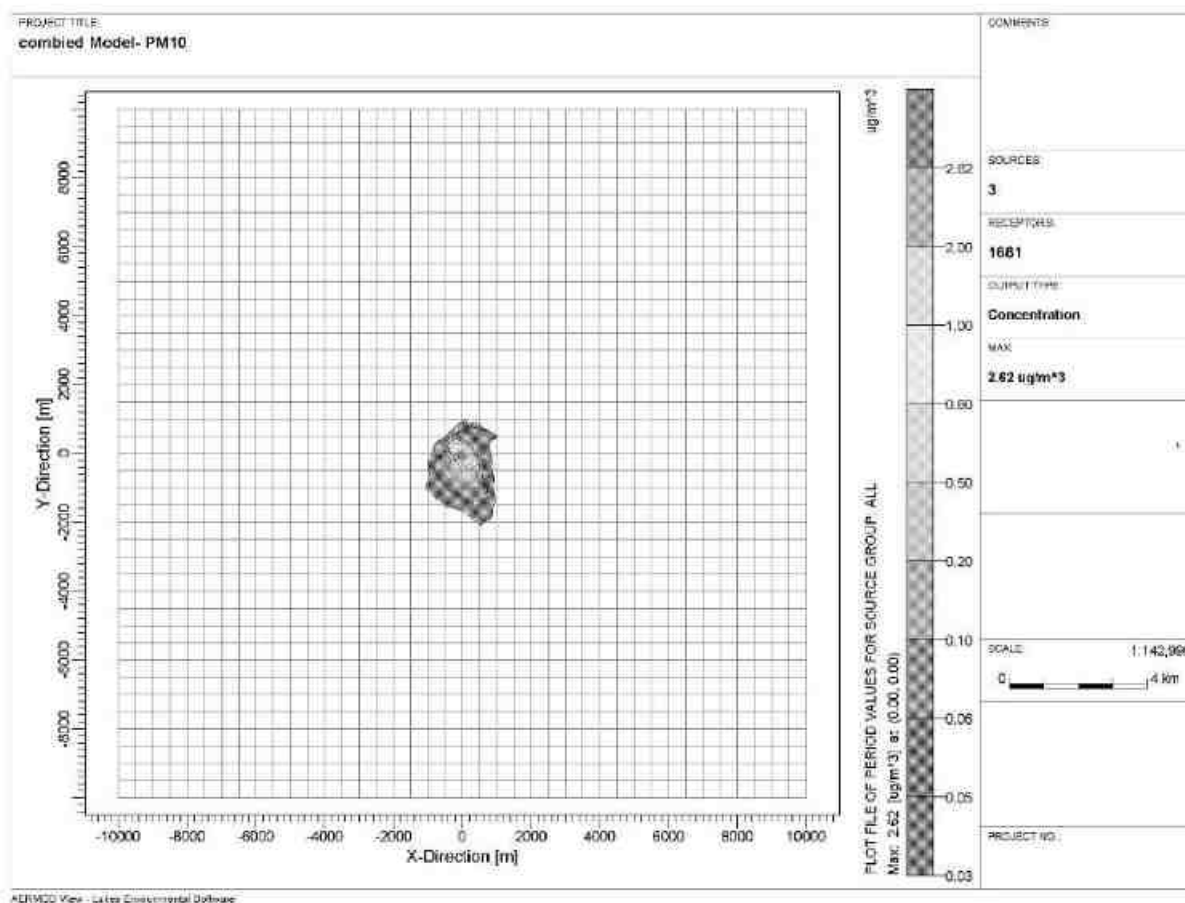


FIG 7.4 Isopleth of GLC Prediction – Cluster Cumulative for PM₁₀



PREDICTED AMBIENT AIR QUALITY:

The post project Concentrations of PM₁₀, PM_{2.5}, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No - 4.7 to 4.8.

Table 7.3 Concentrations of PM _{2.5} after Project Implementation					
SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	21.4	0.21	21.61	60
2	Tiruvaikkarai Village	20.65	0.20	20.85	

3	Pudukuppam Village	24.05	0.10	24.15	
4	Kondalamkuppam Village	26.5	0.06	26.56	
5	Kudukkur Village	24.25	0.05	24.3	
6	Nemili Village	23.3	0.02	23.32	

Table 7.3a Cluster Concentrations of PM2.5 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	21.4	1.96	23.36	60
2	Tiruvaikkarai Village	20.65	1.00	21.65	
3	Pudukuppam Village	24.05	0.80	24.85	
4	Kondalamkuppam Village	26.5	0.50	27	
5	Kudukkur Village	24.25	0.30	24.55	
6	Nemili Village	23.3	0.08	23.08	

Table 7.3b Concentrations of PM10 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Proposed Mine Site	46.75	0.539	47.289	100
2	Tiruvaikkarai Village	44.85	0.500	45.35	
3	Pudukuppam Village	53.3	0.300	53.6	
4	Kondalamkuppam Village	52.9	0.100	53	
5	Kudukkur Village	50.9	0.050	51.4	
6	Nemili Village	51.6	0.050	51.65	

Table 7.3c Cluster Concentrations of PM10 after Project Implementation

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$

1	Proposed Mine Site	46.75	2.62	49.42	100
2	Tiruvaikkarai Village	44.85	2.00	46.85	
3	Pudukuppam Village	53.3	1.00	54.0	
4	Kondalamkuppam Village	52.9	0.60	53.5	
5	Kudukkur Village	50.9	0.50	51.4	
6	Nemili Village	51.6	0.20	51.8	

The above report seems that, even in the worst-case scenario, the resultant added concentrations with baseline figures show that the values of ambient air quality for PM₁₀ are in the range of 47.28 µg/m³ to 53.0 µg/m³ and for PM_{2.5} are in the range of 20.56 µg/m³ to 26.56 µg/m³ and PM₁₀ are surrounding (cluster) area range of 46.85 µg/m³ to 54.0 µg/m³ and for PM_{2.5} are in the range of 21.65 µg/m³ to 24.55 µg/m³ which are within the statutory limits in each case.. The mitigation measures undertaken in the mine for control of air pollution are given below.

- Water sprinkling will be done in haul roads & loading etc.
- The mines workers are provided with the dust masks.
- Three-layer plantation in the safety zone.
- DG sets shall be periodically maintained as per manufacturer's specifications.

Cumulative Impact on Traffic

The mined-out minerals will be transported by means of trucks to the needy customers. The cumulative impact on traffic due to transportation of minerals from these four leases are provided below:

Table 7. 4 – Impact on Traffic

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

Existing Traffic Volume in Passenger Car Units (PCU)								
Location	Distance and direction from proposed M.L.	HMV		LMV		2/3 Wheelers		Total PCU
		No.	PCU	No.	PCU	No.	PCU	
Kadagampattu Village Road	287m (E)	12	36	16	16	95	48	100
PCU CONVERSION FACTOR - HMV (Trucks and Bus) = 3, - LMV (Car, Jeep and Auto) = 1 2/3 Wheelers = 0.5v Total PUC per day of Kadagampattu Village Road is arrived as 100. PUC/hr considering 8 hour of peak traffic is arrived as 13.								

Existing Traffic Volume in Passenger Car Units (PCU)									
Peak Productions (m ³)	Location	Capacity of Tippers	No of trips/ day	PCU/hr of proposed quarry	Existing volume PCU/hr	Incremental Traffic Volume (PCU/hr)	Hourly Capacity in PCU as per IRC- 1960 guidelines	Total Volume/ Capacity ratio (V/C)	Level of Service (LOS)
Ordinary Earth - 8150m ³ (Average per annum)	Kadagampattu Village Road	10 MT	5	1	13	14	2000	0.01	A- Free Flow
OPERATING CONDITION OF ROAD IN TERMS OF V/C AS PER INDIAN ROADS CONGRESS (IRC) 106 - 1990									
Level of Service	General Operating conditions								Range V/C
A	Free flow (traffic flows at or above speed limit and motorists have complete mobility between lanes)								< 0.3
B	Reasonable flow (slightly more congested, with some maneuverability)								0.3- 0.47
C	Stable flow (more congested than B, loads close to capacity)								0.48 – 0.68
D	Approaching unstable flow (speeds are somewhat reduced, example: busy corridor during middle of a weekday, or a functional urban highway during rush hour)								0.69 – 0.88
E	Unstable flow (flow becomes irregular, speed varies widely and rarely reaches speed limit)								0.88 - 1.00
F	Forced or breakdown flow (a constant traffic jam)								>1.00
According to the traffic study conducted for the Kadagampattu Road which is at 287m (E) away from the lease, the Volume-to-Capacity (V/C) ratio has been calculated as 0.01. Based on the guidelines outlined in IRC 106-1990, this falls under Category A (Free Flow). Therefore, the incremental traffic generated by the proposed quarry is unlikely to have any significant impact on the traffic conditions of the adjoining village roads.									

7.3.3 HYDROGEOLOGICAL STUDY

There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. Due to the presence of these water bodies nearby, a detailed hydrogeological study is under process, however it will be incorporated in the final EIA Report As suggested in the Precise Area Communication letter, safety distances of 7.5m to adjacent patta land.

7.3.4 SLOPE STABILITY STUDY

The proposed quarry is a very small quarry and the production is also less. Opencast Shallow mining with a bench height of 2m proposed. The depth of mining is proposed as 2m below ground level which is the ultimate pit limit. Also, there is no overburden since the entire mined out material will be utilized.

As far as technical factors are concerned, the following precautionary measures will be adopted:

- Strict adherence to DGMS norms
- Frequent inspection by Mines-in-charge/Mines Manager
- Bench height, width, slope will be as per DGMS norms

7.3.5 DISASTER MANAGEMENT PLAN

Proper preventive mechanism exists already in the mines.

- Precautionary measures are well explained to all staff by the mines in-charge.
- PPE necessary for all staff are available in the quarry. No person is allowed to enter inside without PPE. Avoiding quarrying during unfavorable environmental conditions.
- Safety equipment like fire extinguisher, first aid kit, etc are present in the mine.

- Proper maintenance of machinery used for mining
- In case of any emergency, the contact numbers of mines in-charge, mines manager, Management contact are available in the mine's office.

7.3.6 MINE CLOSURE PLAN

The quarrying operation is proposed up to a depth of 2m below ground level only, which will be achieved in 2 years. The ultimate pit dimension will be length 167 m x Width 51m x Depth 2m below ground level. After completion of quarrying operation, the mined-out pit will be leveled and used for agriculture purpose. The quarry will be properly fenced with barbed wire.

CHAPTER 8

PROJECT BENEFITS

INTRODUCTION

Thiru.E.Amuthaganesamoorthy S/o. Eagambaram has proposed Ordinary Earth quarry over an extent of 1.22.0 Ha located at S.F.No. 4/1 in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

PROJECT BENEFITS

Project benefits are attributed in various ways as under:

- Environment Benefits
- Employment Potential: Skilled, Semi-skilled & Un-skilled
- Economic Benefits
- Social Benefits

8.1 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE

The project area is located on patta land, thereby causing no impact on the loss of agriculture or forest land. The project will create employment opportunities in the area. There will be no adverse effect of mining on the socioeconomic status of the people; rather, mining activities will improve their standard of living. The mining activity creates employment opportunities for the local people, and this definitely raises their economic status. Apart from the overall beneficial impact of the project on the local people of the region, it is felt necessary to augment facilities in the fields of education, health, and social awareness, including concern for the environment and ecosystem.

8.2 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE

The proposed project will help in improving the socio-economic status of the near-by villages by generating direct or indirect employment opportunities. Substantial amount of indirect revenue will be generated by transportation activities along with employment e.g. labour, helper etc.

ECONOMIC BENEFITS:

The execution of proposed mine will boost the economy of the area by creating direct & indirect jobs for locals. There will be a positive cumulative impact of the project on the economy.

8.3 EMPLOYMENT POTENTIAL: SKILLED, SEMI-SKILLED & UN-SKILLED

The mining Thiru.E.Amuthaganesamoorthy S/o. Eagambaram will create direct employment opportunity for 7 local people. As per MOEF & CC Notification CER cost is arrived for an amount of Rs. 2,00,000, it will be utilized as per the CER letter received from the competent authority.

8.4 OTHER TANGIBLE BENIFITS

The mine management will recruit semi-skilled & unskilled eligible workers from the nearby villages depending upon requirement in the mines and the eligibility, qualification and experience of local persons.

The overall effect will result in higher standard of living viz. better education, improved health and sanitation facilities, housing and acquisition of consumer durables. Housing, transport, medical, educational and other civic amenities will get improved in the future. This is envisaged as a major positive benefit.

CHAPTER 9

ENVIRONMENTAL COST BENEFIT ANALYSIS

As per EIA Notification dated 14th Sept., 2006, as amended from time to time, 'Environmental Cost Benefit Analysis' is applicable only if the same is recommended at the Scoping stage.

As per the ToR points issued by SEIAA-TN vide ToR - TO24B0108TN5934875N, Dated: 09.10.2024 for the proposed project, the 'Environmental Cost Benefit Analysis' is not prescribed.

CHAPTER 10

ENVIRONMENTAL MANAGEMENT PLAN

10.1 DESCRIPTION OF THE ADMINISTRATIVE ASPECTS OF ENSURING OF ENSURING THAT MITIGATIVE MEASURES ARE IMPLEMENTED AND THEIR EFFECTIVENESS MONITORED AFTER APPROVAL OF THE EIA.

10.1.1 OBJECTIVES

The Environmental Management Plan is developed to ensure that a project is implemented in an environmentally sustainable manner, where all contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to minimize those risks. EMP also ensures that the project implementation is carried out in accordance with the planned design and by taking appropriate mitigation measures to reduce adverse environmental impacts during the project's life cycle. The impacts due to this mining project are detailed in Chapter 4 and Mitigation measures at the source level and an overall Management Plan at the site level are elaborated on in this chapter.

10.1.2 BASIC OF EMP

The Environmental Management Plan for the proposed project activities is formulated taking into considerations the following key environmental issues.

- ✚ Project activities
- ✚ Studies on Environmental Impact Assessment
- ✚ Air & water pollution control
- ✚ Working zone environment improvement
- ✚ Occupational hazards & safety
- ✚ Environmental monitoring facilities
- ✚ Environmental management costs

EMP covers all phases of the project considering the impacts with mitigation measures and monitoring programme. The plan outlines the measures that will be undertaken to ensure compliance with environmental legislations and to minimize adverse impact. Details of EMP measures for implementation in the mine are given below.

Table 10.1 Environmental Management Plan	
Environmental Parameter	Mitigation Measures
Air	Regular water sprinkling on haulage road through fixed water sprinkler.
	1.0 KLD of water will be used for dust suppression.
	Regular grading of haul road to clear accumulation of loose material.
	It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements
	Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution
	Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures.
	Afforestation for control of dust.
Surface water	There is Gingee River is located at a distance of 2.06 km (SW) direction of lease area. Adequate safety distance is left. No dumping of material or discharge will be done in or near the river or water body.
	Surface runoff management structures like garland drain of required length which is connected to a settling pond will be constructed around the quarry to collect the rain water.
	Monthly or after rainfall, inspection will do to ensure performance of water management structures and systems. There is no discharge of any effluent into nearby water bodies.

Ground Water	The quarrying operation is proposed upto a depth of 2m below ground level Water table is found at a depth of 40 m, hence the project will not intersect the Ground water table during entire quarry period.
Water Consumption and Wastewater generation	Water required for this project will be sourced from vendors.
	Domestic wastewater generation of 0.2 KLD will be treated in septic tank with soak pit.
	Conduct ground water and surface water monitoring for parameters specified by CPCB
Noise	The workers employed are provided with protection equipment, earmuffs and ear- plugs for the protection from high noise level generated at the mine site wherever required.
	Development of thick greenbelt all along the safety Zone (7.5 m) of the project area to attenuate the noise and the same will be maintained.
	Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation.
	Annual ambient noise level monitoring is carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring.
Ground Vibration	There is no drilling and blasting activity in the proposed site. the ground vibration caused due to movement HEMM and tippers.
	To be Undertake noise or vibration monitoring.
Land Environment	At conceptual stage, the mining pits will be leveled and used for agriculture purpose.
	No external dumping i.e., outside the project area. The entire material will be sold.
	Garland drains with catch pits / settlement traps to be provided all around the project area to prevent run off affecting the surrounding lands.
	The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.

	Frequent Soil and ground water testing as per Environmental Monitoring Plan.
Top Soil / Overburden	There is no overburden anticipated during the quarrying operation.
Biological Environment	During mining, thick plantation will be carried out on the mentioned safety zone areas.
	The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
	Regular review on green belt development programme.
	Year wise greenbelt development plan mentioned in Chapter III will be monitored.

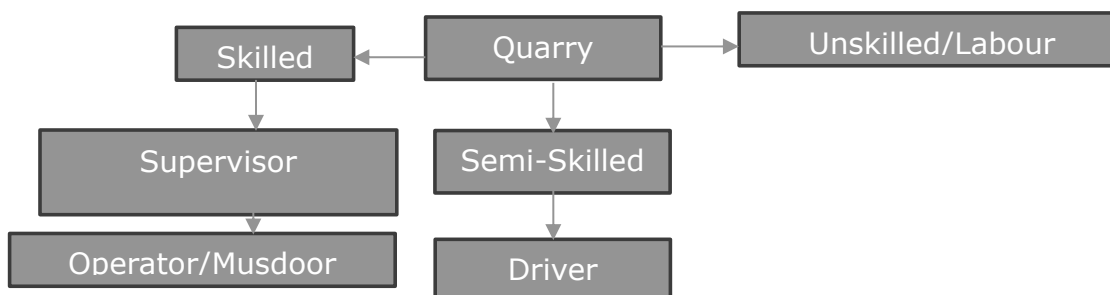
10.1.3 ADMINISTRATION AND TECHNICAL SETUP

Since this is a very small quarry, the mines in-charge will take care of all environment related aspects. He will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level. The action plan for monitoring consists of monitoring of following environmental components.

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

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

Fig. 10.1 Organization Chart



S.No	Description	Employment potential
1	Supervisor	1 No
2	Operator	2 Nos
3	Watchman	1 No
4	Labours	3 Nos
Total		7 Nos

10.1.4 ENVIRONMENTAL POLICY

- The Project Proponent has stipulated a well-defined Environmental policy by which the lessee is committed to conducting business with a strong environmental conscience towards the community, customers, and employees. The Environment policy is given as below.

- The Environment policy of "Ordinary Earth Quarry of Thiru.E.Amuthaganesamoorthy S/o. Eagambaram is that the rules and commitment are driven towards conservation of the environment.
- The lessee is committed to efficient use of natural resources based on the reduce, recycle and reuse method.
- The project is committed to the identification of possible impacts and will take the necessary management steps to mitigate the impacts.
- Environment performance will be regularly monitored and reported for continual improvement of our environment and health performance.

10.1.5 OCCUPATIONAL SAFETY & HEALTH MANAGEMENT

Occupational safety and health are very closely related to productivity and a good employer-employee relationship. The main factors affecting occupational health in quarries are fugitive dust and noise. Safety of employees during quarrying operations and maintenance of mining equipment will be taken care of as per the Mines Act 1952 and Rule 29 of the Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise, and vibration, sufficient measures have been provided. The health status of workers in the mine will be regularly monitored under an occupational surveillance programme. Under this programme, all employees are subjected to a detailed medical examination at the time of employment. Before the induction of employees, a pre-medical checkup is done. In addition, a periodical medical checkup will be done annually for all employees.

10.1.6 COST OF ENVIRONMENTAL CONTROL MEASURES

The effective implementation of EMP is not only reduce pollution load and comply the regulatory requirement but also increase productivity and improve marketability of product. The capital and recurring cost of EMP for the cluster of mines has been given in below table.

Table 10.2 - Environmental Management Plan Budget

PROPOSED ENVIRONMENTAL MANAGEMENT PLAN COST			
Total EMP Cost			
Sl. No	Mitigation Measure	Capital cost	Recurring Cost per Annum
A	Air Environment	8.67	1.23
B	Waste Management	0.30	0.22
C	Mine Closure	3.99	0.33
D	Implementation of EC, Mining Plan & DGMS Condition	3.39	3.84
Grant Total (A+B+C+D)		16.35	5.62

Total EMP Cost for 2 years is 27.87 lakhs

i.e., Rs. 16.35 Lakhs of Capital Cost + Rs. 11.52 Lakhs of Recurring cost (For 2 Years)

Sl. No	YEAR	Recurring Cost (in lakhs) @ 5% escalation
1	YEAR 1	5.62
2	YEAR 2	5.90
Total		11.52

10.1.7 CONCLUSION

Various aspects of mining activities were considered, and related impacts were evaluated. Considering all the possible ways to mitigate the Environmental concerns, an Environmental Management Plan was prepared, and INR 27.87 lakhs has been allocated for the same. The EMP is dynamic, flexible, and subjected to periodic review. For projects where major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP, and the project will have a positive impact on the study area.

CHAPTER 11

SUMMARY& CONCLUSION

11.1 OVER ALL JUSTIFICATION FOR IMPLEMENTATION OF THE PROJECT

INTRODUCTION

Thiru.E.Amuthaganesamoorthy S/o.Eagambaram, has obtained Precise Area communication letter from the Assistant Director, Geology and Mining, Viluppuram letter vide Rc.No.A/G&M/149/2018, dated 07.05.2024 to quarry out 17,034 m³ of Ordinary Earth over an extent of 1.22.0 Ha., S.F. No. 4/1 of Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Ordinary Earth Quarry of Thiru.E.Amuthaganesamoorthy S/o.Eagambaram mines cluster falls under Schedule 1(a) of EIA Notification and its subsequent amendments the project comes under Category B1. The ToR for preparation of EIA/EMP report of the project was approved vide ToR TO24B0108TN5934875N, DATED: 09.10.2024. This report has been prepared in line with the approved TOR for production of maximum excavation of 17,034 m³ of Ordinary Earth

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Ordinary Earth
4.	Type of Lease	Fresh quarry
5.	Extent of the lease	1.22.0 Ha
6.	Proposed depth of mining	2m below ground level
7.	Method of mining	Opencast method of mechanized.
8.	Proposed lease period	2 Years
9.	Proposed Environmental Clearance	2 Years
10.	Proposed production quantity for two years	17,034m ³ of ordinary earth

The proposed lessee Thiru.E.Amuthaganesamoorthy S/o. Eagambaram is an individual with sound experience in the identification of quarry, operation and marketing in the field of Ordinary Earth quarry. The proposed land is patta land, please refer **Annexure no –6**.

1.1.1 LOCATION

Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State and its Latitude: 12°01'48.05"N to 12°01'53.31"N and Longitude: 79°39'58.00"E to 79°40'03.96"E with Survey of India Topo Sheet No. 57- P/12. To conduct the study, the proposed mine lease area (core zone) and an impact zone of 10 km radius (called buffer zone) around the proposed mine site were considered. The EIA report is based on three months baseline data (i.e. October 2024 to December 2024)

11.1.2 GEOLOGY

The area is underlain by a wide range of ordinary earth. The geological formations found in the district are Archaean rocks like Gneisses, Granites, Charnockites basic granulites and calc-gneisses. The younger formations are Quartz veins and pegmatite.

11.1.3 PROJECT DESCRIPTION

This is a proposed Ordinary Earth quarry by Opencast Shallow mining method. The quarrying is restricted up to a depth 2m below ground level. The geological reserves are estimated to be 24,000 m³ of Ordinary earth. The mineable reserve calculated by deducting 7.5m safety distance and bench loss. The mineable reserves are 17,034 m³ of Ordinary Earth which will be recovered at the rate of 100% recovery upto a depth of 2m below ground level for the period of two years.

- There is no overburden anticipated during entire Ordinary Earth quarrying operation.

S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	Fresh quarry
3	Category	B1
4	Nature of mineral	Minor mineral
5	Life of the mine	2 years
6	Production Quantity for two years	Ordinary earth: 17,034 m ³
7	Waste generation and management	Nil
8	Bench height and width	2m below ground level for the proposed mining plan.
9	Ultimate pit depth	2m below ground level for the proposed mining plan.
10	End use	The excavated ordinary earth will be used for construction industries for Government and Public sector projects besides catering domestic housing and infrastructure projects in and around the district.

11.1.4 PROJECT REQUIREMENTS

The requirements of the project is given below.

S.No.	Nature of requirement	Description
1	Water requirement	The water requirement for drinking, dust suppression and green belt is about 3 KLD of water is required. The required water will be procured from outside agencies.
2	Power requirement	No electricity is needed for mining operations.
3	Manpower requirement	Total: 7 Permanent: 4, Temporary: 3
4	Financial requirement	Rs. 37.97 lakh (Including operational + Fixed Asset + EMP cost).
5	Funds for Socio economic development	As per the MOEF & CC Notification, the CER cost has been calculated to be Rs. 21,440/-, which is equivalent to 2% of the project cost. However,

		the project proponent has revised the CER cost to Rs. 2.0 Lakhs.

11.1.5 DESCRIPTION OF LEASE AREA

The features in the study area is given below.

Table 3.1 Description of the lease area				
S.No.	Areas	Distance from project site		
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius		
2	Areas which are important or sensitive for ecological reasons			
A	Wetlands, water courses or other water bodies,			
		Water bodies	Distance	Direction
		Odai	0.87 Km	E
		Gingee River	2.06 Km	SW
		Katterikuppam Lake	4.06km	SE
		Thirukannur Lake	5.53 km	SW
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests	Nil within 10km radius		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Ousuddu Lake Birds Sanctuary -9.85 Km (SE)		
4	Inland, coastal, marine or underground waters	Nil within 15km radius		
5	State, National boundaries	Nil within 15km radius		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 15km radius		

7	Defense installations	Nil within 15km radius
8	Densely populated or built-up area	Vanur- 7.0 Km - E
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Vanur- 7.0 Km - E
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.

The baseline data collection for meteorology, air, water, noise and soil environments have been carried out during October to December 2024.

Air, water, noise and soil samples are collected and analyzed through NABL accredited lab.

11.2 EXPLANATION OF HOW ADVERSE EFFECTS HAVE BEEN MITIGATED

11.2.1 AIR ENVIRONMENT

The air monitoring have been carried out in 6 locations and the results are given below.

S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Proposed Mine Site	Core Zone	12° 1'47.29"N 79°40'25.46"E
2	AAQ 2	Tiruvaikkarai Village	1.09 km, W	12° 1'45.87"N 79°39'17.92"E
3	AAQ 3	Pudukuppam Village	2.44 km, SE	12° 1'20.41"N 79°41'19.10"E

S. No.	Station Code	Locations	Distance & Direction	Coordinates
4	AAQ 4	Kondalamkuppam Village	2.33 km, E	12° 2'27.43"N 79°40'54.01"E
5	AAQ 5	Kudukkur Village	2.76 Km, S	12° 0'39.03"N 79°39'7.93"E
6	AAQ6	Nemili Village	3.08 Km, NW	12° 3'19.48"N 79°39'13.85"E

All the values of pollutant concentrations were found to be within the NAAQs Standards.

Station ID	Min	Max	Avg.
Particulate matter PM₁₀ (µg/m³)			
AAQ-1	40.7	52.8	46.75
AAQ-2	38.2	51.5	44.85
AAQ-3	48.3	58.3	53.3
AAQ-4	48.3	57.5	52.9
AAQ-5	46.5	55.3	50.9
AAQ-6	45.9	57.3	51.6
CPCB NAAQS 2009 for PM₁₀ - 100 µg/m³			
Particulate matter PM_{2.5} (µg/m³)			
AAQ-1	18.9	23.9	21.4
AAQ-2	17.4	23.9	20.65
AAQ-3	21.5	26.6	24.05
AAQ-4	22.3	30.7	26.5
AAQ-5	22.1	26.4	24.25
AAQ-6	20.1	26.5	23.3
CPCB NAAQS 2009 for PM_{2.5} - 60 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	4.5	6.7	5.6
AAQ-2	4.1	6.1	5.1
AAQ-3	3.7	5.4	4.55
AAQ-4	5.6	9.2	7.4
AAQ-5	3.9	5.7	4.8
AAQ-6	4.1	5.9	5
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	8.6	10.9	9.75
AAQ-2	7.4	9.7	8.55
AAQ-3	7.9	9.8	8.85
AAQ-4	9.3	13.7	11.5
AAQ-5	8.7	11.4	10.05
AAQ-6	8.1	10.0	9.05
CPCB NAAQS 2009 for NO₂ - 80 µg/m³			

11.2.2 WATER ENVIRONMENT

Results of Ground Water sampling Analysis in 6 locations							Specification/ Limit As per IS:10500: 2012	
	W1	W2	W3	W4	W5	W6	Desir able	Permis sible
Odour	AGREEAB LE	AGREEAB LE	Agreeabl e	AGREEAB LE	AGREEAB LE	AGREEA BLE	Agree able	Agreea ble
Turbidity	<1	<1	<1.0	<1	<1	<1.0	Agree able	Agreea ble
pH at 25 °C	7.05	6.89	7.32	7.25	7.69	7.36	6.5 - 8.5	No Relaxa tion
Electrical Conductivity	1612	1738	1441	1349	1410	1961	1	5
Total Dissolved Solids	970	1050	865	812	850	1192	500	2000
Total hardness as CaCO3	456	552	505	476	290	348	1	15
Calcium as Ca	103	128	94.4	98.0	80.8	94.4	200	600
Magnesium as Mg	47.5	55.4	64.6	55.4	21.1	26.9	200	600
Calcium as CaCO3	258	321	236	245	202	236	75	200
Magnesium as CaCO3	198	231	269	231	88	112		
Total alkalinity as CaCO3	432	310	342	362	365	468		
Chloride as Cl-	246	272	264	255	256	510	250	1000
Free Residual chlorine as Cl-	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(DL- 0.2)	30	100
Sulphates as SO42-	196	254	202	224	219	190	45	No Relaxa tion
Iron as Fe	0.05	0.08	0.09	0.07	0.05	BDL(DL- 0.01)	200	400
Nitrate as NO3	3.22	4.32	2.59	3.32	5.6	6.5	1	No Relaxa tion
Fluoride as F	0.32	0.56	0.44	0.42	0.53	0.58	0.1	0.3
Manganese as Mn	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(DL- 0.05)	Not Specif ied	Not Specifi ed

All the values were found to be within permissible limits

11.2.3 NOISE ENVIRONMENT

Noise levels were measured in 6 locations and the results are given below.

S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Proposed Mine Site	45.4	38.4	75	70
2	Tiruvaikkarai Village	44.6	40.4		
3	Pudukuppam Village	43.3	38.9		
4	Kodalamkuppam Village	46.4	38.0		
5	Kudukkur Village	46.8	41.7		
6	Nemili Village	43.5	39.1		

11.2.4 SOIL ENVIRONMENT

Soil samples are collected from 6 locations and the results are given below.

Results of Soil Sample Analysis								
S.No	Parameter	Unit	S1	S2	S3	S4	S5	S6
1	pH at 25 °C	-	7.94	6.44	7.86	6.96	7.43	7.68
2	Electrical Conductivity	µmhos/cm	75.12	67.54	89.23	91.85	58.33	99.76
3	Dry matter content	%	93.49	95.03	95.39	92.26	94.26	91.90
4	Water Content	%	6.51	4.97	4.61	7.74	5.74	8.10
5	Organic Matter	%	1.07	1.22	0.76	0.53	1.01	1.60
6	Soil texture	-	SILT LOAM	SILT LOAM	LOAM	LOAM	SILT LOAM	LOAM
7	Grain Size Distribution	%	30.68	26.89	44.15	40.25	23.98	45.86
	i. Sand							
	ii. Silt							
	iii. Clay							
10	Phosphorous as P	mg/kg	1.10	1.84	1.79	2.60	1.74	2.13
11	Sodium as Na	mg/kg	715	689	814	579	846	417
12	Potassium as K	mg/kg	797	765	929	652	994	575
13	Nitrogen and Nitrogenous Compounds	mg/kg	236	344	180	178	264	460
14	Total Soluble Sulphate	%	BDL(D.L.0 .02)	BDL(D.L.0 .02)	BDL(D.L.0 .02)	BDL(D.L.0 .02)	BDL(D.L.0 .02)	BDL(D.L.0 .02)
15	Porosity	%	24.1	25.9	27.6	21.7	30.4	22.1
16	Water Holding Capacity	Inches/foot	3.5	3.6	3.9	3.7	4.1	3.8

11.2.5 BIOLOGICAL ENVIRONMENT

FLORA

For measuring the extent of flora present in the study area, the area is divided in to 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Field survey is done. Erukku, Aavarai and Nayuruvi are found in lease area. In the buffer zone, common trees like Neem, papaya, mango, teak, etc and shrubs like Avarai, Aloe vera, etc, climbers like Kovai,jasmine etc are found.

FAUNA

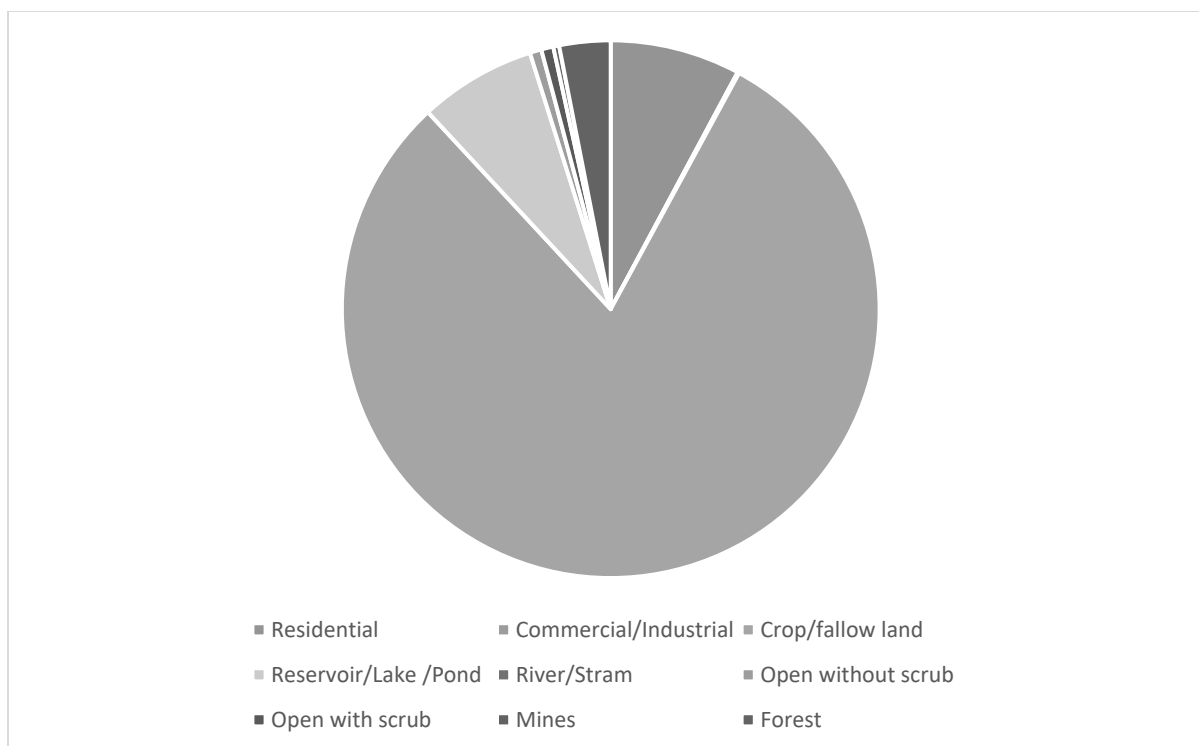
In the study area, commonly found animals like dogs, cats, bush rat, cows, birds like crow, Myna, Sparrow, etc were found.

11.2.6 LAND USE

The land use land cover data is found using the LANDSAT – 9 satellite imagery. The number of bands used are 11. The land use pattern is given below:

Major Land Use Units of the Study Area in Percentage

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	17.23	5.35	Residential	16.94	5.26
				Commercial/Industrial	0.29	0.09
2	Agriculture	247.3	76.80	Crop/fallow land	247.3	76.80
3	Water bodies	35.96	11.17	Reservoir/Lake /Pond	35.45	11.01
				River/Stram	0.51	0.16
4	Waste Land	13.39	4.16	Open without scrub	2.37	0.74
				Open with scrub	11.02	3.42
5	Mines	7.28	2.26	Mines	7.28	2.26
6	Forest	0.85	0.26	Forest	0.85	0.26
Total		322	322	100	322	100



11.2.7 SOCIO ECONOMIC ENVIRONMENT

The socio-economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used. The following data area collected from secondary data:

- Demographic pattern.
- Health pattern
- Occupational structure

11.2.8 HYDROGEOLOGY OF THE LEASE AREA

To assess the hydrogeological condition of the surrounding proposed mine lease area. The study area is located in Kadagampattu Village, Vanur Taluk, Viluppuram District is considered to understand the nature of the general hydrogeological conditions of the surrounding proposed mine lease area.

11.2.9 GROUND WATER STUDY

For Ground water study, satellite imagery is used. Water levels from monitoring levels are collected through imaging. The pre-monsoon and post-monsoon data are collected and the results are analyzed.

During field visit, it is observed that water is available in wells only after monsoon. The yield is obtained at deep levels only.

As far as the mining lease area is considered, the area is rocky and no major seepage is envisaged. The production quantity is very less and the depth proposed is 2m below ground level. Hence, there will not be any major impact due to mining on water levels or ground water levels in the area.

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental impacts on the following environments are identified.

- Land environment
- Water environment
- Vegetation
- Fauna
- Air environment
- Noise environment
- Socio-economic impacts

11.2.10 LAND ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major impact due to this project on land environment is the change in land use. Since this quarry is a small one and the production is less, mining activity will be carried out upto 2m below ground level. Other than quarrying of minerals, no other change will be done since there is no dumping. To prevent soil erosion during monsoon season, garland drain will be constructed with silt traps. For this, plants like Neem/Pungan are selected. A total of 610 trees are planned to be planted. Spacing will be 3m x 3m.

11.2.11 WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES

There is no water body present inside the lease area. The entire water requirement for the project is 3.0 KLD which will be sourced from outside agencies. Negligible sewage will be generated, for which a septic tank with soak pit will be set up.

During monsoon season, the excess rain water, if any, will be led through garland drain of 0.6m width and 0.3 m depth to the collection pond with silt traps.

Since the mining operation will be limited upto depth of 2m below ground level there will not be any seepage. However, the rain water percolation and collection of water from seepage shall be less than 300lpm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 HP Motor. The quality of water is expected to be potable. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water can also be used for plantation purposes

The major water bodies found in the buffer zone are.

Water bodies	Distance	Direction
Odai	0.87 Km	E
Gingee River	2.06 Km	SW
Katterikuppam Lake	4.06km	SE
Thirukannur Lake	5.53 km	SW

Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made in to these water bodies, there is no major impact. For the canal, adequate safety distance is left. The proponent will restrict the mining operation only within the lease and no other work will be carried out near the canal or any area outside the lease.

It is planned to carryout appropriate rainwater harvesting schemes and artificial recharge schemes in the area.

- Rain water falling in the quarry will be collected efficiently through garland

drains.

- Water thus collected will be passed through collection tank with silt traps. This water can be used by the proponent for water sprinkling and for green belt purposes.
- Excess water after desiltation will be provided to downstream users, if any

11.2.12 BIOLOGICAL ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- Fauna is affected due to noise and vibration.
- Dust generation due to mining activities
- Change in land use of the lease area
- Accidental falling of animals

Mitigation measures

- To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants
- After the mine closure stage, the mine pit will be leveled and used for agriculture purpose.
- To prevent entry of animals, the mining area will be properly fenced.

11.2.13 AIR ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major air pollutants due to mining operations are fugitive emissions like PM₁₀, PM_{2.5}. Other than these pollutants, gaseous emissions of sulfur dioxide (SO₂) and oxides of nitrogen (NO_x) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

The major impacts are Dust emission due transportation.

The anticipated data is calculated using AERMOD software and the projected values are found to be within limits.

11.2.14 NOISE ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- ✚ As per DGMS (Directorate General of Mines Safety) and OSHA (Occupational Safety and Health Administration) limits, the acceptable noise level is 90 dB(A) for an exposure period of 8 hours.
- ✚ Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.
- ✚ Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus, which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing

Mitigation measures

- ✚ As the distance between the source and receptor increases, the noise level also decreases. Hence, there will be a natural attenuation
- ✚ The proposed has planned to develop green belt in the periphery of the lease area, which diminishes sound volume by dampening them.
- ✚ All the equipment/machinery/trucks involved will be properly maintained to control noise generation
- ✚ Conducting regular health checkups for employees involved
- ✚ Employees will be made to work on shifts to reduce their exposure time
- ✚ Providing earplugs to all employees

By adopting these measures, the noise levels will be maintained well within MoEF & CC limits since the baseline value is low.

11.2.15 VIBRATION: IMPACT AND MITIGATION MEASURES

- ✚ There is no drilling and blasting activity in the proposed site

11.2.16 SOCIO ECONOMIC ENVIRONMENT

The lease area is patta land. The proponent has planned to spend INR 2,00,000 for CER activities.

11.2.17 OCCUPATIONAL HEALTH

Impacts on humans due to various mining activities

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

- Respiratory hazards
- Noise
- Physical hazards

11.2.18 ENVIRONMENTAL MONITORING PROGRAMME

Monitoring is done to measure the efficiency of control measures implemented. Regular monitoring of various environmental parameters like air, water, noise and soil environments is needed to assess the status of environment during the project operation. A schedule is framed with timeline to monitor various parameters during the operation of the project. To evaluate the effectiveness of environmental management programme, regular monitoring of the important environmental parameters will be taken up. Air monitoring will be carried out once in 3 months, water sample will be collected once in a season, noise will be monitored once in 3 months, soil samples will be analyzed once per season. For EMP, a budget of INR 27.87 Lakhs is allocated.

11.2.19 PROJECT BENEFITS

Financial benefits

- This project will contribute financially through payment of taxes like royalty, GST, etc.,
- The project will also contribute via CSR.
- The demands of people during public hearing will also be considered by the project proponent

Social benefits

- This project provides employment to 7 people directly. Local people will be hired for unskilled labour.

- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 2,00,000 is allocated.
- Based on the demand of the people during public hearing, further funds will be allocated, if necessary.

Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and 27.87 lakhs for the two years has been allocated as EMP cost. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

CHAPTER 12

DISCLOSURE OF CONSULTANTS

Global Mining Solutions is a NABET Accredited EIA consultant as per NABET certificate NABET/EIA/2326/IA 0110. The registered office of Global Mining Solutions is at Plot No.6, S.F.No.13/2 A2, VS City, RC Chettypatty, Kottamettupatty, Omalur, Salem, Tamilnadu-636455.

Declaration by Experts contributing to the proposed Ordinary Earth Quarry over an extent 1.22.0Ha, while total cluster area of 6.50.45 Ha at Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

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

EIA Coordinator Name: M. Manikandan



Signature & Date

Period of involvement: October 2024 to December 2024.

Contact information:

M/s Global Mining Solutions

**Plot No.6, SF No. 13/2, A2, VS City, RC Chettypatty,
Kottamettupatty, Omalur,
Salem, Tamil Nadu – 636 455**

S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and Date
1	AP	Dhanalakshmi Ramanathan	Assessment of existing air quality, Impact of the project on ambient air and suggested mitigation measures for air pollution. <u>Period: October 2024 to December 2024.</u>	R. Dhanal
2	WP	Abirami Kaliaperumal	Assessment of existing water quality, impact of the project on surface and ground water quality, suggested mitigation measures for minimizing the impact. <u>Period: October 2024 to December 2024.</u>	K. Abirami
3	SHW	Ramados N	Assessment of waste generated from the project, suggested waste management practices. <u>Period: October 2024 to December 2024.</u>	C. Ramados
4	SE	Sarasvathy K	Baseline SE studies. Data compilation and assessment. Impact of the project on SE status of the area. Formulation of CER plan. <u>Period: October 2024 to December 2024.</u>	K. Sarasvathy
5	EB	Saravanan S	Baseline data collection of related to ecology of the area. <u>Period: October 2024 to December 2024.</u>	S. Saravanan
6	HG	Ravinthiran N	Hydrogeological feature of the area. Ground water depth and impact of project on ground water of the area. <u>Period: October 2024 to December 2024.</u>	N. Ravinthiran
7	AQ	Srilatha Thiruveedhula	Air quality modeling utilizing the area source model.	T. Srilatha

			<i>Predication of the ground level concentration of the dust. Suggesting suitable mitigation measures. <u>Period: October 2024 to December 2024.</u></i>	
8	NV	<i>Dhanalakshmi Ramanathan</i>	<i>Ambient noise study of the area. Incremental noise generation due to quarry operation and impact of the noise due to the project. <u>Period: October 2024 to December 2024.</u></i>	<i>R. Dhanu</i>
9	LU	<i>Srilatha Thiruveedhula</i>	<i>Preparation of land use map based on satellite imagery. Land use classification and analysis. Impact prediction of the project on the surrounding land environment. <u>Period: October 2024 to December 2024.</u></i>	<i>T. Srilatha</i>
10	RH	<i>S.V. Prashant</i>	<i>Identification of the Risk related to the mining activities. Preparation of emergency disaster management plan. Plan for supply of safety equipment for the worker. <u>Period: October 2024 to December 2024.</u></i>	<i>S. Prashanth</i>
11	SC	<i>Shisupal Sing</i>	<i>Soil monitoring, secondary data collection on soil type, soil management practices, utilization of topsoil. <u>Period: October 2024 to December 2024.</u></i>	<i>Shisupal Sing</i>
12	GEO	<i>Valliappan Meyyappan</i>	<i>Geological map, stability of quarry and dump, management plan for mine stability, after use of mining quarry and geological feature of the area.</i>	<i>V. Meyyappan</i>

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

			<u>Period: October 2024 to December 2024.</u>	

TM-FAE:

S.No	Name of TM (FAE)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	M.Prabu	LU	T.Srilatha	<u>Oct 2024 to Dec 2024.</u>	Associated with FAE in preparing Land use map based on satellite imagery, Land use classification and analysis, Impact prediction on surrounding land environment	
		HG	Ashok Kumar		Associated with FAE in studying hydrogeological pattern of study area, Studying ground water and the impact of the project on ground water	
2	M. Manikandan	EB	S.Saravanan	<u>Oct 2024 to Dec 2024.</u>	Associated with the expert in baseline data collection related to ecology of the study area	
		SC	Shishupal Singh		Associated with the expert in Soil monitoring, secondary data collection on soil type, soil	

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

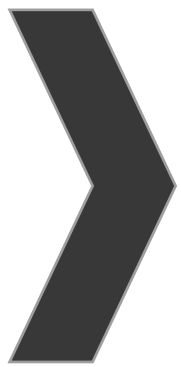
					management practices, utilization of top soil	

TM-FAA:

S. No	Name of TM (FAA)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	S. Kamaraj	HG	Ashok Kumar Rajagopal	<u>Oct 2024 to Dec 2024.</u>	Associated with Experts in studying hydrogeological pattern of study area, Studying ground water and the impact of the project on ground water	<i>S. Kamaraj</i>
2	Asan Ali S	GEO	Valliappan Meyyappan	<u>Oct 2024 to Dec 2024.</u>	Associated with the expert in preparing Geological map, assessing stability of quarry slope faces and dump, management plan for mine stability, after use of mining quarry and geological features of the area	<i>S. Asan ali</i>
		NV	Srilatha Thiruveedhula		Associated with the expert in monitoring and analysis of blast induced ground vibration in order to develop the site-specific equation for its prediction, monitoring of fly rocks & air blast (noise), preparation of SOP's for the safety blasting practice in the mines.	
3	Mownica. B	AP	Dhanalakshmi Ramanathan	<u>Oct 2024 to Dec 2024</u>	Associated with expert team in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	<i>Mownica</i>
		NV	Dhanalakshmi Ramanathan		Associated with the expert team in suggesting control measures for noise and Ground Vibration.	

DRAFT EIA/EMP FOR THE PROPOSED ORDINARY EARTH QUARRY OF THIRU.E.AMUTHAGANESAMOORTHY OVER AN EXTENT OF 1.22.0 HA LOCATED AT S.F.NO. 4/1 OF KADAGAMPATTU VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU STATE.

4	G.Balasubramani	GEO	Valliappan Meyyappan	<u>Oct 2024</u> <u>to Dec</u> <u>2024</u>	with the expert in preparing Geological map, assessing stability of quarry slope faces and dump, management plan for mine stability, after use of mining quarry and geological features of the area	
		NV	Srilatha Thiruveedhula		Associated with the expert in monitoring and analysis of blast induced ground vibration in order to develop the site-specific equation for its prediction, monitoring of fly rocks & air blast (noise), preparation of SOP's for the safety blasting practice in the mines.	



ANNEXURE-1



File No: 11202
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), TAMIL NADU)



Dated 09/10/2024



To,

E.Amudaganesamoorthy
352, East Street, Uthangal Village, Virudhachalam Taluk., VILLUPURAM, TAMIL NADU, 607804
amuthae1959@gmail.com

Subject: Grant of Terms of Reference with Public Hearing under the provision of the EIA Notification 2006-as amended regarding.

Sir/Madam,

SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Ordinary Earth Quarry over an extent of 1.22.0 Ha at S.F. No:4/1 in Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu by Thiru. E Amudaganesamoorthy – under project category - “B1” and Schedule S.No.1(a) – ToR issued along with Public Hearing – preparation of EIA report – Regarding.

Ref:

1. Online proposal No. SIA/TN/MIN/493587/2024, Dated: 26/08/2024
2. Your application submitted for Terms of Reference dated: 28.08.2024.
3. Minutes of the 497th Meeting of SEAC held on 13.09.2024
4. Minutes of the 760th SEIAA meeting held on 01.10.2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24B0108TN5934875N
(ii) File No.	11202
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Ordinary Earth Quarry of Thiru.E.Amuthaganesamoorthy
(viii) Name of Company/Organization	e amudaganesamoorthy
(ix) Location of Project (District, State)	VILLUPURAM, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

1. In view of the particulars given in the Para 1 above, the project proposal inter alia including Form-1 (Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by (SEIAA) Appraisal Committee of SEIAA in the meeting held on 01/10/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference for instant proposal of Thiruv. amudaganesamoorthy under the provisions of EIA Notification, 2006 and as amended thereof.
5. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7. This issues with the approval of the Competent Authority.
8. The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OM No.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Additional Chief Secretary to Government, Natural Resources Department, 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, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chair Person, TNPC Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Viluppuram District
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. The Assistant Director, Department of Geology & Mining, Viluppuram District
10. EI Division, Ministry of Environment & Forests, Parivaran Bhawan, New Delhi.
11. File Copy

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seiaa Specific Conditions:

S. No	Terms of Reference
1.1	The authority noted that the subject was appraised in 497th meeting of SEAC held on 13.09.2024 and SEAC has furnished its recommendations for granting Terms of Reference with Public Hearing subject to the conditions stated therein. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference with Public Hearing for the production quantity of 17,034m³ of Ordinary Earth and the annual peak production of 8,517m³ with the depth of mining upto 2.0m BGL subject to the

S. No	Terms of Reference
	following TORs, specific conditions as recommended by SEAC in addition to the standard terms of reference for EIA study and details issued by the MOEF & CC in to the conditions in Annexure “B” of this minutes to be included in EIA/EMP Report: 1. The detailed studies on the Loss of Vegetation, Loss of Biodiversity shall be carried out and the action plan to prevent the same shall be included in the EIA report. 2. The detailed studies on the Impact on water bodies and human health shall be carried out and the action plan to prevent the same shall be included in the EIA report. 3. The PP shall furnish the details of EMP addressing the revegetation and restoration activities proposed for the project activity.

2. Seac Conditions - Site Specific

S. No	Terms of Reference
2.1	1. A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organisation chart of the Committee with defining the role of the members (iii) The ‘Standard Operating Procedures’ (SoP) executing the planned activities. 2. The PP shall complete the fencing, tree plantation and photographs, videos of the same shall be furnished. 3. The PP shall complete the garland drainage around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal. 4. The PP shall carry out drone video survey covering the cluster, green belt, fencing, etc. 5. The PP shall propose the mitigation measures for the protection of structures exists within 500 m distance radially from the mine lease against the blast-induced ground & air vibrations, air & water pollution, haul road maintenance, ground water management. 6. The PP shall furnish the details of mitigation measures proposed while carrying out the project activity, since Ousuddu Lake Birds Sanctuary is located at a distance of 9.35km from the project site.

3. Seac Standard Conditions

S. No	Terms of Reference
3.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate

S. No	Terms of Reference
	depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report. 6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site. 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC. 8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level. 9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent. 10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site. 11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences. 12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines, 13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? 14. Quantity of minerals mined out. · Highest production achieved in any one year · Detail of approved depth of mining. · Actual depth of the mining achieved earlier. · Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

S. No	Terms of Reference
	16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind. 23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted. 24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. 25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided. 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered. 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. 28. Impact on local transport infrastructure due to the Project should be indicated. 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and

S. No	Terms of Reference
	fauna by involving them in the study, wherever possible. 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner. 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner 34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 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.

4. Seiaa Standard Conditions:

S. No	Terms of Reference
4.1	Cluster Management Committee 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 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

S. No	Terms of Reference
	execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. Agriculture & Agro-Biodiversity 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro-forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. Forests 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. Water Environment 19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 20. Erosion Control measures. 21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.

S. No	Terms of Reference
	24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: - Hydrothermal/Geothermal effect due to destruction in the Environment. - Bio-geochemical processes and its foot prints including environmental stress. - Sediment geochemistry in the surface streams. Energy 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. Climate Change 29. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. Mine Closure Plan 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. EMP 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan. Risk Assessment 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. Disaster Management Plan 36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. Others 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report shall be prepared for peak capacity (.....MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of mineral production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
1.3	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.

S. No	Terms of Reference																																																
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.																																																
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.																																																
1.12	Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights <table><tr><th>S.N</th><th>ML/Project Land use</th><th>Area under Surface Rights(ha)</th><th>Area Under Mining Rights(ha)</th><th>Area under Both (ha)</th></tr><tr><td>1</td><td>Agricultural land</td><td></td><td></td><td></td></tr><tr><td>2</td><td>Forest Land</td><td></td><td></td><td></td></tr><tr><td>3</td><td>Grazing Land</td><td></td><td></td><td></td></tr><tr><td>4</td><td>Settlements</td><td></td><td></td><td></td></tr><tr><td>5</td><td>Others (specify)</td><td></td><td></td><td></td></tr></table> <table><tr><th>S.N.</th><th>Details</th><th>Area (ha)</th></tr><tr><td>1</td><td>Buildings</td><td></td></tr><tr><td>2</td><td>Infrastructure</td><td></td></tr><tr><td>3</td><td>Roads</td><td></td></tr><tr><td>4</td><td>Others (specify)</td><td></td></tr><tr><td></td><td>Total</td><td></td></tr></table>	S.N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights(ha)	Area under Both (ha)	1	Agricultural land				2	Forest Land				3	Grazing Land				4	Settlements				5	Others (specify)				S.N.	Details	Area (ha)	1	Buildings		2	Infrastructure		3	Roads		4	Others (specify)			Total	
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1.13	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.																																																
1.14	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.																																																

S. No	Terms of Reference
1.15	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
1.16	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided
1.17	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.
1.18	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
1.24	Detailed water balance should be provided. The break up of water requirement as per different

S. No	Terms of Reference
	activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored
1.27	PP to evaluate the green house emission gases from the mine operation and corresponding carbon absorption plan.
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic

S. No	Terms of Reference							
	status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.							
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.							
1.38	Corporate Environment Responsibility:							
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.							
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.							
1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.							
1.42	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.							
1.43	e) Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP report							
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.							
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.							
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.							
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.							
1.48	Details on the Forest Clearance should be given as per the format given: <table><tr><td>Total Project Area (ha)</td><td>ML Forest land (ha)</td><td>Total Forest land (ha)</td><td>Date of FC</td><td>Extent of Forest Land</td><td>Balance area for which FC is yet to be obtained</td><td>Status of appl For diversion of forest land</td></tr></table> If more than one provide details of each FC	Total Project Area (ha)	ML Forest land (ha)	Total Forest land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl For diversion of forest land
Total Project Area (ha)	ML Forest land (ha)	Total Forest land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl For diversion of forest land		
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report							

S. No	Terms of Reference
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
1.51	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.
1.53	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)
1.54	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.

A. STANDARD TERMS OF REFERENCE

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects

- due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
 - 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
 - 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
 - 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
 - 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented

date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.

- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided

both in AMSL and bgl. A schematic diagram may also be provided for the same.

- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural

and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed:-
 - a) Executive Summary of the EIA/EMP Report
 - b) All documents to be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
 - e) Where the documents provided are in a language other than English, an English translation should be provided.
 - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
 - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
 - h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and

content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

- i) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

In addition to the above, the following shall be furnished:-

The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

1. Project name and location (Village, District, State, Industrial Estate (if applicable)).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and

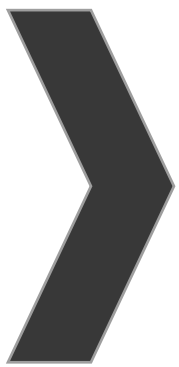
restoration of the mined areas.

12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw

away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

Besides the above, the below mentioned general points should also be followed:-

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.
 - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
 - The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
 - The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OM No.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.



ANNEXURE-2

ந.க.எண். அ/புவி (ம) சுர/149/2018
நாள்: 07.05.2024

உதவி இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை
விழுப்புரம்.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - விழுப்புரம் மாவட்டம் -
வானூர் வட்டம் - கடகம்பட்டு கிராமம் - புல
எண்.4/1 -1.22.0 ஹெக்டேர் பட்டா நிலம் -
சாதாரண மண் குவாரி குத்தகை உரிமம் வேண்டி
திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்
என்பவர் விண்ணப்பம் செய்தது - உரிமம் வழங்க
பரிந்துரை செய்து அறிக்கை வரப்பெற்றுள்ளது -
தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட
சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க
மதிப்பீட்டு ஆணைய இசைவினை பெற்று
சமர்ப்பிக்கக் கோருதல் - தொடர்பாக - தொடர்பாக.

- பார்வை:**
1. திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்,
352, கிழக்கு தெரு, ஊத்தங்கால் கிராமம்,
விருத்தாச்சலம் வட்டம், கடலூர் மாவட்டம்
என்பவரின் விண்ணப்ப நாள்: 16.04.2018.
 2. இவ்வலுவலக கடிதம் ந.க.அ/புவி(ம)சுர/149/
2018, நாள்:09.05.2018.
 3. விழுப்புரம் வருவாய் கோட்டாட்சியர், கடித எண்.
ந.க.எண். அ4/2179/2018 நாள்: 30.07.2018.
 4. இவ்வலுவலக கடிதம் ந.க.அ/புவி(ம)சுர/149/
2018 நாள்:22.09.2022.
 5. The Principal, Government College of
Engineering, Dharmapuri - 636 704
letter No.: GCE /DP1/ CIVIL /SOIL
/2023/C-124 dated 07.10.2022.
 6. விழுப்புரம், புவியியல் மற்றும் சுரங்கத்துறை
உதவி இயக்குநர் அவர்களின் புலத்தணிக்கை
அறிக்கை நாள்: 17.04.2024.

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கடலூர் மாவட்டம், விருத்தாச்சலம் வட்டம், ஊத்தங்கால் கிராமம், 352, கிழக்கு
தெரு என்ற முகவரியைச் சேர்ந்த திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்
என்பவர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், பட்டா புல
எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பளவில் செம்மண் வெட்டியெடுப்பது
தொடர்பாக 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி



எண். 19-ன் கீழ் ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்கக் கோரி பார்வை 1-ல் கண்டவாறு விண்ணப்பம் செய்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, விழுப்புரம் வருவாய் கோட்டாட்சியர், உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், பட்டா புல எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் திரு. E. அமுதகணேசமூர்த்தி, த/பெ. ஏகாம்பரம் என்பவருக்கு சாதாரண மண் குவாரி உரிமம் வழங்க கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

- i. விண்ணப்ப புலங்களின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அருகிலுள்ள அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரி பணி செய்ய வேண்டும்.
- ii. விண்ணப்ப புலத்தில் செல்லும் மின்கம்பி பாதையினை குவாரி குத்தகை வழங்குவதற்கு முன்பாக குவாரிப்பணி மேற்கொள்ளப்படும் இடத்திலிருந்து 50 மீட்டர் தொலைவிற்கு அப்பால் மாற்றியமைக்கப்படவேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா நிலங்கள் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை சுற்றி கம்பி வேலி அமைத்து DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
- v. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-41ன்படி தகுதிவாய்ந்த நபரால் சுரங்க திட்டம் தயார் செய்து உதவி இயக்குநர் அவர்களின் ஒப்புதல் பெறவேண்டும்.
- vi. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்படவேண்டும்.

எனவே, விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோரின் பரிந்துரை அறிக்கையின் அடிப்படையிலும், மண் பரிசோதனை அறிக்கையின் அடிப்படையிலும், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பில் 1959-ம் வருட தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.19-ன்படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 2 (இரண்டு) வருட காலத்திற்கு திரு. E. அமுதகணேசமூர்த்தி, த/பெ. ஏகாம்பரம் என்பவருக்கு சாதாரண மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

அதனடிப்படையில், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண். 41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை தகுதிவாய்ந்த நபர் (QP) மூலமாக கீழ்க்கண்ட

E. A. S. S.

நிபந்தனைகளுக்குட்பட்டு தயாரித்து அதனை 90 தினங்களுக்குள் துணை இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரரை கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

- விண்ணப்ப புலங்களின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அருகிலுள்ள அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரி பணி செய்ய வேண்டும்.
- விண்ணப்ப புலத்தில் செல்லும் மின்கம்பி பாதையினை குவாரி குத்தகை வழங்குவதற்கு முன்பாக குவாரிப்பணி மேற்கொள்ளப்படும் இடத்திலிருந்து 50 மீட்டர் தொலைவிற்கு அப்பால் மாற்றியமைக்கப்படவேண்டும்.
- குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா நிலங்கள் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை சுற்றி கம்பி வேலி அமைத்து DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

67.05.24

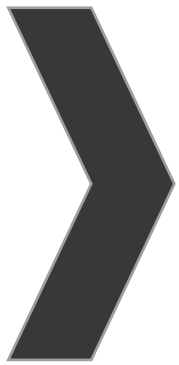
பெறுநர்

திரு. E. அமுதகணேசமூர்த்தி,
த/பெ.ஏகாம்பரம்,
352, கிழக்கு தெரு,
ஊத்துங்கால் கிராமம்,
விருத்தாச்சலம் வட்டம்,
கடலூர் மாவட்டம்.

நகல்:-

- மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையம், சென்னை.
- ஆணையர், புவியியல் மற்றும் சுரங்கத்துறை, கிண்டி, சென்னை.

E. அமுதகணேசமூர்த்தி



ANNEXURE-3

From
Tmt.S. Safiya, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Viluppuram District,
Viluppuram.

To
Thiru.E. Amuthaganesamoorthy,
S/o. Eagambaram,
No. 352, East Street,
Uthangal Village,
Virudhachalam Taluk,
Cuddalore District - 607 804.

Rc.No.B/G&M/149/2018, Dated: 22.05.2024

Sub: Mines & Minerals – Minor Mineral – Red Earth –
Viluppuram District – Vanur Taluk – Kadagampattu
Village – S.F.No. 4/1 – 1.22.0 Hectare of patta land –
Application seeking quarry lease preferred by
Thiru.E. Amuthaganesamoorthy S/o. Eagambaram –
Precise area communicated - Submission of mining
plan for approval – Mining plan Approved –
Regarding.

- Ref: 1. Quarry lease application preferred by
Thiru.E. Amuthaganesamoorthy S/o.
Eagambaram, No. 352, East Street, Uthangal
Village, Virudhachalam Taluk, Cuddalore District
Dated: 16.04.2018
2. Assistant Director, Geology and Mining,
Viluppuram Letter Rc.No.A/G&M/149/2018
Dated: 07.05.2024
3. Mining Plan submitted by
Thiru.E. Amuthaganesamoorthy S/o.
Eagambaram, No. 352, East Street, Uthangal
Village, Virudhachalam Taluk, Cuddalore
District Dated: 17.05.2024
4. G.O.Ms.No.79, Industries (MMC-1) Department
dated 06.04.2015.
5. G.O.(Ms).No.169, Ind. (MMC.1) Dept. dated
04.08.2020.

In response to the precise area communicated vide the
reference 2nd cited, in continuously the applicant viz.,
Thiru.E. Amuthaganesa moorthy S/o. Eagambaram, vide reference
3rd cited has submitted Three copies of mining plan for the area
applied seeking grant of quarry lease for Ordinary Earth (Red Earth)
for a period of Two Years in over an extent of 1.22.0 hectares of patta
lands in S.F.No. 4/1 of Kadagampattu Village, Vanur Taluk,
Viluppuram District with a request to approve the same.

2. The mining plan so submitted has been verified in detail.

3. As per the guidelines / instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Rc.No.3868/LC/2012, dated 19.11.2012, the mining plan is hereby approved subject to the following conditions:

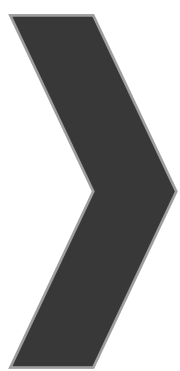
- (i) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (ii) This approval of the mining plan does not in any way imply the approval of the Government in terms or any other provisions of the Mines and Minerals (Development and Regulation) Amended Act, 2015, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Explosives Act, 1884 (Central Act IV of 1884) and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii) The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv) As per the Assistant Director, Geology and Mining, Viluppuram letter Rc.No. B/G&M/149/2018 Dated: 07.05.2024, the following conditions have been incorporated in the Mining Plan.
 - a. A safety distance of 7.5 meters should be provided for the adjacent patta lands and a safety distance of 10 meters should be provided for the adjacent Government land.
- (v) Quarrying shall be strictly done as per the approved Mining Plan.

Encl: Two copies of Approved Mining Plan.


Assistant Director,
Dept. of Geology and Mining,
Viluppuram.

Copy to:

The Commissioner of Geology and Mining, Chennai-32.



APPROVAL MINING PLAN

MINING PLAN FOR KADAGAMPATTU ORDINARY EARTH QUARRY

(Prepared under rule 19, 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959)

LOCATION OF THE QUARRY LEASE APPLIED AREA

STATE : TAMIL NADU
DISTRICT : VILLUPURAM
TALUK : VANUR
VILLAGE : KADAGAMPATTU
S.F.NO : 4/1
EXTENT : 1.22.0IIa.

For

APPLICANT

Thiru. E.Amuthaganesamoorthy,
S/o. Eagambaram,
No.352, East Street, Uthangal Village,
Virudhachalam Taluk,
Cuddalore District.

PREPARED BY

C.Natarajan, M.Sc., M.Phil.,
Qualified Person

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Omalur Taluk, Salem District,
Tamil Nadu, PIN-636 455.
Mobile : 97502 23535 & 94446 54520.
Email:geoprabu@gmail.com,
infoglobalmining@gmail.com.

E.Amuthaganesamoorthy,
S/o. Eagambaram,
No.352, East Street, Uthangal Village,
Virudhachalam Taluk,
Cuddalore District.



CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of **Ordinary Earth** quarry over an extent of 1.22.0hectares of Patta lands in S.F.No.4/ 1 of Kadagampattu Village, Vanur Taluk, Villupuram District, Tamil Nadu State has been prepared by

C.Natarajan, M.Sc., M.Phil.,

Qualified Person

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

C.Natarajan, M.Sc., M.Phil.,

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin-636 455.

Mobile:97502 23535 & 94446 54520.

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

Signature of the Applicant

E.Amuthaganesamoorthy,

Place: Cuddalore

Date: 07.05.2024

E.Amuthaganesamoorthy,
S/o. Eagambaram,
No.352, East Street, Uthangal Village,
Virudhachalam Taluk,
Cuddalore District.



DECLARATION

The Mining Plan in respect of **Ordinary Earth** quarry over an extent of 1.22.0hectares of Patta lands in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Villupuram District, Tamil Nadu State has been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

Signature of the Applicant

A handwritten signature in black ink, appearing to read 'E. Amuthaganesamoorthy'.

E.Amuthaganesamoorthy,

Place: Cuddalore

Date: 07.05.2024

C.Natarajan, M.Sc., M.Phil.,

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin-636 455.

Mobile:97502 23535 & 94446 54520.



CERTIFICATE

This is to certify that, the provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Mining Plan for the grant of **Ordinary Earth** quarry lease over an extent of 1.22.0hectares of Patta lands in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Villupuram District, Tamil Nadu State applied by Thiru.E.Amuthaganesamoorthy, for fresh quarry lease.

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

Certified

Signature of Qualified Person.


C.Natarajan, M.Sc., M.Phil.,

Qualified Person

C.NATARAJAN M.Sc.,M.Phil.,

Qualified Person

Place: Salem

Date: 08.05.2024

C.Natarajan, M.Sc., M.Phil.,

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin-636 455.

Mobile:97502 23535 & 94446 54520.



CERTIFICATE

Certified that, in preparation of Mining Plan for **Ordinary Earth** quarry over an extent of 1.22.0hectares of Patta lands in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Villupuram District, Tamil Nadu State for Thiru.E.Amuthaganesamoorthy, covers all the provisions of Mines Act, Rules, and Regulations etc made there under and whenever specific permission are required, the applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Certified

Signature of Qualified Person.


C.Natarajan, M.Sc., M.Phil.,

Qualified Person

C.NATARAJAN M.Sc.,M.Phil.,

Qualified Person

Place: Salem

Date: 08.05.2024

CERTIFICATE

Certified that I, C.Natarajan, residing at No.93/36 E2, Subramaniam Kovil Street, Omalur Taluk, Salem District, Tamil Nadu, Pin Code-636 455, I am a Post graduate in Geology (M.Sc., Geology) from Annamalai university and more than five years of experience in mining Field.

Rule 15(1)(a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016 stipulates the eligibility for preparing Mining Plans as *"(1)(a) a post graduate degree in Geology granted by a university established"* and *(1)(b) "Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree"*. Since my qualification and experience are satisfied the Rule (1)(a) and (1)(b) of 15 of the Said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly I prepared this Mining Plan in respect of Ordinary Earth quarry lease applied for an extent of 1.22.0hectares of Patta lands in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Villupuram District, by Thiru.E.Amuthaganesamoorthy for a period of Two years. Since the Mining Plan is prepared as per the provisions contained in Rule 15(1) (a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016, the same may be approved by the Competent Authority.


C.Natarajan, M.Sc.,M.Phil.,

Qualified Person
C.NATARAJAN M.Sc.,M.Phil.,
Qualified Person

Place: Salem

Date: 08.05.2024

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Annexure		
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MINING PLAN FOR MINOR MINERALS

ORDINARY EARTH

Over an extent of 1.22.0hectares of Patta lands in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.
(Prepared under rule 19, 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959)

INTRODUCTION AND EXECUTIVE SUMMARY

1. The present Mining plan & Environmental Management plan is prepared for Thiru.E.Amuthaganesamoorthy, S/o.Eagambaram, residing at No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District.
2. The applicant proposed to quarry ordinary earth in Patta land, survey field No. 4/1 in Kadagampattu Village of Vanur Taluk, Viluppuram District for a period of two years only. The excavated ordinary earth will be used for construction industries for Government and Public sector projects besides catering domestic housing and infrastructure projects in and around the district.
3. The application was meritoriously processed by the Assistant Director, Department of Geology and Mining, Viluppuram and passed an order vide Rc.No.A/G&M/149/2018 dated 07.05.2024 to obtain an approved mining plan and Environmental Clearance from the State Level Environmental Impact Assessment Authority (SEIAA), Tamil Nadu.
4. Geological Resources is estimated at 24,000m³ of ordinary earth and Mineable Reserves is estimated at 17,034m³ of ordinary earth after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force.
5. Production Schedule is proposed production of 17,034m³ of ordinary earth for the period of two years.
6. Environmental parameters,
 - i) The area does not attract the Forest Conservation Act, 1980 as there is no forest around 10Km radius.
 - ii) There is no interstate boundary around 10km radius.
 - iii) There is no wild life animal sanctuary within 10Km radius from the project site area under the Wildlife (Protection) Act, 1972.Therefore the project seeks clearance only from State Level Environmental Impact Assessment Authority (SEIAA).

EXECUTIVE SUMMARY:

The area applied for lease is a Patta land in Survey Field No.4/1 of Kadagampattu Village, Vanur Taluk, Viluppuram District.

- a. Village Panchayat - Kadagampattu
- b. Panchyat Union - Vanur
- c. The proposed total mineable reserves =17,034m³ of ordinary earth.
- d. The proposed quantity of reserves(level of production)
to be mined = 17,034m³ of ordinary earth for a
period of two years.
- e. Total extent of the area = 1.22.0Ha
- f. Proposed Period of mining = Two years.
- g. Proposed Depth of mining = 2.0m below ground level.
- h. Method of mining (level of mechanization)
Opencast Semi mechanized method is proposed without drilling and
blasting.
- i. Type of machineries used in the quarry
Machineries like excavators are proposed for quarrying operation.
- j. Quantity of diesel consumption
2840Ltrs of HSD will be utilized for entire project life.
- k. No trees are uprooted due to mining operations.
- l. The area applied for lease is about 1.22.0Ha which is bounded by four
corners, the Corners are designated as 1 to 4 starting from
southwestern border and the Co-ordinates for the boundaries are clearly
marked plate no.II.

Kadagampattu Village, Topo sheet No : 57 P/ 12

Corners	Co-Ordinates		Distance between Corners
	Latitude	Longitude	
1	12°01'51.35"N	79°39'58.00"E	1-2 =66.4m
2	12°01'53.31"N	79°39'58.94"E	2-3 =181.8m
3	12°01'50.04"N	79°40'03.96"E	3-4 =67.4m
4	12°01'48.05"N	79°40'03.00"E	4-1 =181.8m

- m. The area applied for lease is 10Km away from the Reserve Forest, and
10km away from interstate boundary and 10km away from protected
area, under wildlife protection ACT 1972, critically polluted areas as
identified by CPCB and notified Eco sensitive areas.
- n. Around 7employees are proposed to be deployed for the quarrying
operation.
- o. Total Cost of the project is about Rs.10,72,000/- for the period of two years.

1. General Information			
1.1	a.	Name of the Applicant	: Thiru.E.Amuthaganesamoorthy,
	b.	Address of the Applicant with phone No and e-mail id if any	: S/o.Eagambaram, No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District. Pin code-607 804 Cell No. 94432 77964
	c.	Status of the Applicant	: Individual
1.2	a.	Mineral Which the applicant intends to mine	: Ordinary earth only.
	b.	Precise area communication letter No.	: Precise area communication letter received from the Assistant Director, Department of Geology and Mining, Viluppuram letter vide Rc.No.A /G&M/ 149/ 2018 dated 07.05.2024.
	c.	Period of permission / lease granted	: The Assistant Director, Department of Geology and Mining, Viluppuram consider for grant of lease period of two years only.
	d.	Name and Address of the QP preparing Mining Plan	: C.Natarajan, M.Sc.,M.Phil., Qualified Person No.93/36E2, Subramaniyar Kovil Street, Omalur Taluk, Salem District, Tamil Nadu, Pin-636 455. Mobile: 97502 23535 & 94446 54520.



2. LOCATION

a)	Details of the area (with location map)	:	The quarry lease applied area falls in the Kadagampattu village. The applied area for quarrying lease bounded by following Villages, Kondalamkuppam 1.2Km (NE), Ambuzhukkai 2.6Km (NW), Sengamedu 1.1Km (SE), Tiruvakkarai 1.2Km (SW),
i)	District, Taluk and village	:	Viluppuram District, Vanur Taluk and Kadagampattu Village.
ii)	Survey Number	:	4/1
iii)	Extent (in hectares)	:	1.22.0Ha
b)	Classification of the area (Ryotwari / Poramboke / others)	:	It is a Patta Land.
c)	Ownership / Occupancy of the applied area (surface right)	:	It's a Patta land jointly registered in the name of Thiru.Dhayalan, Thiru.Murugan, Thiru.Tamilmani, Vide Patta No-73, the applicant has obtained consent from the pattadar, Please refer the Annexure No- IV & VII.
d)	Toposheet No. with latitude and longitude	:	Topo sheet No : 57 P/ 12 Latitude : 12°01'48.05"N to 12°01'53.31"N Longitude : 79°39'58.00"E to 79°40'03.96"E
e)	Existence of public road / Railway line, if any nearby and approximate distance	:	There is an existing road from the area leads to Thollamur – Sengamedu village on eastern side of the area. The Nearest Railway line is Chennai – Viluppuram line which is about 13.5km on western side of the area.

PART – A

3. GEOLOGY AND MINERAL RESERVES

3.1	Brief description of the Topography and general Geology of the area (with plans)	:	The lease applied area is exhibits almost plain topography covered with ordinary earth which does not sustain any type of vegetation due to the topography of the land. The altitude of the area is 71m (Maximum) from MSL, the slope of the area is gentle towards southeastern side. Please refer the Topography, Geological plan and sections (Plate No -III).
3.2	Details of exploration already carried out if any	:	No exploration was carried out. The ordinary earth formation clearly visible right from the surface.
3.3	Estimation of reserves	:	The Geological plans demarcating the commercially viable ordinary earth have been prepared in 1:1000 scales (Plate No. III). Totally two sections have been drawn, one section drawn Length wise as (X-Y) another one section drawn width wise as (A-B), to choose the maximum area cover under the lease in the Horizontal 1:1000 and Vertical 1:100 (please refer Plate No- III). The cross sectional area for the proved depth persistence of 2.0m below ground level has been worked out for the section. The cross sectional area multiplied by its length of influence on the longer axis gives the volume (insitu) in the cross sectional area. The sum total of the insitu reserves available within the individual cross sectional area gives the geological reserves of the lease applied area.

		As the mineable of ordinary earth in the terms of cubic meter. The Geological Resource, Mineable Reserves are given only in terms of Cubic meter. The Details of estimation of Geological Resource and Mineable Reserves with reference to Topography, Geological Plan and Section shown in (Plate No. III).															
a) Geological reserves with geological sections on a scale of 1:1000.		The quarrying is restricted up to a depth of 2.0m below ground level. The availability of resources is given below. The Geological resources are calculated in area method. $1.22.0\text{Ha} \times 10,000\text{Sqm} = 12,000\text{m}^2$ $12,000\text{m}^2 \times 2.0\text{m Depth} = 24,000\text{m}^3$ The availability resources of ordinary earth upto a depth of 2.0m below ground level = 24,000m³															
b) Recoverable reserves		The Mineable reserves are calculated by deducting 7.5m safety distance. <u>Mineable Reserves</u> (Please refer Plate No-III) <table><tr><th>Section</th><th>Length in m</th><th>Width in m</th><th>Depth in m</th><th>Mineable Reserve in m³</th></tr><tr><td>XY-AB</td><td>167</td><td>51</td><td>2</td><td>17034</td></tr><tr><td colspan="4">Total</td><td>17034</td></tr></table> Total Mineable Reserves upto 2.0m below ground level= 17,034m³ of ordinary earth The applicant proposed to excavate is 17,034m³ of ordinary earth upto a depth of 2.0m below ground level.	Section	Length in m	Width in m	Depth in m	Mineable Reserve in m ³	XY-AB	167	51	2	17034	Total				17034
Section	Length in m	Width in m	Depth in m	Mineable Reserve in m ³													
XY-AB	167	51	2	17034													
Total				17034													

4. MINING

4.1	Method of mining (opencast / underground)	: Opencast method of shallow mining is proposed, Machineries like excavator are proposed for quarrying ordinary earth 2.0m below ground level depth It is being loose in nature No drilling or blasting is proposed for this type of ordinary earth quarrying , it is an ecofriendly quarrying operation. The ordinary earth will be loaded directly to the trucks / Lorries for transportation to the destination will be used for construction industries for Government and Public sector projects besides catering domestic housing and infrastructure projects in and around the district.
4.2	Mode of working (mechanized, semi mechanized, manual)	: It's an opencast quarrying operation without drilling and blasting .
4.3	Proposed bench height & width	2.0m Height, there is no bench proposed for this type of quarrying.
4.4	Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.)	There is no overburden, the ordinary earth is to exploit only to a depth of 2.0m below ground level. The applicant proposed to excavate 17,034m ³ of ordinary earth for a period of two years.

Yearwise Production Table															
Year	Pit No.(s)	Overburden	ROM ore/ Mineral	Saleable ore / Mineral	Sub grade ore / mineral	Mineral rejects	Overburden ratio								
First	I	Nil	8,517m ³	8,517m ³	Nil	Nil	Nil								
Second	I	Nil	8,517m ³	8,517m ³	Nil	Nil	Nil								
Third	The applicant has obtained permission to quarry ordinary earth for a period of two years only														
Fourth															
Fifth															
4.5	Machineries used														
	a) For mining		:	Excavator of 0.60m ³ capacity, Diesel Drive.											
	b) Loading equipment		:	Excavator of 0.60m ³ capacity, Diesel Drive.											
	c) Transportation (includes within the mine and mine to Needy customers site		:	Hired Tippers 10/20Ts capacity. Diesel Drive. (only from quarry to needy customer).											
4.6	Disposal of overburden / waste		:	There is no wastage is anticipated during the quarrying operation the entire ordinary earth will be used for construction industries for Government and Public sector projects besides catering domestic housing and infrastructure projects in and around the district.											
4.7	Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations		:	Conceptual mining plan is prepared based upon Topography, Geological plan and section with an object of two years of systematic development of lay outs, selection of ultimate pit limit etc., The ultimate pit dimensions of the quarry are given below. Conceptual table<table><tr><th>Pit No</th><th>length in (m) Max</th><th>Width in (M) Avg</th><th>Depth in (m) Max</th></tr><tr><td>I</td><td>167</td><td>51</td><td>2</td></tr></table> It is an Eco friendly Quarrying operation without drilling and Blasting.				Pit No	length in (m) Max	Width in (M) Avg	Depth in (m) Max	I	167	51	2
Pit No	length in (m) Max	Width in (M) Avg	Depth in (m) Max												
I	167	51	2												

5. BLASTING

5.1	Blasting pattern	:	It is being loose in nature No drilling or blasting is proposed for this type of ordinary earth quarrying, it is an ecofriendly quarrying operation.
5.2	Type of explosives to be used		
5.3	Measures proposed to minimize ground vibration due to blasting		
5.4	Storage and safety measures to be taken while blasting		

6. MINE DRAINAGE

6.1	Depth of water table (based on nearby wells and water bodies)	:	The water table in this area in 40m as observed in nearby Government Boreholes, Private wells and Boreholes.
6.2	Arrangements and places where the mine water is finally proposed to be discharged	:	There is no such type of activities anticipated in this quarrying operation.

7. OTHER PERMANENT STRUCTURES (also shown in the map)

7.1	Habitations / village natham	:	There is no habitation situated within the radius of 300m. Please refer the location of permanent structure map (Plate No.IA).
7.2	Power lines (HT/ LT)	:	There is no Power line (HT/LT) passing within a radius of 50m.
7.3	Water bodies (river, Pond, lake, odai, channel etc.)	:	There is no Water bodies (river, odai, channel etc.) within the radius of 500m.
7.4	Archaeological / historical monuments	:	There is no Archaeological / historical monuments within 300m radius from the area.
7.5	Road (NH, SH others)	:	The National Highway (NH-32) Tindivanam – Thoothukudi is about 10.1Km on northeastern side of the area. The State Highway (SH-136) Vellemedupettai – Puducherry is about 3.8Km on northeastern side of the area.
7.6	Places of worship	:	There is no place of worships within the Radius of 50m.
7.7	Reserved forest/ forest/ social forest/wildlife sanctuary etc.	:	There are no Reserved forest / social forest / wild life sanctuary within 1Km radius.

8. EMPLOYMENT POTENTIAL & WELFARE MEASURES

8.1	Employment potential (skilled, semi skilled, unskilled)	The following man power is proposed for MAY 2024 ordinary earth quarrying to carry out the day-to-day quarrying activities, aimed at the proposed production target and also to comply with the statutory provisions of the Government norms. <u>Skilled :</u> Supervisors : 1 <u>Semi-skilled:</u> Excavators Operators : 1 Co operator : 1 <u>Un -Skilled:</u> Watchman : 1 Unskilled – helpers : 3 Total : 7 Nos Allowing for 10% absenteeism, the No. of men of roll will be around 6. The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is ensured that the labor will not deployed under 18 years. No child labor will engage or entertained for any kind of quarrying operation, all the labors engaged for quarrying operation will be insured till the end of life of quarry.
8.2	Welfare measures	
	a) Drinking water	: Packaged Drinking water will be brought from the authorized water suppliers in the Kadagampattu which is about 550m on the eastern side of the area.
	b) Sanitary facilities	: Hygienic Sanitary facilities will be constructed with in the quarrying area as semi permanent structure.

c) First Aid facility	:	First aid kits are kept in Mines office room if any accident happens first aid will be given at site and the injured person will be taken to the hospital immediately, Hospital is available at Vanur which is about 7.0Km on the eastern side of the area. The competent statutory foreman will be in charge of first aid.
d) Labors Health	:	In the Eco friendly opencast quarrying operation No drilling or blasting is involved only excavator are used, hence labors health may not affect in any manner however periodically medical checkup will be conducted to all the workers in applicant own cost.
e) Precautionary safety measures to the labourers	:	All the quarry workers will be provided with safety helmets, Mine Goggles, Ear plugs, ear muffs, Dust mask, reflector jackets and Safety Shoes as personal protective device as per the specification of Director of Mine Safety. Besides also conducting periodically medical checkup for all workers for any mine health related problems, proper training and induction will be given to quarrying personal to create awareness of Eco friendly quarrying operations.

PART - B

9. ENVIRONMENT MANAGEMENT PLAN

9.1	Existing landuse pattern	:	It's a dry barren land covered with ordinary earth formation, does not sustain any type of vegetation due to this ordinary earth formation.
9.2	Water Regime	:	Ground water is about 40m depth below ground level. The quarrying is restricted up to 2.0m below ground level, hence the quarry operation will not be affected by the ground water.

9.3	Flora and fauna	: The main trees are <i>Julia Flora</i> , <i>Neem</i> , etc, There is no wild life, bird sanctuary, reserve or social forest near the area applied for quarrying lease. No flora of botanical interest nor fauna of zoological interest noticed.																				
9.4	Climatic conditions	: Both the North East and South West monsoon occurs here and the summer are hot and winter are cool. During April and May the temperature may shoot upto 42°C and during winter the temperature does not fall below 25°C. The annual rainfall is around 900mm.																				
9.5	Human settlement	: There are few villages located in 5Km radius from the lease applied area the details of the areas are given below. <table><tr><th>S. No</th><th>Name of the Village</th><th>Approximate distance & Direction from lease applied area</th><th>Approximate population</th></tr><tr><td>1.</td><td>Kondalamkuppam</td><td>1.2Km – NE</td><td>200</td></tr><tr><td>2.</td><td>Ambuzhukkai</td><td>2.6Km – NW</td><td>350</td></tr><tr><td>3.</td><td>Sengamedu</td><td>1.1Km – SE</td><td>800</td></tr><tr><td>4.</td><td>Tiruvakkarai</td><td>1.2Km – SW</td><td>1000</td></tr></table>	S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population	1.	Kondalamkuppam	1.2Km – NE	200	2.	Ambuzhukkai	2.6Km – NW	350	3.	Sengamedu	1.1Km – SE	800	4.	Tiruvakkarai	1.2Km – SW	1000
S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population																			
1.	Kondalamkuppam	1.2Km – NE	200																			
2.	Ambuzhukkai	2.6Km – NW	350																			
3.	Sengamedu	1.1Km – SE	800																			
4.	Tiruvakkarai	1.2Km – SW	1000																			
9.6	Plan for air, dust suppression	: In this Eco friendly quarrying operation only Excavator are proposed without drilling and blasting , hence the air quality will not affect due to the quarrying operation, water will be sprinkled in the haul roads periodically to suppress dust Ambient Air Quality monitoring will be carried out to check the Quality of Air in and around the Quarry. Water for dust suppression will be extract from the existing borehole owned by the applicant from the nearby applicant patta lands. During transportation the ordinary earth will be fully covered by Tarpaulin to prevent dust and spillage.																				

9.7	Plan for noise level control	:	This Eco Friendly quarrying operation does not involve any blasting and drilling methods, hence noise will be minimal and this is only due to the movement of Excavators and Trucks. Periodically Noise level monitoring will be carried out to check the Noise level in and around the Quarry.
9.8	Environmental impact assessment statement describing impact of mining on the next five years	:	The life span of the quarry is proposed for the period of two years only, the Proposed quarrying for a small production of ordinary earth does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and noise is concerned.
9.9	Proposal for waste management	:	There are no wastages anticipated during the quarrying operation. The entire ordinary earth will be transported to the customer site.
9.10	Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.)	:	The quarry operation is restricted up to a depth of 2.0m below ground level, after removing the ordinary earth there is no proposal for backfilling or reclamation. The quarried out land will be leveled and used for agriculture purpose. The applicant ensures to level the floor of the area after quarrying, The leveling cost would be around Rs. 20,000/- .
9.11	Program of afforestation (indicate extend, number, name of species to be afforested)	:	After the completion of the quarrying operation, the land will be leveled and used for agriculture purpose. The applicant ensures to plant native species like pungam, neem, causirina in the nearby villages and village road after consultation with the competent panchayat authorities. It is proposed to plant around 200 trees for the period of two years. The cost estimate for afforestation is around Rs. 50,000/-

9.12	Proposed financial estimate / budget for (EMP) environment management:	:	The proposed financial estimate budget for EMP is around Rs.2,62,000/- for the period of two years only.
Project cost / investment			
	i) Land cost	:	It is consent land, the approximate present land cost is about Rs.3,00,000/- per Hectare hence the land cost is calculated as Rs. 3,66,000/-
	ii) Machinery to be used	:	The excavators of 0.60m³ 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 ordinary earth. Average Diesel consumption of Hitachi Excavator model EX 110-150 is 10Ltrs/ Hr. Total number of Excavator used for quarrying ordinary earth = 1No Average Diesel consumption Tata Hitachi = 10Ltr/Hr Diesel Prize around = Rs. 95 (At present scenario) Total Excavator running hours for the project One excavator will excavate 60 m³/Hour = 17,034/60 m³ = 284Excavator hours One Excavator will consume 10Ltrs/ hour Hence 284X10 = 2840Ltrs of HSD will be utilized for the entire project life. The hired vehicle charges per hour inclusive of diesel around Rupees 1000/hour Total running hours = 284hours = 284hours x Rs.1000 Rs. 2,84,000/- for the entire project life.



		A. Fixed asset cost :- Land cost = Rs. 3,66,000/- Rest shelter = Rs. 20,000/- Sanitary facility = Rs. 20,000/- Total fixed asset cost= Rs. 4,06,000/- B. Operational cost For excavation = Rs. 2,84,000/- Leveling = Rs. 20,000/- Fencing cost = Rs. 1,00,000/- Total operational cost= Rs. 4,04,000/-
	iii) Refilling / Fencing	: There is no proposal for Refilling, after the excavation of ordinary earth the quarried out land will be fenced with barbed wire fencing the cost would be around Rs.1,00,000/-
	iv) Laborers shed	: No labours are proposed for quarrying ordinary earth. The machine operators are from nearby local villages, hence no cost is involved. Rest shelter will be constructed as semi permanent structure at the cost of Rs. 20,000/-
	v) Sanitary facility	: Sanitary facility will be constructed as semi-permanent structure, the cost will be around Rs. 20,000/-
	vi) Other items	: Leveling after quarrying = Rs. 20,000/-
	(a) Expenditure	
	i) Drinking water facility for the laborers	: 7 labours at the rate of Rs.2,500/- month for a period of two years, the cost will be around Rs. 60,000/-
	ii) Sanitary arrangement	: Sanitary maintenance at the cost of Rs.2,500/- month the cost will be around Rs. 60,000/- for a period of two years.
	iii) Safety kits,	: Rs. 20,000/- will be spent for the safety kits such as Helmet, Goggles, Ear plugs, Ear mask, Safety shoes and Reflector jackets.
	iv) Water sprinkling (if necessary)	: Rs. 3,000/- month will be spent for sprinkling the water on haul roads for Dust suppression; the cost will be around Rs. 72,000/- for a period of two years.

v) Afforestation etc.	: No Afforestation is proposed within the lease applied area, plantation will be carried out on the nearby villages and village roads after consultation with the panchayat authorities. The cost estimate is around Rs.50,000/- C. EMP cost <table> <tr> <td>i. Drinking water</td><td>=Rs. 60,000/-</td></tr> <tr> <td>ii. Sanitary Arrangements</td><td>=Rs. 60,000/-</td></tr> <tr> <td>iii. Safety kits</td><td>=Rs. 20,000/-</td></tr> <tr> <td>iv. Water Sprinkling</td><td>=Rs. 72,000/-</td></tr> <tr> <td>v. Afforestation cost</td><td>=Rs. 50,000/-</td></tr> <tr> <td>Total</td><td>=Rs. 2,62,000/-</td></tr> </table> Fixed asset cost = 4,06,000/- Operational cost = 4,04,000/- EMP Cost = 2,62,000/- Total Cost(A+B+C) = 10,72,000/- (The Project cost including EMP Cost is about Rupees ten lakh seventy two thousand only)	i. Drinking water	=Rs. 60,000/-	ii. Sanitary Arrangements	=Rs. 60,000/-	iii. Safety kits	=Rs. 20,000/-	iv. Water Sprinkling	=Rs. 72,000/-	v. Afforestation cost	=Rs. 50,000/-	Total	=Rs. 2,62,000/-
i. Drinking water	=Rs. 60,000/-												
ii. Sanitary Arrangements	=Rs. 60,000/-												
iii. Safety kits	=Rs. 20,000/-												
iv. Water Sprinkling	=Rs. 72,000/-												
v. Afforestation cost	=Rs. 50,000/-												
Total	=Rs. 2,62,000/-												
	CSR Cost (2% of Total Project cost) is about Rs. 21,440/-												

10. MINE CLOSURE PLAN

10.1	Steps proposed for phased restoration, reclamation of already mined out areas	: It's a New quarrying project no quarried out areas within the lease applied area.
10.2	Measures to be under taken on mine closure as per Act & Rules	: This Eco – Friendly quarrying for a depth of 2.0m below ground level does not require any backfill, Reclamation and Rehabilitation, the quarried out lands will be leveled and used for agriculture purpose any how the closure plan will be prepared after removing the specify quantity.
10.3	Mitigation measure to be undertaken for safety and restoration / reclamation of the already mined out area	: This is a fresh ordinary earth quarry.

11. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

- (i) Permission will be obtained from the District Mines Office to extract the ordinary earth from the Boundary barriers and for slopes. MAY 2024
- (ii) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.
- (iii) The applicant will endeavor every attempt to quarry the ordinary earth economically without any wastage and to improve the environment and ecology.
- (iv) The Mining Plan is prepared by incorporating the conditions stipulated in the precise area communication letter and relevant mining laws in force.
- (v) The proposed quantity of ordinary earth is **17,034m³** up to a depth of 2.0m below ground level only for a period of two years.

Prepared by

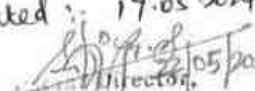

C.Natarajan, M.Sc.,M.Phil.,
Qualified Person
C.NATARAJAN M.Sc.,M.Phil.,
Qualified Person

Place : Salem

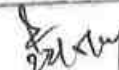
Date : 08.05.2024

This mining plan is approved by the District Mines Office and the District Mining Officer, Salem on 17.05.2024.

At No. B/41AM/149/2016 dated: 17.05.2024


District Mining Officer,
Geology and Mining,
Viluppuram.

Dated: 22.05.2024


22.5.24

17 MAY 2024

ந.க.எண். அ/புவி (ம) சுர/149/2018
நாள்: 07.05.2024

உதவி இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை
விழுப்புரம்.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - விழுப்புரம் மாவட்டம் -
வானூர் வட்டம் - கடகம்பட்டு கிராமம் - புல
எண்.4/1 -1.22.0 ஹெக்டேர் பட்டா நிலம் -
சாதாரண மண் குவாரி குத்தகை உரிமம் வேண்டி
திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்
என்பவர் விண்ணப்பம் செய்தது - உரிமம் வழங்க
பரிந்துரை செய்து அறிக்கை வரப்பெற்றுள்ளது -
தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட
சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க
மதிப்பீட்டு ஆணைய இசைவினை பெற்று
சமர்ப்பிக்கக் கோருதல் - தொடர்பாக - தொடர்பாக.

- பார்வை: 1. திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்,
352, கிழக்கு தெரு, ஊத்தங்கால் கிராமம்,
விருத்தாச்சலம் வட்டம், கடலூர் மாவட்டம்
என்பவரின் விண்ணப்ப நாள்: 16.04.2018.
2. இவ்வலுவலக கடிதம் ந.க.அ/புவி(ம)சுர/149/
2018, நாள்:09.05.2018.
3. விழுப்புரம் வருவாய் கோட்டாட்சியர், கடித எண்.
ந.க.எண். அ4/2179/2018 நாள்: 30.07.2018.
4. இவ்வலுவலக கடிதம் ந.க.அ/புவி(ம)சுர/149/
2018 நாள்:22.09.2022.
5. The Principal, Government College of
Engineering, Dharmapuri - 636 704
letter No.: GCE /DP1/ CIVIL /SOIL
/2023/C-124 dated 07.10.2022.
6. விழுப்புரம், புவியியல் மற்றும் சுரங்கத்துறை
உதவி இயக்குநர் அவர்களின் புலத்தணிக்கை
அறிக்கை நாள்: 17.04.2024.

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கடலூர் மாவட்டம், விருத்தாச்சலம் வட்டம், ஊத்தங்கால் கிராமம், 352, கிழக்கு
தெரு என்ற முகவரியைச் சேர்ந்த திரு.உ.அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம்
என்பவர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், பட்டா புல
எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பளவில் செம்மண் வெட்டியெடுப்பது
தொடர்பாக 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி



எண். 19-ன் கீழ் ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்கக் கோரி பார்வை 1-ல் கண்டவாறு விண்ணப்பம் செய்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, விழுப்புரம் வருவாய் கோட்டாட்சியர், உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், பட்டா புல எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் திரு. E. அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம் என்பவருக்கு சாதாரண மண் குவாரி உரிமம் வழங்க கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

- i. விண்ணப்ப புலங்களின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அருகிலுள்ள அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரி பணி செய்ய வேண்டும்.
- ii. விண்ணப்ப புலத்தில் செல்லும் மின்கம்பி பாதையினை குவாரி குத்தகை வழங்குவதற்கு முன்பாக குவாரிப்பணி மேற்கொள்ளப்படும் இடத்திலிருந்து 50 மீட்டர் தொலைவிற்கு அப்பால் மாற்றியமைக்கப்படவேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா நிலங்கள் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை சுற்றி கம்பி வேலி அமைத்து DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
- v. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-41ன்படி தகுதிவாய்ந்த நபரால் சுரங்க திட்டம் தயார் செய்து உதவி இயக்குநர் அவர்களின் ஒப்புதல் பெறவேண்டும்.
- vi. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்படவேண்டும்.

எனவே, விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோரின் பரிந்துரை அறிக்கையின் அடிப்படையிலும், மண் பரிசோதனை அறிக்கையின் அடிப்படையிலும், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கடகம்பட்டு கிராமம், எண்.4/1-ன் மொத்த பரப்பு 1.22.0 ஹெக்டேர் பரப்பில் 1959-ம் வருட தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.19-ன்படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 2 (இரண்டு) வருட காலத்திற்கு திரு. E. அமுதகணேசமூர்த்தி, த/பெ.ஏகாம்பரம் என்பவருக்கு சாதாரண மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

அதனடிப்படையில், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண். 41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை தகுதிவாய்ந்த நபர் (QP) மூலமாக கீழ்க்கண்ட



நிபந்தனைகளுக்குட்பட்டு தயாரித்து அதனை 90 நினைங்களுக்குள் இணை இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரரை கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

- i. விண்ணப்ப புலங்களின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அருகிலுள்ள அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரி பணி செய்ய வேண்டும்.
- ii. விண்ணப்ப புலத்தில் செல்லும் மின்கம்பி பாதையினை குவாரி குத்தகை வழங்குவதற்கு முன்பாக குவாரிப்பணி மேற்கொள்ளப்படும் இடத்திலிருந்து 50 மீட்டர் தொலைவிற்கு அப்பால் மாற்றியமைக்கப்படவேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா நிலங்கள் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை சுற்றி கம்பி வேலி அமைத்து DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

67-6524

பெறுநர்

திரு. E. அமுதகணேசமூர்த்தி,
த/பெ.ஏகாம்பரம்,
352, கிழக்கு தெரு,
ஊத்தங்கால் கிராமம்,
விருத்தாச்சலம் வட்டம்,
கடலூர் மாவட்டம்.

நகல்:-

1. மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையம், சென்னை.
2. ஆணையர், புவியியல் மற்றும் சுரங்கத்துறை, கிண்டி, சென்னை.

ANNEXURE - II

District : Viluppuram

Taluk : Vanur

Village : Kadagampattu [63]

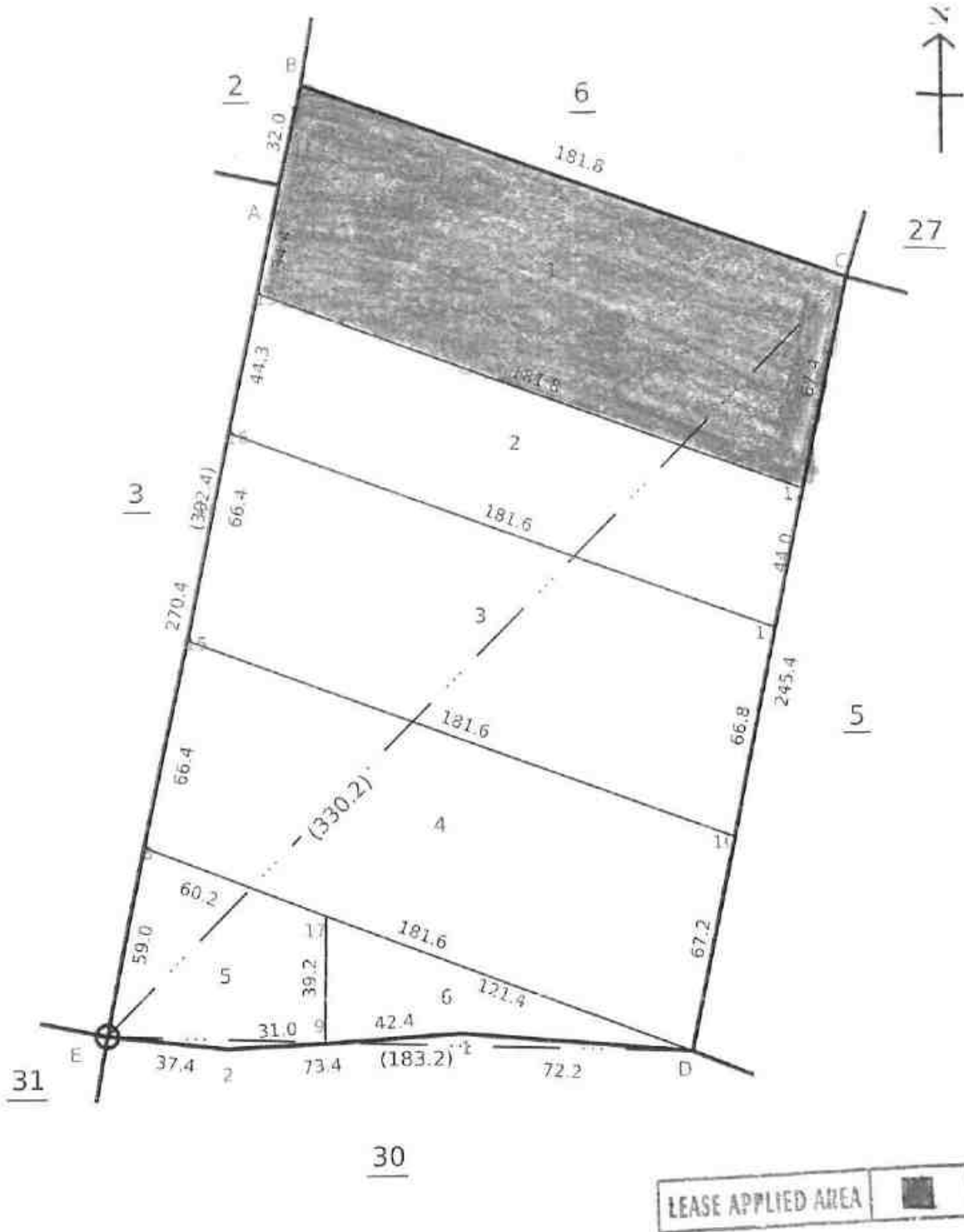


Survey No : 4

Area : Hect 04 Ares 97.50

Scale : 1 : 1987

17 MAY 2024



Signed By Tahsildar
Name of approver: vanta
Date of Approval : 20-06-2018

Date of Issue: 15-05-2024 18:20:09



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தமிழ்நாடு அரசு

வருவாய்த் துறை

ANNEXURE

17 MAY 2024

விமப்பறம்

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

மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

வருவாய் கிராமம் : கடகம்பட்டு

பட்டா எண் : 73

உரிமையாளர்கள் பெயர்

1.	சுப்ரமணியகவுண்டர்	தந்தை	தயாளன்	
2.	சுப்ரமணியகவுண்டர்	தந்தை	முருகன்	
3.	தட்சணாமூர்த்தி	தந்தை	தமிழ்மணி	

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
4	1	1 - 22.00	3.36	--	--	--	--	2022/0103/07/276087- ----- 09-03-2022
		1 - 22.00	3.36					

குறிப்பு :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 07/02/063/00073/80350 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 15-05-2024 அன்று 06:29:37 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

என் மீது உத்தரவு

என் மீது உத்தரவு

~~11 MAY 20~~

உண்பதற்கு

கி.பி - கி.பி

V. Subbiah
Village Administrative Officer,
62, Sengamedu,
63, Kadagampatta,
Vannur Taluk, Villunuram Dist.



Department of Revenue
Government of Tamil Nadu

Tamil Nadu Revenue Survey and Administration and Management



Login: Firka Surveyor

District Villuppuram, Taluk VANUR, Firka NEPAL

செய்த நாள்: 6/Jun/2018

தமிழ்நாடு அரசு



வருவாய்துறை

அ - பதிவு

தரவுகளை உபயோகத்திற்கு எட்டும்

மாவட்டம்
விழுப்புரம்(07)

வட்டம்
வள்ளூர்(02)

கிராமம்
கடகம்பட்டு(063)

வ.எண்	புல எண்	உட்பிரிவு எண்	பழைய புல உட்பிரிவு எண்	பகுதி	அரசு - ரயத்துவாரி	நிலத்தின் வகை	பாசன ஆதாரம்	இரு பேரகமா	மண் வயணமும் ரகமும்	மண் தரம்	தீர்வை - ஹெக்டேர்	பரப்பு ஹெக்டேர்	மொத்த தீர்வை	மட்டம் எண்
											ரு.பை	ரூ.பை	ரூ.பை	
1	4	1	7-1		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1	22 3 36	73 1.தடையன் 2.முருகன் 3.தமிழ்மணி
2	4	2	-13	P	ரயத்துவாரி புஞ்சை				8-4	7	2 75	0	79 2 17	322 1.அன்பழகன்
3	4	3	-14		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1	22 3 36	2 1.நாராயணசாமி
4	4	4	-15		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1	23 3 38	2 1.நாராயணசாமி
5	4	5	-16		ரயத்துவாரி புஞ்சை				8-4	7	2 75	0	33 0 91	2 1.நாராயணசாமி
6	4	6	-17		ரயத்துவாரி புஞ்சை				8-4	7	2 75	0	18.5 0 51	50 1.சரோஜா
											மொத்தம்	4	97.5	

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एक सौ रुपये

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ONE
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INDIA NON JUDICIAL

தமிழ்நாடு தமிழ்நாடு TAMILNADU

BF 505420

10343
2-8-17ஏ. அனாத கண்ணகவேல்
2வது பார்ட்டிவே. சத்தியசூக்தி
முதலா

L No 1755

நாடு

குத்தகை உடன்படிக்கை பத்திரம்

2017ம் ஆண்டு ஆகஸ்ட் மாதம் 02ம் தேதி (02.08.2017) தமிழ்நாடு மாநிலம், விழுப்புரம் மாவட்டம், வானூர்வட்டம், கடகம்பட்டு கிராமம், முகவரியில் ஏற்கனவே வசித்து வந்து தற்காலம் புதுச்சேரி மாநிலம், புதுச்சேரி, மண்ணாடிப்பட்டு கொம்பூன், விங்காரெட்டிப்பாளையம், அண்ணாமலை நகர், பெரியவீதி என்ற வீட்டு முகவரியில் வசிக்கும் திரு. சுப்பரமணி அவர்களின் குமாரர் திரு. சு. தயாளன்-1 (ஆதார் அட்டை எண் 2843 1035 0336 Cell No. 9786854052) மேற்படி வானூர் வட்டம், கடகம்பட்டு கிராமம், மேட்டு தெரு, நெ.1/44 என்ற வீட்டு முகவரியில் வசிக்கும் மேற்படி சுப்பரமணி அவர்களின் குமாரர் திரு. சு. முருகன்-2 (ஆதார் அட்டை எண் 7382 2294 2193 Cell No 9751395359) மேற்படி வானூர் வட்டம் கடகம்பட்டு கிராமம் முகவரியில் ஏற்கனவே வசித்து வந்து தற்காலம் புதுச்சேரி மாநிலம், புதுச்சேரி -9, சொக்கநாதன்பேட்டை, அண்ணக்கரைவீதி தெற்கு, நெ.6 என்ற வீட்டு முகவரியில் வசிக்கும்

1வது பார்ட்டி

2வது பார்ட்டி

S. Manoj





43AB 476027

TAMIL NADU

102826 201-
18.11

கு. அருத அனேசமூர்த்தி
24.11.2006

வே. சத்தியாவதி
மு.தா.னி வானூர்
L No 1795 B1/2010

2 தமிழ்நாடு.

திரு. தட்சணாமூர்த்தி அவர்களின் குமாரர் திரு. தமிழ்மணி-3 (ஆதார் அட்டை எண் 2705 7735 0278) மேற்படி 1 முதல் 3 நபர்கள் வரை (1) வது பார்ட்டி குத்தகை விடுபவர்). தமிழ்நாடு மாநிலம், கடலூர் மாவட்டம், விருத்தாசலம் வட்டம், ஊத்தங்கால், கிழக்கு தெரு, நெ.352 என்ற வீட்டு முகவரியில் வசிக்கும் திரு. ஏகாம்பரம் அவர்களின் குமாரர் திரு. ஏ. அருத அனேசமூர்த்தி (ஆதார் அட்டை எண் 3679 1365 9496 Cell No 9842528651) -2 வது பார்ட்டி குத்தகை எடுப்பவர் ஆகிய நாம் இருபார்ட்டிகளும் சேர்ந்து சம்மதித்து எழுதிக்கொண்ட குத்தகை உடன்படிக்கை பத்திரம் யாதெனில்

இதனடியில் சொத்து விபரத்தில் விவரிக்கப்பட்டுள்ள சொத்தானது 30.08.1999ம் தேதியில் சிவக்குமார்-1 சிவபாலன்-2 ஆகியவர்களிடமிருந்து எங்களில் 1வது பார்ட்டியில் குறிப்பிட்ட தயாளன்-1 முருகன்-2 தமிழ்மணி-3 ஆகியவர்களின் பெயரில் கிரையம் பெற்ற சொத்து அது வானூர் சார்பதிவகத்தில் புத்தகம் 1410 வால்டும் 233-235 பக்கம் 1999ம் வருடத்திய 2799ம் நெம்பராக பதிவுசெய்யப்பட்டது.

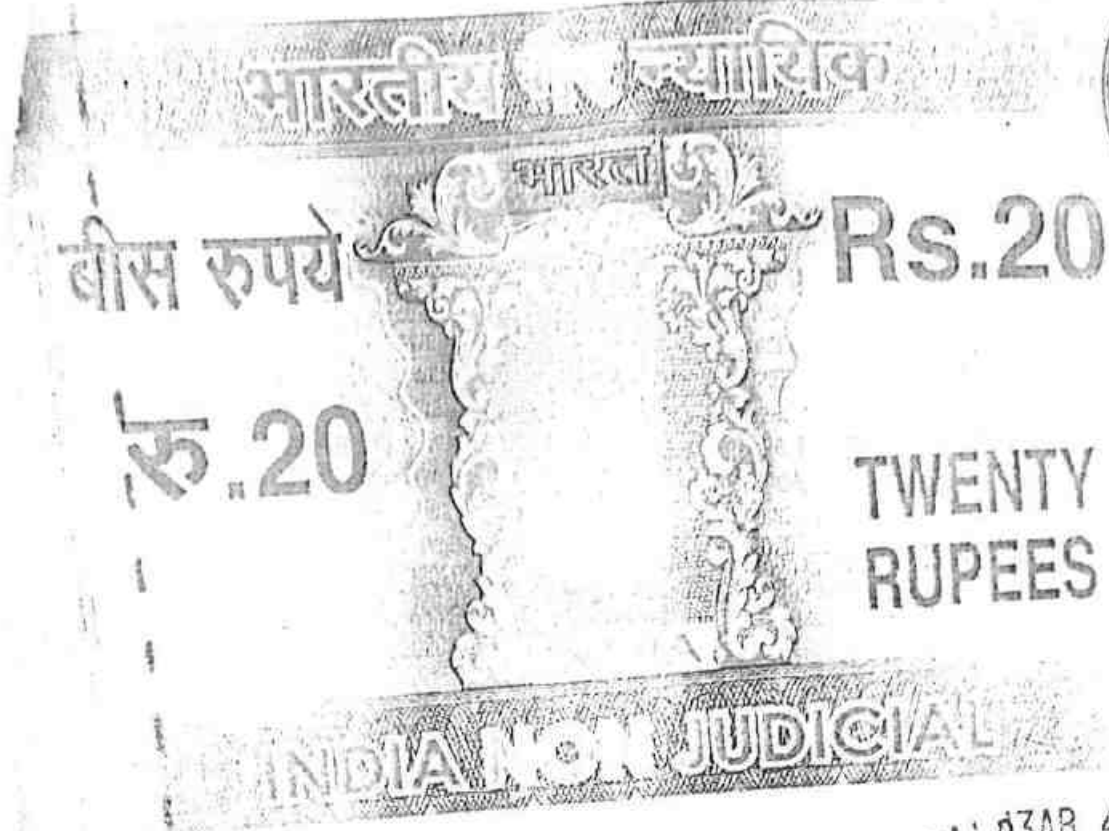
1வது பார்ட்டி

S. S. S. S. S.

செட்டி
25.11.2006

2வது பார்ட்டி

17 S. S. S.



தமிழ்நாடு கிராமிய தர்ப்பு 3AB 476028
10288601-1-8-17



வே. சத்தியாவதி
மு.தா.வி. வானூர்
L No. 1795-B1/2010
தமிழ்நாடு.

மேற்படி கிராமிய செய்தியலகம் பத்திரத்திற்கு 14.10.1999ம் தேதியில் ஓர் பிழைதிருத்தல் பத்திரம் ஏற்பட்டு அது வானூர் சார்பதிவகத்தில் புத்தகம் 1417 வாலுயும் 149-151 பக்கம் 1999ம் வருடத்திய 3260ம் நெம்பராக பதிவுசெய்யப்பட்ட பிழைதிருத்தல் பத்திரப்படியும், கிராமிய பத்திர ஷரத்துக்கள்படியும் ஆக மேற்படி பத்திரங்களின்படி 1வது பார்ட்டிக்கு சொந்தமும் அனுபவம் உரிமையும் உள்ள கீழ்க்கண்ட சொத்தை 1வது பார்ட்டி 2வது பார்ட்டிக்கு (3) மூன்று வருட காலத்திற்கு செம்மண் எடுத்து குவாரி நடத்த குத்தகைக்கு விடுதாகவும் 2வது பார்ட்டி செம்மண் எடுக்க குத்தகை எடுத்துக் கொள்ளுவதாகவும் நமக்குள் ஒப்புக்கொண்டு இதற்கு வருடக் குத்தகையாக ரூபாய் 30,000/- ரூபாய் முப்பது ஆபிரம் விதம் நிர்ணயித்துக் கொண்டனர். குத்தகைக்கு முன்பணமாக முதல்வருடக்குத்தகை தொகை ரூபாய் 30,000/- ரூபாய் முப்பது ஆபிரத்தினை 2வது பார்ட்டியிடமிருந்து 1வது பார்ட்டி ரொக்கமாக பெற்றுக்கொண்டனர். ஒவ்வொரு வருட குத்தகை தொகையினை அந்தந்த வருட கெடு முடிவிற்குள் 2வது பார்ட்டி 1வது பார்ட்டிக்கு ரொக்கமாக கொடுக்க வேண்டியது.

S. S. S. S. S.

தமிழ்நாடு

S. S. S. S. S.


$$\begin{array}{r} 10289 \\ \hline 1-8-17 \end{array}$$

1வது பார்ட்டி
S. Jeyaraj
S. Jeyaraj
சுவிட்சர்லாந்து

S. Schuchly 18

17 MAY 2024
 சென்னை மாநகர காவல்துறை



TAMIL NADU 10280 6201-
 1-8-17
 3AB 476030
 2-1-17
 செ. சத்தியாவதி
 மு.தா.வி. வாசுதேவன்
 L No 1795 B1/2010
 தமிழ்நாடு.
 5

குதிராம்பாள் நிலத்திற்கு வடக்கு இதற்குட்பட்ட மேற்படி மூன்று ஏக்கர் ஐந்து செண்டு நிலம்
 மட்டில் குத்தகை பத்திரம்

1வது பார்ட்டி
 ச. முருகன்
 சாட்சிகள்
 2வது பார்ட்டி
 ச. முருகன்

1 A. Kaliamurthi
 A. KALIAMURTHI / Arumugam Thiruvakkaal Vairu T.K.
 2 P. Sanchi S/o palaniel othangal VRudhachan T.K.
 ஆவணம் வசூலி அளித்தவர்

ஜெ. பழநிவேந்தன் B.com.
 மாநகர ஆவண எழுத்தர் வாசுதேவன்
 A/144/TDM/2000
 25264 17
 5 10

17/BK1

1656
/ 2017

முத்திரைச்சட்டம் பி.பி.டி. 17-4-2017 க்கு

1656-ல் வரிக்கும் திருவள்ளூர் தாலுகா பி.பி.டி. 17-4-2017 க்கு
மனை / குடியிருப்பு முத்திரைச்சட்டணம் ரூ. 72,500/- ரிசீப்டுடன்
ம்) வசூலிக்கப்பட்டது என மனநினைவுவடைத்து சான்றாகக்கொடுக்கிறேன்.



ம.அ: Vanur
தர்: 02/08/2017

சார்பதிகாரி/மன்றம் இலாகா
முத்திரைச்சட்டம் பி.பி.டி. 17-4-2017 க்கு

Vanur சார்பதிகாரி வானூர் அலுவலகத்தில் 02/08/2017 அன்று 12.1 மன்றத்திடமிருந்து வசூல் செய்த
கட்டணம் ரூ 1050 செலுத்தியவர்

1 இடது பெரு விரல்



S. Ramanathan

மேல் விவரம் ஆவண வாசகம்

எழுதிக் கொடுத்ததாக ஒப்புக்கொண்டவர்

1 இடது பெரு விரல்



S. Ramanathan

மேல் விவரம் ஆவண வாசகம்

17
10
6

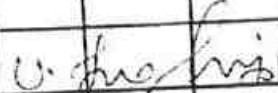


Sheet no 1 of 3

கிராமக் கணக்கு
வட்டம் கி.நகம்பலம்

17 MAY 2024

வினா எண்

பெயர் வரித் திட்டத்தின்படி புலங்களின் விபரம்.					சாகுபடி பாளையன் பெயர்		முதல் போகம்.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
	உட்பிரிவு எண்.	பாப்பு.	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.	எகப்பற்று தாரகுடைய பெயரும் எண்ணும் ஆவ்வது அறுபோக தாரகுடைய பெயர்	நிலத்தில் எந்த பகுதி யாவது சாகுபடியாளனால் பயிரிடப்பட முள்ளதா	எந்த மாதத்தில் பயிர் செய்யப்படும் என்கிற மாதத்தில் இறுவடை செய்வதற்கு உறுது	பயிரில் பெயர்	பயிரைச் செஞ்சதை மாணப் பட்டி	செஞ்சதை மாணப் பட்டி	விளைவால் ஏறல் அளவு லிருந்து	
4	1	1-22-03-36	73	தயாளன் மிருகன் தமிழ்மணி		-	-	-	-	-	-	
					<u>சூழிய</u>	<u>உண்டாமங்கல்</u>						
மேற்கண்ட புல ரண் வாண்டு வட்டம் கூடுதல் ரவிகுமார் சம்பந்தப்பட்ட தொழில் கிந்த சிபிசுள் கனம்மா துறை பாய்வாய்வுக்கு மேலும் அளக்கப் படக்கூடாது												
பாதி - 24.05.2017					 Village Administrative Office 62, Sengamedu, 63, Kadagampattu, Vanur Taluk, Villupuram District							
தயர் - கடகம்பட்டு												

லக இணைய சேவை - நில உ...

http://eservices.tn.gov.in/eservicesnew/land/chittaExtract.ta.html?lan...

17 MAY 2018

விழுப்புரம்



தமிழக அரசு

வருவாய்த் துறை

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

வட்டம் : வானூர்

பட்டா எண் : 73

வட்டம் : விழுப்புரம்

வருவாய் கிராமம் : கடகம்பட்டு

உரிமையாளர்கள் பெயர்

1.	சுப்ரமணியசுண்டர்	தந்தை	தயாளன்
2.	சுப்ரமணியசுண்டர்	தந்தை	முருகன்
3.	சுப்ரமணியசுண்டர்	தந்தை	தமிழமணி

நன்செய்		புன்செய்		மற்றவை	
பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை
புல எண்	உட்பிரிவு	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை
4	1	1 - 22.00	3.36		
		1 - 22.00	3.36		

குறிப்பு2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 07/02/063/00073/80350 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 22-08-2017 அன்று 12:14:43 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

For IT & Information Security
Tamil Nadu Revenue Society Ltd.

(Signature)

8/22/2017 12:14 P



आयकर विभाग
INCOME TAX DEPARTMENT



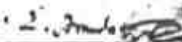
भारत सरकार
GOVT. OF INDIA

E AMUDAGANESAMOORTHY
EHAMBARAM

08/04/1957

Permanent Account Number

BPPPA4278D


Signature

Income Tax Department, Plot No. 3, Sector 1, C.R.D. Belapur,
Navi Mumbai - 400 614

इस कार्ड के खोल/पान पर कुलका पूर्णक का
आपका पैर मुद्रा मुद्रा, मुद्रा मुद्रा मुद्रा
प्लेट नं: १, सेक्टर १, नवी मुंबई-४०० ६१४



GOVERNMENT OF INDIA

ANNEXURE

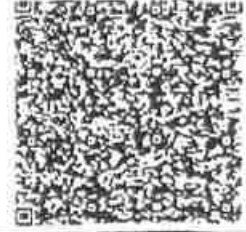
VIII

17 MAY 2024

விடுதலை
பெரிய அமைதி



எ. அமுதகண்ணசாமுத்தி
E Amudaganesamoorthy
பிறந்த நாள்/DOB: 08/04/1957
ஆண்/ MALE



3679 1365 9496



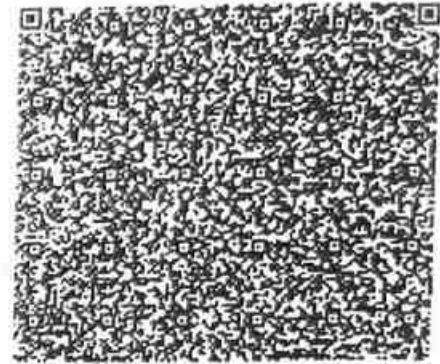
भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

முகவரி:

S/O எகாம்பரம், கதவு-எண் 352, கிழக்கு தெரு,
விருத்தாசலம்-தாலுக்கா, ஊத்தங்கால்,
ஊத்தங்கால், கடலூர்,
தமிழ்நாடு - 607804

Address:

S/O Eagambaram, 352, EAST STREET,
VIRUDHACHALAM-TALUK, UTHANGAL,
Uthangal, Cuddalore,
Tamil Nadu - 607804



3679 1365 9496

E. Amudaganesamoorthy

CHETTINAD CEMENT CORPORATION LTD.,

(Regd. Office: RANI SEETHAI HALL BUILDING IV & V FLOORS, 603, ANNA SALAI, MADRAS-600009)
WORKS OFFICE: PULIYUR.

21144
PHONE 22744 KARUR
TELE: 21745
GRAM "CEMENT" PULIYUR C.F.
Telex: 0456-215.
STD Code: 04324

ANNEXURE IX

17 MAY 2024

All Correspondences to
Kumaranajah Muthiah Nagar
PULIYUR CEMENT FACTORY POST 633114
(Karur Taluk, Tirupur Dist.)

T.RAJU., B.E.,
MINES MANAGER & DY. GENERAL MANAGER.

22nd September, 1987.

CERTIFICATE.

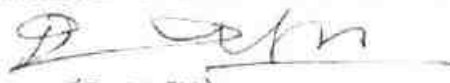
This is to certify that Mr.C.Natarajan has been working as a Geologist from 14-12-1979 to till date. He has been incharge of supervision of day to day functions in respect of Exploration, Preparation of Geological Plans & Sections, Preparation of Mines Plans, ~~and~~ Quality control and other allied mining activities in the following Pits of our Seethainagar Limestone Mines in Anna District.

<u>Name of the Pit.</u>	<u>Average Raising/day.</u>
1. Alambadi Pit.	- 1,700 T.
2. Mallapuram Pit.	- 900 T.
3. Karikkali Pit.	- 150 T.

Total.	- 2,750 T.

He has got nearly Eight years of total experience in our Mines in the above supervisory capacity.

for CHETTINAD CEMENT CORPORATION LTD.,


(T.RAJU).

Mines Manager & Dy. General Manager.



Faculty of Science

The Senate of the Annamalai University hereby makes known that E. Narayana has been admitted to the Degree of Master of Science (by Examination) in Zoology, he having been certified by duly appointed Examiners at the examination held in April, 1976, to be qualified to receive the same and that he was placed in the First Class.

Given under the seal of the University.

Annamalai Nagar
24th December, 1976.

A. Chandrasekha
Vice-Chancellor.



PLATE NO: I

DATE OF SURVEY : 03.05.2024

APPLICANT:

THIRU.E.AMUTHAGANESAMOORTHY,
S/O EAGAMBARAM,
NO 352, EAST STREET, UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA: ●

TOPO SHEET No. : 57 P/12

LATITUDE : 12°01'48.05"N to 12°01'53.31"N

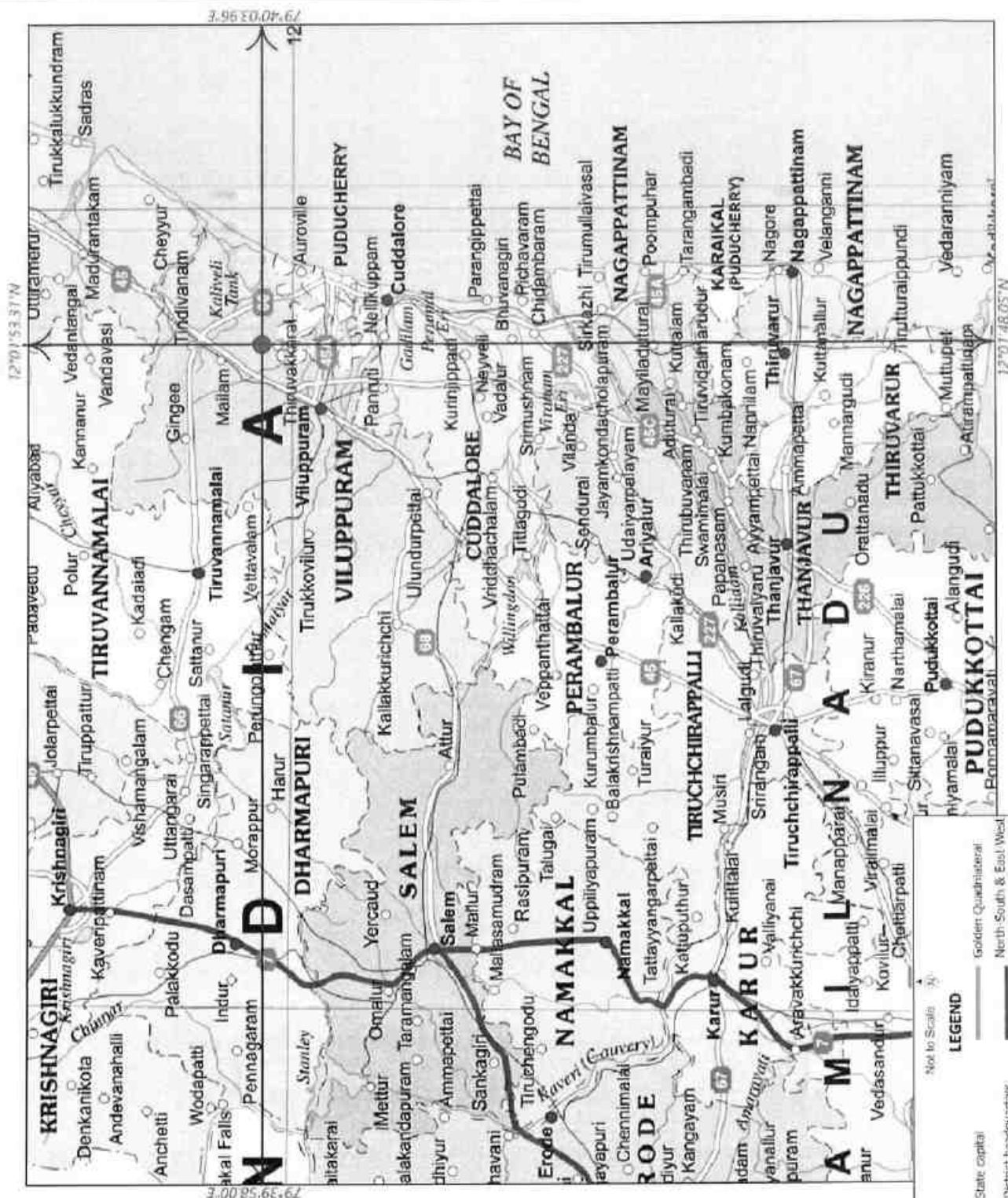
LONGITUDE : 79°39'58.00"E to 79°40'03.96"E

LOCATION PLAN

NOT TO SCALE

Prepared By:

THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE



LEGEND

- State capital
- District headquarters
- Other town
- National Highway number
- Golden Quadrilateral
- North-South & East-West Corridors
- National Highway
- Railway

293

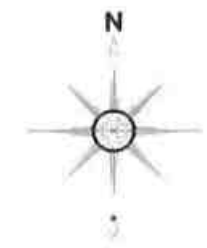
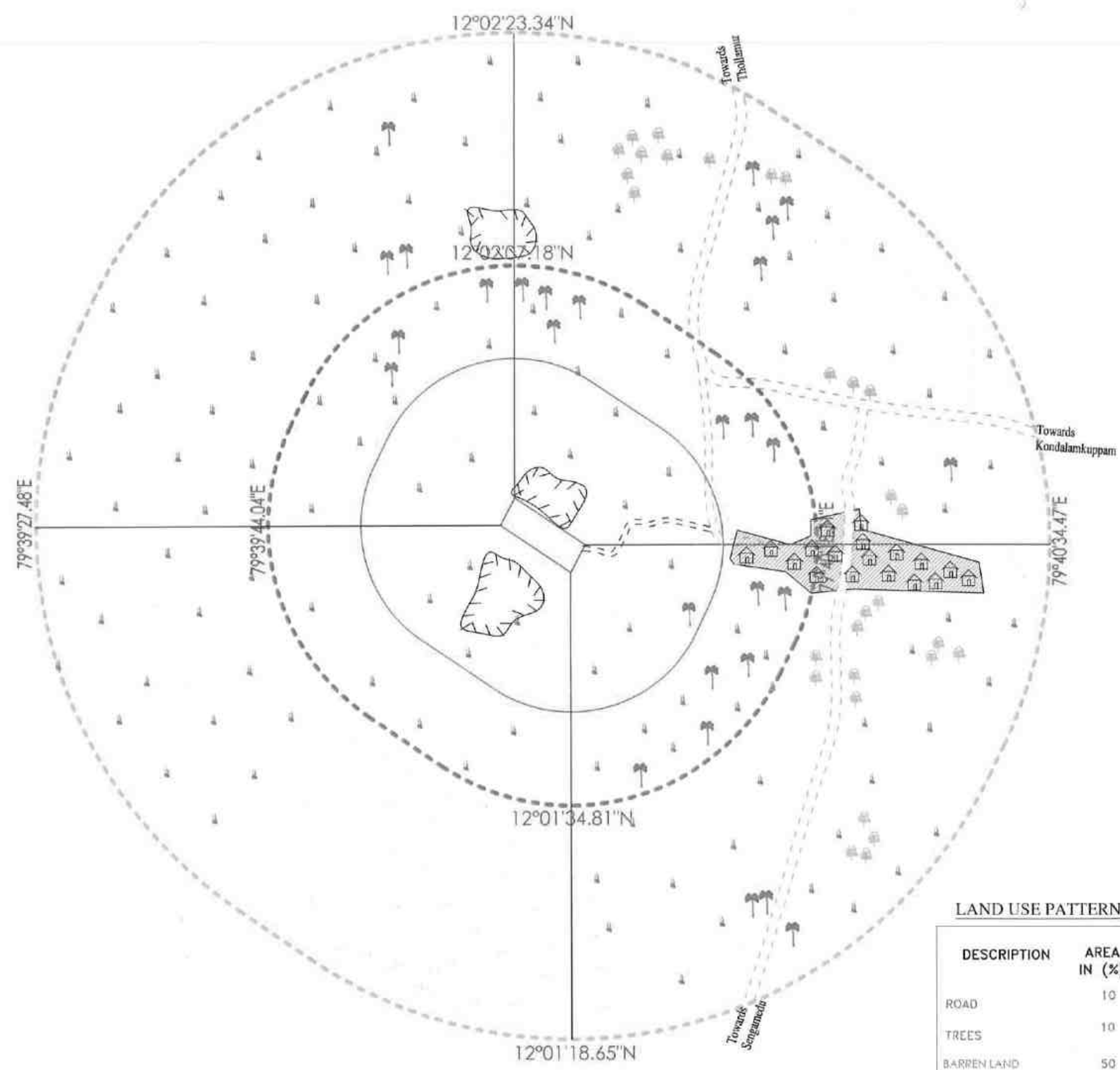


PLATE NO: 1A
DATE OF SURVEY : 08.05.2024

APPLICANT:
THIRU.E.AMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352.EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF Q.L.APPLIED AREA:
S.F.NO : 4/1,
EXTENT : 1.22.0 Hq,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

TOPO SHEET No. : 57 P/12
LATITUDE : 12°01'48.05"N to 12°01'53.31"N
LONGITUDE : 79°39'58.00"E to 79°40'03.96"E

Q.L.APPLIED AREA	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
PANCHAYAT ROAD	
BARREN LAND	
TREES	
AGRICULTURAL LAND	
QUARRY PIT	
HABITATIONS	
ODAI	

ENVIRONMENTAL PLAN
SCALE 1 : 10,000

PREPARED BY :
THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT

C.NATARAJAN
QUALIFIED PERSON

LAND USE PATTERN

DESCRIPTION	AREA IN (%)
ROAD	10
TREES	10
BARREN LAND	50
AGRICULTURAL LAND	15
HABITATION	10
WATER BODIES	05



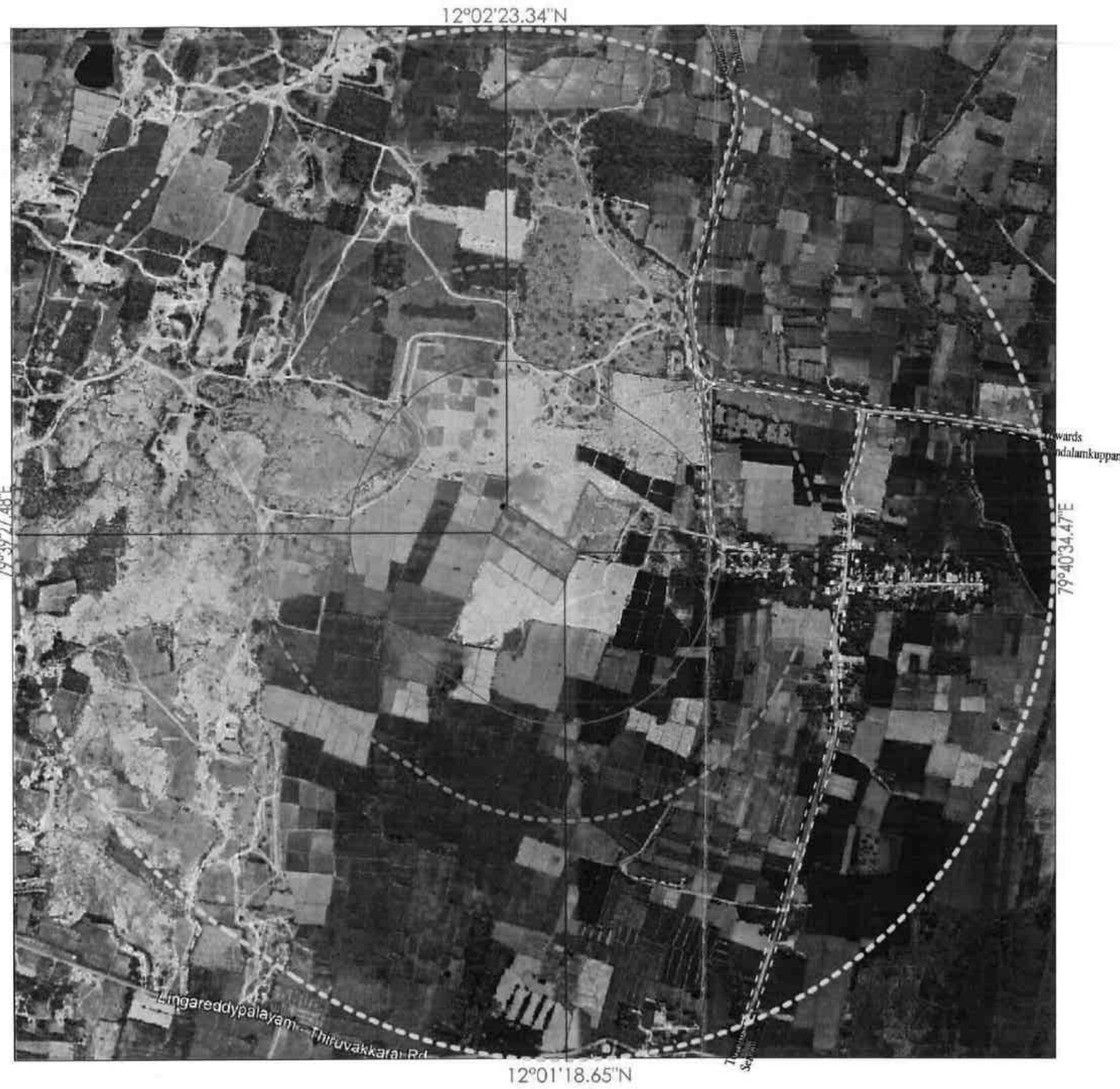


PLATE NO: 1B
DATE OF SURVEY : 08.05.2024

APPLICANT:
THIRU.E.AMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352.EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF Q.L.APPLIED AREA:
S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX
TOPO SHEET No. : 57 P/ 12
LATITUDE : 12°01'48.05"N to 12°01'53.31"N
LONGITUDE : 79°39'58.00"E to 79°40'03.96"E

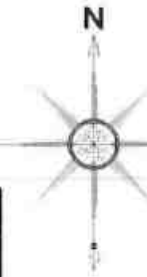
Q.L.APPLIED AREA	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
PANCHAYAT ROAD	

SATELLITE IMAGERY
SCALE 1 : 10,000

THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT

C.NATARAJAN,M.Sc.M.Phil,
QUALIFIED PERSON

DATE OF SURVEY : 08.05.2024



THIRU.E.AMUTHAGANESAMOORTHY,
S/O EAGAMBARAM,
NO 352, EAST STREET, UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

TOPO SHEET No. : 57 P/12

LONGITUDE : 79°39'58.00"E to 79°40'03.96"E

[illegible]

SCALE- 1:100000

THIS IS TO CERTIFY THAT THE INFORMATION IN
THIS PLATE IS TRUE AND CORRECT TO THE BEST OF
MY KNOWLEDGE BASED UPON THE LEASE MAP
AUTHENTICATED BY STATE GOVERNMENT


C. NATARAJAN, M.Sc. M.Phil.
QUALIFIED PERSON

KEY PLAN

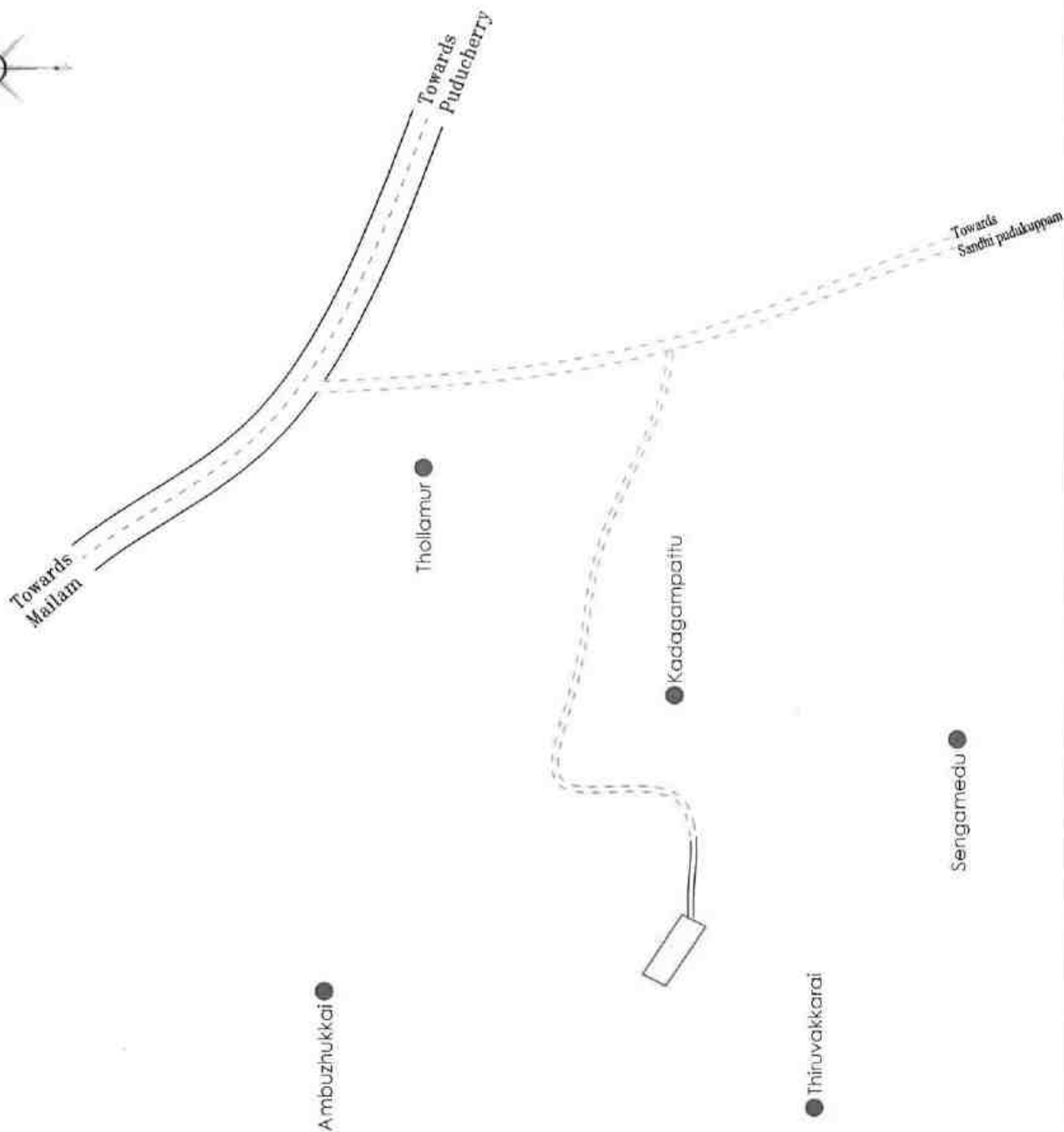
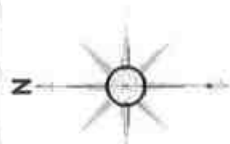


PLATE NO: I-D

DATE OF SURVEY : 08.05.2024

APPLICANT:

THIRU E. AMUTHAGANESAMOORTHY,
S/O. EAGAMBARAM,
NO. 552, EAST STREET, UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F. NO : 4/1,
EXTENT : 1.22.0 Ha.
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA



STATE HIGHWAY



PANCHAYAT ROAD



APPROACH ROAD



HABITATIONS



KEY PLAN

Not To Scale

PREPARED BY:

THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE

GOVERNMENT

C. NATARAJAN, M.Sc., M.Phil.,
QUALIFIED PERSON

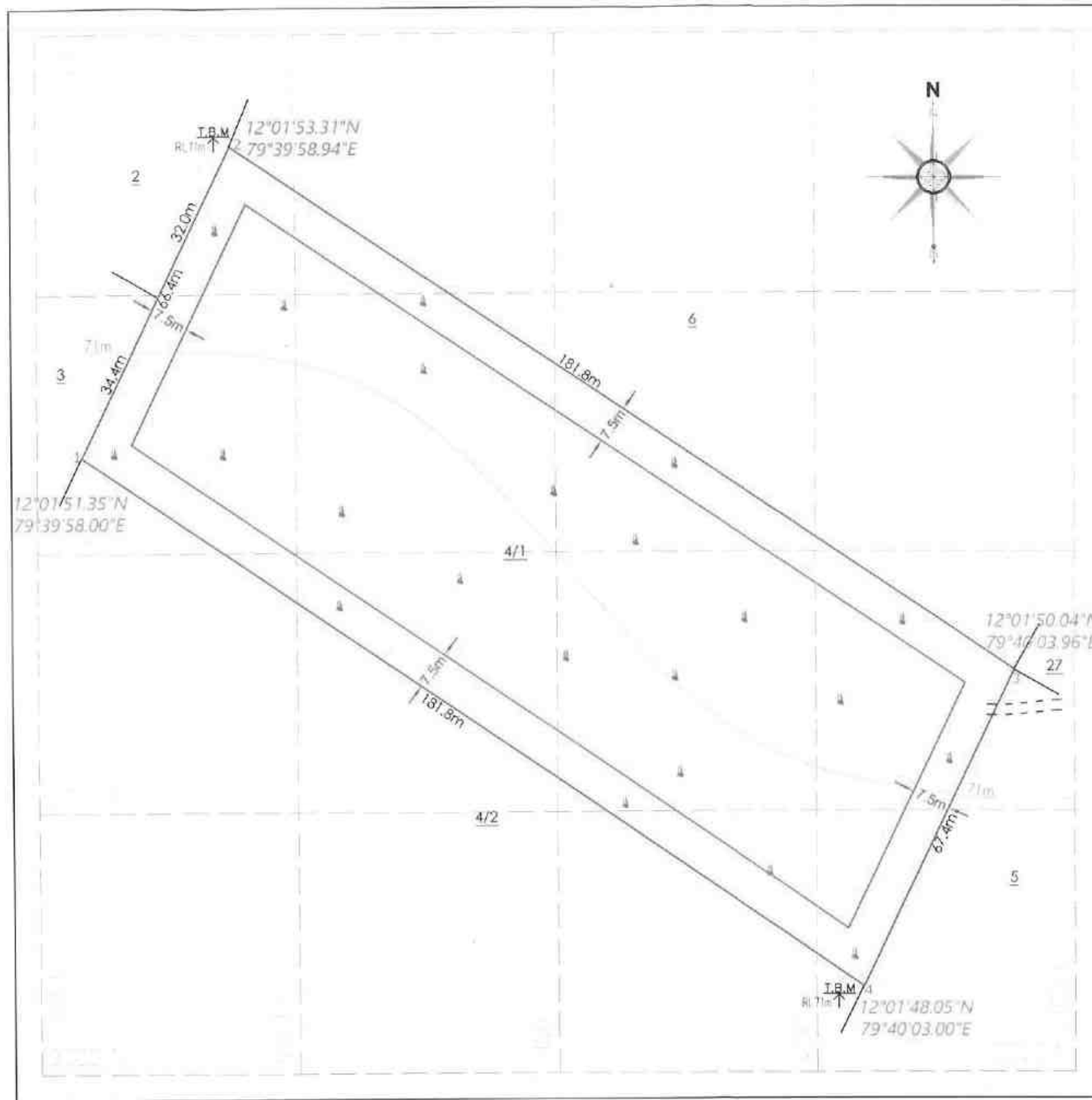


PLATE NO-II

DATE OF SURVEY : 08.05.2024

APPLICANT:

THIRU.E.AMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352.EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF QUARRY

LEASE APPLIED AREA:

S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA BOUNDARY	
7.5m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	

QUARRY LEASE & SURFACE PLAN

SCALE 1 : 1000

Prepared By:

THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT

C.NATARAJAN,M.Sc,M.Phil.
QUALIFIED PERSON



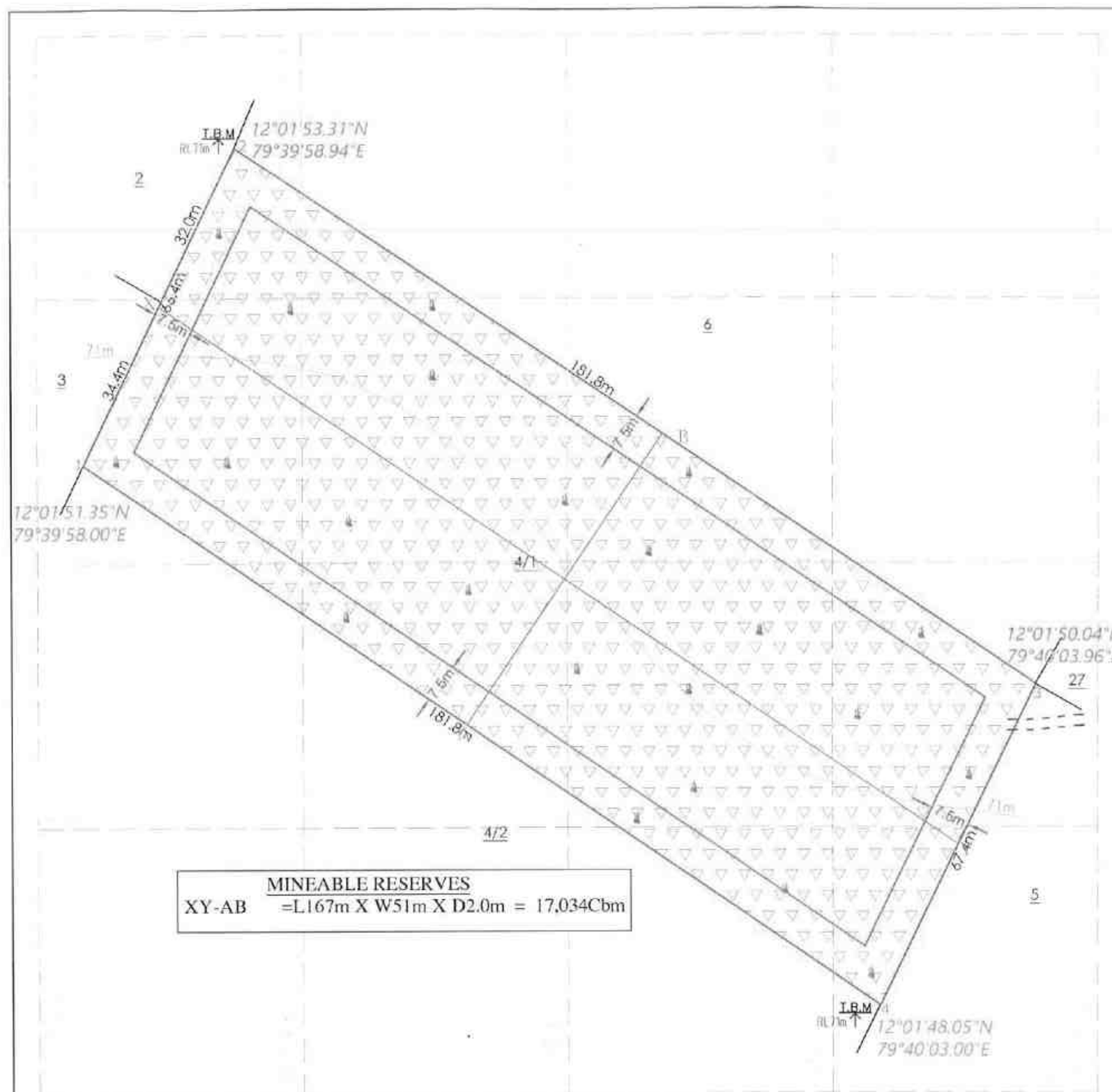


PLATE NO-III

DATE OF SURVEY : 08.05.2024

APPLICANT:

THIRU.E.AMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352 EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF QUARRY

LEASE APPLIED AREA:

S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA BOUNDARY	
7.5m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
ORDINARY EARTH	

TOPOGRAPHY,GEOLOGICAL , YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS

SCALE 1 : 1000

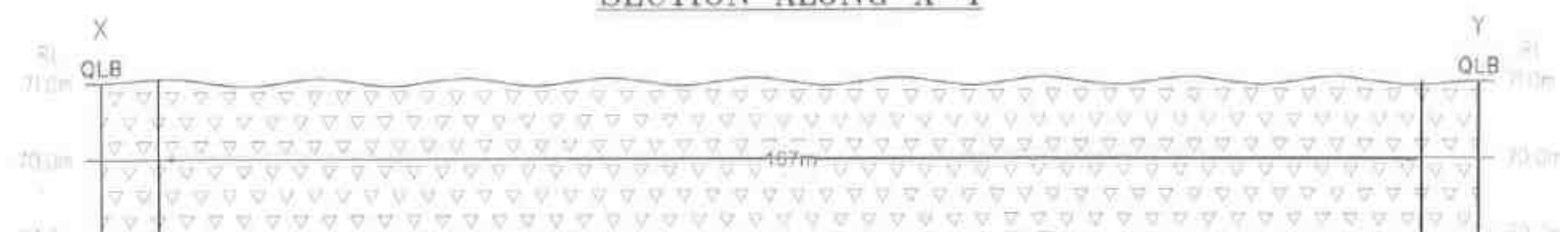
SECTION HOR 1 : 1000, VER 1: 100

Prepared By:

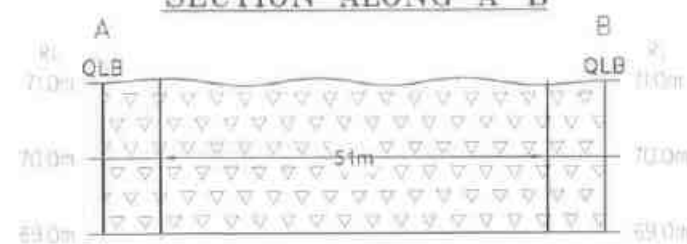
THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT

C.NATARAJAN,M.Sc.M.Phil.
QUALIFIED PERSON

SECTION ALONG X-Y



SECTION ALONG A-B



PRESENT & POST LAND USE PATTERN

DESCRIPTION	AREA REQUIRED DURING THE QUARRYING PERIOD(Ha)	NET AREA CONSIDERED FOR QUARRYING PERIOD (Ha)	COLOR INDEX
AREA UNDER QUARRYING	Nil	0.85.5	
UNUTILIZED AREA	1.22.0	0.36.5	
TOTAL	1.22.0	1.22.0	

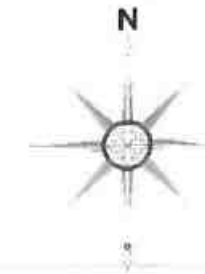
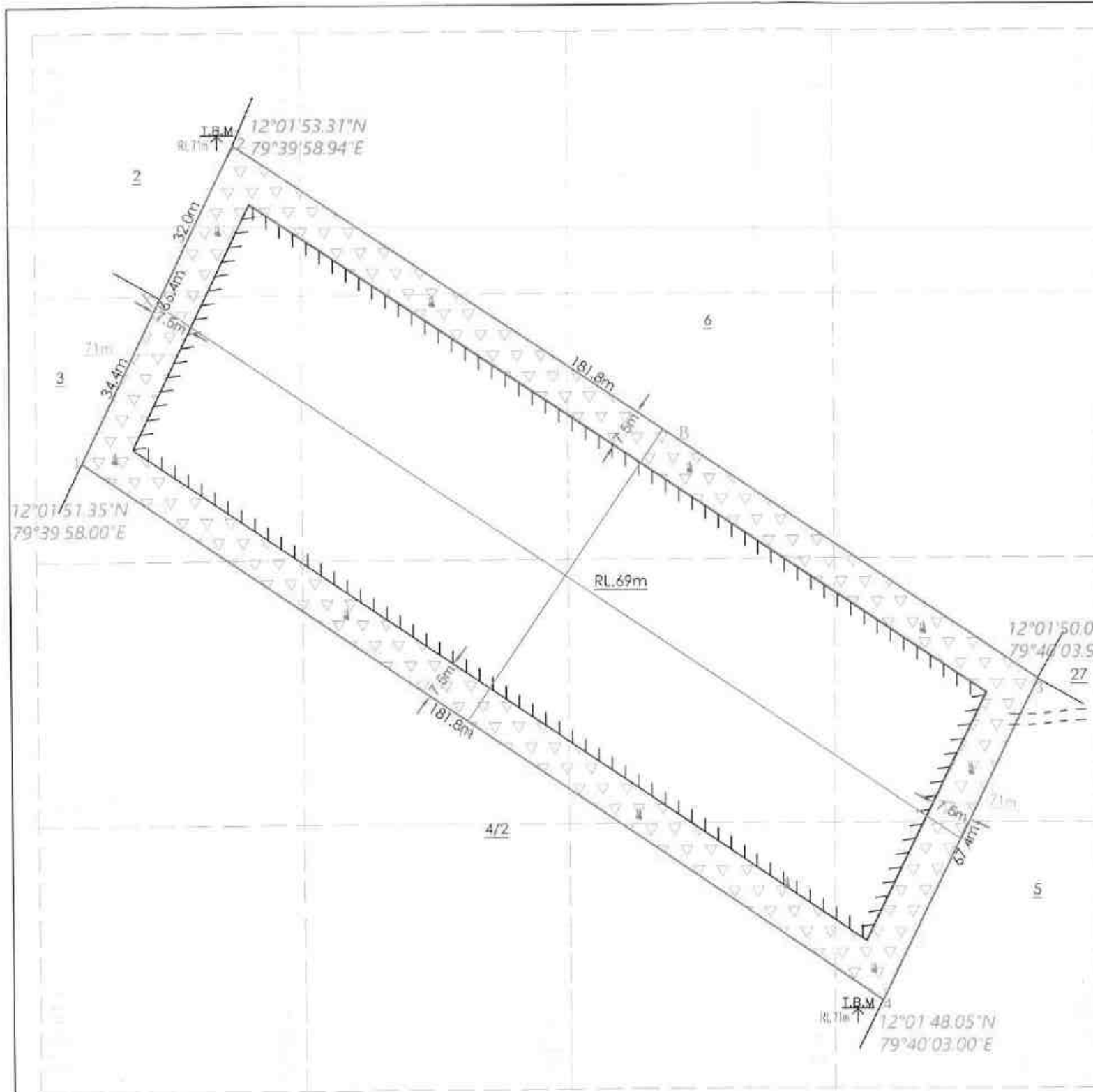


PLATE NO-IV

DATE OF SURVEY : 08.05.2024

APPLICANT:

THIRU.EAMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352.EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF QUARRY

LEASE APPLIED AREA:

S.F.NO : 4/1,

EXTENT : 1.22.0 Ha,

VILLAGE : KADAGAMPATTU,

TALUK : VANUR,

DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA BOUNDARY	
7.5m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
ORDINARY EARTH	
PROPOSED QUARRY PIT	

CONCEPTUAL PLAN & SECTIONS

SCALE 1 : 1000

SECTION HOR 1 : 1000, VER 1: 100

Prepared By:

THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE BASED UPON THE
LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT

C.NATARAJAN, M.Sc., M.Phil.,
QUALIFIED PERSON

SECTION ALONG X-Y



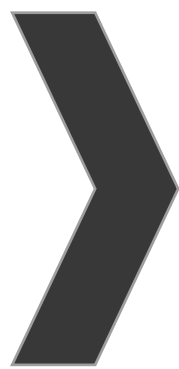
SECTION ALONG A-B



ULTIMATE PIT DIMENSION

L167m X W51m X D2m





ANNEXURE-4

From

Tmt.S. Safiya, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Viluppuram District,
Viluppuram.

To

Thiru.E. Amuthaganesamoorthy,
S/o. Eagambaram,
No. 352, East Street,
Uthangal Village,
Virudhachalam Taluk,
Cuddalore District - 607 804.

Re.No.A/G&M/149/2018 Dated: 22.05.2024

Sir,

Sub: Mines & Minerals – Minor Mineral – Red Earth – Viluppuram District – Vanur Taluk – Kadagampattu Village – S.F.No. 4/1 – 1.22.0 Hectare of patta land – Application seeking quarry lease preferred by Thiru.E. Amuthaganesamoorthy S/o. Eagambaram – Precise area communicated – Details of quarries situated within 500 meter radial distance – furnished – reg.

- Ref: 1. Assistant Director, Geology and Mining, Viluppuram
Letter Re.No.A/G&M/149/2018 Dated: 07.05.2024
2. Representation by Thiru.E. Amuthaganesamoorthy S/o. Eagambaram, No. 352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District
Dated: 17.05.2024

With reference to your letter in the reference 2nd cited, the details of existing, proposed and abandoned quarries located within 500 meter radius from the proposed Ordinary Earth instead of Red Earth quarry, over an extent of 1.22.0 hectares of patta lands in S.F.No. 4/1 – 1.22.0 Hectare of Kadagampattu Village, Vanur Taluk, Viluppuram District are as follows.

Existing quarries:

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Lease period	Remarks
1.	Thiru.K.Vijayan, S/o.Kannaiyan, Kadagampattu Village, Vanur Taluk, Viluppuram District.	Lateritic Soil	Vanur Taluk, Kadagampattu Village	51/7A1 51/7B 51/8A 51/8B1	0.36.45 0.08.0 0.94.0 0.08.0 1.46.45	23.02.2024 to 22.02.2026	

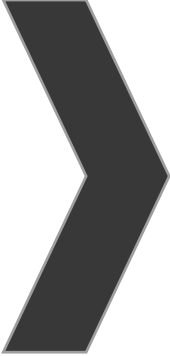
II. Proposed quarries :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Remarks
1.	Thiru.T.Anbazhagan, S/o. Thangavel, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District.	Ordinary Earth	Vanur Taluk, Kadagampattu Village	30/2A	0.81.0	-
2.	Thiru.K.Rajesh, S/o.Kuppan, No. 66, Mariamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District.	Ordinary Earth	Vanur Taluk, Kadagampattu Village	6/7 27/1 27/2A2	0.48.0 0.46.0 0.40.0 1.34.0	-
3.	Thiru.P. Loganathan S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	Ordinary Earth	Vanur Taluk, Kadagampattu Village	30/2B1, 30/2B2, 30/5C, 30/5D, 30/5E	0.30.0 0.12.0 0.20.0 0.82.0 0.23.0 1.67.0	-
4.	Thiru.E. Amuthaganesa moorthy, S/o. Eagambaram, No. 352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District - 607 804.	Ordinary Earth	Vanur Taluk, Kadagampattu Village	4/1	1.22.0	-

III. Abandoned quarries :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Lease period
1.	Thiru. S. Rajavelu S/o. Subramanian, No.47/1, Mariyamman Kovil Street, Kadagampattu Village, Suthukeni Post, Vanur Taluk, Viluppuram District.	Red Earth	Vanur Taluk, Kadagampattu Village.	6/3(p) 6/4 6/5 6/6	0.20.0 0.13.0 0.12.0 0.62.0 1.07.0	08.03.2019 to 07.03.2021
2.	Thiru. Loganathan S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	Red Earth	Vanur Taluk, Kadagampattu Village.	30/1 31/1 31/2A 31/2B 31/3	0.59.0 1.29.0 0.20.5 0.20.5 0.41.0 2.70.0	17.06.2022 to 16.06.2023


 Assistant Director,
 Dept. of Geology and Mining,
 Viluppuram



ANNEXURE-5

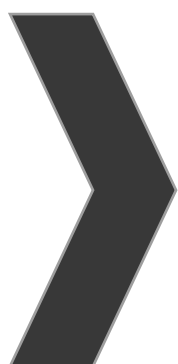
சான்ற

விடுப்புரம் மாவட்டம் வாணர் வட்டம் 63.கடகம்பட்டு
கிராமம், அயன் புக்கை சீர்துை ரண் 4/1 -ல்
வெறகீட்டு 1.22.00 நிலம் பட்டா ரண் 73-ன்
படி 1. தயாளன் த/வ கப்பிரண் 2. இடுகன் த/வ
கப்பிரண் 3. தமித்டண் த/வ தட்டிணா தீர்த்தி
ரண்யன் வயர்ன் கிராம கணகீகி
தாக்கலாகி உள்நக. மெற்படி டுர ரண்ரண்
இடைகன் ரகவும் இன்னை மெற்படி டுரரண்ரண்
உயர்மின் அடுத்த கம்பிகன் ரகவும் இன்னை
மெற்படி டுர ரண்ரண் 200 மீட்டர் அற்றளவில்
ரத்த விதமண் குடியிடுப்புகன் , வுரலாற்ற திரப்பமிக்க
புராதான் சின்னங்கள் , கோவில்கள் , பஸ்கலை
கடகங்கள் , வினையுயர்ந்த மரங்கள் , மகத்திகள் ,
ரகம் இன்னை. மெற்படி வித்தில ரகம்மண்
வட்டி ரகக கிராமத்தில நாளக தேத்யிஸ்
பீட்டுமகண் ரகம்மின்னை ரண்ர சான்றளிக்கப்படுகிறக

சீ. இய்யு

சீ. இய்யு

கிராம நிர்வாக அலுவலர்
62. செங்கமேடு, 63. கடகம்பட்டு,
வாணர் வட்டம், விழுப்புரம் மாவட்டம்.



ANNEXURE-6

District : Viluppuram

Taluk : Vanur

Village : Kadagampattu [63]

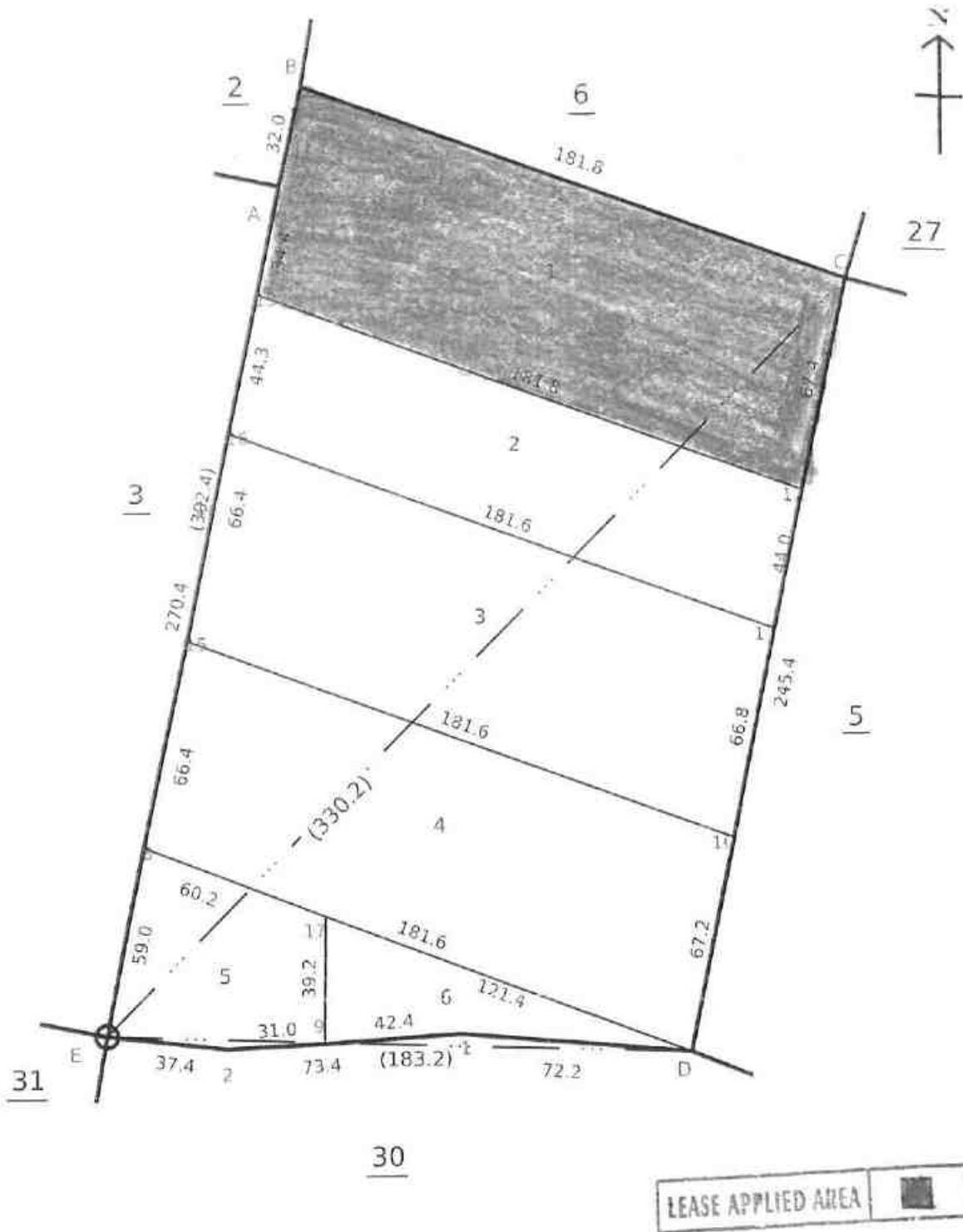


Survey No : 4

Area : Hect 04 Ares 97.50

Scale : 1 : 1987

17 MAY 2024



Signed By Tahsildar
Name of approved authority
Date of Approval : 20-06-2018



பகுதி: 255000
பகுதி: 255000

பகுதி எண் 2 மீட்டர் : 63 கிலோமீட்டர்
பகுதி எண்.

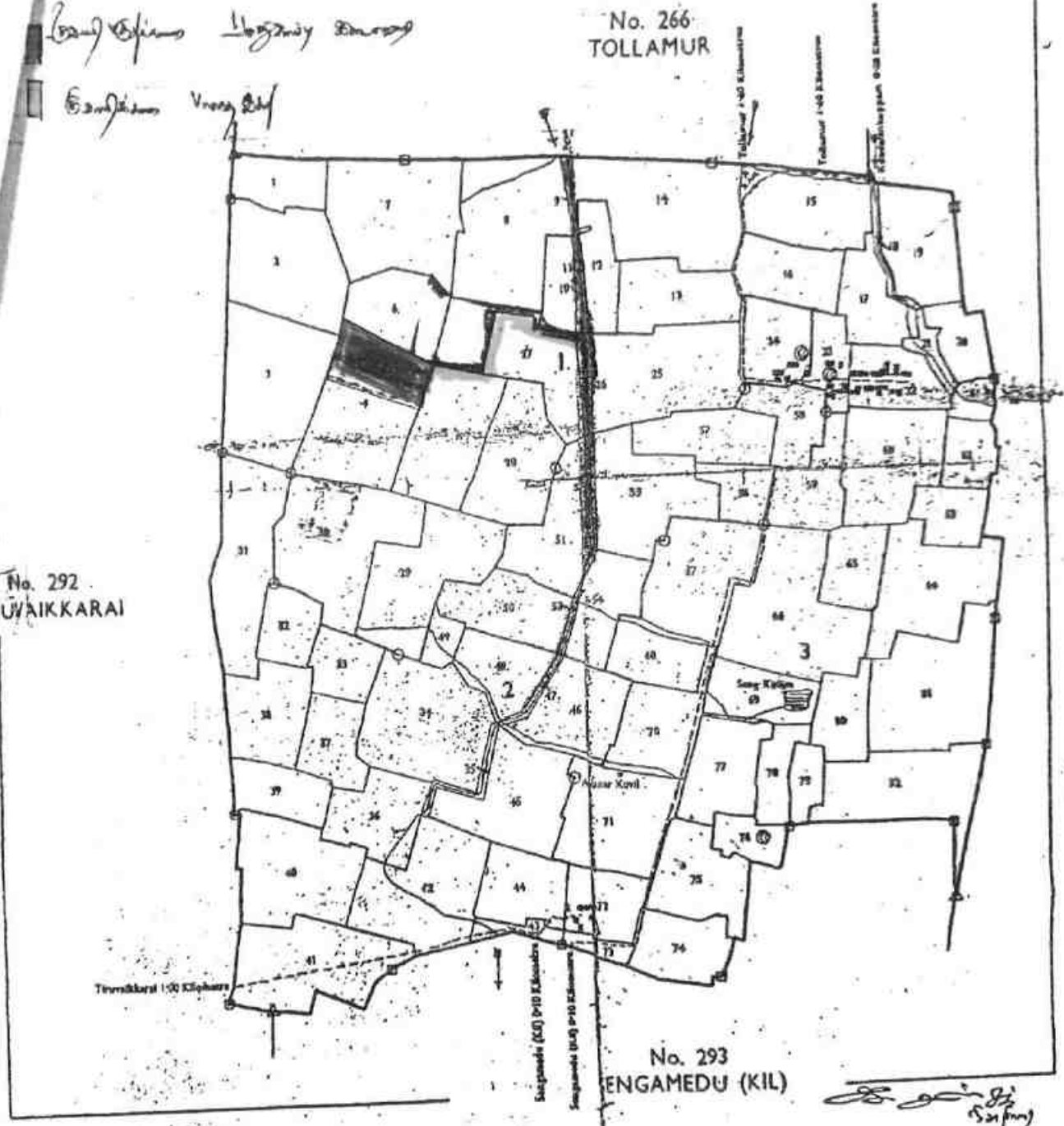
35 கி.மீ. 4/1-1 21.0 கி.மீ. (பகுதி) பகுதி 255000 கிலோமீட்டர்

பகுதி எண் 255000 கிலோமீட்டர்

பகுதி எண் 255000 கிலோமீட்டர்

No. 266
TOLLAMUR

No. 292
TIRUVAIKKARAI



Tahsildar
VANUR

LEASE APPLIED AREA

6/7/18



தமிழ்நாடு அரசு

வருவாய்த் துறை

ANNEXURE

17 MAY 2024

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

மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

வருவாய் கிராமம் : கடகம்பட்டு

பட்டா எண் : 73

உரிமையாளர்கள் பெயர்

1.	சுப்ரமணியகவுண்டர்	தந்தை	தயாளன்	
2.	சுப்ரமணியகவுண்டர்	தந்தை	முருகன்	
3.	தட்சணாமூர்த்தி	தந்தை	தமிழ்மணி	

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
4	1	1 - 22.00	3.36	--	--	--	--	2022/0103/07/276087- ----- 09-03-2022
		1 - 22.00	3.36					

குறிப்பு :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 07/02/063/00073/80350 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 15-05-2024 அன்று 06:29:37 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

என் மீது உத்தரவு

[illegible]

~~11 MAY 20~~

380/27-R.F. III-A-10-25,00,000 Cps.-GBP.-Mou.-7,-2016.



Department of Revenue
Government of Tamil Nadu

Tamil Nadu Revenue Survey and Administration and Management



Login: Firka Surveyor

District Villuppuram, Taluk VANUR, Firka NEPAL

செய்த நாள்: 6/Jun/2018

தமிழ்நாடு அரசு



வருவாய்துறை

அ - பதிவேடு

தற்போதைய உபயோகத்திற்கு எட்டும்

மாவட்டம்

விலுப்பூர்(07)

வட்டம்

வானூர்(02)

கிராமம்

கடகம்பட்டு(063)

வ.எண்	புல எண்	உட்பிரிவு எண்	பழைய புல உட்பிரிவு எண்	பகுதி	அரசு - ரயத்துவாரி	நிலத்தின் வகை	பாசன ஆதாரம்	இரு கோமாவா	மண் வயணமும் ரகமும்	மண் தரம்	தீர்வை - ஹெக்டேர்	பரப்பு ஹெக்டேர்	மொத்த தீர்வை ரூ. பை	மட்ட எண்
1	4	1	7-1		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1 22 3 36	73	1.தடையன் 2.முகுகன் 3.தமிழ்மணி
2	4	2	-13	P	ரயத்துவாரி புஞ்சை				8-4	7	2 75	0 79 2 17	322	1.அப்பழகன்
3	4	3	-14		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1 22 3 36	2	1.நாராயணசாமி
4	4	4	-15		ரயத்துவாரி புஞ்சை				8-4	7	2 75	1 23 3 38	2	1.நாராயணசாமி
5	4	5	-16		ரயத்துவாரி புஞ்சை				8-4	7	2 75	0 33 0 91	2	1.நாராயணசாமி
6	4	6	-17		ரயத்துவாரி புஞ்சை				8-4	7	2 75	0 18.5 0 51	50	1.சரோஜா
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एक सौ रुपये

Rs. 100

रु. 100

ONE
HUNDRED RUPEESभारत INDIA
INDIA NON JUDICIAL

தமிழ்நாடு தமிழ்நாடு TAMILNADU

BF 505420

10343
2-8-17ஏ. அனாத கண்ணகவேல்
2வது பார்ட்டிவே. சத்தியசூக்தி
முதலாதிக்க
L No 1755
நாடுவாசககுத்தகை உடன்படிக்கை பத்திரம்

2017ம் ஆண்டு ஆகஸ்ட் மாதம் 02ம் தேதி (02.08.2017) தமிழ்நாடு மாநிலம், விழுப்புரம் மாவட்டம், வானூர்வட்டம், கடகம்பட்டு கிராமம், முகவரியில் ஏற்கனவே வசித்து வந்து தற்காலம் புதுச்சேரி மாநிலம், புதுச்சேரி, மண்ணாடிப்பட்டு கொம்பூன், விங்காரெட்டிப்பாளையம், அண்ணாமலை நகர், பெரியவீதி என்ற வீட்டு முகவரியில் வசிக்கும் திரு. சுப்பரமணி அவர்களின் குமாரர் திரு. சு. தயாளன்-1 (ஆதார் அட்டை எண் 2843 1035 0336 Cell No. 9786854052) மேற்படி வானூர் வட்டம், கடகம்பட்டு கிராமம், மேட்டு தெரு, நெ.1/44 என்ற வீட்டு முகவரியில் வசிக்கும் மேற்படி சுப்பரமணி அவர்களின் குமாரர் திரு. சு. முருகன்-2 (ஆதார் அட்டை எண் 7382 2294 2193 Cell No 9751395359) மேற்படி வானூர் வட்டம் கடகம்பட்டு கிராமம் முகவரியில் ஏற்கனவே வசித்து வந்து தற்காலம் புதுச்சேரி மாநிலம், புதுச்சேரி -9, சொக்கநாதன்பேட்டை, அண்ணாக்கரைவீதி தெற்கு, நெ.6 என்ற வீட்டு முகவரியில் வசிக்கும்

1வது பார்ட்டி

2வது பார்ட்டி

S. Manoj





43AB 476027

TAMIL NADU

102826 20/-
18.11

கு. அருத அனேசமூர்த்தி
மாநில அமைச்சர்

வே. சத்தியாவதி
மு.தா.வி வானூர்
L No 1795 B1/2010

2 தமிழ்நாடு.

திரு. தட்சணாமூர்த்தி அவர்களின் குமாரர் திரு. தமிழ்மணி-3 (ஆதார் அட்டை எண் 2705 7735 0278) மேற்படி 1 முதல் 3 நாட்கள் வரை (1) வது பார்ட்டி குத்தகை விடுபவர்). தமிழ்நாடு மாநிலம், கடலூர் மாவட்டம், விருத்தாசலம் வட்டம், ஊத்தங்கால், கிழக்கு தெரு, நெ.352 என்ற வீட்டு முகவரியில் வசிக்கும் திரு. ஏகாம்பரம் அவர்களின் குமாரர் திரு. ஏ. அருத அனேசமூர்த்தி (ஆதார் அட்டை எண் 3679 1365 9496 Cell No 9842528651) -2 வது பார்ட்டி குத்தகை எடுப்பவர் ஆகிய நாம் இருபார்ட்டிகளும் சேர்ந்து சம்மதித்து எழுதிக்கொண்ட குத்தகை உடன்படிக்கை பத்திரம் யாதெனில்

இதனடியில் சொத்து விபரத்தில் விவரிக்கப்பட்டுள்ள சொத்தானது 30.08.1999ம் தேதியில் சிவக்குமார்-1 சிவபாலன்-2 ஆகியவர்களிடமிருந்து எங்களில் 1வது பார்ட்டியில் குறிப்பிட்ட தயாளன்-1 முருகன்-2 தமிழ்மணி-3 ஆகியவர்களின் பெயரில் கிரையம் பெற்ற சொத்து அது வானூர் சார்பதிவகத்தில் புத்தகம் 1410 வால்டும் 233-235 பக்கம் 1999ம் வருடத்திய 2799ம் நெம்பராக பதிவுசெய்யப்பட்டது.

1வது பார்ட்டி

S. S. S. S. S.

சென்னை
17

2வது பார்ட்டி

17



$\frac{10285}{1.8.17}$ G 2017



மேற்படி கிரைய சொத்துடன் பத்திரத்திற்கு 14.10.1999ம் தேதியில் ஓர் திருத்தல் பத்திரம் ஏற்பட்டு அது வானூர் சார்பதிவகத்தில் 1புத்தகம் 1417 வால்யும் 151 பக்கம் 1999ம் வருடத்திய 3260ம் நெம்பராக பதிவுசெய்யப்பட்ட பிழைதிருத்தல் ரப்படியும், கிரைய பத்திர ஷாத்துக்கள்படியும் ஆக மேற்படி பத்திரங்களின்படி 1வது பட்டிக்கு சொந்தமும் அனுபவம் உரிமையும் உள்ள கீழ்கண்ட சொத்தை 1வது பார்ட்டி து பார்ட்டிக்கு (3) மூன்று வருட காலத்திற்கு செம்மண் எடுத்து குவாரி நடத்த த்ததைக்கு விடுதலாகவும் 2வது பார்ட்டி செம்மண் எடுக்க குத்ததை எடுத்துக் கான்ருவதாகவும் நமக்குள் ஒப்புக்கொண்டு இதற்கு வருடக் குத்தகையாக ரூபாய் 0,000/. ரூபாய் மூப்பது ஆபிரம் வீதம் நிர்ணயித்துக் கொண்டனர். குத்தகைக்கு மூலவருடக்குத்தகை தொகை ரூபாய் 30,000/. ரூபாய் மூப்பது ஆபிரத்தினை 2வது பார்ட்டியிடமிருந்து 1வது பார்ட்டி ரொக்கமாக பெற்றுக்கொண்டனர். ஒவ்வொரு வருட குத்தகை தொகையினை அந்தந்த வருட கெடு முடிவிற்குள் 2வது பார்ட்டி 1வது பார்ட்டிக்கு ரொக்கமாக கொடுக்க வேண்டியது.

Ref. 1000
S. 1000

தமிழ்மணி

S. Study Q



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11 NADU

சொத்துவிபரம்

1வது பார்ட்டி

சுபிரமணியன்

S. Schuchly 18

17 MAY 2024
 சென்னை மாநகர காவல்துறை



TAMIL NADU 10280 6201-
 1-8-17
 3AB 476030
 2-1-17
 செ. சத்தியாவதி
 மு.தா.வி.வா.சு.
 L No 1795 B1/2010
 தமிழ்நாடு.
 5

குதிராம்பாள் நிலத்திற்கு வடக்கு இதற்குட்பட்ட மேற்படி மூன்று ஏக்கர் ஐந்து செண்டு நிலம்
 மட்டில் குத்தகை பத்திரம்

1வது பார்ட்டி
 ச.முகேஷ்
 S. mukesh
 சாட்சிகள்
 2வது பார்ட்டி
 ச.சுப்பிரமணியன்
 ச.சுப்பிரமணியன்

1 A. Kaliamurthi
 A. KALIAMURTHI / Arumugam Thiruvakkaal Varma T.K
 2 P. Senthil S/o palaniel othangal VRudhachan
 ஆவணம் வசூலி அளித்தவர்
 ஜெ.மதுவேந்தன் B.com.
 மாவட்ட ஆவண எழுத்தர் வாரியம்
 2.11.2020 எண். A/144/TDM/2000

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 5 10

17/BK1

1556
/ 2017

முத்தையாச்சட்டம் பி.பி.பி. 17-4-2017 கீழ்க் காண்பது

1556-ல் வரிக்கும் திருவள்ளூர் தாலுகா பி.பி.பி. 17-4-2017 கீழ்க் காண்பது
மூலம் (குறைவு முத்தியைக்கட்டணம் ரூ. 72500) செலுத்தி
ம்) வசூலிக்கப்பட்டது என மனநினைவடைந்து காண்பது கீழ்க் காண்பது.

ம.அ: Vanur
தன்: 02/08/2017

சார்புதலாளிகள் மட்டும் இல்லாத
முத்தையாச்சட்டம் பி.பி.பி. 17-4-2017 கீழ்க் காண்பது



Vanur சார்புதலாளிகள் வானூர் அலுவலகத்தில் 02/08/2017 கீழ்க் காண்பது 12.1 மனநினைவடைந்து காண்பது
கட்டணம் ரூ 1050 செலுத்தியவர்

1 இடது பெரு விரல்



S. K. Suman

மேல் விவரம் ஆவண வாசகம்

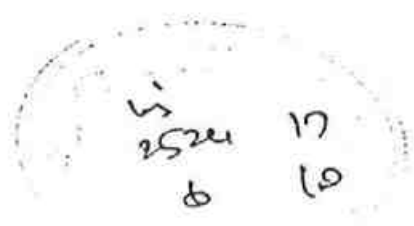
எழுதிக் கொடுத்ததாக ஒப்புக்கொண்டவர்

1 இடது பெரு விரல்



S. K. Suman

மேல் விவரம் ஆவண வாசகம்



Sheet no 1 of 3

भारत सरकार
Amulhaganesamoorthy
Eagambaram
17/04/1959
DOB: 08/04/1959
Gender: MALE



3679 1365 9496

-அதிரண மனிதனின் அதிகாரம்

भारतीय विशिष्ट पहचान प्राधिकरण

Address:
S/O Subramani, 1/44,
STREET ANNA NAGAR,
KADUGAMPALLU VILUPURAM,
TAMIL NADU - 605504
3679 1365 9496



3679 1365 9496

-Aam Admi ka Adhikar

Right of citizenship, not of citizenship



भारत सरकार
GOVERNMENT OF INDIA



O. Thamicham
Father: Dhalchamam
Year of Birth: 1973
Gender: Male



2705 7735 0278

-அதிரண மனிதனின் அதிகாரம்



இந்திய தனிப்பட்ட அடையாள ஆவணப்படுத்தல்
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

முகவரி:
S/O Dhalchamam, 6,
Annaikaral Street South,
Sokkanthipost,
Pondicherry, Pondicherry,
605009

Address:
S/O Dhalchamam, 6,
Annaikaral Street South,
Sokkanthipost,
Pondicherry, Pondicherry,
605009

Handwritten signature



இந்திய தனிப்பட்ட அடையாள ஆவணப்படுத்தல்
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

முகவரி:
S/O Subramani, 1/44,
STREET ANNA NAGAR,
KADUGAMPALLU VILUPURAM,
TAMIL NADU - 605504

Address:
S/O Subramani, 1/44,
STREET ANNA NAGAR,
KADUGAMPALLU VILUPURAM,
TAMIL NADU - 605504

Handwritten signature



भारत सरकार
GOVERNMENT OF INDIA



S. Dhayan
Father: Dhalchamam
Year of Birth: 1973
Gender: Male



2843 1035 0336

-அதிரண மனிதனின் அதிகாரம்



भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

முகவரி:
S/O Subramani, 1/44,
STREET ANNA NAGAR,
KADUGAMPALLU VILUPURAM,
TAMIL NADU - 605504

Address:
S/O Subramani, 1/44,
STREET ANNA NAGAR,
KADUGAMPALLU VILUPURAM,
TAMIL NADU - 605504

Handwritten signature



S. Murugan
DOB: 31/05/1978
Gender: MALE



1382 2294 2193

MEPA ADHAKAR, MERI PEHACHAN

கிராமக் கணக்கு
வட்டம் கி.நகம்பலம்

வட்டம் கி.சுமீ. 150

17 MAY 2024

வினா எண் 13

122

[illegible]

13/11/17 - 24.07.2017

தமிழ் - கருத்துப்படி	

Village Administrative Officer
62, Sengamedu,
63, Kadagampattu,
Venur Taluk, Villupuram Dist

லக இணைய சேவை - நில உ...

http://eservices.tn.gov.in/eservicesnew/land/chittaExtract.ta.html?lan...

17 MAY 2018

விழுப்புரம்



தமிழக அரசு

வருவாய்த் துறை

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

வட்டம் : வானூர்

பட்டா எண் : 73

வட்டம் : விழுப்புரம்

வருவாய் கிராமம் : கடகம்பட்டு

உரிமையாளர்கள் பெயர்

1.	சுப்ரமணியசுண்டர்	தந்தை	தயாளன்
2.	சுப்ரமணியசுண்டர்	தந்தை	முருகன்
3.	சுப்ரமணியசுண்டர்	தந்தை	தமிழமணி

நன்செய்		புன்செய்		மற்றவை	
பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை
புல எண்	உட்பிரிவு	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை
4	1	1 - 22.00	3.36		
		1 - 22.00	3.36		

குறிப்பு2 :

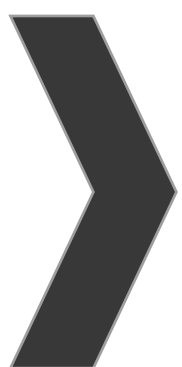


- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 07/02/063/00073/80350 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 22-08-2017 அன்று 12:14:43 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

For IT & Information Security
Tamil Nadu Revenue Society Ltd.

(Signature)

8/22/2017 12:14 P



ANNEXURE-7



Shrient Analytical and Research Labs Pvt. Ltd

416/15, Dhargas Road, West Tambaram, Chennai- 600045

Phone Number +91 82208 36377 Email: - info@shrientanalytical.com

www.shrientanalytical.com

TEST REPORT

Report No.	SARL/24/3996	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-3996	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	08.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/3997	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-3997	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	08.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	41.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

S. Paul
Verified



J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R



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TEST REPORT

Report No.	SARL/24/3998	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-3998	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	09.10.2024	Test Completed on	19.10.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	43.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

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TEST REPORT

Report No.	SARL/24/3999	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-3999	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	09.10.2024	Test Completed on	19.10.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	38.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4000	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4000	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	10.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4001	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu..
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4001	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	10.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4002	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4002	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	11.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4003	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4003	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	11.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4004	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4004	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	12.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4005	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4005	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	12.10.2024	Test Completed on	19.10.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4006	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4006	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	13.10.2024	Test Completed on	19.10.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4007	Report Date.	19.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4007	Sample Received on	14.10.2024
Sample Collected by	LABORATORY	Test Commenced on	14.10.2024
Sample Collected on	13.10.2024	Test Completed on	19.10.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R
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TEST REPORT

Report No.	SARL/24/4020	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4020	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	15.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4021	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4021	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	15.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4022	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4022	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	16.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4023	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4023	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	16.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4024	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4024	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	17.10.2024	Test Completed on	26.10.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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416/15, Dhargas Road, West Tambaram, Chennai- 600045
Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
www.shrientanalytical.com

TEST REPORT

Report No.	SARL/24/4025	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4025	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	17.10.2024	Test Completed on	26.10.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4026	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4026	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	18.10.2024	Test Completed on	26.10.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4027	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4027	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	18.10.2024	Test Completed on	26.10.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4028	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4028	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	19.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4029	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4029	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	19.10.2024	Test Completed on	26.10.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4030	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4030	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	20.10.2024	Test Completed on	26.10.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4031	Report Date.	26.10.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4031	Sample Received on	21.10.2024
Sample Collected by	LABORATORY	Test Commenced on	21.10.2024
Sample Collected on	20.10.2024	Test Completed on	26.10.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	41.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4044	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4044	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	22.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4045	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4045	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	22.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	37.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
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TEST REPORT

Report No.	SARL/24/4046	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4046	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	23.10.2024	Test Completed on	02.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4047	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4047	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	23.10.2024	Test Completed on	02.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	42.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4048	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4048	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	24.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4049	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4049	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	24.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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Technical Manager

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TEST REPORT

Report No.	SARL/24/4050	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4050	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	25.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4051	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4051	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	25.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4052	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4052	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	26.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
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TEST REPORT

Report No.	SARL/24/4053	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4053	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	26.10.2024	Test Completed on	02.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4054	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4054	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	27.10.2024	Test Completed on	02.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. K
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4055	Report Date.	02.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4055	Sample Received on	28.10.2024
Sample Collected by	LABORATORY	Test Commenced on	28.10.2024
Sample Collected on	27.10.2024	Test Completed on	02.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4068	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4068	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	29.10.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	55.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4069	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4069	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	29.10.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4070	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4070	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	30.10.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4071	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4071	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	30.10.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	55.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4072	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4072	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	31.10.2024	Test Completed on	09.11.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	58.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4073	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4073	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	31.10.2024	Test Completed on	09.11.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4074	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4074	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	01.11.2024	Test Completed on	09.11.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4075	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4075	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	01.11.2024	Test Completed on	09.11.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
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TEST REPORT

Report No.	SARL/24/4076	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4076	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	02.11.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	45.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4077	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4077	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	02.11.2024	Test Completed on	09.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4078	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4078	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	03.11.2024	Test Completed on	09.11.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	40.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4079	Report Date.	09.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4079	Sample Received on	04.11.2024
Sample Collected by	LABORATORY	Test Commenced on	04.11.2024
Sample Collected on	03.11.2024	Test Completed on	09.11.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	38.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4092	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4092	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	05.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	45.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4093	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4093	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	05.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	40.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4094	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4094	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	06.11.2024	Test Completed on	16.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	41.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4095	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4095	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	06.11.2024	Test Completed on	16.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	45.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4096	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4096	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	07.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4097	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4097	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	07.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4098	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4098	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	08.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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TEST REPORT

Report No.	SARL/24/4099	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4099	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	08.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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TEST REPORT

Report No.	SARL/24/4100	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4100	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	09.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4101	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4101	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	09.11.2024	Test Completed on	16.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R
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TEST REPORT

Report No.	SARL/24/4102	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4102	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	10.11.2024	Test Completed on	16.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4103	Report Date.	16.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4103	Sample Received on	11.11.2024
Sample Collected by	LABORATORY	Test Commenced on	11.11.2024
Sample Collected on	10.11.2024	Test Completed on	16.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4116	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4116	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	12.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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TEST REPORT

Report No.	SARL/24/4117	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4117	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	12.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4118	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4118	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	13.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4119	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4119	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	13.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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Technical Manager

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TEST REPORT

Report No.	SARL/24/4120	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4120	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	14.11.2024	Test Completed on	23.11.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4121	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4121	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	14.11.2024	Test Completed on	23.11.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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TEST REPORT

Report No.	SARL/24/4122	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4122	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	15.11.2024	Test Completed on	23.11.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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TEST REPORT

Report No.	SARL/24/4123	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4123	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	15.11.2024	Test Completed on	23.11.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
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J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4124	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4124	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	16.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4125	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4125	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	16.11.2024	Test Completed on	23.11.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	39.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
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TEST REPORT

Report No.	SARL/24/4126	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4126	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	17.11.2024	Test Completed on	23.11.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4127	Report Date.	23.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4127	Sample Received on	18.11.2024
Sample Collected by	LABORATORY	Test Commenced on	18.11.2024
Sample Collected on	17.11.2024	Test Completed on	23.11.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4140	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4140	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	19.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	106	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4141	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4141	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	19.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4142	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4142	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	20.11.2024	Test Completed on	30.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	42.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4143	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4143	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	20.11.2024	Test Completed on	30.11.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	40.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4144	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4144	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	21.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4145	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4145	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	21.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	58.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4146	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4146	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	22.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4147	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4147	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	22.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	63.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4148	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4148	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	23.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4149	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4149	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	23.11.2024	Test Completed on	30.11.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	45.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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TEST REPORT

Report No.	SARL/24/4150	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4150	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	24.11.2024	Test Completed on	30.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4151	Report Date.	30.11.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4151	Sample Received on	25.11.2024
Sample Collected by	LABORATORY	Test Commenced on	25.11.2024
Sample Collected on	24.11.2024	Test Completed on	30.11.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4164	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4164	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	26.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4165	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4165	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	26.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4166	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4166	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	27.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Technical Manager

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TEST REPORT

Report No.	SARL/24/4167	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4167	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	27.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4168	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4168	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	28.11.2024	Test Completed on	07.12.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4169	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4169	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	28.11.2024	Test Completed on	07.12.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	59.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4170	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4170	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	29.11.2024	Test Completed on	07.12.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4171	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4171	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	29.11.2024	Test Completed on	07.12.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4172	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4172	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	30.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4173	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4173	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	30.11.2024	Test Completed on	07.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4174	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4174	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	01.12.2024	Test Completed on	07.12.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4175	Report Date.	07.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4175	Sample Received on	02.12.2024
Sample Collected by	LABORATORY	Test Commenced on	02.12.2024
Sample Collected on	01.12.2024	Test Completed on	07.12.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
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J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com

www.shrientanalytical.com

TEST REPORT

Report No.	SARL/24/4188	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4188	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	03.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	42.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4189	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4189	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	03.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4190	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4190	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	04.12.2024	Test Completed on	14.12.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	43.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4191	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4191	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	04.12.2024	Test Completed on	14.12.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4192	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4192	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	05.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4193	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4193	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	05.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	58.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4194	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4194	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	06.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4195	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4195	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	06.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	65.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4196	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4196	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	07.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4197	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4197	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	07.12.2024	Test Completed on	14.12.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4198	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4198	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	08.12.2024	Test Completed on	14.12.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4199	Report Date.	14.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4199	Sample Received on	09.12.2024
Sample Collected by	LABORATORY	Test Commenced on	09.12.2024
Sample Collected on	08.12.2024	Test Completed on	14.12.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	45.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4212	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4212	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	10.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4213	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4213	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	10.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	54.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4214	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4214	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	11.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4215	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4215	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	11.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4216	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4216	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	12.12.2024	Test Completed on	21.12.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4217	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4217	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	12.12.2024	Test Completed on	21.12.2024
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	61.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4218	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4218	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	13.12.2024	Test Completed on	21.12.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4219	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4219	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	13.12.2024	Test Completed on	21.12.2024
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	62.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4220	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4220	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	14.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4221	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4221	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	14.12.2024	Test Completed on	21.12.2024
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4222	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4222	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	15.12.2024	Test Completed on	21.12.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4223	Report Date.	21.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4223	Sample Received on	16.12.2024
Sample Collected by	LABORATORY	Test Commenced on	16.12.2024
Sample Collected on	15.12.2024	Test Completed on	21.12.2024
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	43.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4236	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4236	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	17.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4237	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4237	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	17.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	25%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
www.shrientanalytical.com

TEST REPORT

Report No.	SARL/24/4238	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4238	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	18.12.2024	Test Completed on	29.12.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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Please Contact:

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TEST REPORT

Report No.	SARL/24/4239	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4239	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	18.12.2024	Test Completed on	29.12.2024
Temperature	34°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4240	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4240	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	19.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4241	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4241	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	19.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	27%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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TEST REPORT

Report No.	SARL/24/4242	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4242	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	20.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	57.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4243	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4243	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	20.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	26%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	55.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4244	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4244	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	21.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	47.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4245	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4245	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	21.12.2024	Test Completed on	29.12.2024
Temperature	36°C	Relative Humidity	28%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	46.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4246	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4246	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	22.12.2024	Test Completed on	29.12.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
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TEST REPORT

Report No.	SARL/24/4247	Report Date.	29.12.2024

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4247	Sample Received on	23.12.2024
Sample Collected by	LABORATORY	Test Commenced on	23.12.2024
Sample Collected on	22.12.2024	Test Completed on	29.12.2024
Temperature	35°C	Relative Humidity	32%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4275	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4275	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	24.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	52.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4276	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4276	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	24.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	56.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
Authorized Signatory
J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4277	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- KUDUKKUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4277	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	25.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	48.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4278	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6- NEMILI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4278	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	25.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	53.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

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J. K.
Authorized Signatory
J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4279	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4279	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	26.12.2024	Test Completed on	11.01.2025
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	49.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4280	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4280	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	26.12.2024	Test Completed on	11.01.2025
Temperature	37°C	Relative Humidity	21%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	64.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. 4
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TEST REPORT

Report No.	SARL/24/4281	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3- PUDUKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4281	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	27.12.2024	Test Completed on	11.01.2025
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	51.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4282	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KODALAMKUPPAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4282	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	27.12.2024	Test Completed on	11.01.2025
Temperature	37°C	Relative Humidity	23%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	60.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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TEST REPORT

Report No.	SARL/24/4283	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4283	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	28.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	41.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4284	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4284	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	28.12.2024	Test Completed on	11.01.2025
Temperature	36°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	43.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.
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J. GNANAPRAKASAM
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4285	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4285	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	44.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
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J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4286	Report Date.	12.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-TIRUVAIKKARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4286	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Temperature	35°C	Relative Humidity	30%
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results	*Limits
1	Particulate Matter less than 10micron size (PM ₁₀)	IS:5182: Part 23:2006	µg/m ³	50.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

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END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4301	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	NOISE LEVEL DATA

Customer Reference	As per work order	Sampling Method	SARL/IOP/023
Sample Reference No	SARL/NO/CHE-4301	Date of Monitoring	28.12.2024/ 29.12.2024
Sample Collected by	LABORATORY		

Time in hrs	N1	N2	N3	N4	N5	N6
06.00	41.7	38.5	37.6	37.6	39.6	38.9
07.00	40.5	39.4	38.6	40.3	41.3	37.2
08.00	42.7	42.7	39.2	41.2	44.2	38.2
09.00	45.5	44.4	40.5	41.3	42.5	41.5
10.00	46.7	43.5	40.7	44.2	41.6	42.3
11.00	47.1	46.7	43.6	41.2	40.2	42.5
12.00	43.5	45.8	44.9	42.9	44.2	42.4
13.00	48.8	43.4	46.4	53.2	47.7	45.2
14.00	49.1	45.6	44.7	52.1	50.5	43.1
15.00	46.5	46.7	44.3	50.6	49.9	48.5
16.00	47.1	47.1	45.6	45.2	48.1	44.5
17.00	44.4	43.9	43.9	43.5	47.9	45.2
18.00	42.5	48.1	43.9	40.9	48.8	44.5
19.00	43.9	42.2	43.2	40.4	49.4	41.2
20.00	42.8	43.7	41.9	39.9	47.7	42.7
21.00	40.4	38.9	43.4	41.6	45.8	43.9
22.00	39.1	39.1	40.9	40.5	43.2	43.2
23.00	38.8	39.6	38.9	38.2	45.5	38.5
24.00	37.5	38.8	40.5	39.5	44.1	41.5
01.00	38.1	38.6	39.2	37.4	37.2	36.9
02.00	38.2	42.7	37.2	37.6	39.3	35.8
03.00	39.1	40.5	37.5	36.1	40.1	37.7
04.00	37.5	41.4	36.9	36.9	37.6	35.9
05.00	38.2	40.7	38.3	35.7	38.4	36.2

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TEST REPORT

Report No.	SARL/24/4301

Report Date.	11.01.2025

	N1	N2	N3	N4	N5	N6
DAY EQUIVALENT	45.4	44.6	43.3	46.4	46.8	43.5
NIGHT EQUIVALENT	38.4	40.4	38.9	38.0	41.7	39.1
DAY & NIGHT EQUIVALENT	44.0	43.6	42.3	44.9	45.7	42.4

Remarks:

LOCATIONS:

N1-PROPOSED ML AREA
N2-TIRUVAIKKARAI VILLAGE
N3- PUDUKUPPAM VILLAGE
N4-KODALAMKUPPAM VILLAGE
N5- KUDUKKUR VILLAGE
N6- NEMILI VILLAGE

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4295	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	SOIL
Sample Mark	S1-PROPOSED MINE LEASE AREA

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4295	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.94
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	75.12
3	Dry matter content	IS 15106: 2002	%	93.49
4	Water Content	IS 15106: 2002	%	6.51
5	Organic Matter	IS 2720: Part 22: 1972	%	1.07
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	236
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	30.68
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	51.68
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	17.70
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.10
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	715
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	797
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	24.1
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.5

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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TEST REPORT

Report No.	SARL/24/4296	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.		
Sample Description	SOIL		
Sample Mark	S2-TIRUVAIKKARAI VILLAGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4296	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	6.44
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	67.54
3	Dry matter content	IS 15106: 2002	%	95.03
4	Water Content	IS 15106: 2002	%	4.97
5	Organic Matter	IS 2720: Part 22: 1972	%	1.22
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	344
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	26.89
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	62.14
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	10.97
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.84
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	689
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	765
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	25.9
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.6

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4297	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	SOIL
Sample Mark	S3-PUDUKUPPAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4297	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.86
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	89.23
3	Dry matter content	IS 15106: 2002	%	95.39
4	Water Content	IS 15106: 2002	%	4.61
5	Organic Matter	IS 2720: Part 22: 1972	%	0.76
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	180
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	44.15
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	45.87
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	9.98
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.79
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	814
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	929
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	27.6
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.9

BDL – Below Detectable limit (DL - Detectable limit).

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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4298	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	SOIL
Sample Mark	S4-KODALAMKUPPAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4298	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	6.96
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	91.85
3	Dry matter content	IS 15106: 2002	%	92.26
4	Water Content	IS 15106: 2002	%	7.74
5	Organic Matter	IS 2720: Part 22: 1972	%	0.53
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	178
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	40.25
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	48.69
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	11.06
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	2.60
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	579
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	652
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	21.7
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.7

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4299	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	SOIL
Sample Mark	S5- KUDUKKUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4299	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.43
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	58.33
3	Dry matter content	IS 15106: 2002	%	94.26
4	Water Content	IS 15106: 2002	%	5.74
5	Organic Matter	IS 2720: Part 22: 1972	%	1.01
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	264
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	23.98
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	58.22
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	17.80
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.74
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	846
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	994
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	30.4
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	4.1

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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J. GNANAPRAKASAM
Technical Manager

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TEST REPORT

Report No.	SARL/24/4300	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.		
Sample Description	SOIL		
Sample Mark	S6-NEMILI VILLAGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-4300	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.68
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	99.76
3	Dry matter content	IS 15106: 2002	%	91.90
4	Water Content	IS 15106: 2002	%	8.10
5	Organic Matter	IS 2720: Part 22: 1972	%	1.60
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	460
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	45.86
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	44.36
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	9.78
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	2.13
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	417
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	575
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	22.1
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.8

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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TEST REPORT

Report No.	SARL/24/4287	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W1-PROPOSED MINE LEASE AREA

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4287	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	7.05	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1612	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	970	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	456	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	103	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	47.5	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	258	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	198	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	432	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	246	1000



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TEST REPORT

Report No.	SARL/24/4287

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO ₄ ²⁻)	APHA 24th Edition 4500 SO ₄ ²⁻ E: 2023	mg/L	196	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.05	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	3.22	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.32	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4288	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W2-TIRUVAIKKARAI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4288	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	6.89	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1738	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	1050	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	552	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	128	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	55.4	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	321	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	231	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	310	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	272	1000



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TEST REPORT

Report No.	SARL/24/4288

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	254	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.08	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	4.32	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.56	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4289	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W3-PUDUKUPPAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4289	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	7.32	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1441	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	865	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	505	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	94.4	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	64.6	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	236	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	269	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	342	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	264	1000



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TEST REPORT

Report No.	SARL/24/4289

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO ₄ ²⁻)	APHA 24th Edition 4500 SO ₄ ²⁻ E: 2023	mg/L	202	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.09	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	2.59	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.44	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 2



Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - info@shrientanalytical.com
www.shrientanalytical.com

TEST REPORT

Report No.	SARL/24/4290	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W4-KODALAMKUPPAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4290	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H ⁺ B: 2023	-	7.25	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1349	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	812	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	476	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	98.0	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	55.4	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	245	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	231	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	362	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	255	1000



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TEST REPORT

Report No.	SARL/24/4290

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO ₄ ²⁻)	APHA 24th Edition 4500 SO ₄ ²⁻ E: 2023	mg/L	224	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.07	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	3.32	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.42	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4291	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W5- KUDUKKUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4291	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H ⁺ B: 2023	-	7.69	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1410	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	850	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	290	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	80.8	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	21.1	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	202	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	88	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	365	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	256	1000



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TEST REPORT

Report No.	SARL/24/4291

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO ₄ ²⁻)	APHA 24th Edition 4500 SO ₄ ²⁻ E: 2023	mg/L	219	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.05	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	5.6	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.53	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/24/4292	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	W6-NEMILI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4292	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result	*Limits
					Permissible
A.	Physical parameters				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H ⁺ B: 2023	-	7.36	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1961	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	1192	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	348	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	94.4	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	26.9	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	236	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	112	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	468	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	510	1000



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TEST REPORT

Report No.	SARL/24/4292

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissibl e
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)	1.0
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	190	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	BDL(DL-0.01)	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	6.5	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.58	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/2024/4293	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	SW1-US Gingee River (Near Pombur Village)

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4293	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result
A.				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	7.08
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	146.9
B.	Chemical parameters			
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	92
6	Total hardness (as CaCO ₃)	APHA 24th Edition 2340 C: 2023	mg/L	51.5
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	14.7
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	3.52
9	Calcium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Ca B: 2023	mg/L	36.8
10	Magnesium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Mg B: 2023	mg/L	14.7
11	Total alkalinity (as CaCO ₃)	APHA 24th Edition 2320 B: 2023	mg/L	41.1
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	18.6



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TEST REPORT

Report No.	SARL/2024/4293

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	20.6
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	BDL (D.L - 0.01)
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	BDL (D.L - 1.0)
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	BDL (D.L - 0.1)
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)
19	Chemical Oxygen Demand	APHA 24th Edition 5220 B: 2023	mg/L	BDL (D.L - 2.0)
20	Bio Chemical Oxygen Demand 3 Days at 27°C	IS 3025 (Part 44): 1993	mg/L	BDL (D.L - 4.0)
21	Total Suspended Solids	APHA 24th Edition 2540 D: 2023	mg/L	BDL (D.L - 2.0)
22	Dissolved Oxygen	IS 3025 (Part 38): 1989	mg/L	6.3

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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TEST REPORT

Report No.	SARL/2024/4294	Report Date.	11.01.2025

Customer Name & Address	ORDINARY EARTH QUARRY of Thiru.E.Amudaganesamoorthy, Extent of 1.22.0 Ha, Kadagampattu Village, Vanur Taluk, Villupuram Dist, Tamil nadu.
Sample Description	WATER
Sample Mark	SW2-DS Gingee River (Near Tiruvaikkarai Village)

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-4294	Sample Received on	30.12.2024
Sample Collected by	LABORATORY	Test Commenced on	30.12.2024
Sample Collected on	29.12.2024	Test Completed on	11.01.2025
Sample Condition	Fit for Analysis		

Sl. No.	Parameters	Protocol	Unit	Result
A.				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	7.65
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	278.6
B.	Chemical parameters			
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	170
6	Total hardness (as CaCO ₃)	APHA 24th Edition 2340 C: 2023	mg/L	83.2
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	19.8
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	8.09
9	Calcium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Ca B: 2023	mg/L	49.5
10	Magnesium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Mg B: 2023	mg/L	33.7
11	Total alkalinity (as CaCO ₃)	APHA 24th Edition 2320 B: 2023	mg/L	78.9
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	26.7



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TEST REPORT

Report No.	SARL/2024/4294

Report Date.	11.01.2025

Sl. No	Parameters	Protocol	Unit	Result
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	35.8
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	BDL (D.L - 0.01)
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	BDL (D.L - 1.0)
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	BDL (D.L - 0.1)
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)
19	Chemical Oxygen Demand	APHA 24th Edition 5220 B: 2023	mg/L	BDL (D.L - 2.0)
20	Bio Chemical Oxygen Demand 3 Days at 27°C	IS 3025 (Part 44): 1993	mg/L	BDL (D.L - 4.0)
21	Total Suspended Solids	APHA 24th Edition 2540 D: 2023	mg/L	BDL (D.L - 2.0)
22	Dissolved Oxygen	IS 3025 (Part 38): 1989	mg/L	6.5

Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

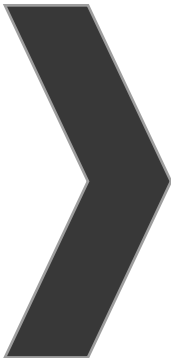
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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ANNEXURE-8



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**SHRIENT ANALYTICAL & RESEARCH LABS PRIVATE
LIMITED**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

416/15, DHARGAS ROAD, PERUNGALATHUR, WEST TAMBARAM, CHENNAI, KANCHIPURAM, TAMIL
NADU, INDIA

in the field of

TESTING

Certificate Number: TC-12339

Issue Date: 30/09/2023

Valid Until: 29/09/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued
satisfactory compliance to the above standard & the relevant requirements of NABL.

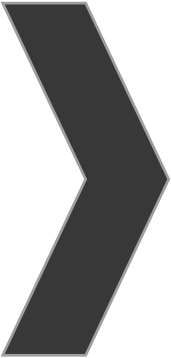
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: SHRIENT ANALYTICAL AND RESEARCH LABS PRIVATE LIMITED

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



ANNEXURE-9

भारतीय गैर न्यायिक

बीस रुपये

रु.20



Rs.20

TWENTY
RUPEES

INDIA NON JUDICIAL

3006

30 SEP 2023

TAMIL NADU

M. Prabu

Global Mining Solutions
Chennai

92AB 02346

THIS MEMORANDUM OF UNDERSTANDING (MOU) IS ENTERED INTO
ON THIS THE 30.09.2023
BETWEEN

M/s. GLOBAL MINING SOLUTIONS , duly represented by its Managing Director Mr.M.Prabhu, having its registered office at Plot No. 6 V.S. City,Kottamettupatti, Omalur, Salem - 636455, hereinafter referred to as "GMS" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors, assigns, nominees, affiliated companies, etc.) of the One Part;

AND

SHRIENT ANALYTICAL AND RESERCH LABS PRIVATE LIMITED., represented by its General Manager- Technical Mr. V.Vimal Nath its registered at 416 /15 Dhargas Road ,Perunkolathur, West Tambara, Chennai -600045,Tamil NADu "SARL" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) of the Other Part.

(Hereinafter GMS and SARL will be individually referred to as "Party" and collectively referred to as "Parties")

WHEREAS,

- a) **GMS** is engaged in the Business of offering consultancy, EIA works, and Testing Services.
- b) **SARL** is engaged in manufacture and supply of wide range of chemicals for various water, process and waste water treatment applications. Besides having NABL accredited laboratory also.

NOW, THEREFORE IN CONSIDERATION OF THE MUTUAL PROMISES AND COVENANTS CONTAINED IN THIS MOU, IT IS HEREBY AGREED BETWEEN THE PARTIES AS FOLLOWS:

1) **GMS** will subcontract testing services of the NABL Accredited **SARL** scope for following

- ✦ Ambient Air Quality Monitoring and analysis
- ✦ Water and waste water Quality analysis
- ✦ Soil Quality Analysis
- ✦ Noise Monitoring

2) Prices will be as mutually agreed.

3) **DURATION AND RENEWAL**

This MoU is entered into initially for a period of 24 (Twenty-four) from the date of entering into this MoU, and the same is extendable for a further periods on mutually agreed terms and conditions between the parties herein.

Provided, if either party is unwilling to extend the term of the MoU for a second term. Notice in writing, of such intention not to extend the term of this MoU, should be given to the other party not later than three months before the expiry of the first term of six months.

4) **TERMINATION**

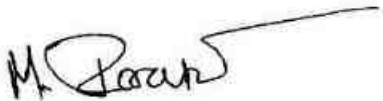
- a) Without prejudice to any other remedies both the parties may have, _____ the right at any time by giving notice in writing to the other party to _____ terminate the MoU.
- b) Termination of this MOU can be done by either party, with a 1 month _____ notice period by the terminating party. It is expected that the parties _____ will discuss any issues that arise that would lead to the need to _____ terminate this agreement prior to the written formal termination of the _____ agreement.
- c) Both the Parties shall on the termination of this MoU return to the other party forthwith any books, records, papers or other property in its possessions belonging to the other party.

5) CONFIDENTIALITY

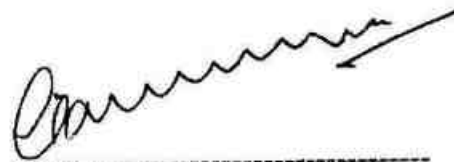
Both during the term of this MoU as well as after the termination of this MoU, the Parties are obliged to keep confidential all proprietary information on such as technical data, know-how, business and operating conditions, technical experience, working methods and the like received from the other Party and not to disclose this information to anyone other than employees, directors and officers. The Parties are obliged to make sure that their employees, directors and officers who have a need to know, at the same time as they receive the said information, are informed.

IN WITNESS WHEREOF THE PARTIES HAVE SIGNED THESE PRESENTS, THE DAY AND YEAR FIRST HEREINABOVE WRITTEN IN THE PRESENCE OF THE FOLLOWING WITNESSES:

M/S GLOBAL MINING SOLUTIONS



**M/S SHRIENT ANALYTICAL AND
RESEARCH LABS PRIVATE
LIMITED**



WITNESSES:

M. Vasantha Kumar

Name: Vasantha Kumar

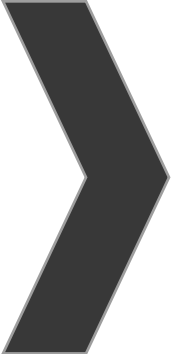
Address: 315, Ramaninagar,

East Thiruvagavundanur, Salem-636005

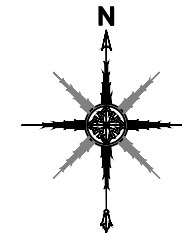
J G

Name: J.Gnanaprakasam

Address: Plot No 11 Saraswathi Nagar
Old perunkolathur, Chennai-600059



ANNEXURE-10



APPLICANT:

THIRU.E.AMUTHAGANESAMOORTHY,
S/O.EAGAMBARAM,
NO.352.EAST STREET,UTHANGAL VILLAGE,
VIRUDHACHALAM TALUK,
CUDDALORE DISTRICT.

LOCATION OF QUARRY

LEASE APPLIED AREA:

S.F.NO : 4/1,
EXTENT : 1.22.0 Ha,
VILLAGE : KADAGAMPATTU,
TALUK : VANUR,
DISTRICT : VILUPPURAM.

INDEX

Q.L. APPLIED AREA BOUNDARY

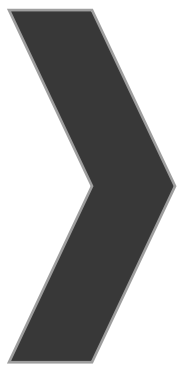


300M RADIUS



500M RADIUS





ANNEXURE-11

அனாபந்தர்;

தி. அக்டோபர் 6/1957
தலைவரவர்களே
உ. உ. பொ. பள்ளி
கடக்கப்பட்டு
புனாவர் துருவம்

பெய்தது ;

உயர்நீடு கே.கே. ஜாப்
திரை குஞ்சுபாடா
கொடைப்பச்சி தெரு
திருச்சி, கெரளா

பொருள்: சி. எஸ். ஜே. இதயம் பள்ளி சீரமைப்பு
அவ்வூர் துவையலார்

உதயம் வந்தது உயர்!

சாஸ்திரம் பற்றிக்கு சிறந்தச் சுவர் ஸ்ரீமத்
கிருஷ்ண தேவராயப்பெருந்தால் எதனால் அமைத்துக்
கொள்வதற்கு தோ. கல்கட்டை தேவராயப்பெருந்தால்
சாஸ்திரம் சாஸ்திரம் பற்றிக்கு மேற்கண்ட
தேவராயம் செய்த குடும்பம் பன்னிடம்
கல்கட்டை கொள்கின்றார்.

தெலு: தெலுங்கு

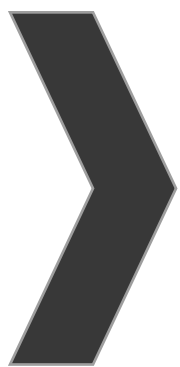
गति : 22.7.2024

മുഖ്യമന്ത്രി,

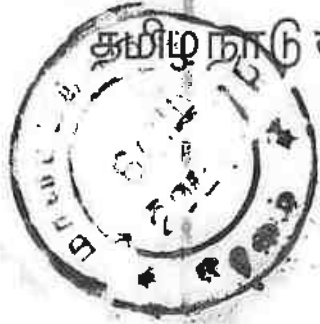
၁၂- ဧည့်သည်များ
22/7/24

தலைவரவர்களே! உறுதியாய்
 ஊராட்சி ஒன்றிய தொடக்கப்பள்ளி
 நடவடிக்கை
 வாழ்வு ஒன்றியம்.

E. Anderson



ANNEXURE-12



21-8-2024

E. Amuthaganesamoorthy
Cuddalore

21-8-2024
EK 067611
N-Jail

म. गौरी (न) कुपिताली, म.ग.ग.
दुर्गम संख्या: 5206-14/91
कर्मचारी विधि, कुपिताली
दुर्गम संख्या: 5206-14/91

AFFIDAVIT TO SEIAA, TAMIL NADU

I Thiru.E.Amuthaganesamoorthy, S/o. Subbareddiyar, residing at residing at No.19, Nellaiyappapuram, Thirunagar, Tirupparankundram, Madurai District, do hereby solemnly declare and sincerely affirm that, I have applied for getting Terms of Reference to SEIAA, Tamil Nadu for a quarry lease for Ordinary Earth Quarry over an extent of 1.22.0 Hectares of Patta land in S.F.No.4/1 of Kadagampattu Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

1. None of the following features are located within a 10 km radius of the proposed quarry site;
 - a. Protected areas notified under the Wildlife (Protection) Act, 1972 (NBWL).
 - b. Wild Life Sanctuary
Ousuddu Lake Birds Sanctuary is located at 9.85 Km, (SE)
 - c. Critically polluted areas as notified by the central pollution control board constituted under the Water (Prevention and Control of Pollution) Act 1974.
2. The revised proposal for Corporate Environment Responsibility (CER) activities is given as follows;



E. Amuthaganesamoorthy

Sl. No.	PROPOSED CER ACTIVITIES	COST IN LAKHS.
1	Building Boundary wall	2.0
2	Providing Toilets	
3	Providing Benches and Desks for students	
4	Plantation (50 Nos.)	
Total		2.0

The above proposed CER cost will be spent on Panchayat Union Elementary School, Kadagampattu Village and I assure you that the proposed CER activities will be completed before the commencement of quarrying operations.

3. The proposal for an Environment Management Plan and its cost is given as follows;

Sl. No	Mitigation Measure	Capital cost (In Lakhs)	Recurring Cost/ Annum (In Lakhs)
Air Environment			
1	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tanker(will be hired)	0.00	0.50
2	Air Quality will be regularly monitored as per norms within ML area & Ambient Area	0.00	0.50
3	No overloading of trucks/tippers/tractors	0.00	0.05
4	Mineral carrying trucks will be covered by tarpaulin	0.00	0.05
5	Enforcing speed limits of 20 km/hr within ML area	0.05	0.00
6	Regular monitoring of exhaust fumes as per RTO norms	0.00	0.02
7	Regular sweeping and maintenance of approach roads for at least about 200m from ML Area	0.00	2.93
Sub-Total (A)		0.05	4.05
Implementation of EC, Mining Plan & DGMS Condition			
8	Waste management (Spent Oil, Grease etc.,)	0.35	0.23
9	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	0.20	0.02
10	Workers will be provided with Personal Protective Equip ment's	0.28	0.07
11	Health check up for workers will be provisioned	0.00	0.07
12	First aid facility will be provided	0.00	0.06
13	Mine will have safety precaution signages, board	0.10	0.02



E. Ramesh

14	Barbed Wire Fencing to quarry area will be provisioned	2.44	0.10
15	No parking will be provided on the transport routes	0.61	0.10
16	Installation of CCTV cameras in the mines and mine entrance	0.30	0.05
17	Implementation as per Mining Plan and ensure safe quarry working (Statutory)	0.00	3.00
Sub-Total (B)		4.80	3.72
Green Belt			
18	Plantation Inside ML area (440 Nos)	0.88	0.13
19	Plantation outside ML area (170 Nos.)	0.51	0.05
Sub-Total (C)		1.39	0.18
Additional Key EMP Expenses			
20	Environmental Awareness Programme	0.50	0.00
21	Mine Closure Plan	1.00	0.00
22	Conservation Measures for Sanctuary	2.00	0.00
23	District Green Fund	0.95	0.00
Sub-Total (D)		4.45	0.00
Grant Total (A+B+C+D)		10.17	7.95
Total EMP Cost for 2 years is 26.47 lakhs i.e., Rs.10.17 Lakhs of Capital Cost + Rs.16.30 Lakhs of Recurring cost (For 2 Years)			

4. Details of quarry within a 500m radius of the applied area

S.No	Name of the Quarry Owner	S.F. Nos, Taluk, Village & Extent (Ha)	Lease Period	Remarks
a. Abandoned Quarry				
1.	Thiru.S.Rajavelu, S/o. Subramanian, No.47/1, Mariyamman Kovil Street, Kadagampattu Village, Suthukeni Post, Vanur Taluk, Viluppuram District	S. F.No. 6/3 (P), 6/4, 6/5, 6/6 (1.07.0 Ha) Kadagampattu Village	08.03.2019 to 07.03.2021	Lease Expired
2.	Thiru.Loganathan, S/o. Perumal, No.118, Mettu Street,	30/1, 31/1, 31/2A, 31/2B, 31/3	17.06.2022 to 16.06.2023	Lease Expired



E. Ramnathan

	Kadagampattu Village, Vanur Taluk, Viluppuram District	(2.70.0 Ha)		
b. Existing Quarry				
1.	Thiru.K.Vijayan, S/o. Kannalyan, Kadagampattu Village, Vanur Taluk, Viluppuram District	51/7A1, 51/7B, 51/8A, 51/8B1 (1.46.45 Ha)	23.02.2024 to 22.02.2026	Existing lease
c. Proposed Quarry				
1.	Thiru.T.Anbazhagan, S/o. Thangavel, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2A (0.81.0 Ha)	-	Proposed
2.	Thiru. K.Rajesh, S/o. Kuppan, No.66, Mariamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	6/7, 27/1, 27/2A2 (1.34.0 Ha)	-	Proposed
3.	Thiru.P.Loganathan, S/o. Perumal, No.118, Mettu Street, Kadagampattu Village, Vanur Taluk, Viluppuram District	30/2B1, 30/2B2, 30/5C, 30/5D, 30/5E (1.67.0 Ha)	-	Proposed
4.	Thiru.E.Amuthaganesamoorthy, S/o.Eagambaram, No.352, East Street, Uthangal Village, Virudhachalam Taluk, Cuddalore District, Pin code-607 804	4/1 (1.22.0 Ha)	-	Proposed
Area of Proposed Quarry		6.50.45 Ha		

The total lease within the 500m radius (4Nos Proposed) and (1 No Existing) works out to 6.50.45 Ha. **As such, cluster situation is applicable and Terms of Reference for this project is applied.**

5. There will not be any hindrance or disturbance to the people living no uprooted/



E. S. S. S.

nearby our quarry site while transporting the minerals and due to quarrying activities.

6. There is no approved habitation within a 300m radius from the periphery of our quarry.
7. I swear that afforestation will be carried out during the course of the quarrying operation and maintained.
8. The required insurance will be taken in the name of the laborers working in our quarry site.
9. The existing road from the main road to quarry is in good condition and the same will be maintained and utilized for Transportation of Rough Stone, weathered rock and gravel.
10. I will not engage in any child labor in our quarry site and I aware that engaging in child labor is punishable under the law.
11. All types of safety / protective equipment will be provided to all the laborers working in our quarry.
12. No permanent structures, temples etc., are located within a 500m radius of the periphery of our quarry.
13. I will erect fencing around the quarry lease before commencement of mining activities.
14. I will carry out systematic and scientific mining employing a qualified mine manager, blaster.
15. I will inform DGMS before commencement of mining activities.
16. I will ensure that all the EMP measures are followed for the entire lease period.
17. I ensure to do the social and environmental commitment as mentioned in the mining plan to the best of our knowledge.

Notary Sign & Seal

**Quarry owner sign &
Seal**

E. Amuthaganesamoorthy

Thiru.E.Amuthaganesamoorthy



E. Amuthaganesamoorthy

E. Amuthaganesamoorthy
21.8.24
R. RAMANATHAN, B.Sc., MA., B.L.
ADVOCATE & NOTARY
Enroll No: 588/97
O.O. Office Opposite, Sukumaraswamy, Omalur (TN), Salem (Dt) 636 455.
Cell: 9486762505
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