

**DRAFT EIA & EMP FOR
PROPOSED ROUGH STONE AND GRAVEL 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. TO25B0108TN5867827N, dated 01.03.2025

PROPOSED QUARRY LEASE DETAILS	
SURVEY NOS	81/2 & 82/9A
VILLAGE	T.NALLALAM
TALUK	MARAKKANAM
DISTRICT	VILUPPURAM
EXTENT	2.30.50 HA
PROPOSED PRODUCTION QUANTITY FOR FIRST TEN YEARS	ROUGH STONE - 2,23,770 m³ GRAVEL - 34,272 m³
LAND	PATTA LAND

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

Category of the Project: B1 Cluster Mining, Total Cluster Area – 6.51.50 Ha
Baseline Monitoring Period – December 2024 to February 2025

APPLICANT

THIRU.M.VENKADESAN

S/O.MURUGESAN

NO.121, KEEZHANDA STREET

KILSIVIRI VILLAGE, MARAKKANAM TALUK,

VILUPPURAM DISTRICT. PIN CODE– 604301

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

Email: infoglobalmining@gmail.com: globalminingsolutionssalem@gmail.com

MAY- 2025



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						
2						
3						
4						
5						
6						
7						
8						
9						
10						

ACKNOWLEDGEMENT

M/s. Global Mining Solutions, Salem is very much thankful Thiru.M.Venkadesan, Lessee for the confidence and trust placed on the organization for carrying out Environmental Impact Assessment (EIA) study for the proposed Rough Stone and Gravel quarry over a lease extent of 2.30.5 Ha & Cluster extent of 6.51.5 Ha, located at T.Nallalam Village, Marakkanam 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 T.Nallalam 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 Rough Stone and Gravel quarry over a lease extent of 2.30.50 Ha, & Cluster extent of 6.51.5 Ha, located at T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State.

For: M/s. Global Mining Solutions

M. MANIKANDAN

EIA CO-ORDINATOR
GLOBAL MINING SOLUTIONS
SALEM

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. TO25B0108TN5867827N, dated 01.03.2025 of Draft EIA/EMP report for the proposed Rough Stone and Gravel Quarry over a lease extent of 2.30.5Ha, & Cluster extent of 6.51.5 Ha, located at T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State for the production of 2,23,770 m³ of Rough Stone and 34,272 m³ of Gravel formation 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

M. MANIKANDAN

EIA CO-ORDINATOR
GLOBAL MINING SOLUTIONS
SALEM

**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 Experts

Declaration by Experts contributing to the proposed Stone Quarry over a lease extent of 2.30.5.Ha & Cluster extent of 6.51.5 Ha, located at T.Nallalam Village, Marakkanam 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


M. MANIKANDAN

EIA CO-ORDINATOR
GLOBAL MINING SOLUTIONS
SALEM

Period of involvement: December 2024 to February 2025.

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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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: December 2024 to February 2025.</u>	R. Dhan
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: December 2024 to February 2025</u>	K. Abirami
3	SHW	Ramadoss N	Assessment of waste generated from the project, suggested waste management practices. <u>Period: December 2024 to February 2025</u>	C. Ramadoss
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: December 2024 to February 2025</u>	K. Sarasvathy
5	EB	Saravanan S	Baseline data collection of related to ecology of the area. <u>Period: December 2024 to February 2025</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: December 2024 to February 2025</u>	N. Ravinthiran
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: December 2024 to</u>	T. Srilatha

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

			<u>February 2025</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: December 2024 to February 2025</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: December 2024 to February 2025</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: December 2024 to February 2025</u>	S. Prashant
11	SC	Shisupal Sing	Soil monitoring, secondary data collection on soil type, soil management practices, utilization of topsoil. <u>Period: December 2024 to February 2025</u>	Shisupal Sing
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: December 2024 to February 2025</u>	V. Meyyappan

EIA CONTENT EIA CONTENT

CHAPTER NO	TITLE	PAGE NO
1	INTRODUCTION	45
1.1	PURPOSE OF THE REPORT	45
1.2	IDENTIFICATION OF PROJECT AND PROJECT PROPONENT	48
1.3	BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY, REGION	49
1.4	SCOPE OF THE STUDY -DETAILS OF REGULATORY SCOPING CARRIED OUT (AS PER TERMS OF REFERENCE)	50
2	PROJECT DESCRIPTION	54
2.1	TYPE OF PROJECT	54
2.2	NEED FOR THE PROJECT	55
2.3	LOCATION (MAPS SHOWING GENERAL LOCATION, SPECIFIC LOCATION, PROJECT BOUNDARY & PROJECT SITE LAYOUT):	56
2.4	SIZE OR MAGNITUDE OF OPERATION (INCL.ASSOCIATED ACTIVITIES REQUIRED BY OR FOR THE PROJECT)	63
2.5	PROPOSED SCHEDULE FOR APPROVAL & IMPLEMENTATION	64
2.6	TECHNOLOGY & PROCESS DESCRIPTION	65
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	70
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)	78
2.9	ASSESSMENT OF NEW & TESTED TECHNOLOGY FOR THE RISK OF TECHNOLOGICAL FAILURE	81
3	DESCRIPTION OF THE ENVIRONMENT	82
3.1	STUDY AREA, PERIOD COMPONENTS AND METHODOLOGY	82
3.2	ESTABLISHMENT OF BASELINE FOR VALUED ENVIRONMENTAL COMPONENTS:	85
3.3	BASE MAP OF ALL ENVIRONMENTAL COMPONENTS	87
4	ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	132
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.	133
4.2	MEASURES FOR MINIMIZING AND /OR OFFSETTING ADVERSE IMPACTS IDENTIFIED	134

4.3	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF ENVIRONMENTAL COMPONENTS	140
4.4	ASSESSMENT OF SIGNIFICANCE OF IMPACTS (CRITERIA FOR DETERMINING SIGNIFICANCE, ASSIGNING SIGNIFICANCE).	150
4.5	MITIGATION MEASURES	152
5	ANALYSIS OF ALTERNATIVES (TECHNOLOGY & SITES)	157
5.1	DESCRIPTION OF EACH ALTERNATIVE	157
5.2	SUMMARY OF ADVERSE IMPACTS OF EACH ALTERNATIVE	157
5.3	MITIGATION MEASURES PROPOSED FOR EACH ALTERNATIVE	157
5.4	SELECTION OF ALTERNATIVE	157
6	ENVIRONMENTAL MONITORING PROGRAMME	158
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)	158
7	ADDITIONAL STUDIES	162
7.1	PUBLIC CONSULTATION	162
7.2	RISK ASSESSMENT & MANAGEMENT	162
7.3	SOCIAL IMPACT ASSESSMENT (R & R) ACTION PLAN	164
8	PROJECT BENEFITS	173
8.1	IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE	173
8.2	IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE	174
8.3	EMPLOYMENT POTENTIAL: SKILLED, SEMI-SKILLED & UN-SKILLED	174
8.4	OTHER TANGIBLE BENIFITS	174
9	ENVIRONMENTAL COST BENEFIT ANALYSIS	175
10	ENVIRONMENTAL MANAGEMENT PLAN	176
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	176
11	SUMMARY AND CONCLUSIONS	183
11.1	OVER ALL JUSTIFICATION FOR IMPLEMENTATION OF THE PROJECT	183
11.2	EXPLANATION OF HOW ADVERSE EFFECTS HAVE BEEN MITIGATED	187
12	DISCLOSURE OF CONSULTANTS ENGAGED	204

FIGURE LIST

Figure No	Title	Page No
1.1	Satellite Image showing cluster quarries	48
2.1	Location Map	57
2.2	Google Image Showing Project Site	58
2.3	Surface Plan of the Project Area	59
2.4	Contour Map of Project Area	60
2.5	Topo map of the Project 10 Km Radius	62
2.6	Site Photographs	62
2.7	Water Balance Diagram	65
2.8	Regional Geology Map	69
2.9	Blasting Pattern	71
2.10	Flow Chart of the Quarry Operation	72
2.11	Conceptual Plan	77
3.1	Environmental Setting of the study area	84
3.2	Google Map Showing 50m Interval For 500m Radius From The Lease Area	88
3.2a	Satellite Map Of The Project Area (10 Km Radius)	89
3.3	Seismic Map of India	91
3.4	Wind Rose Plot during December 2024 to February 2025.	92
3.5	Ambient Air Monitoring Locations	94
3.6	Ambient Air Data from A1 - Mine Lease Area	95
3.7	Ambient Air Data from A2 - Vanniper village	96
3.8	Ambient Air Data from A3 - Palamukkal Village	96
3.9	Ambient Air Data from A4 - Kilsiviri Village	97
3.10	Ambient Air Data from A5 - Peravur Village	97
3.10a	Ambient Air Data from A6 - Bramaddesam Village	98
3.10b	Ambient Air Data from A7 - Vellakulam Church	98
3.11	Water Sampling Locations	101
3.12	Values of Few Common Parameters of the Water Analysis	106
3.13	Noise Monitoring Locations	107
3.14	Day Equivalent Values in 7 Locations	108
3.15	Soil Sampling Locations	109
3.16	Remote Sensing Satellite Image	113
3.17	Land Use/Land Cover Map of the Study Area	116
3.18	Village Map of the Study Area	120
3.19	Gender-Wise Population Distribution	123

3.20	Gender Wise Literacy Distribution	123
3.21	Occupational Structure Within Buffer Zone	123
3.22	10 Km Radius of the Drainage Map	125
3.23	10 Km Radius of the Geology Map	127
3.24	10 Km Radius of the Study Area Geomorphology Map	128
3.25	10 Km Radius of the Study Area Soil Type Map	129
3.26	Non-Monsoon Water Level Map of the 10 Km Radius of the ML	130
3.27	Monsoon Water Level Map of the 10 Km Radius of the ML	130
4.1	Water Balance Diagram	138
4.2	Isopleth of GLC Prediction for PM2.5	145
4.3	Isopleth of GLC Prediction for PM10	146
4.4	Isopleth of GLC Prediction –Cumulative for PM2.5	147
4.5	Isopleth of GLC Prediction –Cumulative for PM10	148
7.1	Isopleth of GLC Prediction for PM2.5	165
7.2	Isopleth of GLC Prediction for PM10	166
7.3	Isopleth of GLC Prediction –Cumulative for PM2.5	167
7.4	Isopleth of GLC Prediction –Cumulative for PM10	168
10.1	Organization Chart	180

TABLE LIST

Table no	Title	Page No
1.1	CLUSTER MINES DETAILS	46
1.2	PROPOSED PROJECT DETAILS	50
2.1	500M RADIUS CLUSTER MINES DETAILS	54
2.1.a	SALIENT FEATURES OF THE PROJECT	55
2.2	CO-ORDINATES OF THE PROJECT SITE	57
2.3	CURRENT LAND USE PATTERN	60
2.4	SALIENT FEATURES OF THE LEASE AREA	61
2.5	STATUS OF STATUTORY CLEARANCES, PERMISSIONS, NOC, CONSENTS	63
2.6	PROPOSED SCHEDULE FOR APPROVAL	64
2.7	WATER REQUIREMENT	66
2.8	MAN POWER BREKUP	66
2.9	MACHINERIES INVOLVED IN THE PROJECT	67
2.10	MINING DETAILS	72
2.11(a)	YEARWISE PRODUCTION FOR FIRST FIVE YEARS	74
2.11(b)	YEARWISE PRODUCTION FOR SECOND FIVE YEARS	75
2.12	ULTIMATE PIT DIMENSION	76
3.1	DESCRIPTION OF THE LEASE AREA	82
3.2	RAINFALL DATA	90
3.3	DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS	93
3.4	RESULTS OF AIR SAMPLING ANALYSIS IN 7LOCATIONS	94
3.5	WATER SAMPLING LOCATIONS	100
3.6	SURFACE WATER ANALYSIS RESULTS	102
3.7	RESULTS OF GROUND WATER SAMPLING ANALYSIS IN 7LOCATIONS	104
3.8	NOISE MONITORING RESULTS	107
3.9	RESULTS OF SOIL SAMPLE ANALYSIS	109
3.10	FLORA IN CORE ZONE	111
3.11	FLORA IN BUFFER ZONE	111
3.12	FAUNA IN BUFFER ZONE	112
3.13	MAJOR LAND USE UNITS OF THE STUDY AREA	115
3.14	MAJOR LAND USE UNITS OF THE STUDY AREA IN PERCENTAGE	119
3.15	VILLAGE DETAILS IN STUDY AREA	121
3.16	POPULATION PROFILE OF THE STUDY AREA	122

3.17	EDUCATIONAL INFRASTRUCTURE	124
3.18	MEDICAL INFRASTRUCTURE	124
3.19	OTHER INFRASTRUCTURE	124
4.1	GROUND WATER LEVEL STATUS IN VILUPPURAM DISTRICT	139
4.2	IMPACTS AND MITIGATION MEASURES FOR FAUNA	140
4.3	CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	148
4.3a	CLUSTER CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	149
4.3b	CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	149
4.3c	CLUSTER CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	149
4.4	NOISE LEVELS IN MONITORING LOCATIONS	151
4.5	IMPACTS ON HUMANS DUE TO VARIOUS MINING ACTIVITIES	154
6.1	ENVIRONMENTAL MONITORING SCHEDULE	159
6.2	IMPORTANT RECORDS TO BE MAINTAINED BY PP	161
6.3	ENVIRONMENTAL MANAGEMENT PLAN BUDGET	161
7.1	HAZARDS AND PRECAUTIONARY MEASURES	163
7.2	500M RADIUS CLUSTER MINES DETAILS (AS PER 500M CERTIFICATE)	164
7.3	CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	168
7.4	CLUSTER CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	169
7.5	CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	169
7.5A	CLUSTER CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	169
7.6	IMPACT ON TRAFFIC	170
10.1	ENVIRONMENTAL MANAGEMENT PLAN	177
10.2	ENVIRONMENTAL MANAGEMENT PLAN BUDGET	182
11.1	DESCRIPTION OF THE LEASE AREA	186
11.2	DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS	187
11.3	RESULTS OF GROUND WATER SAMPLING ANALYSIS IN 6 LOCATIONS	191
11.4	NOISE MONITORING RESULTS	192
11.5	RESULTS OF SOIL SAMPLE ANALYSIS	192
11.6	MAJOR LAND USE UNITS OF THE STUDY AREA IN PERCENTAGE	194

LIST OF ANNEXURES

S. No	Contents	Annexure No
1	Terms of Reference (ToR)	1
2	Precise Area Communication Letter	2
3	Approved Mining Plan with Plates	3
4	500-meter radius letter	4
5	VAO Certificate	5
6	Land Document	6
7	Monitoring Report	7
8	Lab NABL Certificate	8
9	Structures located within 500m radius of the project	9
10	10km Map showing forest and sanctuaries	10
11	Affidavit	11
12	CER Letter	12

COMPLIANCE TO **TERMS OF REFERENCE**

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

S.No	ToR Points	Reply	Pg. No
1. SEIAA Specific Conditions			
1.	The EMP should cover the detailed restoration plan of the site.	Agreed. Will be complied	-
2.	The concerns of the public regarding the impacts of the mining activity on water bodies and agriculture shall be deliberated in detail during public hearing.	Agreed. Will be complied	-
2 SEAC Standard Condition			
2.1 SITE SPECIFIC			
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.	There are 3 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. Noted Complied. Please refer Fig. 10.1 Environment policy details given chapter- 10.	-
2	The Boundary pillars to be erected as per the mine rules and the evidence should be submitted along with the EIA report.	The work is in process.	Complied. Enclosed as Annexure 5
3	Since waterbodies are situated nearby, the PP shall carry out the hydrological study including the details of waterflow pattern to determine the impacts of the mining operation in the waterbodies	The study is under progress. It will be incorporated in the final EIA & EMP.	Complied. Enclosed as Annexure 5

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

4	The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report.	Complied. The details are given in Chapter 3.	-
5	The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m & upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc. and spell out the mitigation measures to be proposed for the protection of the above structures, if any during the quarrying operations.	Agreed. Will be complied in Final EIA/EMP report	-
6	The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	The work is in process.	-
7	The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report.	Complied. The biodiversity report of the study area to be incorporated at the time of final EIA submission.	-
8	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.	The EMP is planned for the entire life of the mine. The affidavit will be incorporated in the Final EIA/EMP Report.	-
9	The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures.	Complied. The details are described in the chapter 3	-
10	The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed.	This is a fresh quarry. Conceptual working plan with all details will be furnished.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

11	The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report.	Agreed. Will be complied	-
3.1 Seac Standard Conditions			
1.	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	This is a proposed project. No mining has been carried out in this lease area so far.	-
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.	There is no habitation around the lease area. VAO certificate copy enclosed as Annexure 4.	-
3.	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of	A Site survey has been conducted to identify and list structures located within a 500 m radius from the proposed Quarry and structures located within 500 m radius are given in section 3.5 of Chapter 3.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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.	A detailed hydro-geological report of the proposed project will be incorporated in the Final EIA/EMP Report.	-
5.	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	Bio diversity study will be incorporated in the Final EIA/EMP 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.	DFO Letter will be incorporated in the Final EIA/EMP Report.	-
7.	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall 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.	This is a proposed project. No mining has been carried out in this lease area so far.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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.	The depth proposed for this quarry is 27 m. However, measures to ensure slope stability is given in Chapter 7.	171
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.	Affidavit will be incorporated in the Final EIA/EMP Report.	-
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.	Controlled blasting techniques using delay detonators and optimum charge per delay will be implemented in this quarry.	72
11.	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	The PP has not carried out any quarrying operation before this project.	-
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.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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 - 3.2a in Chapter - 3. The geology and geomorphology map are provided in Figure No.3.23, 3.24, Chapter 3. The Soil map is provided under Figure No. 3.25, Chapter-3.	-
16.	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc	Fresh lease. It 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.	Photographs of the site are provided in Figure 2.6 of Chapter-2. As per Precise Order condition No. 1, PP have provided safety distance of 7.5 m & 10m to the adjoining patta land. Green belt will be developed over an area of 0.55.50 hectares. The work of the same is under process.	62
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.	All details are furnished in chapter 2	55
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 figure 10.1 of Chapter 10.	180
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	A detailed hydro-geological report of the proposed project will be incorporated in the Final EIA/EMP Report.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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	The baseline data were collected for the environmental components including land, soil, water, air, noise, biology, socio-economy, and traffic and the results have been discussed in Chapter 3.	84
22.	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind	Cumulative impact study due to mining operations in cluster are given in Section 7.4 of Chapter 7. EMP are detailed in Chapter 10.	164
23.	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Rain water harvesting Plan is given in chapter 4. Water balance is shown in Figure 4.1.	138
24.	25.Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.7.6.2, of Chapter 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 3.13 under Chapter 3.	-
25.	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not Applicable. No dumps have been proposed outside the lease area. The overburden in the form of Gravel will be sold needy customers.	132

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

26.	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not applicable. This is a fresh quarry project.	-
27.	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. Towards surface runoff management, a garland drain will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. Rain water harvesting plan is given in Chapter 4.	138
28.	Impact on local transport infrastructure due to the Project should be indicated.	Not applicable. This is a fresh quarry project.	-
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.	The details are given in section 3.7.7 of Chapter 3.	-
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 section 7.5 of Chapter 7. Post mining land use pattern is shown in section 2.10 of Chapter 2.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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	Detailed greenbelt development plan has been provided in Section 4.4.5.4 under Chapter 4.	
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	The FAE of ecology and biodiversity has advised the project proponent that saplings of one year old raised in the ecofriendly bags should be purchased and planted with the spacing of 3 m between each plant around the proposed project area as per the advice of local forest authorities/botanist.	
34.	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan for the project has been provided in Section 7.3 under Chapter 7.	
35.	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A risk assessment plan for the project has been provided in Section 7.2 under Chapter 7.	
36.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been discussed in detail in Section 4.4.7 of Chapter 4.	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

37.	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Details of the socio economic survey conducted in the buffer zone has been provided in Chapter-3. Public health facilities will be further aimed to be developed through CER activities wherein periodic health checkups, medical camps for the locals will be conducted.	119
38.	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Details of the socio economic survey conducted in the buffer zone has been provided in Chapter-3. No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 30 people directly.	119
39.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation is pending in any court against this project.	
40.	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project 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.	Not applicable. This is a fresh quarry project.	-
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.	The EMP is planned for the entire life of the mine. The affidavit for the same will be included in the Final EIA/EMP Report.	-
43.	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of	Agreed	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.		
4.0 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 three 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 quarries.	-
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.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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 as mentioned in the Point No.4	-
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.	Agreed.	-
10	Impact on soil flora & vegetation around the project site.	Complied. The details are given in Chapter 3.	109
11	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Complied. The details are given in Chapter 3.	109
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.	109
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.	176
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 11.	183

Forests

15	The project proponent shall detailed study on impact of mining on Reserve Forests free ranging wildlife.	There is sevr R.F. located at a distance of 4.45 km (NW), Kumalampattu R.F located at a distance of 3.27km (SE) and no other reserved forest located in the buffer zone. The fauna commonly found in the core and buffer zone is given in Chapter 3.	186

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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.	82
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.	There is sevr R.F. located at a distance of 4.45 km (NW), Kumalampattu R.F located at a distance of 3.27km (SE) and There is no, National Parks, Corridors and Wildlife pathways.	-
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 3.	-
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 4.	132
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.	Complied. The details are incorporated in Chapter 4.	132
22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Not applicable.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	Fragmentation impact on environment may be due to drilling and blasting. The anticipated impacts and mitigation measures are discussed in Chapter 4.	132
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 4 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 11.	-
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial 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.	82
27	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress. c) Sediment geochemistry in the surface streams		
Energy			
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.	Complied. The details are described in Chapter 4.	132
Climate Change			

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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.	132
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.	Complied. The details are described in Chapter 4.	132
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.	Complied. Mine Closure Plan has been incorporated in the approved Mining Plan and the same is incorporated in the Chapter 7.	-
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	Complied. The details are described in Chapter 10.	176
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.	176
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.	162
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 &	Complied. The details are described in Chapter 7.	162

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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.22-65/2017-1A.111 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)			
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	This is a proposed project. No mining has been carried out in this lease area so far by the proponent.	
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	Precise area communication letter was obtained from the Assistant Director, Department of Geology and Mining, Viluppuram, vide	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

		Rc.No.B/G&M/242/2024, dated 04.12.2024. (Annexure-1)	
3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee	The production capacity, quantity of waste, its management and mining technology in mine plan and EIA, etc., are compatible with one another.	
4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)	Project coordinates superimposed in lease plan and in a High Resolution Imagery are given as Figure No - 2.2 in Chapter - II & Figure No - 3.1 in Chapter - III.	
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristicsInformation should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics	The Geomorphology map (Figure No.3.24, Geology of the study area (Figure No.3.23, Soil map (Figure No.3.25) are provided in Chapter- III.	126
6	Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority	Not Applicable.	
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any	In this proposed project, appropriate environmental monitoring programme are framed. Regular, systematic and sustained programme schedules for implementation and monitoring of various control measures are	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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	devised with clear cut guidelines of various concerned plans for keeping a continuous surveillance on the various environmental quality parameters in the area. The Mines Manager/Mine Incharge will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. Its details are provided in para 6.1, Chapter VI.	
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided	Various risks likely to arise due to mining activities and the safeguard measures are detailed in para 7.4 of Chapter 7. This being an opencast mine, subsidence is not applicable. The impact due to ground vibrations due to blasting is given in para 4.4.2, Chapter-4.	167
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	Data given in the report is for the life of the mine.	107
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.7.6.2, of Chapter 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 3.13 under Chapter 3.	114
11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine	There is no waste generation anticipated in this quarry operation since the entire excavated material	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	lease, its land use, R&R issues, if any, should be given	will be utilised. Hence, there is no external overburden dump involved. Besides, there is no proposal for overburden dump outside the lease area.	
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees	There is no forest land in the lease area.	
13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished	Not Applicable.	
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated	Not Applicable.	
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given	Detailed floral list of the study area is given in para 3.5.1 of Chapter – III.	
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted	The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc.	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished	Not Applicable. There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.	
18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost	A study of flora and fauna composition in the core and buffer zone of the project has been made and the details are furnished in section 3.7.7, Chapter III.	
19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered	Not Applicable	
20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease	Not Applicable	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)		
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	The mining activities will be carried out within the mine lease area only. The entire mine lease area of 2.30.50 Ha is a patta land. There is no population within the ML area. Hence, the question of R& R does not arise.	
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	Baseline Data were collected for One Season (Post Monsoon) December 2024 – February 2025 as per CPCB Notification and MoEF & CC Guidelines and Detailed in Chapter -. 3.	84

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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	Air Quality Modelling for prediction of incremental GLC's of pollutant was carried out using AERMOD view and Detailed in Section 4.2.4.3. Air Quality Modelling for Cluster are detailed in section 7.4.2.1 of Chapter 7.	141 161
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated	The total water requirement for the project is 5.0 KLD. The required water will be procured from outside agencies initially and later rainwater harvested in the mine pit shall be used other than drinking purpose. Water Balance diagram is presented in Figure No – 4.1.	181
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided	Not applicable Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis.	-
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	Rain water will be diverted into working area by constructing drains to store and use for dust suppression and greenbelt development. Details are presented in section 4.2.3.4. The total water requirement for the project will be 5.0 KLD comprising Drinking 1.5 KLD, Dust suppression 1.5 KLD, Greenbelt 2.0 KLD. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose.	181

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

		The water balance diagram for the same is shown in Figure No 4.1.							
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided	Impact Studies and Mitigation Measures of Water Environment including Surface Water and Ground Water are discussed in Section 4.2.3.							
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished	The quarrying activity will not intersect ground water table as quarrying is proposed upto a depth of 27 m BGL and water table is found at a depth of 63-68 m BGL.	40						
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	A seasonal odai passing on west side of the project is 40m away from the area. There is no proposal to discharge any effluent into these water body.	-						
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	<table><tr><td>Altitude of the area</td><td>65m from MSL</td></tr><tr><td>Ultimate Depth</td><td>27 m BGL</td></tr><tr><td>Ground water</td><td>63-68 m BGL.</td></tr></table>	Altitude of the area	65m from MSL	Ultimate Depth	27 m BGL	Ground water	63-68 m BGL.	-
Altitude of the area	65m from MSL								
Ultimate Depth	27 m BGL								
Ground water	63-68 m BGL.								
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of	Greenbelt Development Plan & Recommended Species proposed for Greenbelt Development are detailed in Section 4.4.5.4. 0.55.50 hectares of land are allotted for greenbelt development.	129						

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	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	From this proposed quarry the entire output will be transported to the consumers like crusher units for producing stone aggregates of different sizes. The existing road can absorb this additional traffic due to this project. Details of the same are provided in Para 4.9, Chapter-IV.	-
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report	Temporary Infrastructure & other facilities will be provided to the Mine Workers after the grant of quarry lease and the same has been discussed in Section 2.11.5 of Chapter 2.	129
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	At the conceptual stage the quarried-out land will be fenced and lower benches will be allowed to collect rain water to act as a temporary reservoir and Greenbelt development will be carried out on the top bench, unutilized areas and haul roads. Mine closure plan is detailed in Section 2.10 of Chapter 2.	169
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	Details of occupational health and safety aspects are given under the Section 4.4.7 & Section 10.4.	169

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	proposed in the mining area may be detailed		
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	No Public Health Implications anticipated due to this project. Details of CER and CSR are discussed under Chapter No. 8.	169
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	This project provides employment to 29 people directly. Local people will be hired for unskilled labour. Through CSR, nearby schools, hospitals will be benefitted. For CSR, INR 5.0 Lakh is allocated. Based on the demand of the people during public hearing, further funds will be allocated, if necessary.	
38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project	Detailed Environmental Management plan and its implementation, etc., are furnished in Chapter X.	173
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	During public hearing process, the opinions and demands of the people will be noted. The replies and commitment made by the proponent along with time bound action plan wherever applicable will be provided in Final EIA/EMP report.	
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	There is no litigation pending against the project.	
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out	Project Cost is Rs.118.94 lakhs EMP Cost is 35.11Lakhs Capital Cost is Rs. 7.56 Lakhs Recurring Cost is Rs. 27.55 Lakhs for Ten years.	178

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report	Disaster management plan are provided under section 7.3 of Chapter-7.	171
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	Detailed in Chapter 8	173
44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. h)	Yes, Complied	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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

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.M.Venkadesan, S/o.Murugesan, has obtained Precise Area communication letter from the Assistant Director, Department of Geology and Mining, Viluppuram to quarry out 2,23,770m³ of Rough Stone and 34,272m³ of Gravel upto a depth of 27m below ground level Over an extent of 2.30.50 Ha, located at the Survey No.81/2 & 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State.

As per the approved mining plan, this project is for the simple mining of the Patta land area of 2.30.5 Ha., for a period of 10 years to mine total production of 2,23,770m³ of Rough Stone and 34,272m³ of Gravel upto a depth of 27m below ground level. The proposed production is 2,00,025m³ of Rough Stone and 34,272m³ of Gravel upto a depth of 27m (below ground level) for a period of first five years.

23,745m³ of Rough Stone will be proposed for the period of second five years upto a depth of 27m (below ground level).

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.

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

Table 1.1 Cluster Mines Details

S.No	Name of the Quarry Owner	S.F. Nos & Village	Lease Period	Area
a. Abandoned Quarry				
1.	Thiru.Balaraman, S/o. Aanaikutti Gounder, Keelsiviri Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.No.18/2 T. Nallalam Village	26.12.2011 to 25.12.2021	1.00.0 Ha
2.	Thiru.C.Ganesan, S/o. Chinnapalani, Brammedesam Village, Tindivanam Taluk, Viluppuram District	S.F.Nos.26/5, 26/6, 26/7 Brammedesam Village	12.07.2010 to 11.07.2020	0.77.0 Ha
3.	Thiru.M.Ranganathan, S/o. Muthu Gounder, Keelsiviri, Tindivanam Taluk	S.F.Nos.62/4, 62/5, 63/1, 63/4A1 Brammedesam Village	20.04.2014 to 19.04.2019	3.03.5 Ha
4.	Thiru.K.Kasinathan, S/o. Kupusamy, Nadu Street, Keelsiviri, Tindivanam Taluk.	S.F.Nos.80/3, 80/6 T. Nallalam Village	17.04.2014 to 16.04.2019	1.48.0 Ha
b. Existing Quarry				
1.	Thiru.S.Jagadheesan, S/o. Subburayalu, No.1/3, Mariamman Koil Street, Keezesevoor Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.Nos.49/1B, 49/2, 49/4B, 49/5A, 49/6, 49/7, 49/12, 49/13 Brammedesam Village	23.09.2022 to 22.09.2032	1.84.5 Ha
2.	Thiru.R.Vadivel, S/o. Ranganatha Gounder, Keelsiviri Village & Post, Marakkanam Taluk, Viluppuram District.	S.F.Nos. 59/13, 59/14, 59/15, 59/16, 59/17, 59/18, 59/19 Brammedesam Village	03.02.2023 to 02.02.2033	1.07.5 Ha

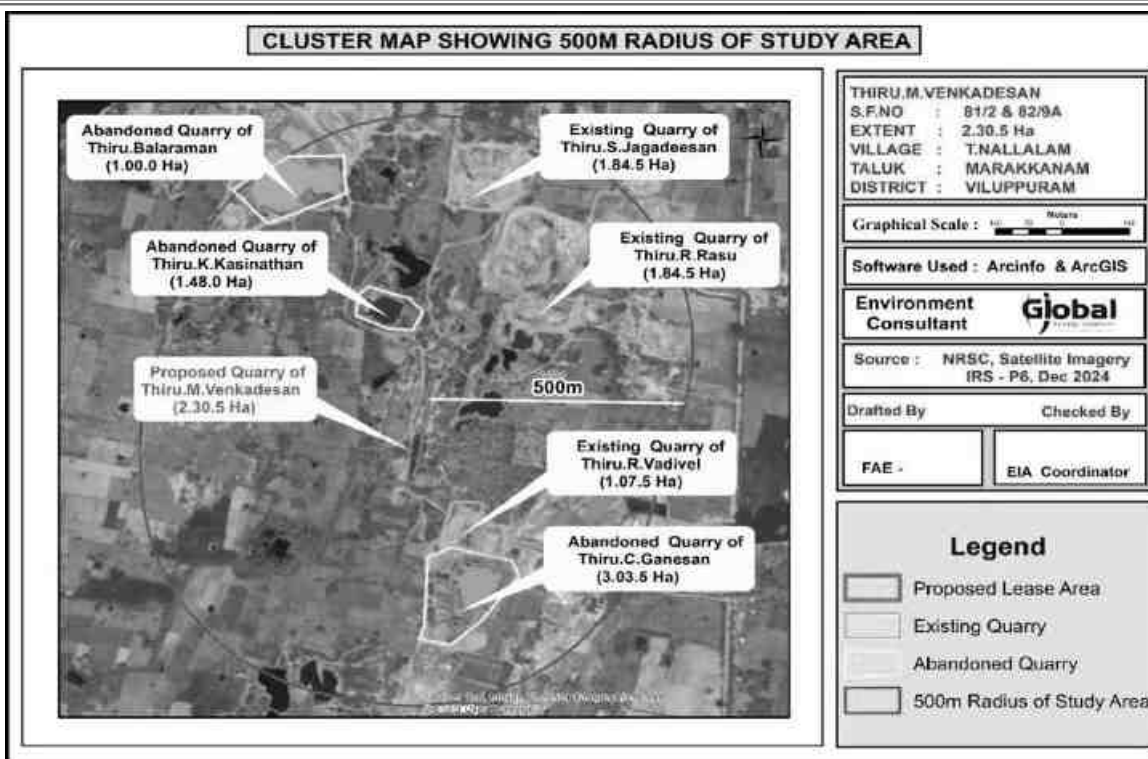
DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

3.	Thiru.R.Rasu, S/o. Ramakrishna Gounder, No.157A, Pilliyar Koil Street, Perumukkal Village, Marakkanam Taluk, Viluppuram District.	R. F.Nos.54/4A, 54/5A, 54/5B, 56/1 Brammedesam Village	19.10.2022 to 18.10.2027	1.29.0 Ha
c. Proposed Quarry				
1.	Thiru.M.Venkadesan No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District, 604 301.	S.F.Nos.81/2 and 82/9A T.Nallalam Village	-	2.30.5 Ha
Total Area of Cluster		6.51.5 Ha		

As per EIA notification, 2006 and its subsequent amendments the proposed Thiru.M.Venkadesan, Rough Stone & Gravel 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 6.51.5 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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.



The ToR for preparation of EIA/EMP was approved vide ToR Identification No. TO25B0108TN5867827N, dated 01.03.2025. This report has been prepared in line with the approved ToR for production of maximum excavation of 2,23,770 m³ of Rough Stone and 34,272 m³ of gravel for a period of Ten Years.

1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT

The proposed project is for mining of Rough Stone and gravel (under cluster) from the S.F.Nos.81/2 & 82/9A over an extent of 2.30.50 Ha in T.Nallalam Village, Marakkanam 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	Rough Stone & Gravel quarry
4.	Type of Lease	New quarry
5.	Extent of the lease	2.30.50 Ha
6.	Proposed depth of mining	27m BGL
7.	Method of mining	Opencast mechanized
8.	Proposed lease period	10 Years
9.	Proposed Environmental Clearance	10 Years
10.	Proposed production quantity for First five Years	Rough Stone: 2,00,025m ³ Gravel: 34,272 m ³
11.	Proposed production quantity for Second five Years	Rough Stone: 23,745 m ³

(b) Profile of the project proponent

The proposed lessee Thiru.M.Venkadesan, is an individual with sound experience in the identification of quarry, operation and marketing in the field of Rough Stone and gravel quarry. The proposed land is patta land, please refer Annexure no -6.

(c) Project proponent details

Name of the proponent : Thiru.M.Venkadesan,
 Status of the Proponent : Individual
 Address Thiru.M.Venkadesan, S/o. Murugesan,
 No.121, Keezhanda Street,
 Kilsiviri Village,
 Marakkanam Taluk,
 Viluppuram District

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

The proposed quarrying operation Opencast Mechanized method with 5m bench height, 5m bench width and overall bench slope is less than 47°. The quarry operation involves shallow jackhammer drilling, slurry blasting, excavation, loading and transportation.

1.3.1 SIZE AND LOCATION OF THE PROJECT

(a) Size of the project

Table1.2 Proposed project details		
Sl. No.	Feature	Description
1.	Type of land	Patta land
2.	Extent of lease area	2.30.50 Ha
3.	Type of lease	New quarry
4.	Geological Resource	Rough Stone – 5,75,150 m ³ Gravel – 46,012 m ³
5.	Mineable Resource	Rough Stone – 2,23,770 m ³ Gravel – 34,272 m ³
6.	Proposed production quantity for First five Years	Rough Stone: 2,00,025m ³ Gravel: 34,272 m ³
7.	Proposed production quantity for Second five Years	Rough Stone: 23,745 m ³
8.	Proposed depth of mining	27m BGL

Location of the project

The proposed project site is located in T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State and its Latitude: 12°11'13.78"N to 12°11'24.76"N, Longitude : 79°45'34.34"E to 79°45'39.45"E. with Survey of India Topo Sheet No. 57- P/16.

1.3.2 IMPORTANCE OF THE PROJECT TO THE COUNTRY AND REGION

There is an increasing demand for rough stone in India and other countries. Since the construction industry is rapidly growing now, there is an increasing demand for rough stone. Thus, this project will contribute not only to the demand of Rough Stone, 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 ToR Identification No. TO25B0108TN5867827N, dated 01.03.2025 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 (December 2024 to February 2025) 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 December 2024 to February 2025 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 Rough Stone and Gravel Quarry project. There is no litigation/court case pending against this project.

a. Precise Area Communication:

The Project Proponent has obtained Precise Area Communication from the Assistant Director, Department of Geology and Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 04.12.2024. The letter copy enclosed as **Annexure – 2.**

b. Mining Plan Approval Letter:

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, Dept. of Geology & Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 26.12.2024. 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 the Assistant Director, Department of Geology and Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 26.12.2024. 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:

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

It is patta land registered in the name of Applicant (Thiru.M.Venkadesan) vide patta no.2380 and 2277, the copy of the patta, Adangal and A-Register are enclosed as **Annexure-6.**

CHAPTER 2

PROJECT DESCRIPTION

2.1 TYPE OF PROJECT

The type of the project is Opencast Mechanized Mining to excavate Rough Stone and Gravel within the proposed Mine Lease area with drilling, blasting, loading and transportation. This project is located at S.F. Nos. 81/2 & 82/9A over an extent of 2.30.50 Ha in T.Nallalam Village, Marakkanam 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 6.51.5 Ha. The details of mines located in the cluster area is certified by Assistant Director, Dept. of Geology & Mining, Viluppuram vide **Rc.No.B/G&M/242/2024, dated 26.12.2024.**

Table 2.1 500m Radius Cluster Mines Details				
S.No	Name of the Quarry Owner	S.F. Nos & Village	Lease Period	Area
a. Abandoned Quarry				
1.	Thiru.Balaraman, S/o. Aanaikutti Gounder, Keelsiviri Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.No.18/2 T. Nallalam Village	26.12.2011 to 25.12.2021	1.00.0 Ha
2.	Thiru.C.Ganesan, S/o. Chinnapalani, Brammedesam Village, Tindivanam Taluk, Viluppuram District	S.F.Nos.26/5, 26/6, 26/7 Brammedesam Village	12.07.2010 to 11.07.2020	0.77.0 Ha
3.	Thiru.M.Ranganathan, S/o. Muthu Gounder, Keelsiviri, Tindivanam Taluk	S.F.Nos.62/4, 62/5, 63/1, 63/4A1 Brammedesam Village	20.04.2014 to 19.04.2019	3.03.5 Ha
4.	Thiru.K.Kasinathan, S/o. Kupusamy, Nadu Street, Keelsiviri, Tindivanam Taluk.	S.F.Nos.80/3, 80/6 T. Nallalam Village	17.04.2014 to 16.04.2019	1.48.0 Ha

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

b. Existing Quarry				
1.	Thiru.S.Jagadheesan, S/o. Subburayalu, No.1/3, Mariamman Koil Street, Keezesevoor Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.Nos.49/1B, 49/2, 49/4B, 49/5A, 49/6, 49/7, 49/12, 49/13 Brammedesam Village	23.09.2022 to 22.09.2032	1.84.5 Ha
2.	Thiru.R.Vadivel, S/o. Ranganatha Gounder, Keelsiviri Village & Post, Marakkanam Taluk, Viluppuram District.	S.F.Nos. 59/13, 59/14, 59/15, 59/16, 59/17, 59/18, 59/19 Brammedesam Village	03.02.2023 to 02.02.2033	1.07.5 Ha
3.	Thiru.R.Rasu, S/o. Ramakrishna Gounder, No.157A, Pilliyar Koil Street, Perumukkal Village, Marakkanam Taluk, Viluppuram District.	S. F.Nos.54/4A, 54/5A, 54/5B, 56/1 Brammedesam Village	19.10.2022 to 18.10.2027	1.29.0 Ha
c. Proposed Quarry				
1.	Thiru.M.Venkadesan No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District 604 301.	S.F.Nos.81/2 and 82/9A T.Nallalam Village	-	2.30.5 Ha
Total Area of Cluster		6.51.5 Ha		

The total lease area within the 500m radius works out to 6.51.5 Ha including this proposed lease area (2.30.5 Ha). As such, cluster situation is applicable and Environmental Clearance for this project is applied under B1 Cluster Category.

2.2 NEED FOR THE PROJECT

The salient features of the proposed Rough Stone and Gravel quarry of Thiru.M.Venkadesan.

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	New Project
3	Category	B1

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

4	Nature of mineral	Minor Mineral
5	Life of the mine	10 years
6	Proposed production quantity for First five Years	2,00,025m ³ of Rough Stone, 34,272m ³ of Gravel upto a depth of 27m below ground level
	Proposed production quantity for Second five Years	23,745 m ³ of Rough Stone upto a depth of 27m below ground level
7	Waste generation and management	Nil
8	Bench height and width	Proposed bench height & width is 5.0m respectively and number of proposed benches is 6 Nos (5+1).
9	Ultimate pit depth	27 m BGL
10	End use	The excavated Rough Stone and Gravel is used for construction industries for Government & 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 T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State. The Nearest Railway line is Viluppuram – Chennai line which is about 12 km on North West side of the area. The National Highway (NH-32) Chennai – Thoothukudi Road is about 6.9 Km on south east side of the area. The State Highway (SH-134) Tindivanam – Marakkanam Road about 1.3 Km on North side of the area. The general location is given in Figure 2.1. Map of the project area is given in Figure 2.2.

FIGURE 2.1 LOCATION MAP

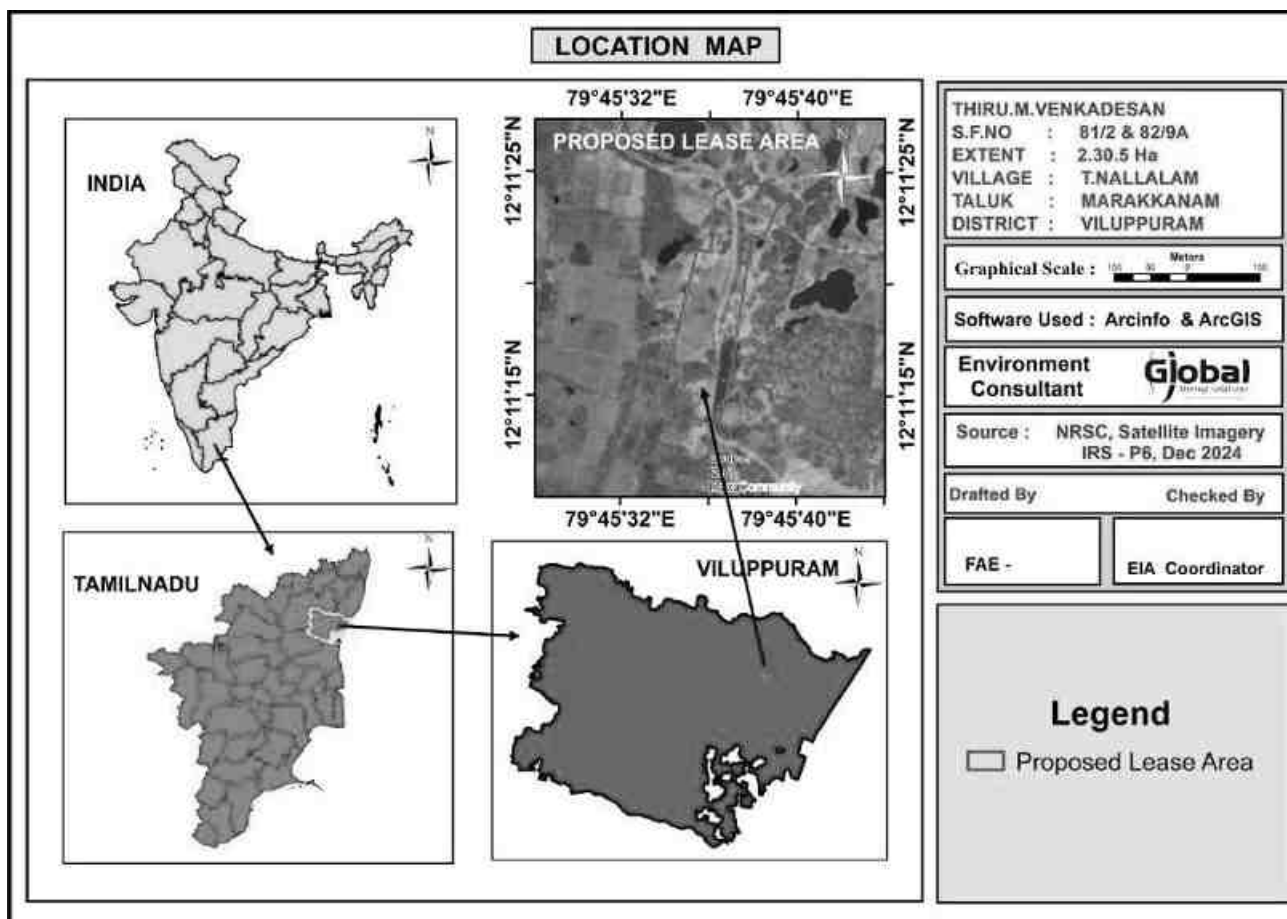


Table 2.2 Co-Ordinates of the Project Site

Corners	Co-ordinates		Distance between the corners
	Latitude	Longitude	
1	12° 11' 14.15"N	79° 45' 34.45"E	1-2 = 67.8m
2	12° 11' 16.19"N	79° 45' 35.32"E	2-3 = 30.2m
3	12° 11' 16.37"N	79° 45' 34.34"E	3-4 = 161.6m
4	12° 11' 21.49"N	79° 45' 35.56"E	4-5 = 19.4m
5	12° 11' 21.41"N	79° 45' 36.19"E	5-6 = 78.0m
6	12° 11' 23.94"N	79° 45' 36.32"E	6-7 = 47.4m
7	12° 11' 24.76"N	79° 45' 37.65"E	7-8 = 59.2m

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

8	12° 11' 23.99"N	79° 45' 39.45"E	8-9 =	66.6m
9	12° 11' 22.00"N	79° 45' 38.58"E	9-10 =	17.0m
10	12° 11' 22.13"N	79° 45' 38.03"E	10-11 =	194.6m
11	12° 11' 15.86"N	79° 45' 37.12"E	11-12 =	66.0m
12	12° 11' 13.78"N	79° 45' 36.59"E	12-1 =	65.6m

FIGURE 2.2 GOOGLE IMAGE SHOWING PROJECT SITE

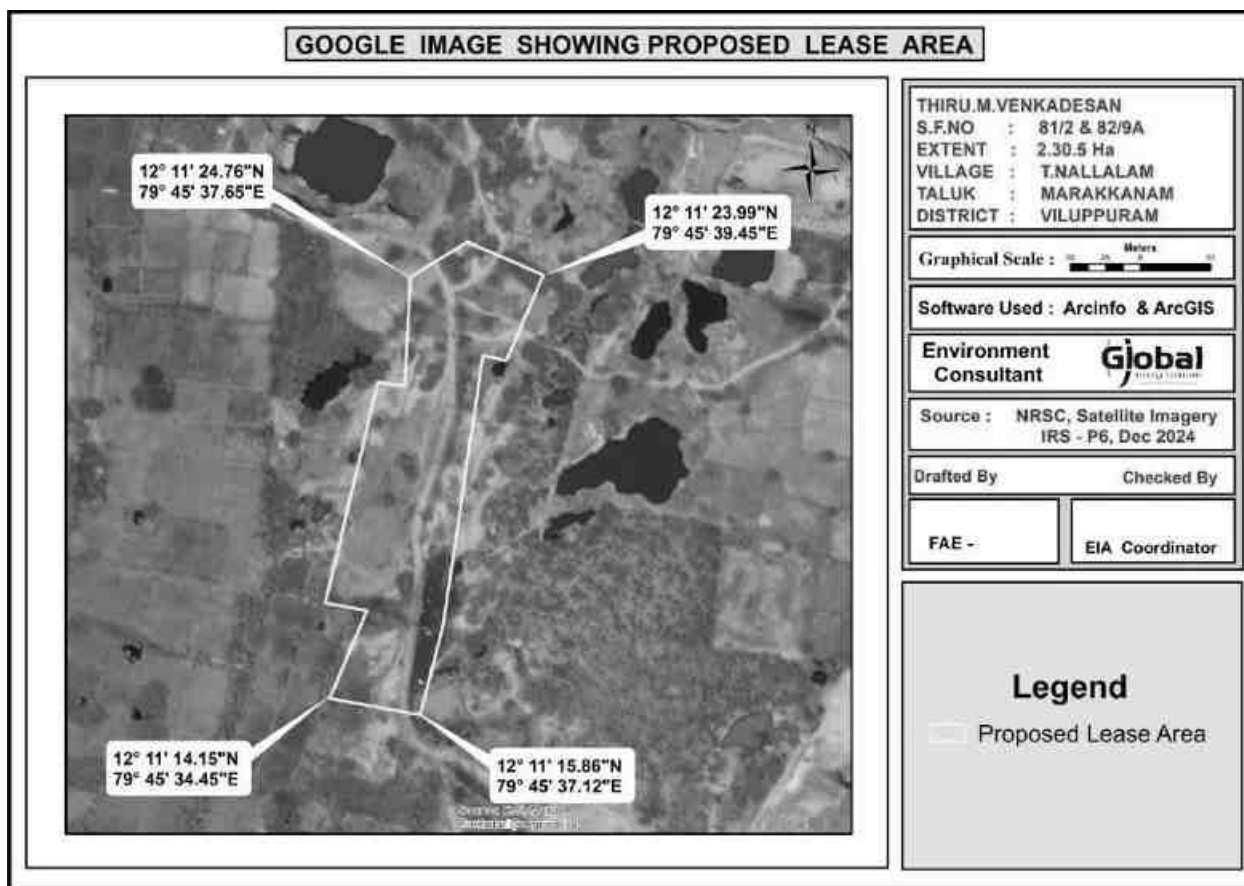


FIGURE 2.3 SURFACE PLAN OF THE PROJECT AREA

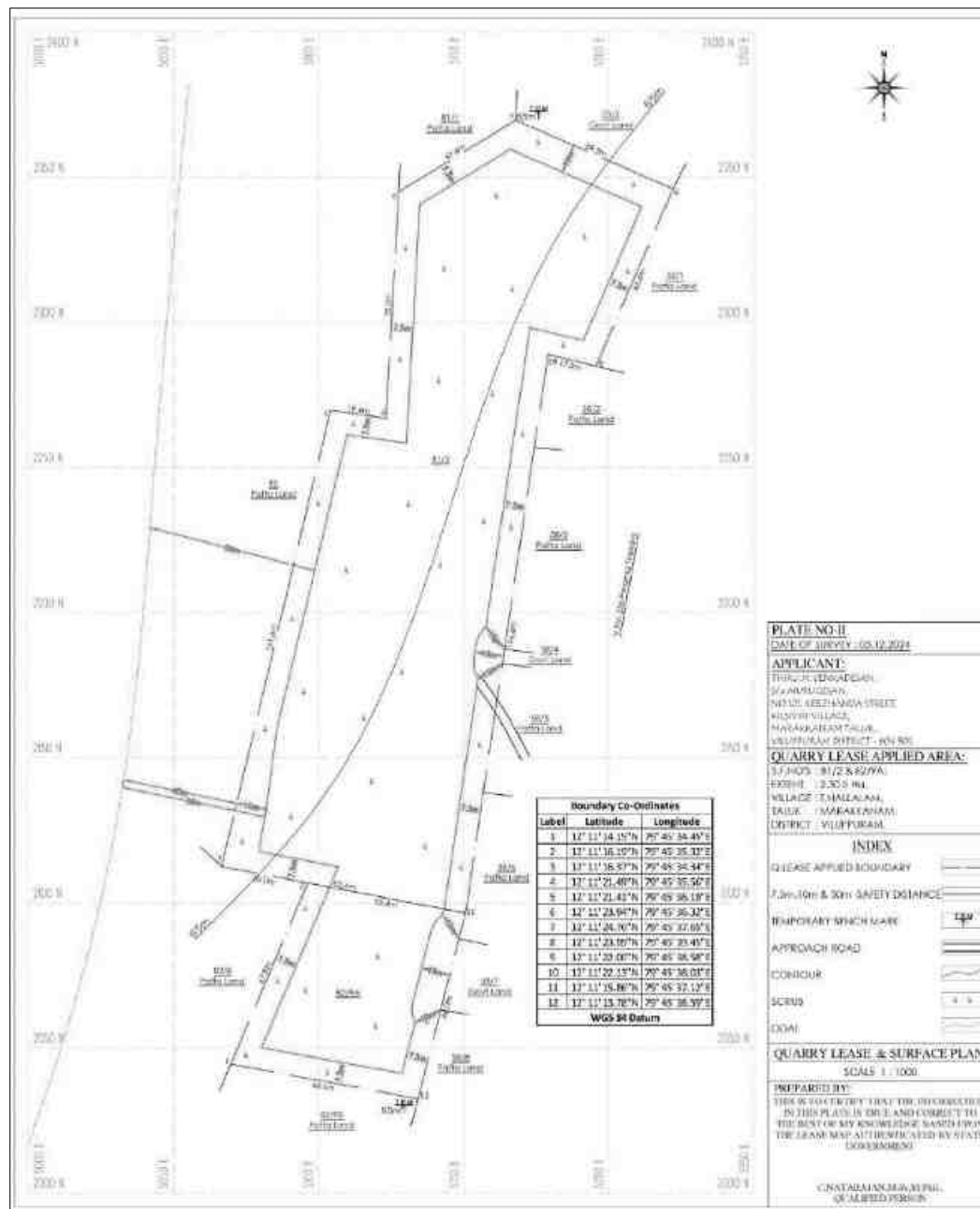
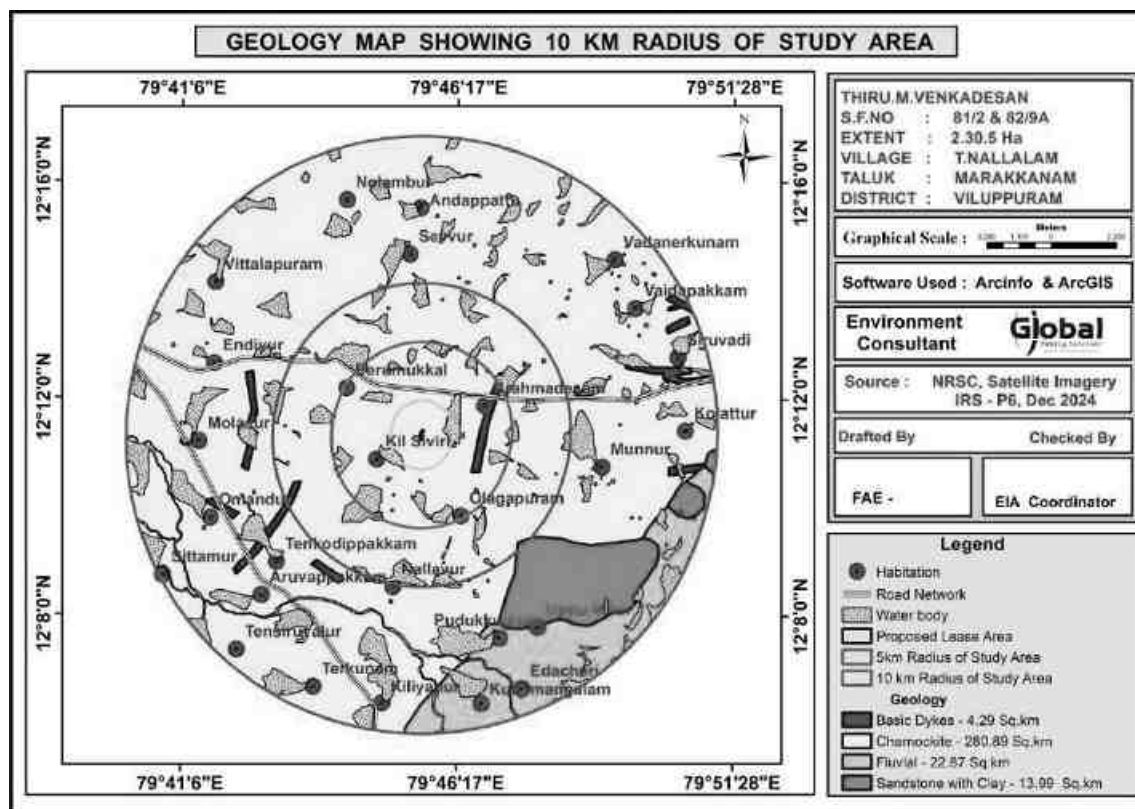


FIGURE - 2.4 GEOLOGY MAP OF PROJECT AREA



2.3.1 PROJECT SITE LAYOUT

The proposed Mine Lease area is patta land and the Land use pattern of the project site is given below Table 2.5.

Table 2.3 Current Land Use Pattern			
S. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)
1	Quarrying Pit	Nil	1.73.0
2	Infrastructure	Nil	0.01.0
3	Roads	Nil	0.01.0
4	Green Belt	Nil	0.55.5
5	Unutilized	2.30.5	Nil

	Total	2.30.5	2.30.5

2.3.3 SALIENT FEATURES OF THE LEASE AREA

Table no. 2.4		
Sr.No	Salient Features	Description
1	Nearest Roadway	• There is an existing road from the area leads to Kiliyanur - Vellakulam village road on eastern side of the area. • The Nearest Railway line is Viluppuram to Chennai line which is about 12Km on northwestern side of the area. • The National Highway (NH-32) Chennai – Thoothukudi Road is about 6.9 Km on south east side of the area. • The State Highway (SH-134) Tindivanam – Marakkanam Road about 1.3 Km on North side of the area.
2	Nearest Village	Kilsiviri Village - 1.4km (SW)
3	Nearest Railway station	Tindivanam - 12.5Km (NW)
4	Nearest Airport	Puducheery – 25.2 Km (SE)

Figure 2.5 Topo Map showing existing site features

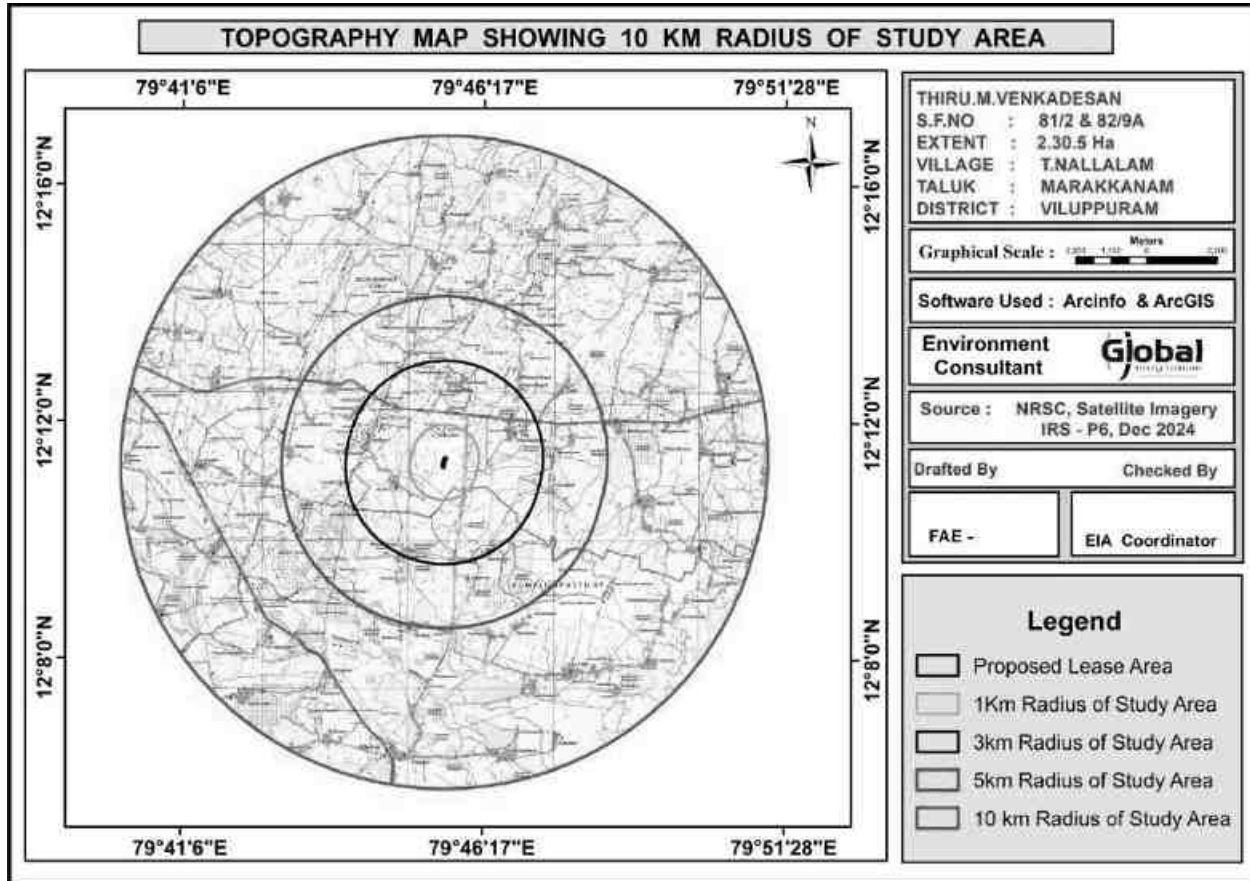


FIGURE 2.6 PROJECT SITE PHOTOGRAPHS



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

The proposed production is 2,00,025m³ of Rough stone and 34,272m³ of Gravel formation upto a depth of 27m (below ground level) for the period of first five years and remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five years upto a depth of 27m (below ground level). Cost of the project is Rs. 118.94 lakhs including land cost. The total EMP Cost is 35.11 Lakhs (For 10 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, 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, Dept. of Geology & Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 26.12.2024.
2	Environment Clearance Status	ToR Letter Received vide file no TO25B0108TN5867827N, dated 01.03.2025.
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	July 2025	Aug 2025	Sep 2025	Oct 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 20.01.2025, ToR was granted on 01.03.2025. Baseline data Collection during Summer Season (December 2024 to February 2025). 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 (TNPCB).

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, Dept. of Geology & Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 26.12.2024.

2.6 TECHNOLOGY & PROCESS DESCRIPTION

2.6.1 BASIC REQUIREMENTS FOR THE PROJECT

The project requirements such as water, power, man-power, fuel, 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 5.0 KLD which will be sourced from outside agencies. Negligible sewage of 1.0 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

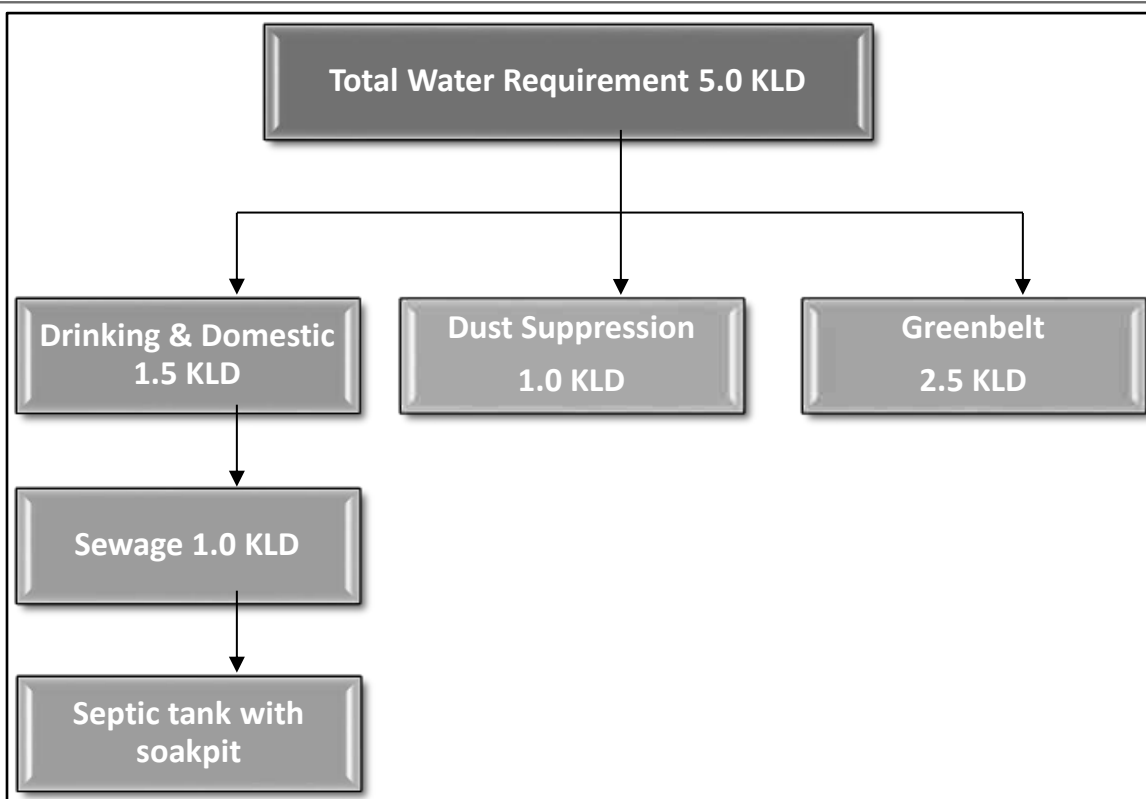


Table - 2.7 Water Requirement

S. No	Particular	Water Requirement (KLD)
1	Dust suppression	1.5
2	Drinking/Domestic	1.5
3	Greenbelt/Plantation	2.0
Total		5.0

2.6.3 POWER REQUIREMENT

No electricity is needed for mining operations. Power will be used only in the office building. All the equipment will be diesel-operated. 1,84,728 Litres of HSD will be used for the Entire Project Life

2.6.4 MAN POWER REQUIREMENT

Total Manpower requirement will be 29 persons which out of which 12 persons (Mines manager, Foreman, Mining Mate, etc.,) and other are drivers and workman's categories. Beside this, 17 workmen will be drivers and workmen. Preference will be given to the locals as per their eligibility.

Table - 2.8 Man Power breakup

S.No	Description	Employment potential
1	Mines Manager	1 No.
2	Foreman / Mate	2 Nos.
3	Operator	8 Nos.
4	Mechanic	1 No.
5	Driver	4 Nos.
6	Labours	13 Nos
Total		29Nos

2.6.5 EXTENT OF MECHANIZATION

Table 2.9 Machineries involved in the project				
S.No.	Particulars	capacity	Motive Power	Nos
1.	Jack hammer	32mm dia	Compressed air	3
2.	Compressor	1 psi	Diesel drive	1
3.	Excavator with Bucket and Rock Breaker	0.90 m ³	Diesel drive	2
4.	Tippers	5/10 Ts	Diesel drive	4

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 Rough stone and Gravel quarry in the ML area.

2.6.6 GEOLOGY AND TOPOGRAPHY

Topography

The mine lease area of 2.30.50 Ha is covered in the Survey of India Toposheet 57 P/12 and is bounded by Latitude: 12°11'13.78"N to 12°11'24.76"N and Longitude: 79°45'34.34"E to 79°45'39.45"E. No major river is found nearby the lease applied area. Water table is found at a depth of 68m in summer and 65m in rainy seasons. Temperature of the area is reported to be 18°C to a maximum of 42°C during summer. Rainfall of this area is about 800 mm to 900 mm during the both NE & SW 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 65m (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

Geologically Villupuram District is mostly underlain by the Archaean crystalline and metamorphic complex. The geology of the district is complicated due to recurring tectonic and magmatic activities occurred during. Pre-Cambrian period. Hornblende Biotite Gneisses are the oldest rocks of the district. It is very fissile and present widely in plains. The gneisses are highly weathered upto 30 m at some places.

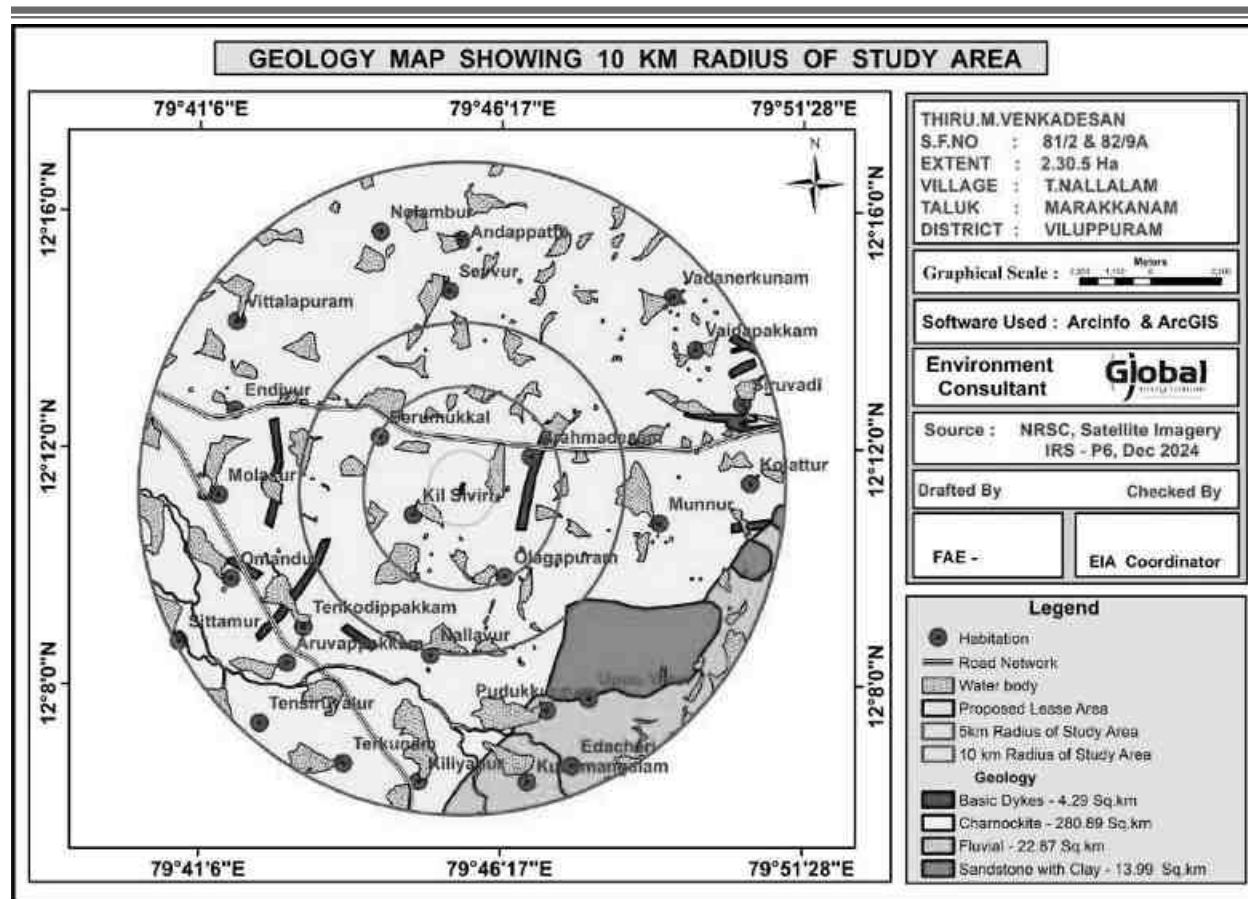
The Charnockites are coarse grained, massive and foliated at places and their colour is bluish dark to grey. They are the second largest rock type present in the district. They are massive and less weathered than the gneisses. They exhibit 2 to 3 distinct set of joints and most of them are vertical with steep dips. Iron ore deposits associated with quartz feldspathic gneiss and garnetiferous quartz gneisses are present in some areas. These rocks are highly folded and jointed and less weathered. Quartzite and crystalline lime stones are exposed in patches in north

and central parts of the district. The thickness of these bands varies from a few meters to ten meters and the length extends to few kilometres. Numerous lenses of dunitite with magnesite veins of various dimension are exposed within gneiss. There are number of basic dykes present in the study area. Granites are found in some parts of the district. They are massive and jointed poorly. Thin veneer of alluvium is found along the course of the Kondamur. However, alluvium of few meters thickness is found near the junction of river Kondamur. Several faults and shears are occurring mostly with north east-southwest trend. They are expected to influence the course of groundwater movement, its storage and developmental potentials in the district.

Regional Geology map for the 10 Km radius from the proposed project site is given as **Figure 2.6**.

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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.



2.6.8 Local Geology

Geological Resources

The area is underlain by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places. 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 rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock. The strike of the Charnockite formation is N45°E – S45°W with dipping towards SE80°.

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

METHOD OF MINING

Opencast mechanized method with 5.0 m height 5.0m width and overall, 47° slope of the bench. It is proposed to excavate 2,00,025m³ of Rough stone and 34,272m³ of Gravel formation upto a depth of 27m below ground level for the period of first five years and remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five year. No wastage is envisaged as the entire material available is Rough Stone and Gravel only.

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

Height (max) and Width (max) of the benches will be maintained as 5m each and overall, 47° slope of the bench.

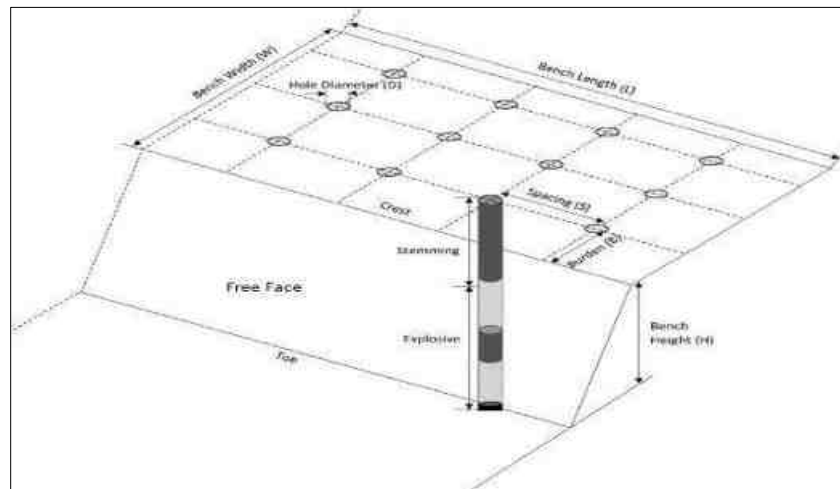
DEVELOPMENT OF MINING FACES

The proposed mining method is Opencast Mechanized 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 October 2025.

DRILLING & BLASTING

Drilling will be done upto maximum depth of 27 m BGL (Drilling diameter will be 32 mm). Jackhammer will be used for drilling with water spray. Powder factor of explosives for breaking such hard rock shall be in the order of 6 to 7 Tonnes per Kg of explosives. Small dia 25mm slurry explosive is proposed to be used for shattering and heaving effect for removal of Rough Stone & Gravel. The proposed blasting pattern is given as **Figure 2.9**.

FIGURE 2.9 BLASTING PATTERN



LOADING& TRANSPORTATION OF ROUGH STONE AND GRAVEL

Hydraulic excavator will be used for lifting and loading of the rough stone and Gravel. This excavator in combination with Tippers (10MT) capacity of 4 nos will be used.

FIGURE 2.10 FLOW CHART OF THE QUARRY OPERATION

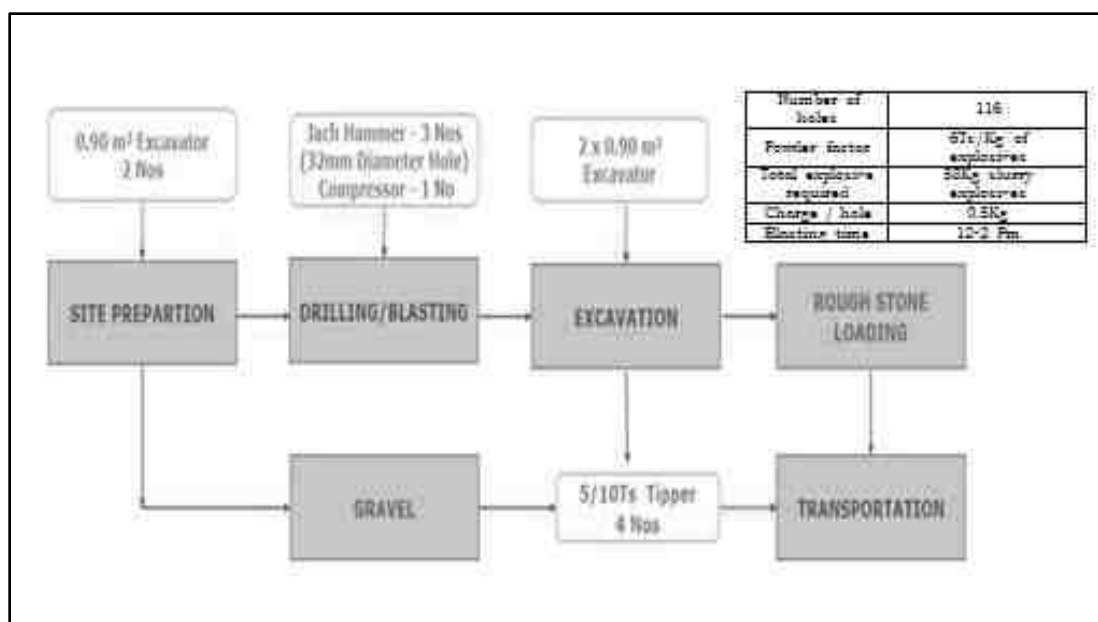


TABLE - 2.10 MINING DETAILS

S.No	Description	Details	Remarks
1.	Method of Mining	Opencast method of mechanized mining with 5.0 m height 5.0 m width and overall 47° slope of the bench. Hydraulic excavator will be used for the excavation and 5/10T tippers will be used for the Hauling.	Excavator – 1 No Tippers - 4 Nos.
2.	Mineral Use	The excavated Rough Stone and Gravel, will be used for construction industries for Government & Public sector	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

		projects besides catering domestic housing and infrastructure projects in and around the district	
3.	Proposed Depth	27 m BGL	Water table in the area is around 68m BGL
4.	Proposed Production quantity	2,00,025m ³ of Rough Stone, 34,272m ³ of Gravel upto a depth of 27m below ground level	First Five years
		23,745 m ³ of Rough Stone upto a depth of 27m below ground level	Second Five years
5.	Safety Zone	Out of 2.30.50 Ha, 0.55.5 Ha will be maintained as safety zone during mining operation as well as at the conceptual stage of the project.	Around 555 nos. of saplings will be planted in this safety
6.	Water requirement	5.0 KLD	Procured from the outside water vendors
7.	Energy requirement	1,84,728 Litres of HSD (Entire Project Life)	All the equipment will be diesel operated. No electricity is needed for mining operation
8.	Manpower	29 Nos	
9.	Shift	General Shift	8.00 AM – 5.00 PM
10.	Project Cost	118.94 Lakhs	(Including Fixed Asset + Operational & EMP cost)
11.	EMP Cost	35.11 Lakhs	-
12.	CER Cost	5.0 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 Rough stone and Gravel 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 2.11(a).

Table 2.11(a) Yearwise of production for First five Years								
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m³	Gravel in m³	Rough stone in m³
I	XY-AB	I	60	62	2	7440	7440	
		II	58	58	5	16820		16820
		III	53	48	5	12720		12720
	XY-CD	I	35	38	2	2660	2660	
		II	35	34	5	5950		5950
		III	35	24	5	4200		4200
	Total						10100	39690
II	XY-CD	I	11	38	2	836	836	
		II	11	34	5	1870		1870
		III	11	24	5	1320		1320
	XY-EF	I	71	61	2	8662	8662	
		II	71	57	5	20235		20235
		III	71	47	5	16685		16685
	Total						9498	40110
III	XY-EF	I	77	61	2	9394	9394	
		II	77	57	5	21945		21945
		III	77	47	5	18095		18095
	XY-GH	I	66	40	2	5280	5280	
	Total						14674	40040
IV	XY-GH	II	64	36	5	11520		11520
		III	59	26	5	7670		7670
		IV	54	16	5	4320		4320
	XY-EF	IV	90	37	5	16650		16650
	Total							40160
V	XY-EF	IV	58	37	5	10730		10730
		V	59	27	5	7965		7965
	XY-CD	IV	46	14	5	3220		3220
	XY-AB	IV	48	38	5	9120		9120
		V	43	28	5	6020		6020
		VI	33	18	5	2970		2970
	Total							40025
Grand Total							34272	200025

Proposed to carry out 2,00,025m³ of Rough stone and 34,272m³ of Gravel formation upto a depth of 27m (below ground level) for the period of first five years and

remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five years upto a depth of 27m (below ground level).

Table 2.11(b) Yearwise Production for Second Five Years							
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Rough stone in m ³
VI	XY-EF	V	35	27	5	4725	4725
	Total						4725
VII	XY-EF	V	35	27	5	4725	4725
	Total						4725
VIII	XY-EF	V	19	27	5	2565	2565
		VI	26	17	5	2210	2210
	Total						4775
IX	XY-EF	VI	56	17	5	4760	4760
	Total						4760
X	XY-EF	VI	56	17	5	4760	4760
	Total						4760
Grand Total							23745

2.7.3 CONCEPTUAL PERIOD

During conceptual stage the mined-out area will be converted into water reservoir and safety zone as well as upper benches will be used for plantation 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 2.12.

TABLE 2.12 Ultimate Pit Dimension			
Ultimate Pit dimension (M) end of Mining plan Period			
Pit No	Length (max) (m)	Width (Avg) in (m)	Depth(max) in(m)
I	320	54	27m BGL

Ultimate pit dimension End of the lease period			
Pit No	Length (max) (m)	Width (Avg) in (m)	Depth(max) in(m)
I	320	54	27m BGL

[illegible]

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

Drilling

Drilling machines are proposed to be equipped with wet drilling arrangements and cyclone dust collectors.

Blasting

- Controlled blasting is proposed to be adopted and optimum use of explosive energy will help in reducing the air pollution.
- Secondary blasting will be avoided.
- Rock breakers are proposed to be used for breaking over sized boulders in order to reduce the dust generation.
- Use of good quality of explosives having proper oxygen balance with regular monitoring.
- Ensuring proper stemming after charging of explosives. Proper stemming material will help in minimizing dust throw thereby lowering the spread of dust particles in ambient air pollution.
- Water spray on blasted muck pile before dozing/loading to control dust generation.

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

Drilling

- Drilling with sharp drill bits to achieve optimum drilling performance and to reduce noise generation at source will be adopted.
- Personal protective equipments i.e. earplug in drilling & in high noise area shall be used.

Blasting

- As blasting will be done in accordance with standards prescribed by DGMS for controlled blasting; therefore, ground vibrations will not affect the structures in the vicinity of mine area.
- Explosives charge per hole and per delay will be maintained as per DGMS guidelines.
- Blasting will be carried out by use of non-electric detonators (NONEL) system and the impacts of noise generated due to blasting are momentary.
- Vibrations and noise generated by blasting will be monitored regularly

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 in an area of 0.55.5 Ha. Trees like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu,

etc., will be planted around the mine lease area. A total of 555 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 mechanized method is the most feasible method for mining in the proposed mine lease. It is also a matter of fact that the mining machineries are upgrading with time and therefore the project proponent would act fast to adopt more advanced equipment and automation for safe and environment friendly mining technology in the years to come.

CHAPTER 3

DESCRIPTION OF THE ENVIRONMENT

3.1. STUDY AREA, PERIOD COMPONENTS AND METHODOLOGY

The project area is located in T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State over an extent of 2.30.50 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 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 Summer Season i.e. December 2024 to February 2025 in the study area covering 10 km radial distance from the rough stone and Gravel 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,	Odai - 40m (W) Brammadesam Lake - 708m (E)

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

		Tank - 870m (SW) Nallalam Lake - 1.43km (NW) Tank - 2.12km (SW) Ariyanthangal Lake - 2.63km (NE) Perumukkal Lake - 2.83km (NW) Vanniper Tank - 2.84km (E) Endur Lake - 3.05km (NE) Nallavur Lake - 4.43km (SW) Munnur Lake - 5.00km (E) Kondamur River - 5.5km (SW)
B	Coastal zone, biospheres,	Nil within 10km radius
C	Mountains, forests Sanctuary	Kumalumpittu R.F. - 3.27 km (SE) Sevur R.F. - 4.45 km (NW) Nil within a 10Km radius. Oussudu Birds Sanctuary - 23.35 Km (S)
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 15km radius
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	Kilsiviri Village – 1.4km (SW)
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Kilsiviri Village – 1.4km (SW)

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.

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 December 2024 to February 2025 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
- ✚ Socio economic environment

Hydrogeology

BASELINE DATA COLLECTION

Baseline environment data on various components of the environment in the study area were collected during December 2024 to February 2025 to assess the present scenario of the area. Details are given in the table given below.

Baseline data collection During Post Monsoon Season December 2024 to February 2025

Sr.No	Environment al 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, SO2, NO2, CO & PAH	twice a week (24 hourly)	7
4	Noise	Equivalent noise levels in Leq in dB (A)	Once in a season (day & night time)	7
5	Water	Parameters as per IS 10500 - 2012	Once in a season	7
A	Surface Water	Parameters as per IS 10500 - 2012	Once in a season	2
6	Soil	Parameters As per IS 2720/USDA	Once in a season	7
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 1.0 KM RADIUS FROM THE PROPOSED QUARRY SITE

A site survey has been conducted to identify and list structures located within a 1 Km radius from the proposed Quarry and are detailed below. There are permanent structures within a 1 km radius from the project site. The PP has obtained a letter from Village Administrative Office (VAO), T.Nallalam Village stating that there are no structures situated within 1 Km radius.

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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

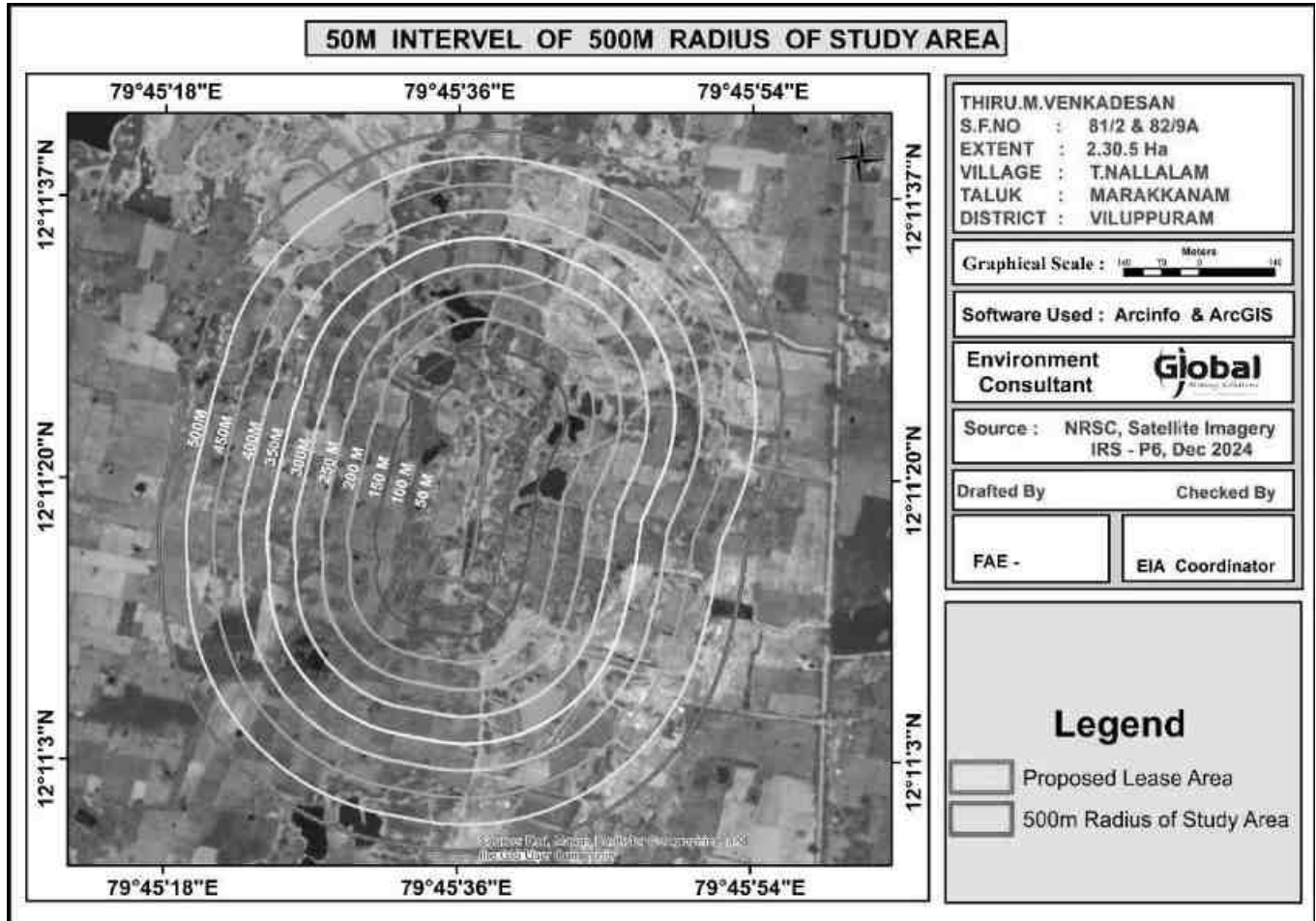
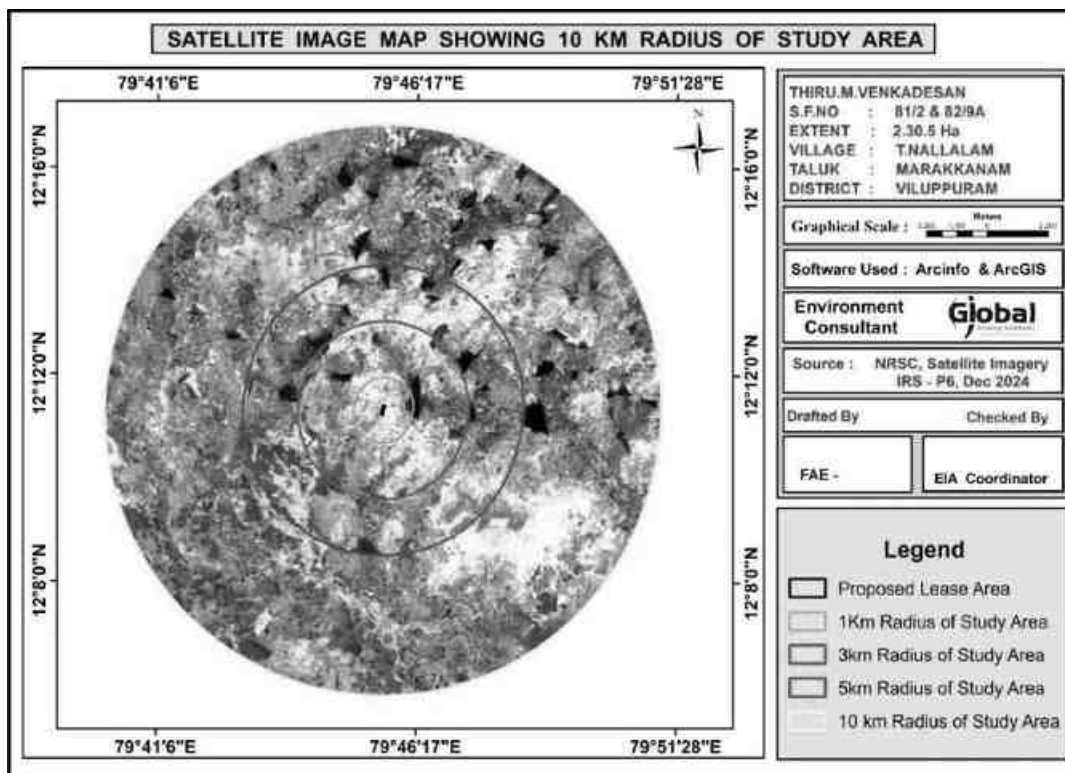


FIGURE - 3.2a SATELLITE IMAGE MAP OF THE PROJECT AREA

(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 December to February 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 2019 to 2024 is given below.

Table 3.2 Rainfall data						
Actual Rainfall in mm						Normal rainfall in mm
2019	2020	2021	2022	2023	2024	
906.3	1034.5	1935.2	1010.1	1055.4	732.1	1012.6

Source: Tamilnadu Water Supply and Drainage Board, Viluppuram District

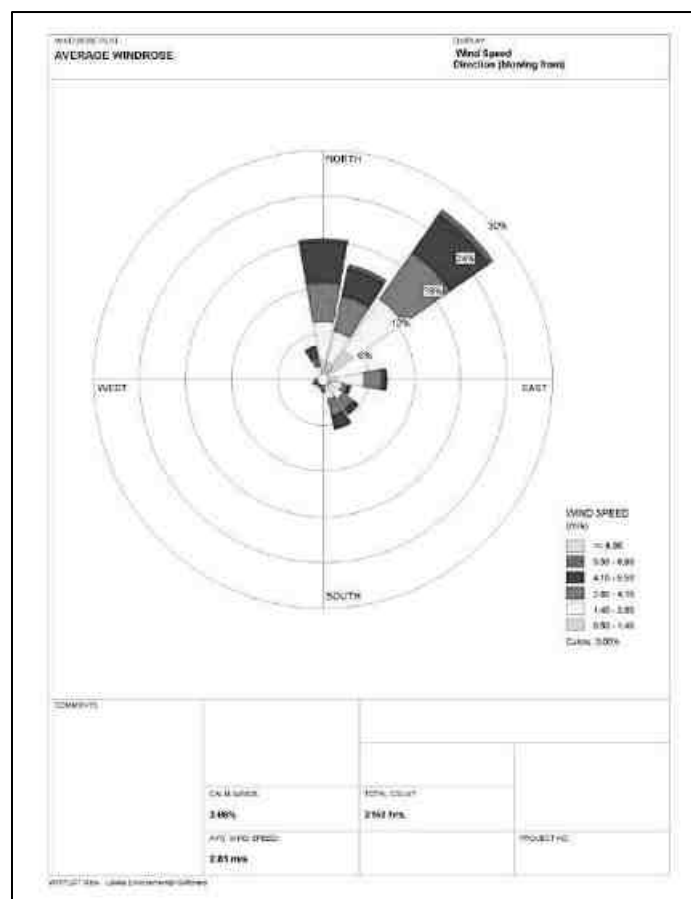
Relative Humidity

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 3.2.

FIG 3.4 WIND ROSE PLOT DURING DECEMBER 2024 TO FEBURARY 2025
WINDROSE FLOWING FROM



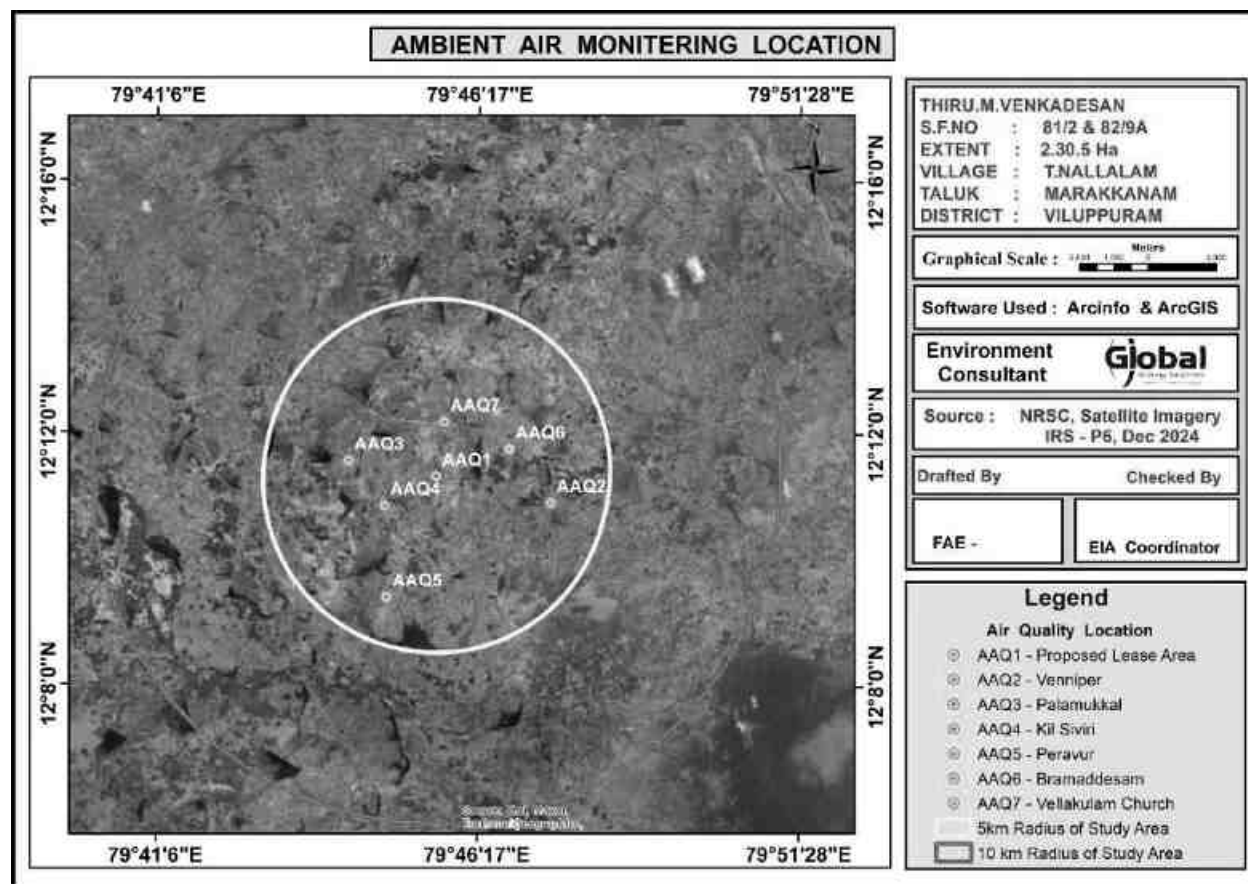
prevailing in the area. The study area represents mostly rural environment with stone mining quarries & crushers.

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 (PM2.5), 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 Spectrophotometrically. PM2.5 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	Coordinates
1	AAQ 1	Project site	Core Zone	12°11'13.78"N 79°45'34.34"E
2	AAQ 2	Vanniper	3.4Km	12°10'58.11"N 79°47'27.06"E
3	AAQ 3	Palamukkal	2.5 Km	12°11'37.89"N 79°44'17.62"E
4	AAQ 4	Kilsiviri	1.9 Km	12°10'54.84"N 79°44'47.19"E
5	AAQ 5	Peravur	3.2 Km	12° 9'34.84"N 79°44'52.71"E
6	AAQ6	Bramaddesam	2.3 Km	12°11'55.17"N 9°46'42.43"E
7	AAQ7	Vellakulam Church	1.4 Km	12°12'7.12"N 79°45'48.42"E

FIG 3.5 AMBIENT AIR MONITORING LOCATIONS



The concentrations of various air pollutants at the 7 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 7 locations

Station ID	Min	Max	Avg.
Particulate matter PM_{2.5} ($\mu\text{g}/\text{m}^3$)			
AAQ-1	28.9	35.2	32.01
AAQ-2	20.6	25.2	22.8
AAQ-3	23.6	29.95	26.47
AAQ-4	22.22	28.18	25
AAQ-5	22.56	28.03	25.51
AAQ-6	22.27	26.26	24.17
AAQ-7	22.51	28.70	25.45
CPCB NAAQS 2009 for PM_{2.5} - 60 $\mu\text{g}/\text{m}^3$			
Particulate matter PM₁₀ ($\mu\text{g}/\text{m}^3$)			
AAQ-1	60.4	74.5	66.8
AAQ-2	45.9	56.1	50.8
AAQ-3	50.5	62.4	55.3

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

Station ID	Min	Max	Avg.
AAQ-4	46.3	58.7	52.09
AAQ-5	47	58.4	53.15
AAQ-6	46.4	54.7	50.36
AAQ-7	46.9	59.8	53.03
CPCB NAAQS 2009 for PM₁₀ - 100 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	6.9	8.2	7.5
AAQ-2	5.2	7.5	6.3
AAQ-3	5.9	7.4	6.77
AAQ-4	7.1	9.1	8.3
AAQ-5	7.7	10.2	8.87
AAQ-6	7.4	10.1	8.74
AAQ-7	7.7	9.5	8.86
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	9.7	15.2	12.6
AAQ-2	9.2	11.5	10.4
AAQ-3	8.8	10.9	9.74
AAQ-4	8.7	11	10
AAQ-5	10.3	13.2	11.61
AAQ-6	8.1	11	9.66
AAQ-7	9.2	12.2	10.53
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

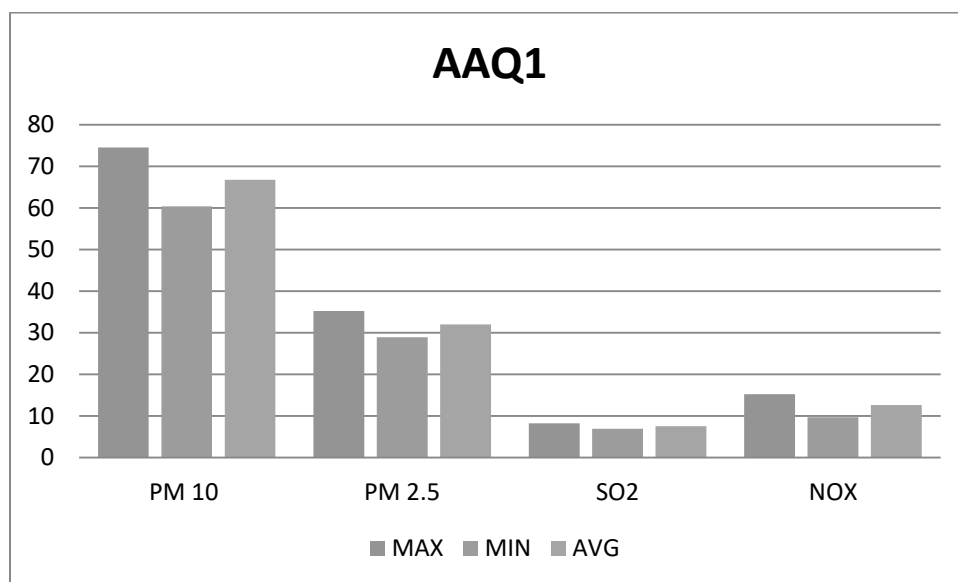


FIG 3.7 AMBIENT AIR QUALITY DATA A2 - VANNIPER VILLAGE

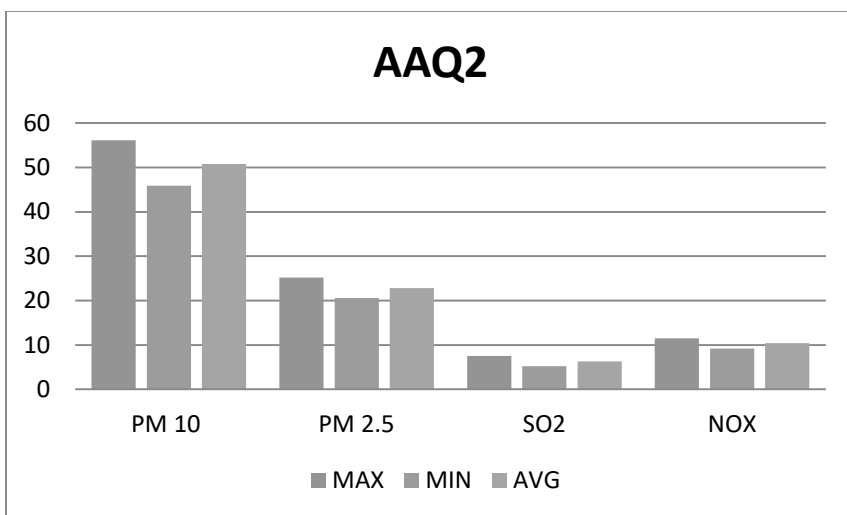


FIG 3.8 AMBIENT AIR QUALITY DATA A3 - PALAMUKKAL VILLAGE

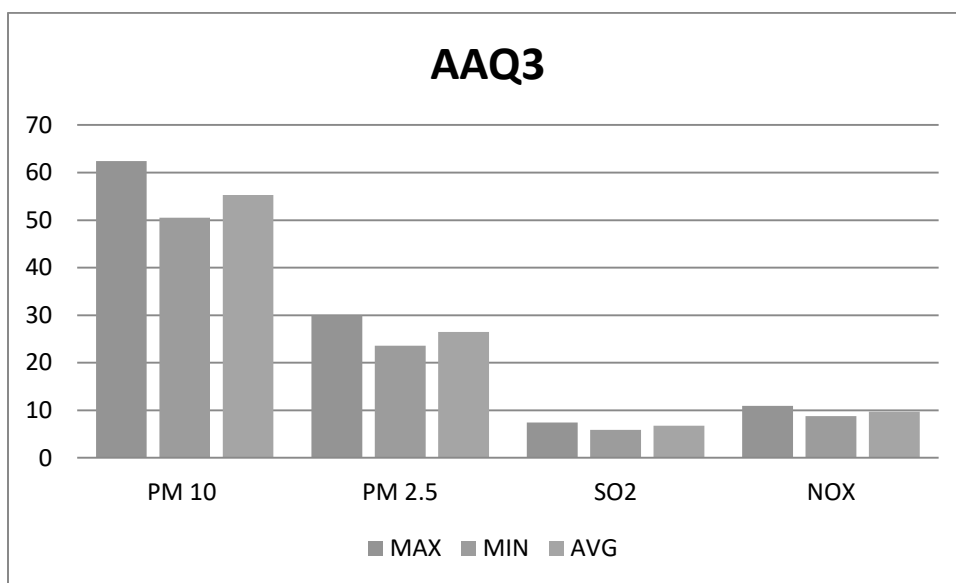


FIG 3.9 AAQ DATA A4 - KILSIVIRI VILLAGE

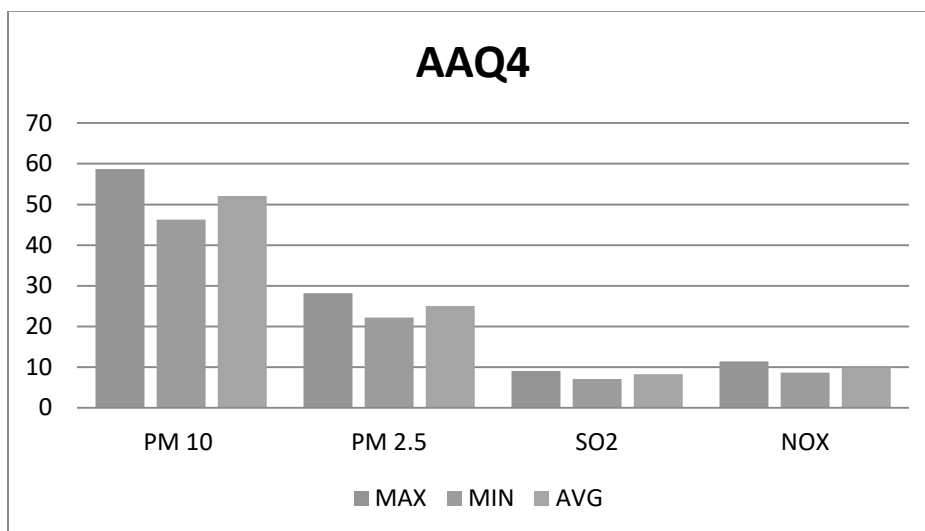


FIG 3.10 AMBIENT AIR QUALITY DATA A5 - PERAVUR VILLAGE

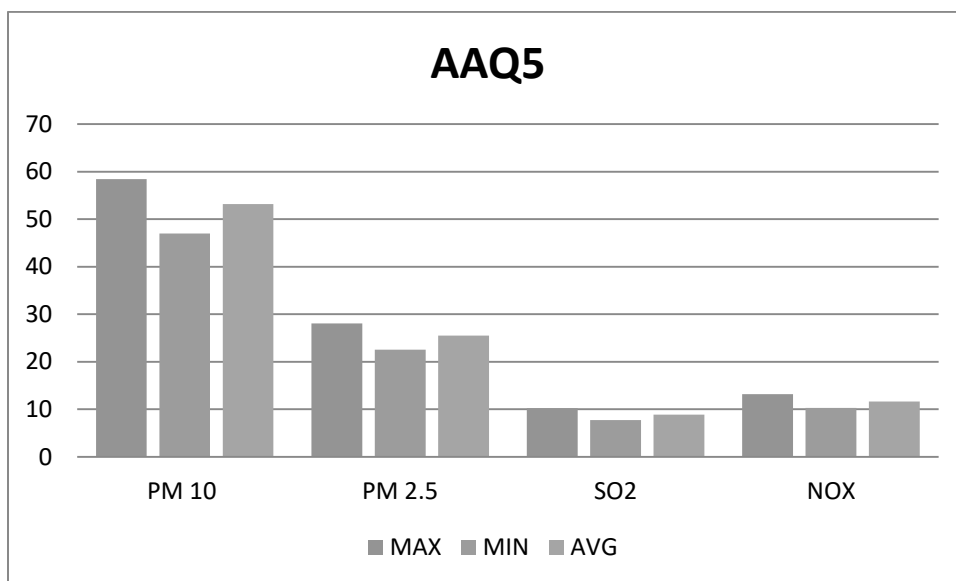


FIG 3.10A AMBIENT AIR QUALITY DATA A6 - BRAMADDESAM VILLAGE

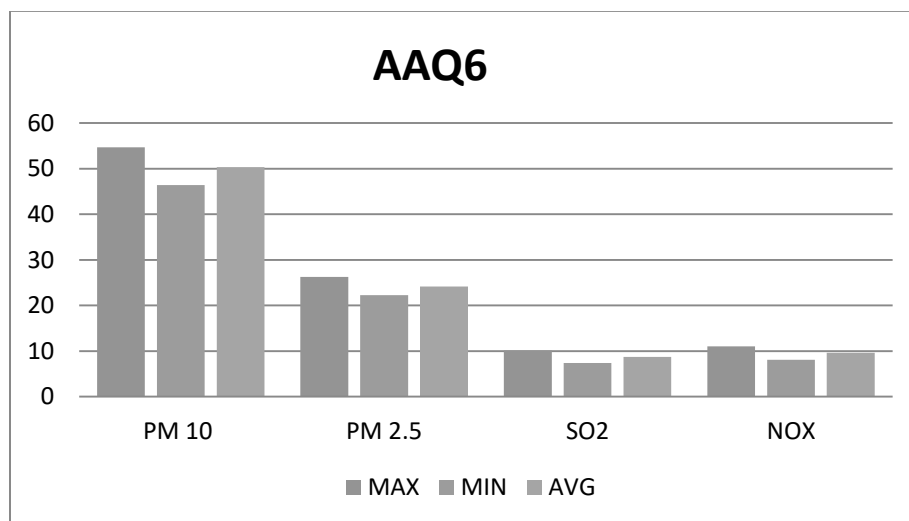
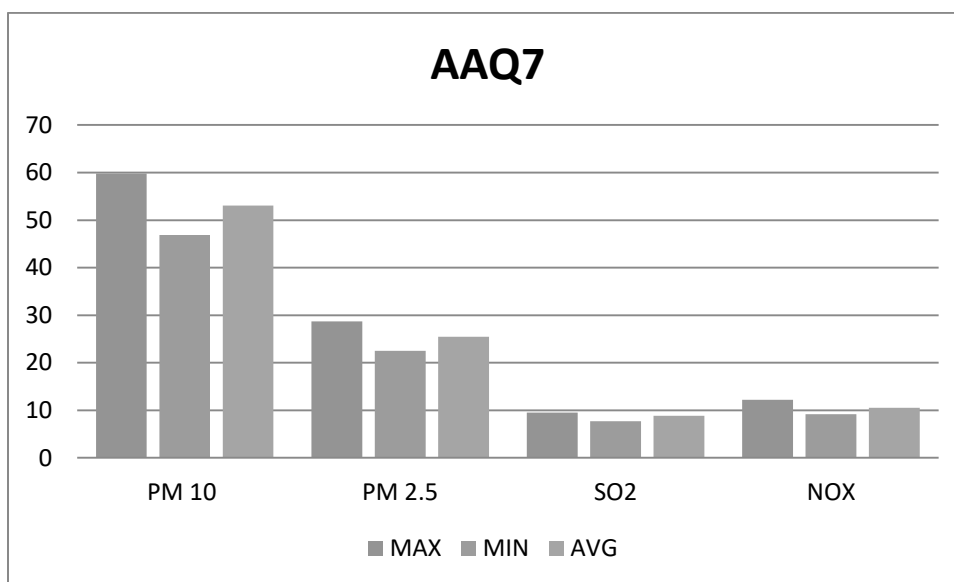


FIG 3.10B AMBIENT AIR QUALITY DATA A7 - VELLAKULAM CHURCH



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 are two lakes Vanniper Lake and Palamukkal Lake located at a distance of 3.6 km & 4.6km from the 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 3-6 and Figure 3.5.

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 Seven (07) 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 Seven (7) 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 3.11.

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	Vanniper Lake	12°12'47.99"N 79°44'17.04"E
2	SW2	Palamukkal Lake	12° 8'46.81"N 79°45'17.37"E
Ground Water			
1	GW1	Project site	12°11'13.78"N 79°45'34.34"E
2	GW2	Vanniper	12°10'58.11"N 79°47'27.06"E
3	GW3	Palamukkal	12°11'37.89"N 79°44'17.62"E
4	GW4	Kilsiviri	12°10'54.84"N 79°44'47.19"E
5	GW5	Peravur	12° 9'34.84"N 79°44'52.71"E
6	GW6	Bramaddesam	12°11'55.17"N 9°46'42.43"E
7	GW7	Vellakulam Church	12°12'7.12"N 79°45'48.42"E

FIG 3.11 GROUND & SURFACE WATER SAMPLING LOCATIONS

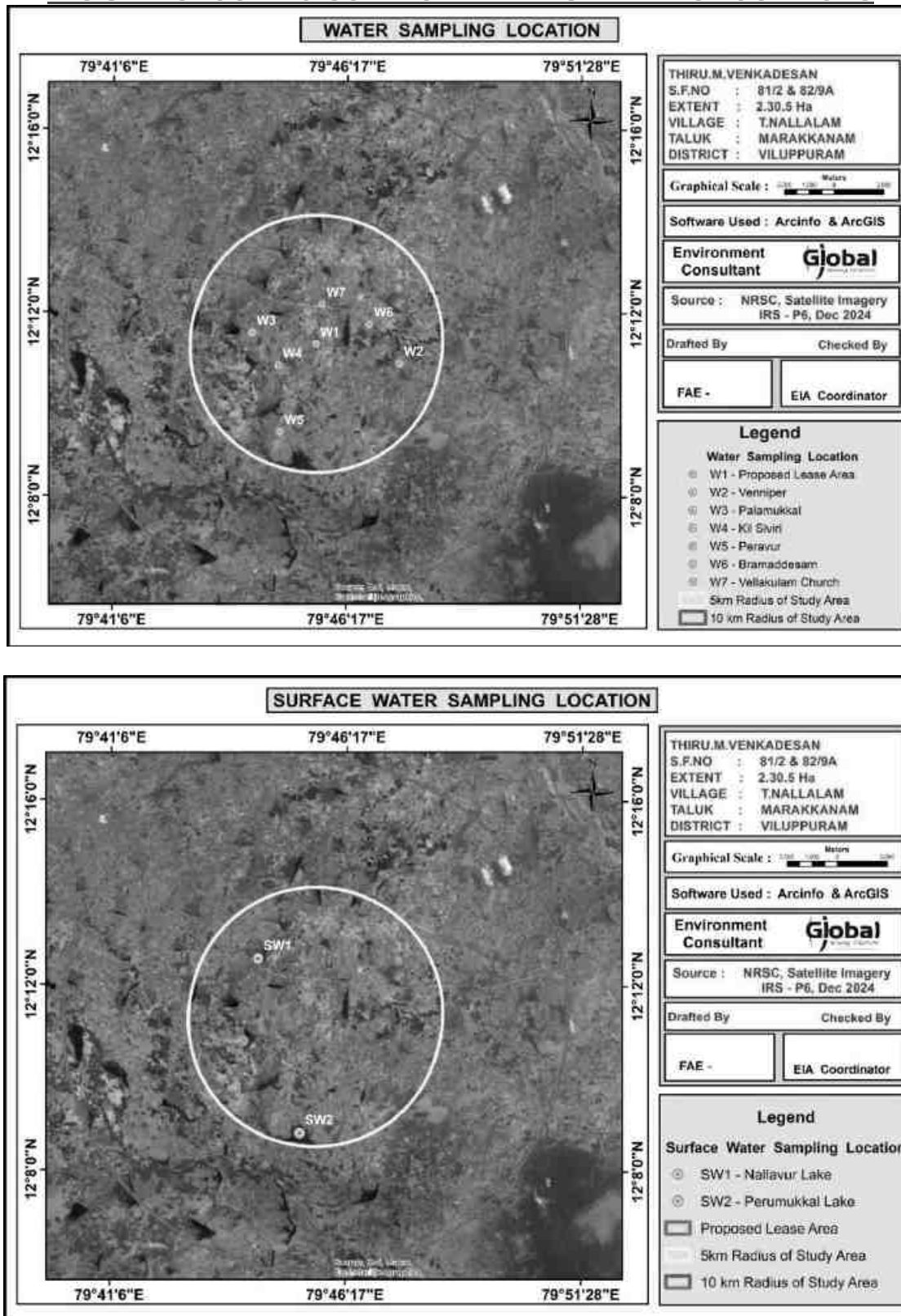


Table 3.6 Surface Water Analysis Results

Sl.No	Parameter	Unit	SW1	SW2	Surface water standard s (IS 2296 Class-A)
1	Odour	-	AGREEABLE	AGREEABLE	-
2	Turbidity	NTU	<1	<1	1
3	pH at 25 °C	-	7.56	7.48	6.5-8.5
4	Electrical Conductivity	µs/cm	1723	2029	-
5	Total Dissolved Solids	mg/l	1008	1214	500
6	Total hardness as CaCO ₃	mg/l	472	488	-
7	Calcium as Ca	mg/l	80.4	104	300
8	Magnesium as Mg	mg/l	58.4	54.8	-
9	Calcium as CaCO ₃	mg/l	236	284	-
10	Magnesium as CaCO ₃	mg/l	233	204	-
11	Total alkalinity as CaCO ₃	mg/l	442	358	-
12	Chloride as Cl ⁻	mg/l	239	594	-
13	Free Residual chlorine as Cl ⁻	mg/l	BDL (D.L - 0.2)	BDL (D.L - 0.2)	250
14	Sulphates as SO ₄ ²⁻	mg/l	183	329	400
15	Iron as Fe	mg/l	0.03	0.07	1.0
16	Nitrate as NO ₃	mg/l	2.43	4.54	20
17	Fluoride as F	mg/l	0.49	0.63	1.5
18	Manganese as Mn	mg/l	BDL (D.L - 0.05)	BDL(D.L-0.05)	0.5

19	Chemical Oxygen Demand	mg/l	58.2	63.4	
20	Bio-Chemical Oxygen Demand	mg/l	16.0	18.0	
21	Dissolved Oxygen	mg/l	6.4	6.7	
22	Total Suspended Solids	mg/l	66.0	72.0	

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

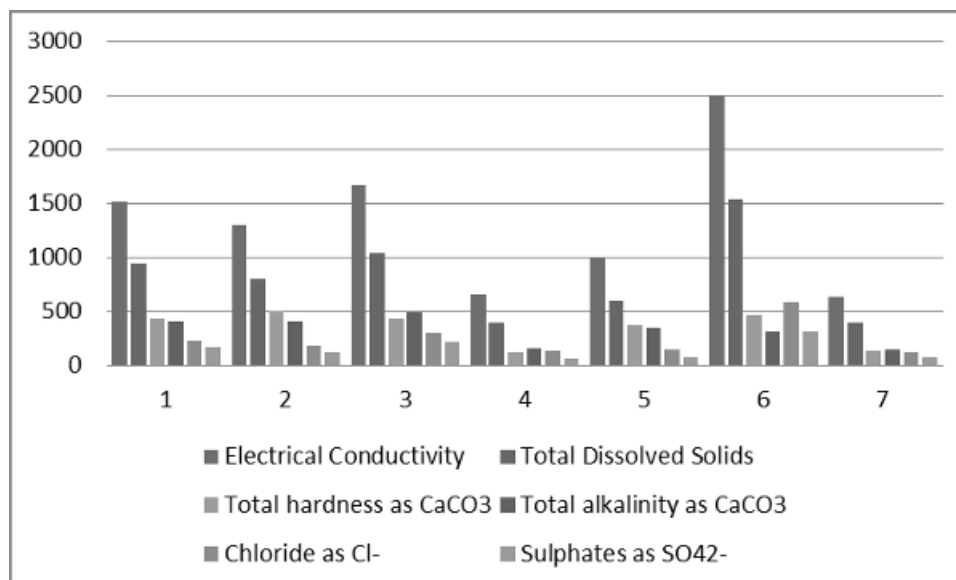
Table 3.7 Results of Ground Water sampling Analysis in 7 locations									Specification/ Limit (As per IS:10500: 2012)	
S.NO	Parameter	W1	W2	W3	W4	W5	W6	W7	Desirable	Permissible
1	Odour	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	Agreeable	Agreeable
2	Turbidity	<1	<1	<1	<1	<1	<1	<1	Agreeable	Agreeable
3	pH at 25 °C	6.71	6.78	6.83	7.47	7.14	6.79	7.31	6.5 - 8.5	No Relaxation
4	Electrical Conductivity	1518	1296	1673	654.4	992.4	2488	633.7	1	5
5	Total Dissolved Solids	940	802	1034	392	604	1534	394	500	2000
6	Total hardness as CaCO ₃	428	504	438	127	378	465	135	1	15
7	Calcium as Ca	80.4	96.6	98	32.8	68.1	104	33.8	200	600
8	Magnesium as Mg	58.4	66.5	41.6	15.2	56.1	54.8	17.4	200	600
9	Calcium as CaCO ₃	214	232	216	85.4	184	247	89.4	75	200
10	Magnesium as CaCO ₃	204	272	222	41.6	194	218	45.6		
11	Total alkalinity	411	409	496	159	352	311	147		

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	as CaCO ₃									
12	Chloride as Cl ⁻	229	188	302	136	148	589	128	250	1000
13	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 (D.L - 0.2)	BDL (D.L - 0.2)	30	100
14	Sulphates as SO ₄ ²⁻	172	123	219	70.3	80.9	314	71.5	45	No Relaxation
15	Iron as Fe	0.04	0.02	0.03	0.04	0.03	0.09	0.04	200	400
16	Nitrate as NO ₃	2.19	2.23	3.63	1.58	2.27	4.48	1.28	1	No Relaxation
17	Fluoride as F	0.43	0.45	0.57	0.29	0.31	0.59	0.27	0.1	0.3
18	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(D.L- 0.05)	BDL (D.L - 0.05)	Not Specified	Not Specified

Some of the common parameters including EC, TDS, Total Hardness, Total Alkalinity, Chlorides and Sulphates in the 7 locations were plotted and the graph is provided below.

FIG 3.12 VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS



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

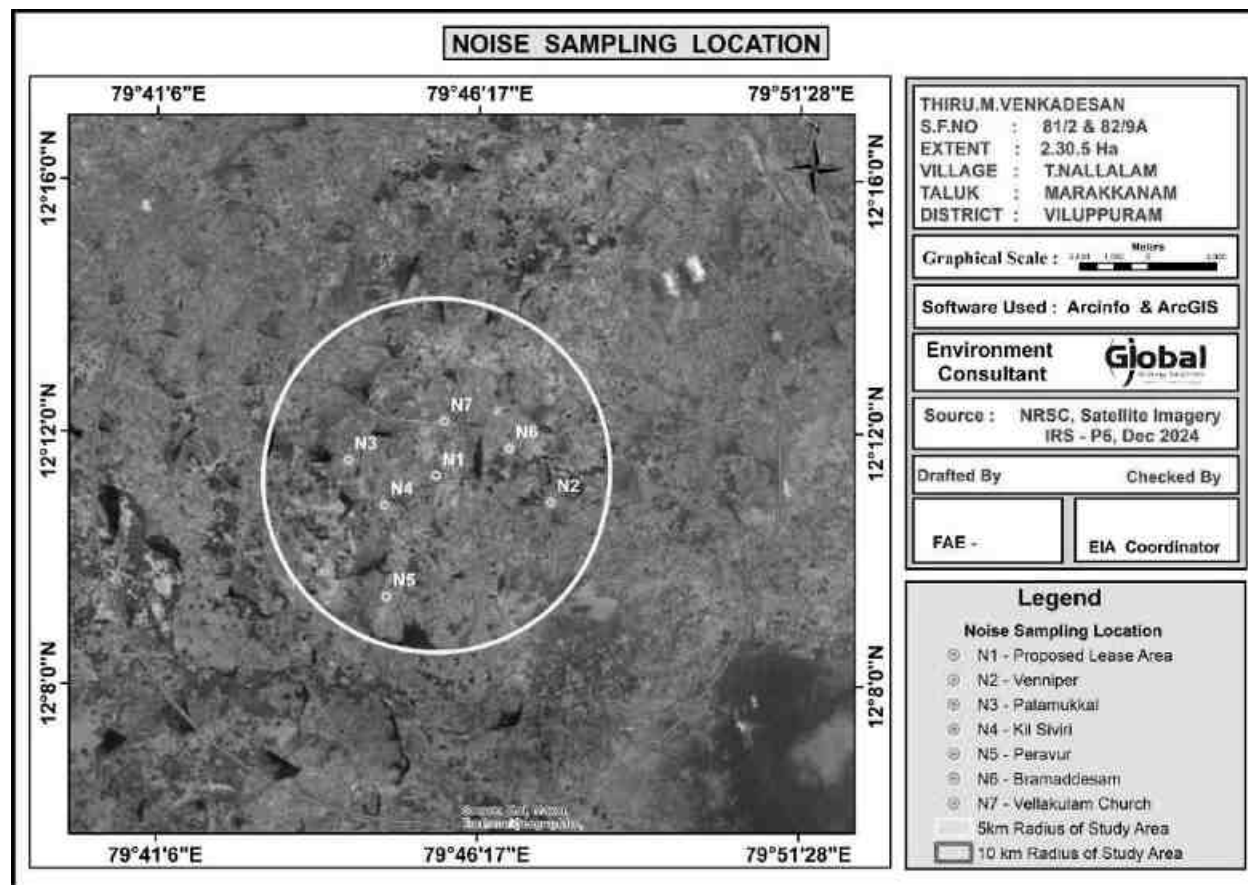
3.3.4 NOISE MONITORING

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 3.12

S. No.	Locations	Distance	Coordinates
1	Project site	Core Zone	12°11'13.78"N 79°45'34.34"E
2	Vanniper	3.4Km	12°10'58.11"N 79°47'27.06"E
3	Palamukkal	2.5 Km	12°11'37.89"N 79°44'17.62"E
4	Kilsiviri	1.9 Km	12°10'54.84"N 79°44'47.19"E
5	Peravur	3.2 Km	12° 9'34.84"N 79°44'52.71"E
6	Bramaddesam	2.3 Km	12°11'55.17"N 9°46'42.43"E
7	Vellakulam Church	1.4 Km	12°12'7.12"N 79°45'48.42"E

FIG 3.13 NOISE MONITORING LOCATIONS

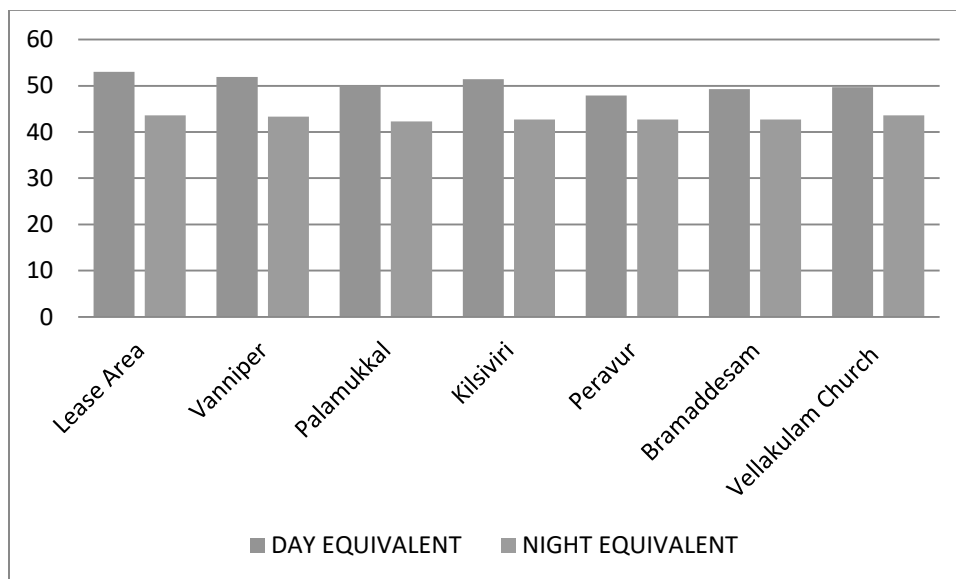


The results are given in Table below.

Table 3.8 Noise monitoring results					
S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Project site	53	43.6	75	70
2	Vanniper	51.9	43.3		
3	Palamukkal	50.1	42.3		
4	Kilsiviri	51.4	42.7		
5	Peravur	47.9	42.7		
6	Bramaddesam	49.3	42.7		
7	Vellakulam Church	49.7	43.6		

The results are plotted as below.

FIG 3.14 DAY AND NIGHT EQUIVALENT VALUES IN 6 LOCATIONS

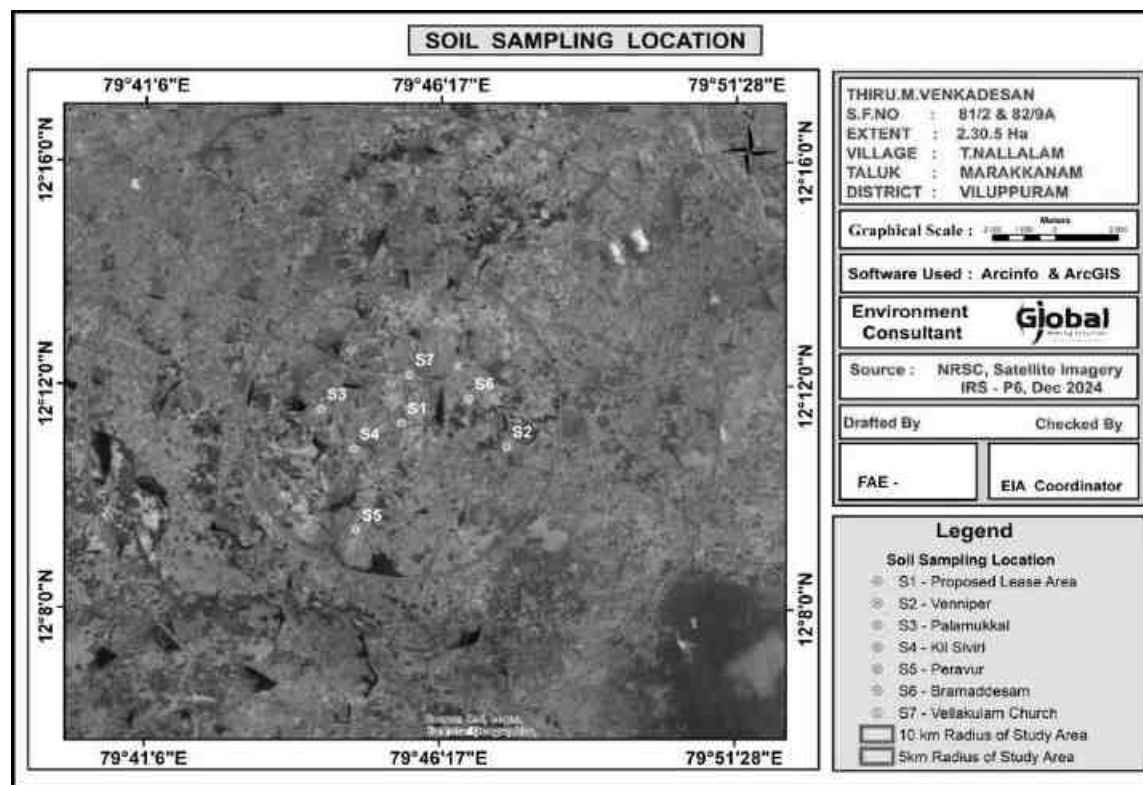


All the values are found to be within CPCB norms.

3.3.5 SOIL SAMPLING ANALYSIS

Soil samples have been collected from the mine lease area and 6 other locations from Vanniper, Palamukkal, Kilsiviri, Peravur, Bramaddesam and Vellakulam Church Villages. The locations are shown in figure below.

FIG 3.15 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	S7
			Results	Results	Results	Results	Results	Results	Results
1	pH at 25 °C	-	8.11	7.08	7.67	5.24	6.16	7.54	5.67
2	Electrical Conductivity	µmho s/cm	189.4	348.6	239.2	206.7	92.76	208.3	198.7
3	Dry matter content	%	81.12	83.24	82.89	95.93	91.34	84.12	96.46
4	Water Content	%	18.88	16.76	17.11	4.07	8.66	15.88	3.54
5	Organic Matter	%	0.45	0.51	0.29	0.68	0.51	0.83	0.64
6	Soil texture	-	SILTY CLAY	SILTY CLAY	CLAY	SILTY CLAY	SILTY CLAY	SILTY CLAY	SILTY CLAY
7	Grain Size Distribution	%	2.81	2.94	4.92	4.08	5.48	4.32	4.21
	i. Sa								

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

	nd								
8	ii. t	Sil %	42.22	56.85	38.13	43.19	44.15	47.18	44.53
9	iii. ay	Cl %	54.97	40.21	56.96	52.73	50.37	48.50	51.26
10	Phosphorous as P	mg/kg	0.38	0.69	0.76	0.61	0.68	0.54	0.66
11	Sodium as Na	mg/kg	1004	861	812	641	1033	629	682
12	Potassium as K	mg/kg	498	358	431	257	685	452	294
13	Nitrogen and Nitrogenous Compounds	mg/kg	189	282	268	362	149	312	334
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)	BDL(D.L .0.02)
15	Porosity	%	21.9	23.8	32.7	29.2	30.8	21.6	29.7
16	Water Holding Cabacity	Inches /foot	2.9	3.9	3.9	3.7	3.5	3.7	3.5

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 in to 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	Valzhilai	
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 oenoplia	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

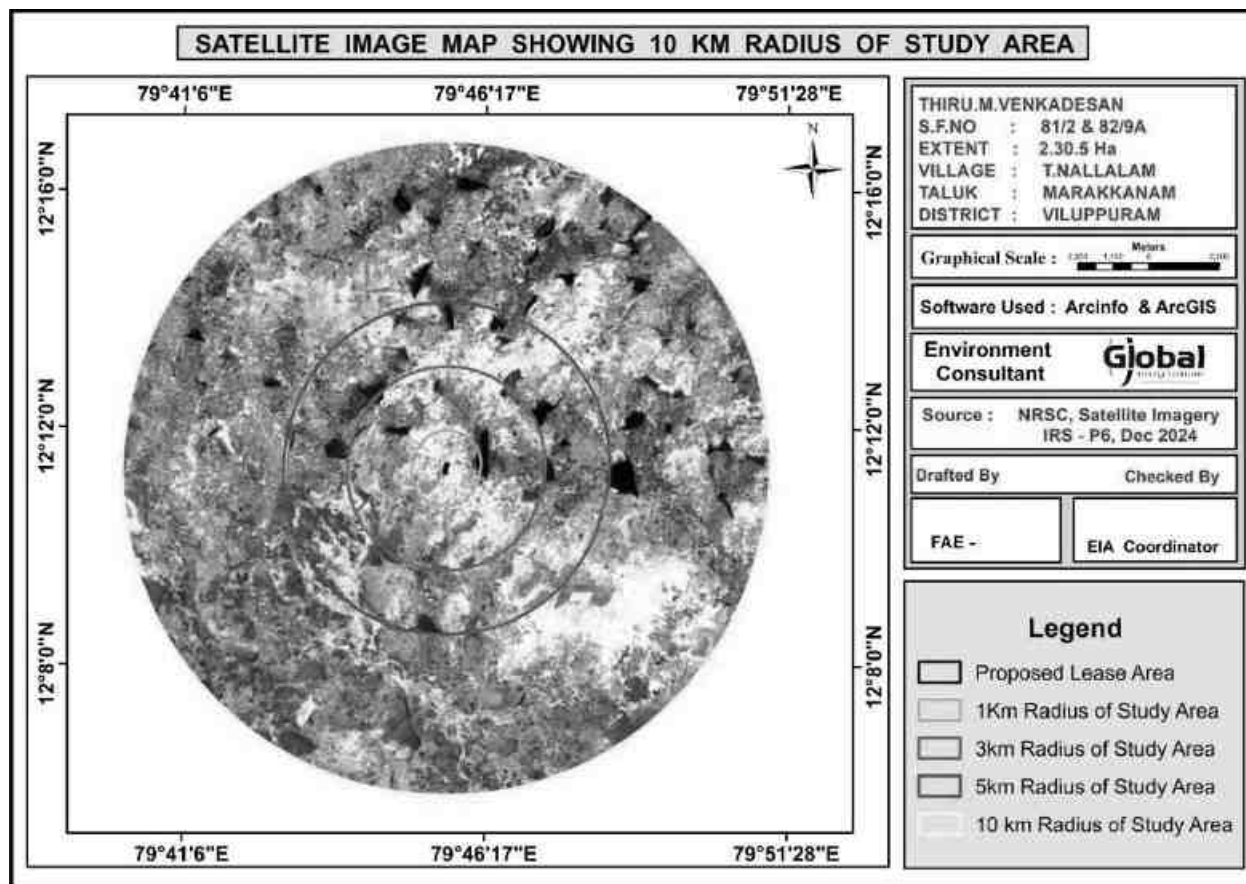
S.No.	Scientific name	Common name	Type of fauna	Schedule to which the species belong
1	Canis familiaris	Common dog	Mammals	IV
2	Felis catus domesticus	Domestic cat		IV
3	Golunda ellioti	Indian bush rat		IV
4	Funambulus palmarum	Squirrel		IV
5	Lepus nigricollis	Indian hare		IV
6	Bos indicus	Domestic cow		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°11'13.78"N to 12°11'24.76"N and Longitude 79°45'34.34"E to 79°45'39.45"E.

Figure No. 3.16: 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, 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

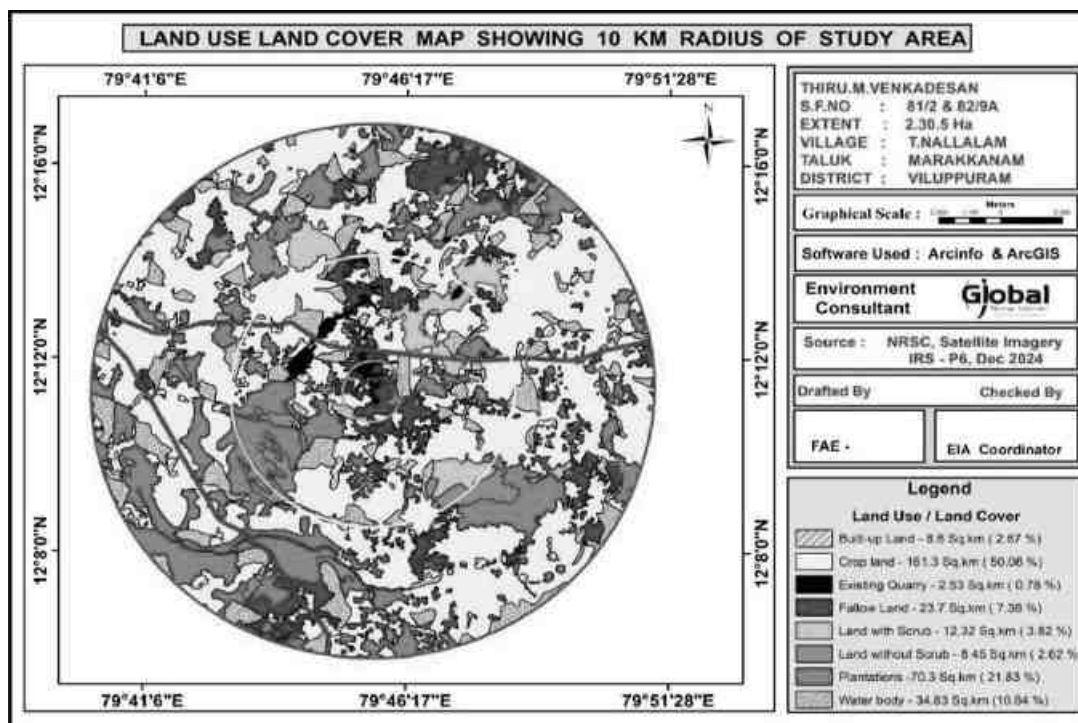
The existing land use pattern and land cover distribution of the whole acquired block, have been studied from the satellite imagery and subsequent ground checking during the field surveys.

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 T.Nallalam 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 land with 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 3.17 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. Marakkanam 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 8.6 sq. km representing 2.67 % of the study area.

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 161.3 Sq.km representing 50.08 % 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 12.32 sq.km representing 3.82 % 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 8.45 sq.km representing 2.62 % 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.

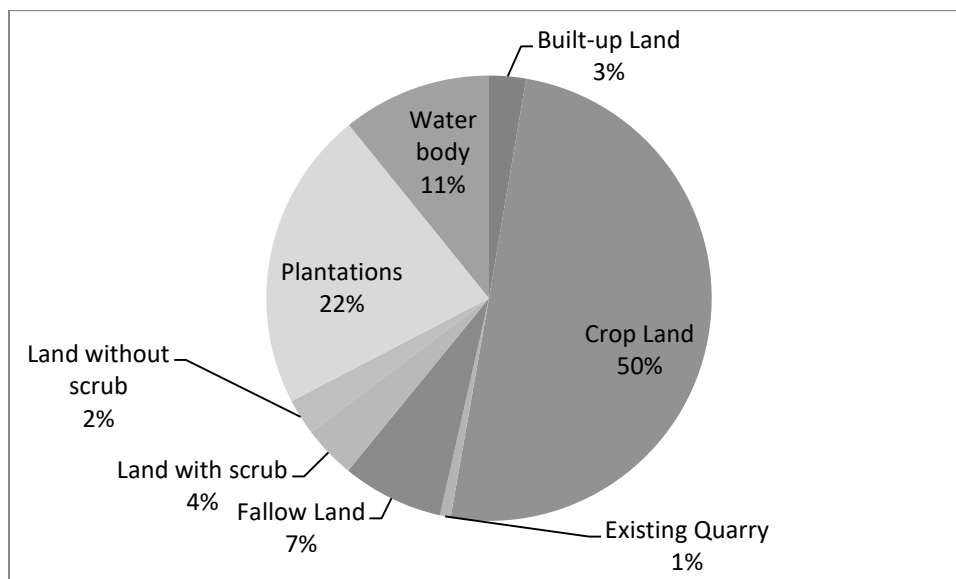
Most of the water bodies retain water for a shorter period after precipitation due to the soil constraint and hence go dry soon. Spatial extent of rivers, stream and water bodies is estimated at 34.83 sq.km and 10.84 %.

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 2.53 sq.km 0.78 %.

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

S. No	Classification	Area in (sq.km)	Percentage (%)
1	Built-up Land	8.6	2.67
2	Crop Land	161.3	50.08
3	Existing Quarry	2.53	0.78
4	Fallow Land	23.7	7.36
5	Land with scrub	12.32	3.82
6	Land without scrub	8.45	2.62
7	Plantations	70.3	21.83
8	Water body	34.83	10.84
Total		322	100



3.3.8 SOCIOECONOMIC ENVIRONMENT

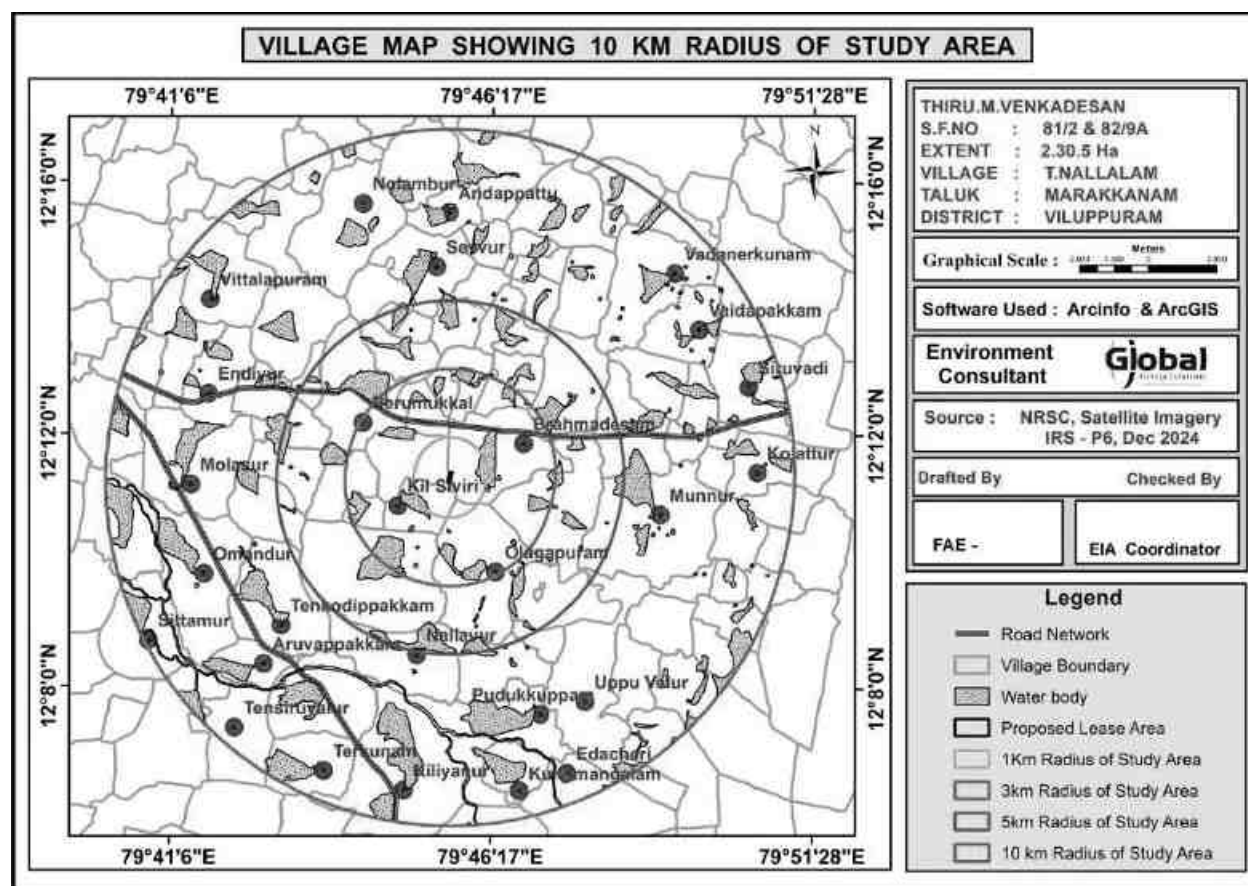
The socio-economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used. The following data area collected from secondary data:

- Demographic pattern.
- Health pattern
- Occupational structure.

DETAILS OF VILLAGES

The profile of the villages located in the study area is given in Fig 3.18 below.

FIG 3.18 VILLAGE MAP OF THE STUDY AREA



DETAILS OF VILLAGES

The project is located in Marakkanam Taluk, Villupuram District. The total population is 1,47,713 which comprise of 73944 males and 73769 females. There are 18 rural villages and one urban area in the study area. List of villages are given below.

Table 3.15 Village details in study area				
S.No.	Village/Town Name	Radius	Taluk Name	District Name
1	Nalmukkal	1-5km	Marakkanam	Villupuram
2	Vanniper			
3	Bramaddesam			
4	Endur			
5	T. Nellalam			
6	Kilsiviri			
7	Alanguppam			
8	Kulapakkam (Vada)			
9	Senalur			
10	Buderi			
11	Kunnappakkam			
12	Tennampundi			
13	Mandaperumpakkam			
14	Madavantangal			
15	Alagaipakkam			
16	T. Nellalam			
17	Kilsiviri	6-10km	Tindivanam	
18	Tenneri			
19	Palamukkal			
20	Elavalapakkam			
21	Nerkunam (Then)			
22	Kovadi			
23	Ommandur			
24	Annamputhur			
25	Varagapattu			
26	Iraiyanur			
27	Karanavur			
28	Jaggampettai			
29	Singanur			
30	Ariyantangal			
31	Chokkantangal			
32	Nallur			
33	Nagalpakkam			
34	Nagalpakkam			
35	Nagar			
36	Asappur			
37	Kandadu			
38	Pudupakkam			
39	Kandadu			
40	Alathur			

41	Kodipakkam (Vada)			
42	Siruvadi			
43	Vaidapakkam			
44	Nerkunam (Vada)			
45	Manur			
47	Endiyur			
48	Kattalai			
49	Perumukkal			
50	Keelarungunam			
51	Keelarungunam			
52	Urani			

Table 3.16 Population profile of the study area		
Particulars	No of Population	Percentage (%)
A. Population break-up by Gender		
Male Population	73994	50
Female Population	73769	50
Total	147713	100
B. Population break-up by Caste		
Scheduled Caste	50833	34
Scheduled Tribes	2103	2
Others	94777	64
Total	147713	100
C. Literacy Level		
Male Literate Population	53828	36
Female Literate Population	42535	29
Male Illiterate	20113	14
Female Illiterate	31237	21
Total	147713	100
D. Occupational structure		
Main workers	52283	35
Marginal workers	18588	13
Total non-workers	76842	52
Total	147713	100

The above table shows that the male and female population ratios are almost equal. Among the total population 2.0 % belong to Scheduled Tribes, 34 % are Scheduled Caste and the balance 64 % people belong to other castes. Among the total population 66 % of the people are literate. Among the total population, 14 % are literate males and 21 % are literate females. This shows that the female literates are higher than the male literates. The results are plotted in figures below.

FIG 3.19 GENDER-WISE POPULATION DISTRIBUTION

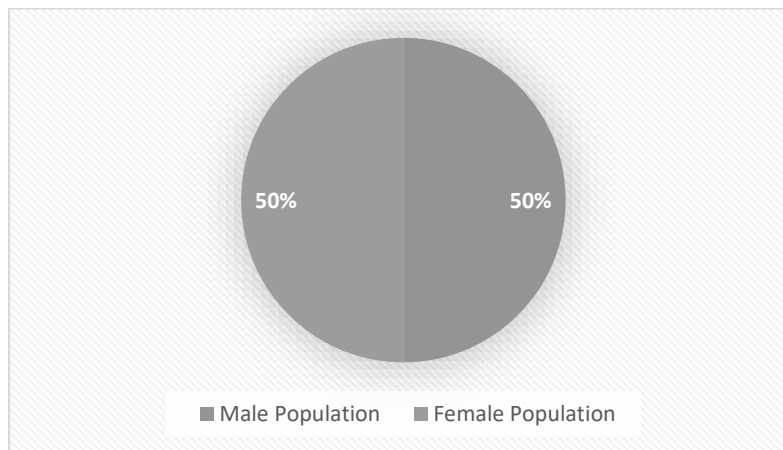


FIG 3.20 GENDER WISE LITERACY DISTRIBUTION

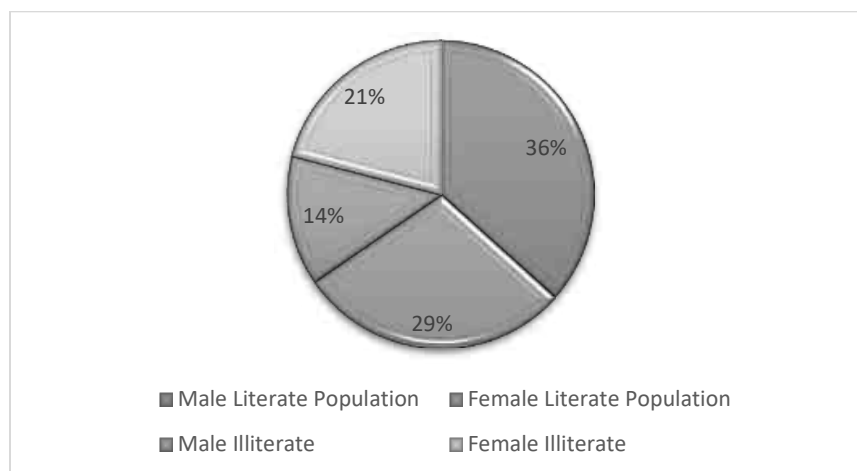
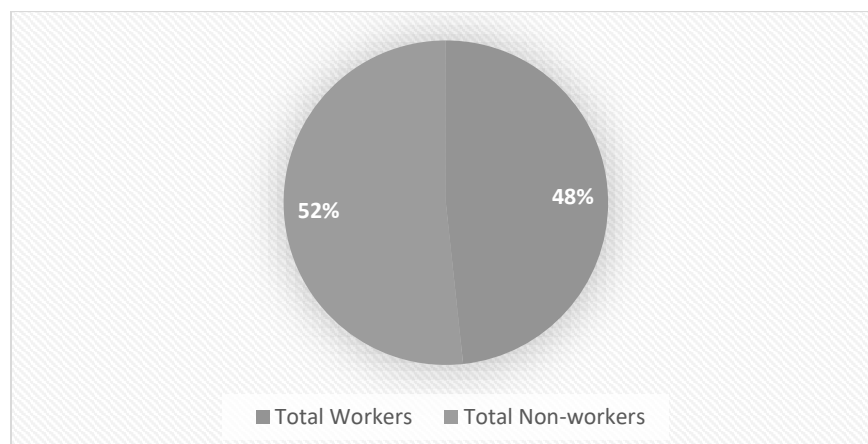


FIG 3.21 OCCUPATIONAL STRUCTURE WITHIN BUFFER ZONE



Infrastructure facilities in the study area

Education

Table 3.17 Educational infrastructure		
S. No.	Particulars	Available in village (Nos)
1	Govt. Primary School	Marakkanam - 21
2	Govt. Middle School	18
3	Govt. Secondary School	15
4	Govt. Senior Secondary School	12
5	Govt. Arts and Science Degree College	31
6	Govt. Engineering College	0
7	Govt. Medicine College	0
8	Govt. Management Institute	0
9	Govt. Polytechnic	0
10	Govt. Vocational Training School/ITI	0

In the study area, there are totally 21 Primary Schools functioning in these 18 urban area. Among them 22 villages have 7 primary school, 23 villages have 6 primary schools & 15 villages have more than 9 primary school.

Healthcare

In the study area, the following facilities are available.

Table 3.18 Medical Infrastructure		
S.No.	Particulars	Available in village (Nos)
1	Community Health Centre	8
2	Primary Health Centre	4
3	Primary Health Sub Centre	17
4	Maternity And Child Welfare Centre	14
5	TB Clinic	6
6	Hospital Allopathic	0

Other Infrastructure

The other infrastructure facilities available are given below.

Table 3.19 Other Infrastructure		
S.No.	Particulars	Available in village
1	Tap Water-Treated	30

2	Covered Well	10
3	Hand Pump	13
4	Tube Wells/Borehole	11
5	Post office	5
6	Public bus services	21
7	Commercial Bank	9
8	Cooperative bank	14

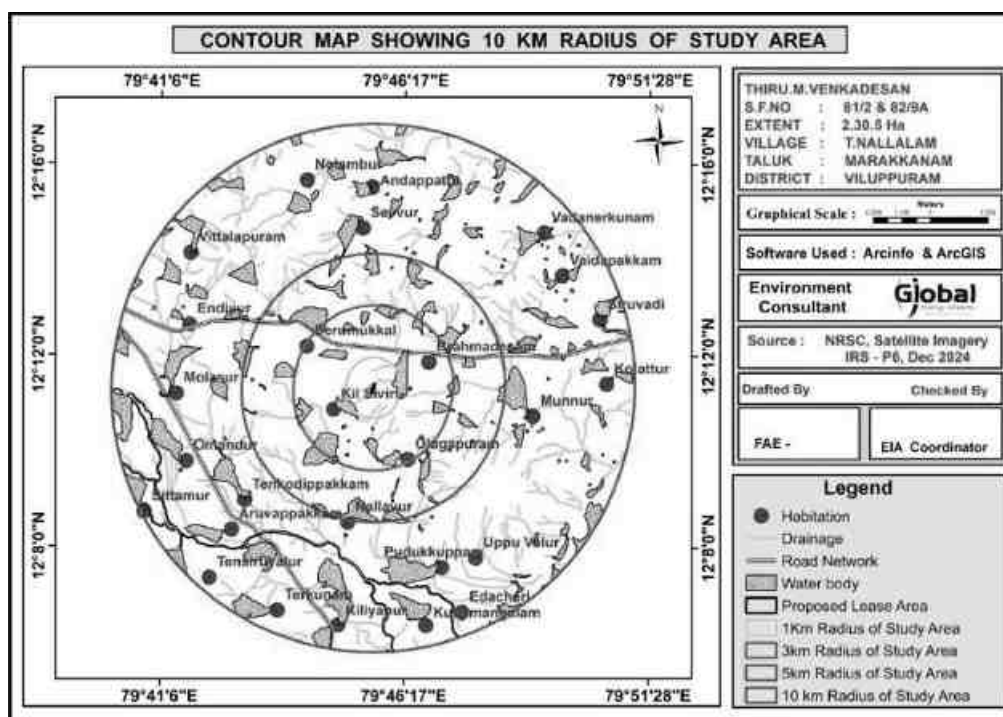
3.3.9 HYDROGEOLOGY OF THE STUDY AREA

Since there is Kondamur River is located at a distance of 5.5 km in South west 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 T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State is considered to understand the nature of the general hydrogeological conditions of the surrounding proposed mine lease area.

FIGURE 3. 22 10 KILOMETER RADIUS OF THE DRAINAGE MAP



PHYSIOGRAPHY AND DRAINAGE

Physiography: The area applied for quarry lease is exhibits almost plain topography covered by rough stone and Gravel formation. The massive Charnockite formation is clearly visible right from the surface and gentle towards Southwestern side of the area, the altitude of the area is above 65 m (maximum) from MSL.

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 3.22. There is Kondamur River is located at a distance of 5.5 km in South west direction of lease area.

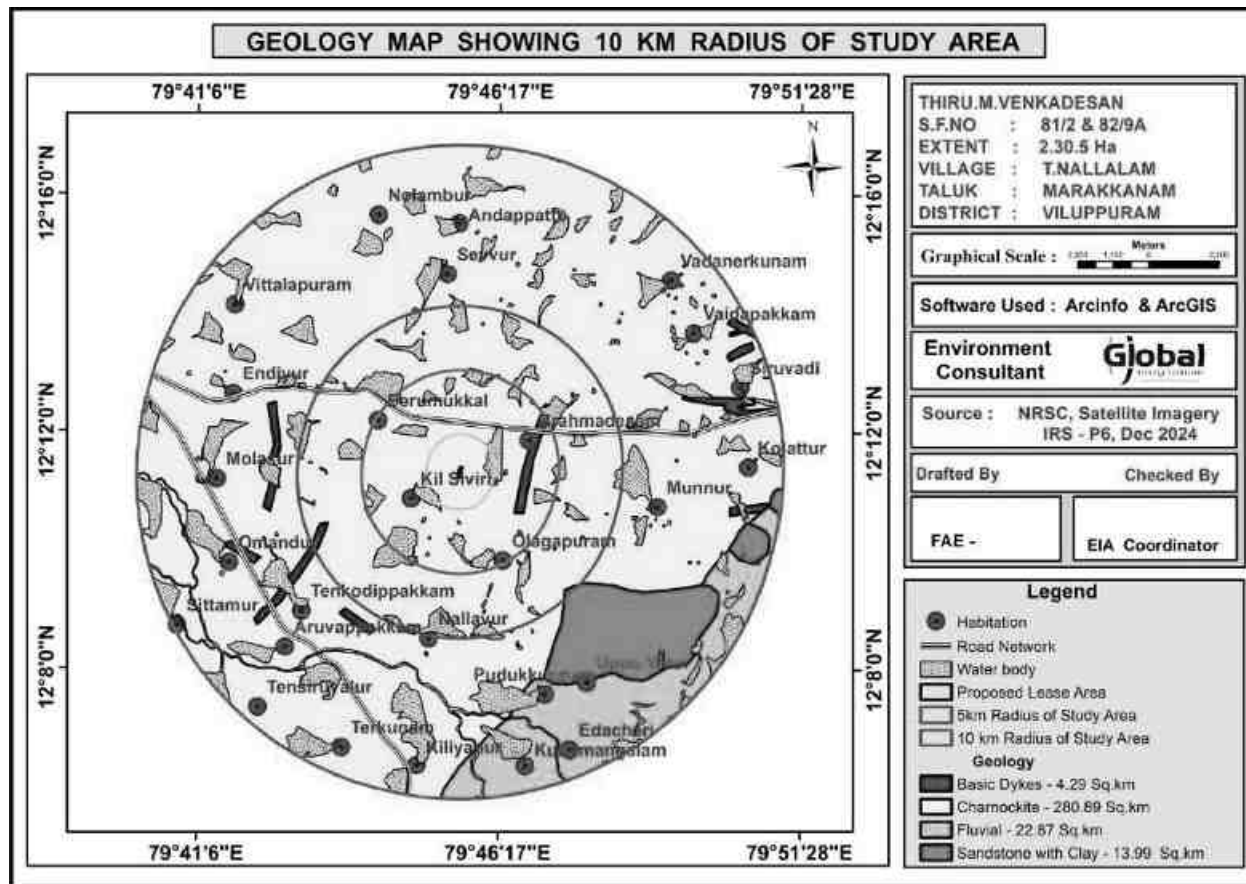
GEOLOGY, GEOMORPHOLOGY AND SOIL

Geology:

Geologically Villupuram District is mostly underlain by the Archaean crystalline and metamorphic complex. The geology of the district is complicated due to recurring tectonic and magmatic activities occurred during. Pre-Cambrian period. Hornblende Biotite Gneisses are the oldest rocks of the district. It is very fissile and present widely in plains. The gneisses are highly weathered upto 30 m at some places.

The Charnockites are coarse grained, massive and foliated at places and their colour is bluish dark to grey. They are the second largest rock type present in the district. They are massive and less weathered than the gneisses. They exhibit 2 to 3 distinct set of joints and most of them are vertical with steep dips. Iron ore deposits associated with quartz feldspathic gneiss and garnetiferous quartz gneisses are present in some areas. These rocks are highly folded and jointed and less weathered. Quartzite and crystalline lime stones are exposed in patches in north and central parts of the district. The thickness of these bands varies from a few meters to ten meters and the length extends to few kilometres. Numerous lenses of dunite with magnesite veins of various dimension are exposed within gneiss. There are number of basic dykes present in the study area. Granites are found in some parts of the district. They are massive and jointed poorly. Thin veneer of alluvium is found along the course of the Kondamur. However, alluvium of few meters thickness is found near the junction of river Kondamur. Several faults and shears are occurring mostly with north east-southwest trend. They are expected to influence the course of groundwater movement, its storage and developmental potentials in the district.

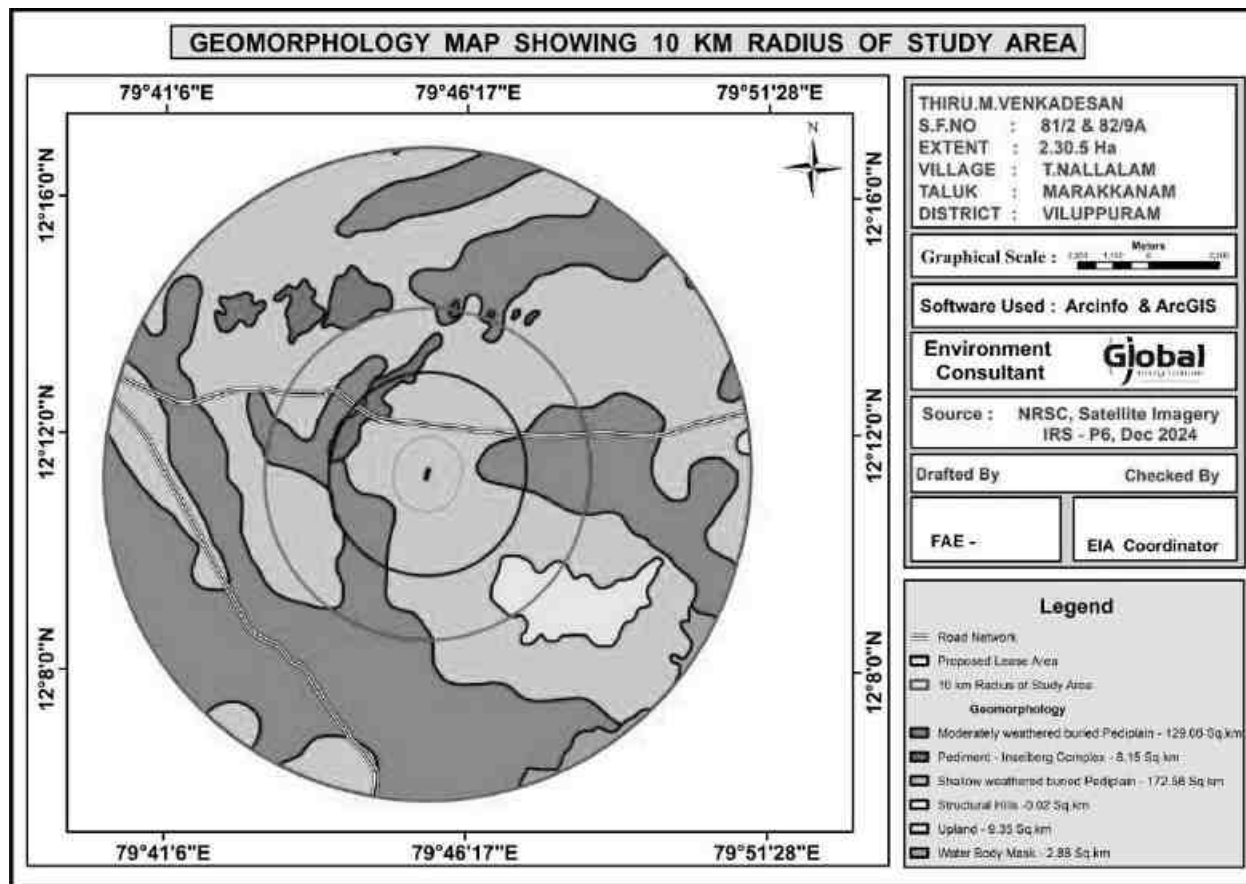
FIGURE 3. 23 10 KILOMETER RADIUS OF THE GEOLOGY MAP



Geomorphology:

The Core and 10 Km buffered zone geomorphological features (Figure 3.24) shows that the district is pediment pediplain complex, younger and older flood plain, older deltaic plain along with low and moderately dissected denudation hills and valleys. The older deltaic plain and older flood plain occurs at southern parts of the district near Villupuram, where younger coastal plain occurs at NE part of the district near Alumur. The low and moderately dissected denudational hills and valleys are present at west of Gangee and Odiyattur. The numerous lineaments are mostly tending in NE-SW direction while few are tending in NW-SE direction.

FIGURE 3. 24 10 KM RADIUS OF THE STUDY AREA GEOMORPHOLOGY MAP



Soil:

The soil types in the study area are very deep, moderately well drained, calcareous clay soil develops over lowlands (Figure 3.25.). Study area mostly Clay Loam, Clay Loam, Sandy Loam (Figure 3.23.). Clay Loam (19.71sq.km) was distributed over the study area. Clay Loam soil is found in north, east, west and central part of the study area (188.08 sq.km). Sandy Loam soil is found in north-western and eastern part of the study area (114.156 sq.km).

FIGURE 3.25 10 KM RADIUS OF THE STUDY AREA SOIL TYPE MAP

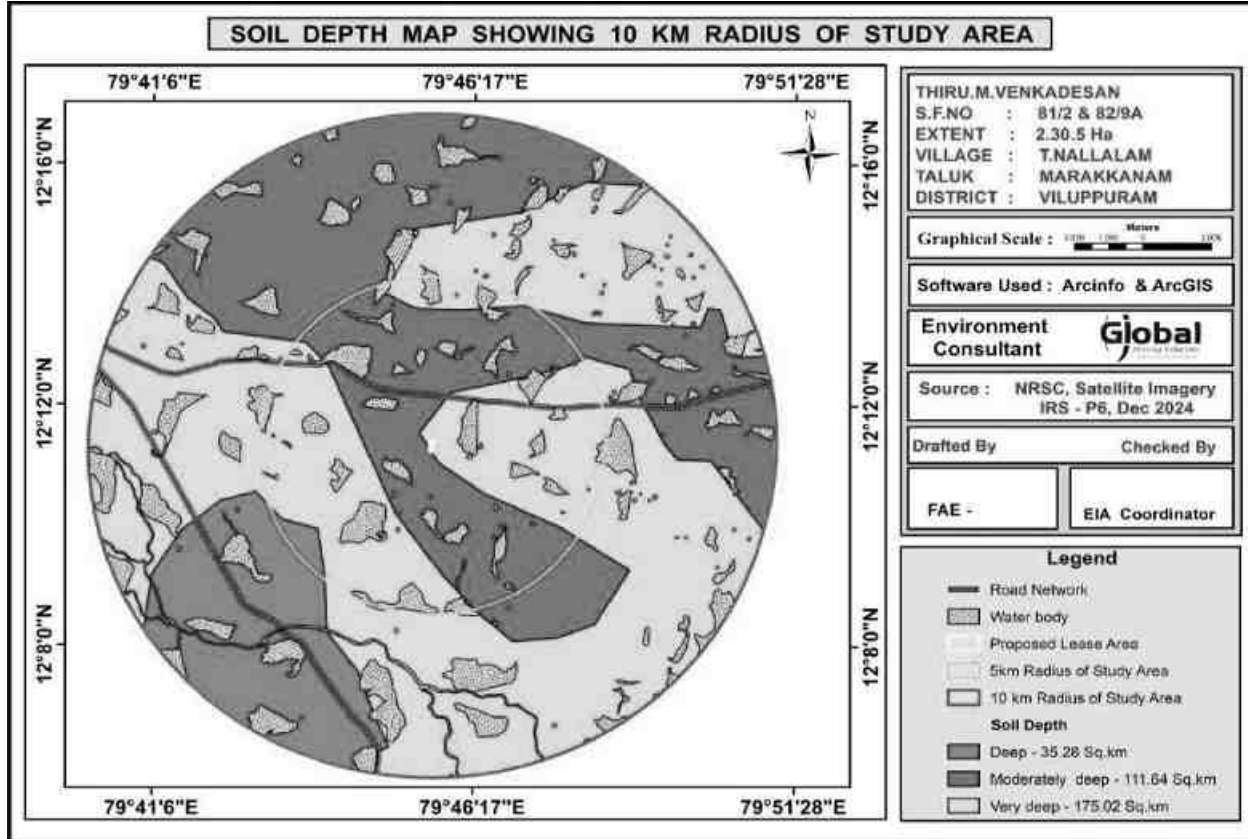


FIGURE 3.26 NON-MONSOON WATER LEVEL MAP OF THE STUDY AREA

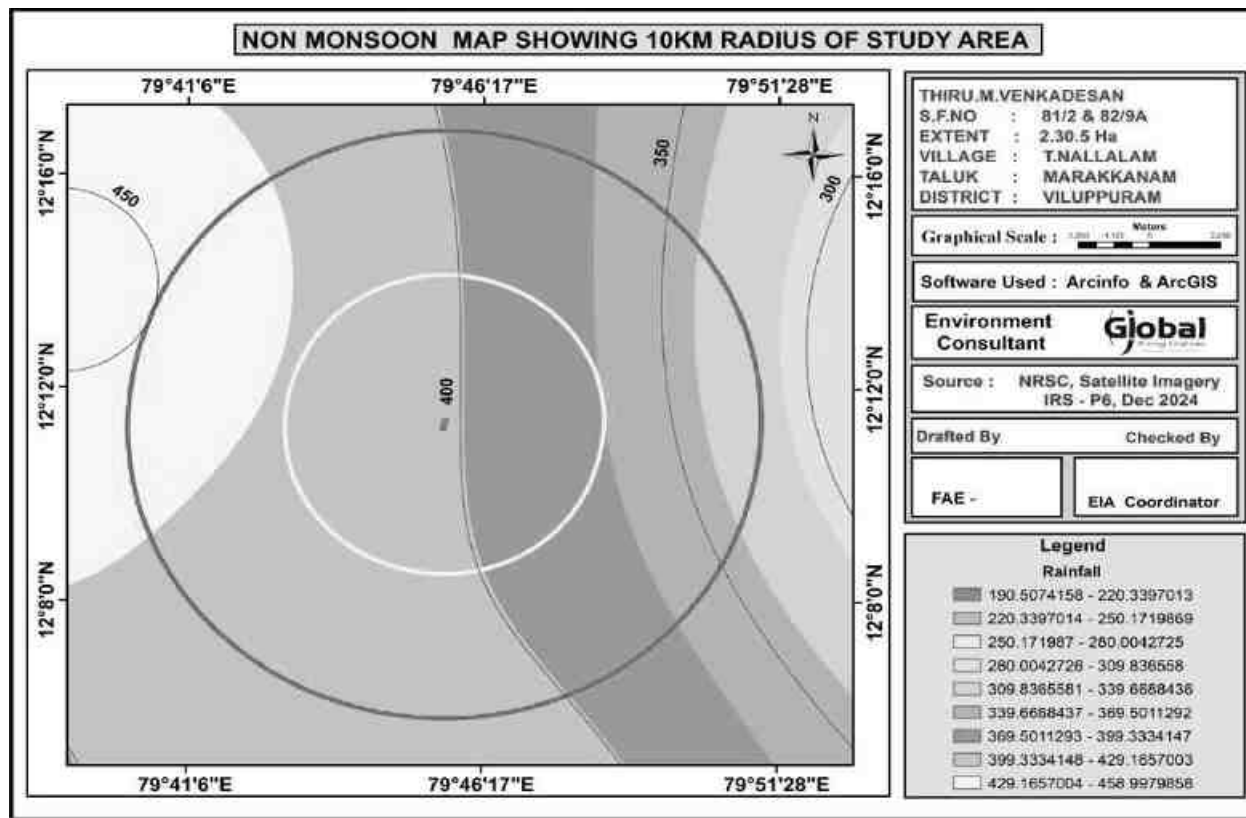
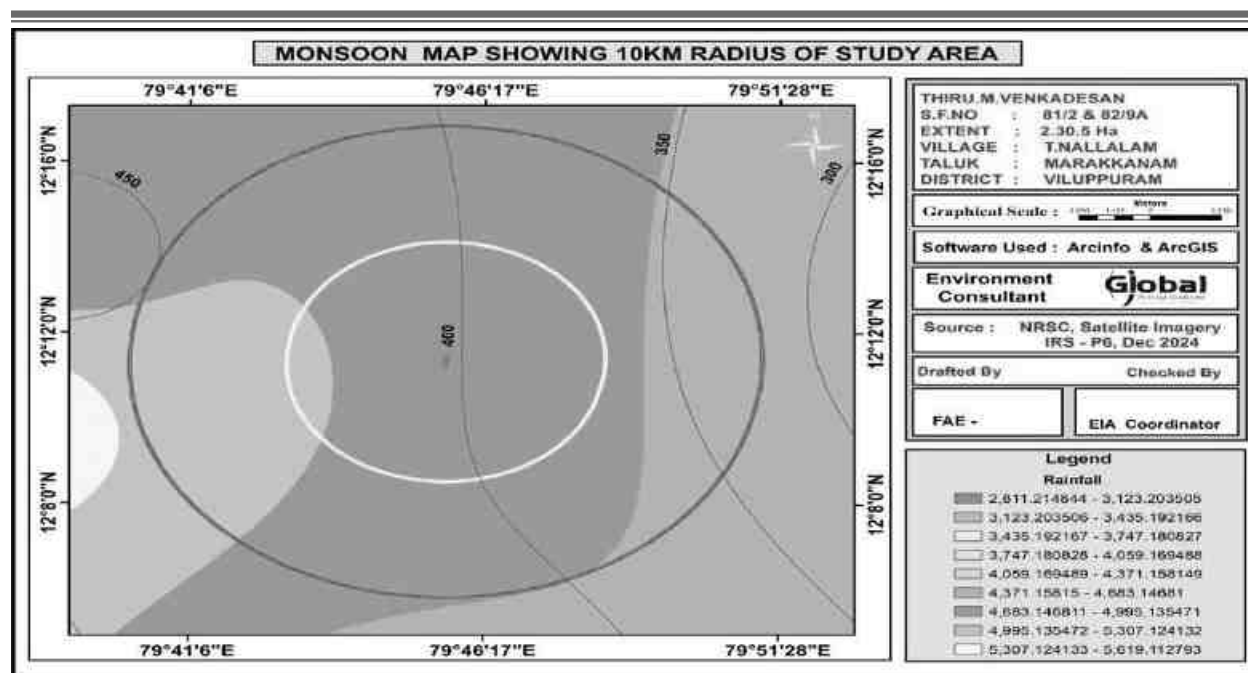


FIGURE 3.27 MONSOON WATER LEVEL MAP OF THE STUDY AREA

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.



FIELD INVESTIGATION

The temporary seasonal streams water flow from center to outer most area. There is Kondamur River is located at a distance of 5.5km in SW direction. 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 Mechanized and the quarry operation involves Shallow Jack Hammer Drilling, Blasting, Excavation, Formation of benches, Loading and Transportation of minerals. The above activities may affect the surrounding environment like removal of rock mass, Loss of flora and fauna of the area, surface water discharge, change in air and water quality, etc., If adequate measures are not taken for the proposed operations, it will cause the environmental degradation of the area and it will lead to affect to the ecosystem of the surrounding environment.

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 PROJECTLAND ENVIRONMENT

This is a proposed Rough Stone Quarry & Gravel Quarry of S.F.No.81/2 & 82/9A over an extent of 2.30.50 Ha in T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State. The method of mining is Opencast mechanized with a bench width and height of 5m. It is proposed to excavate to 2,00,025m³ of Rough stone and 34,272m³ of Gravel formation upto a depth of 27m (below ground level) for the period of first five years and remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five years upto a depth of 27m (below ground level). 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 2.30.50 Ha boundary barrier except in eastern direction. It is proposed to be altered by effective quarrying operation such as excavation (1.73.0 Ha), Infrastructure (0.01.0), Road (0.01.0 Ha) and green belt will be developed in the safety zone of 0.55.5 Ha. The ultimate depth of quarrying is proposed with maximum depth of 27m BGL 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 area is exhibits almost plain topography covered by rough stone and Gravel formation. 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 (Ha)</th><th>Area in use during the quarrying period (Ha)</th></tr><tr><td>Quarrying Pit</td><td>Nil</td><td>1.73.0</td></tr><tr><td>Infrastructure</td><td>Nil</td><td>0.01.0</td></tr><tr><td>Roads</td><td>Nil</td><td>0.01.0</td></tr></table>	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)	Quarrying Pit	Nil	1.73.0	Infrastructure	Nil	0.01.0	Roads	Nil	0.01.0	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 27 m 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 (Ha)</th></tr><tr><td>Area left for water body</td><td>1.73.0</td></tr><tr><td>Green Belt</td><td>0.55.5</td></tr><tr><td>Remaining area</td><td>0.02.0</td></tr><tr><td>Total</td><td>2.30.5</td></tr></table> At the mine closure stage 1.73.0 Ha of lease area will be left as rain water harvesting pond. 0.55.5 Ha will be developed with green belt. 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 (Ha)	Area left for water body	1.73.0	Green Belt	0.55.5	Remaining area	0.02.0	Total	2.30.5
		Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)																				
		Quarrying Pit	Nil	1.73.0																				
		Infrastructure	Nil	0.01.0																				
		Roads	Nil	0.01.0																				
Land Use	Area in use during the quarrying period (Ha)																							
Area left for water body	1.73.0																							
Green Belt	0.55.5																							
Remaining area	0.02.0																							
Total	2.30.5																							

Green Belt	Nil	0.55.5
Unutilized	2.30.5	Nil
Total	2.30.5	2.30.5

The ultimate pit dimension of the mine lease area is given below.

Ultimate Pit dimension at the end of Mining plan Period			
Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)
I	320	54	27 m Below ground level

If mining is not done systematically it will lead to the dumping failure in the mining area.

Year	Species	No. of trees	Spacing	Survival
I	Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc	555	3m x 3m	80%
II		-		
III		-		
IV		-		
V		-		
VI				
VII				
VIII				
IX				
X				
Total		555		

Due to the thick vegetation around the mine lease area and sprinkling of water around the haul roads the dust emissions arise from the vehicles will be controlled.

At the end of mining period, fencing will be provided around the mine lease area to arrest the entry of public/cattle to the mining area.

The rough stone and Gravel are proposed to quarry 5m bench height and 5m width with 47° slope and with opencast Mechanized method. As per the approved mining plan a safety distance of 7.5m shall be provided. There is no overburden anticipated during the entire Rough Stone and Gravel quarrying operation. The excavated rough stone and Gravel will be directly loaded into tipper to the needy crusher/other buyers.

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 27m (BGL). The ground water table is reported as 68 m. In the proposed mining plan only 27m 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 27m below ground level and the nearby water table is 68m. 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.
Visual impact on surrounding environment	Quarrying activities and rock extraction generally cause several environmental effects on the surrounding areas. The alteration of landscape due to activities like excavation, drilling or blasting, in particular, often generates a visual impact on the receptors set in the surroundings. Among these effects, the shape, extent, or chromatic contrast of the mining surface with the original land form may represent a huge loss of appeal for the growth of new urban settlements.	The reclamation of the post mined quarry surface is aimed at restoring the ecological balance taking into account geological parameters but also local flora and climate. Further the ultimate depth of mining is 27m. In the post mining stage the quarried out pit will be used for rainwater harvesting.

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.

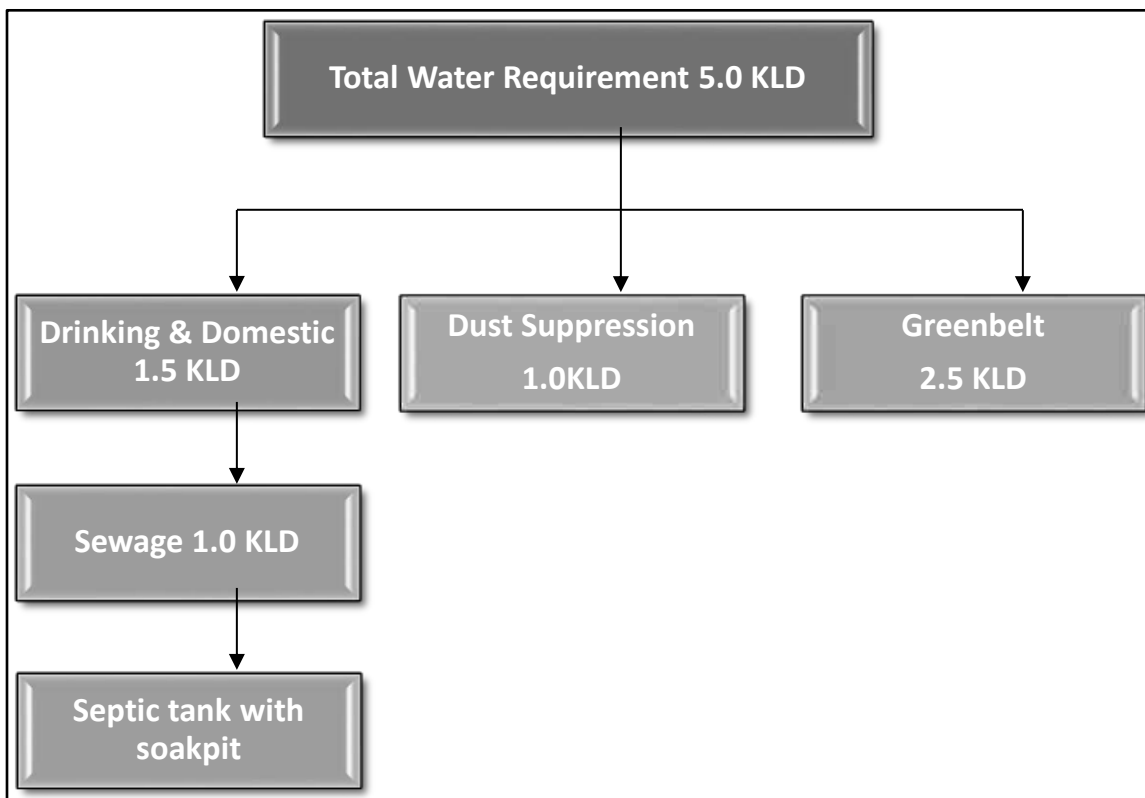
Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made into these water bodies, there is no major impact. The project proponent will restrict the mining operation only within the lease and no other work will 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 5.0 KLD which will be sourced from outside agencies. Negligible sewage of 1.0KLD 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 68 m. The mining will go up to the maximum depth of 27 m BGL. 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 Vilupuram District, Marakkanam Taluk is given below.

Table: 4.1 Ground Water Level Status in Vilupuram 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	148,771	141,402.85	5,010.48	146,413.34	98%	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 VEGETATION

VEGETATION 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 in an area of 0.55.50 Ha. Trees like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc will be planted around the mine lease area. A total of 555 trees are planned to be planted. Spacing will be 3m x 3m.

FAUNA

There are no sanctuaries/national parks in the buffer zone of 10 km 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	Fauna is affected due to noise and vibration.	Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.
2	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.
3	Change in land use of the lease area	After the mine closure stage, the mine pit will be left as rain water collecting tank, which can attract bird population in the nearby areas.
4	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 equipment's 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 equipment's 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 2,00,025 m³ of Rough Stone , 34,272m³ of Gravel and production for Second five years is 23,745m³ of Rough Stone by the open-cast mechanized 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 2,00,025 m³ of Rough Stone , 34,272m³ of Gravel and production for Second five years is 23,745m³ of Rough Stone by the open-cast mechanised 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. Therefore, the emissions considered for modeling are from drilling blasting, excavation & transportation rough stone and Gravel.

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 December 2024 – February 2025 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.

Figure – 4.2 represents the spatial distribution of the predicted ground level concentrations of PM₁₀ due to emissions from mine.

FIG 4.2 Isopleth of GLC Prediction for PM_{2.5}

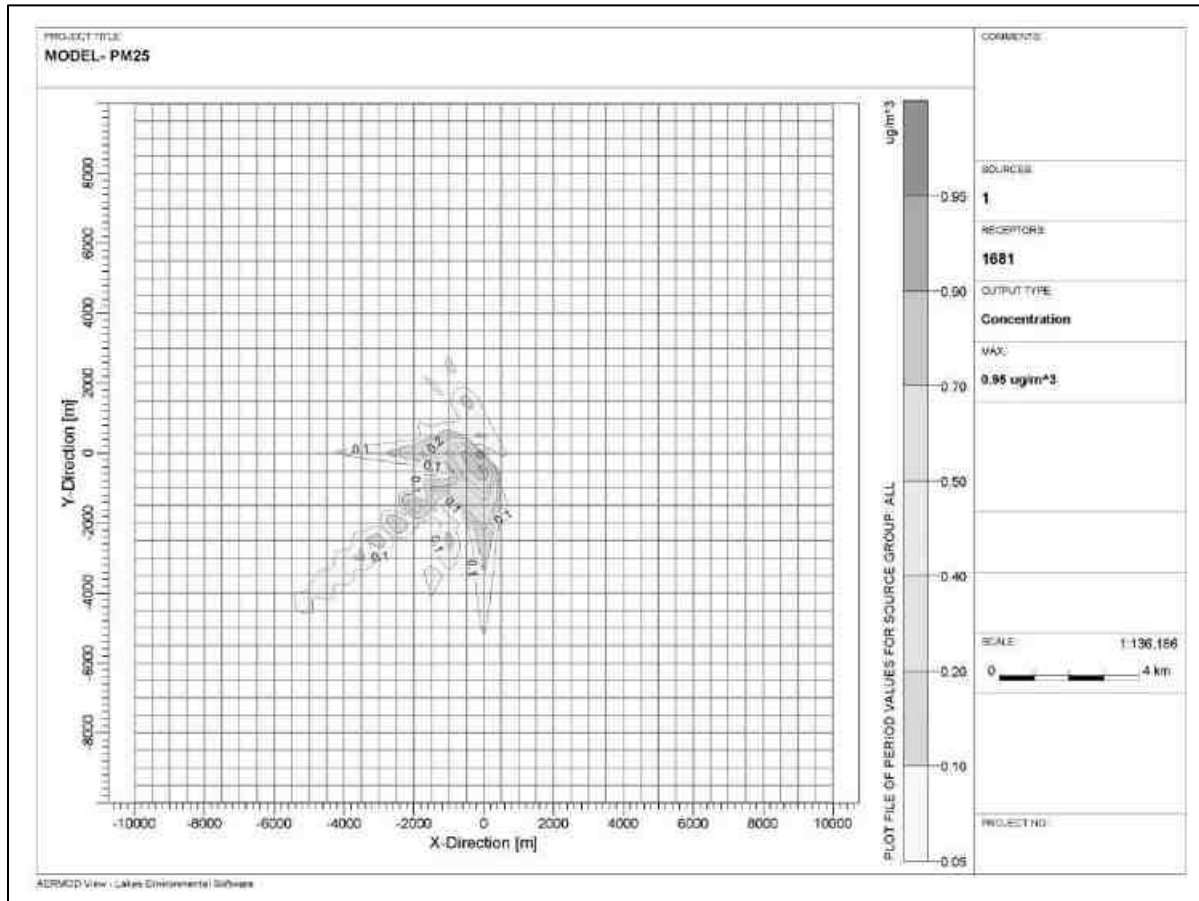


FIG 4.3 Isopleth of GLC Prediction for PM₁₀

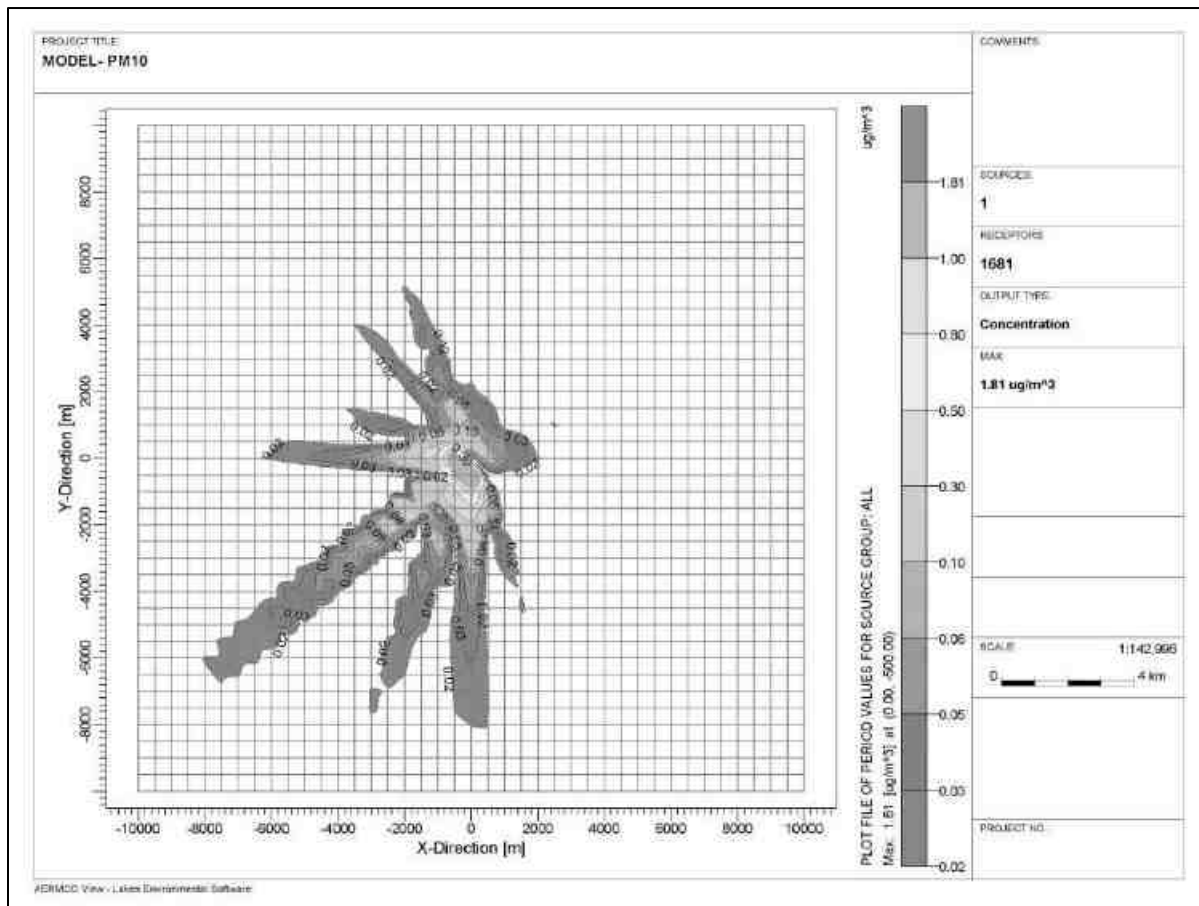


FIG 4.4 Isopleth of GLC Prediction –Cumulative for PM_{2.5}

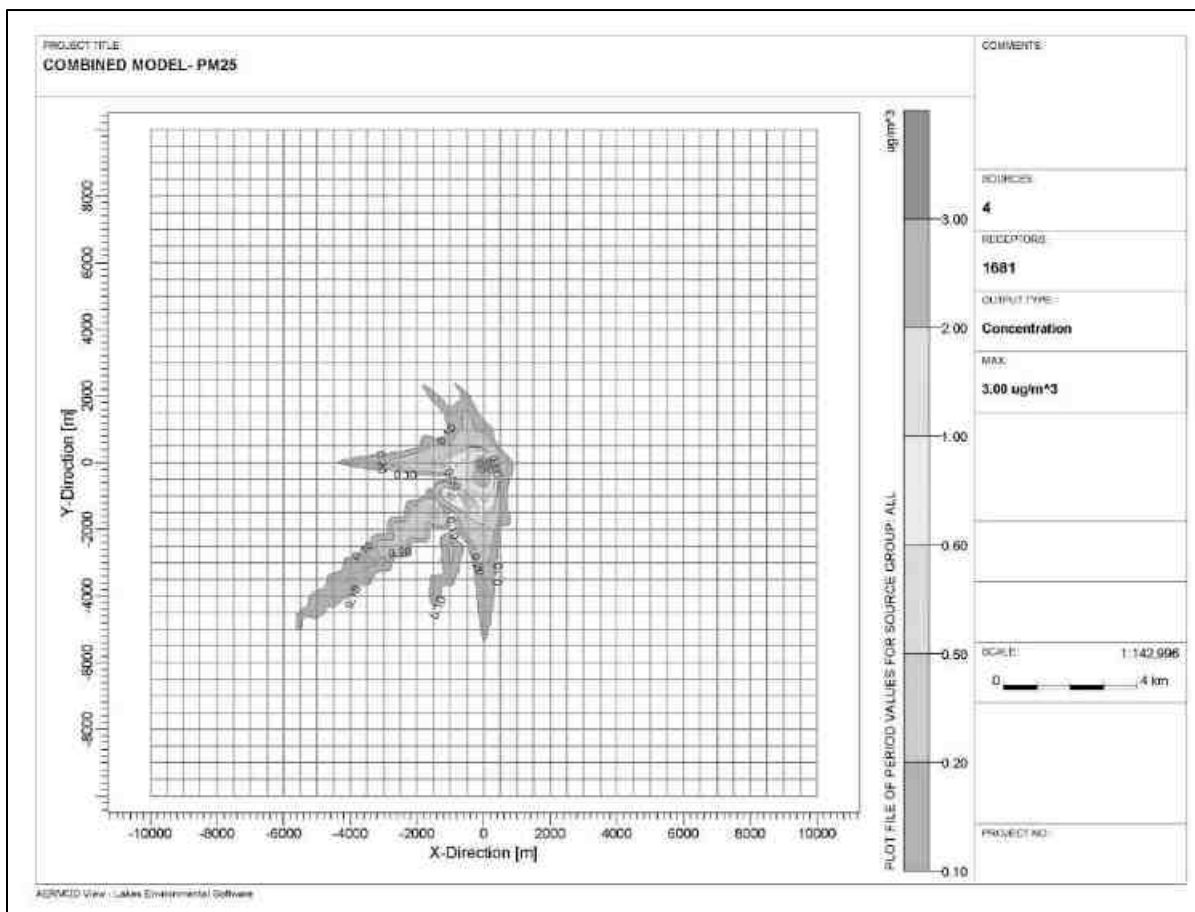
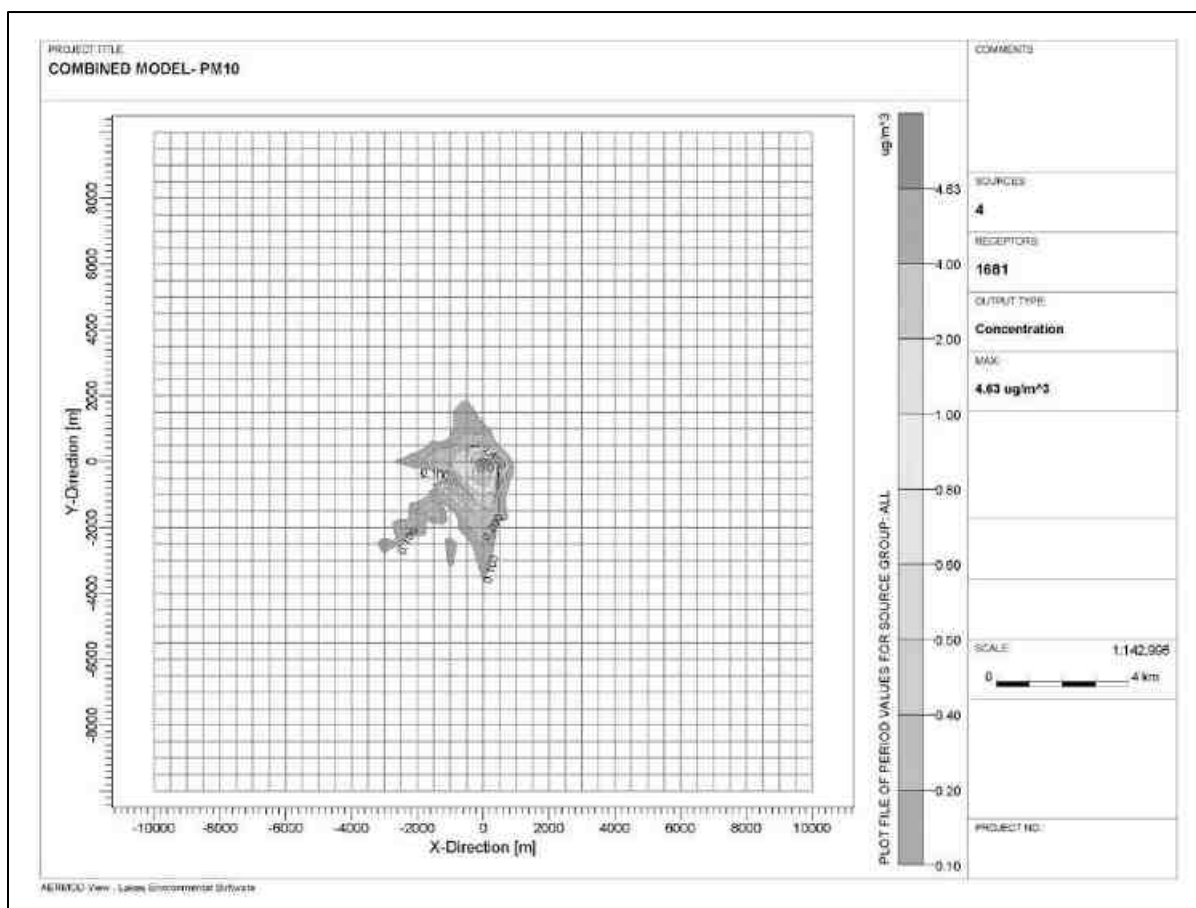


FIG 4.5 Isopleth of GLC Prediction –Cumulative for PM₁₀



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 - 4.3.

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 $\mu\text{g}/\text{m}^3$
1	Project site	32.01	0.25	32.26	60
2	Vanniper	22.8	0.25	23.05	
3	Palamukkal	26.47	0.25	26.72	
4	Kilsiviri	25	0.25	25.25	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

5	Peravur	25.51	0.25	25.76	
6	Bramaddesam	24.17	0.25	24.42	
7	Vellakulam Church	25.45	0.25	25.7	

Table 4.3a Cluster 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	Project site	32.01	0.6	32.61	60
2	Vanniper	22.8	0.6	23.4	
3	Palamukkal	26.47	0.6	27.07	
4	Kilsiviri	25	0.6	25.6	
5	Peravur	25.51	0.6	26.11	
6	Bramaddesam	24.17	0.6	24.77	
7	Vellakulam Church	25.45	0.6	26.05	

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	Project site	60.4	0.4	60.8	100
2	Vanniper	45.9	0.4	46.3	
3	Palamukkal	50.5	0.4	50.9	
4	Kilsiviri	46.3	0.4	46.7	
5	Peravur	47	0.4	47.4	
6	Bramaddesam	46.4	0.4	46.8	
7	Vellakulam Church	46.9	0.4	47.3	

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	Project site	60.4	0.4	60.8	100
2	Vanniper	45.9	0.4	46.3	

3	Palamukkal	50.5	0.4	50.9	
4	Kilsiviri	46.3	0.4	46.7	
5	Peravur	47	0.4	47.4	
6	Bramaddesam	46.4	0.4	46.8	
7	Vellakulam Church	46.9	0.4	47.3	

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 46.3 µg/m³ to 60.8 µg/m³ and for PM_{2.5} are in the range of 23.05 µg/m³ to 35.26 µg/m³ and PM₁₀ are surrounding area range of 46.3 µg/m³ to 60.8 µg/m³ and for PM_{2.5} are in the range of 23.4 µg/m³ to 36.61µg/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.

- Wet drilling will be practiced in drilling operation.
- 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

The main noise generating source during mining operation and related activities are drilling, excavation, loading and transportation. Intermittent noise is generated due to operation of diesel generator.

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
4	Drilling	96
5	Blasting	102

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. Wet drilling with dust extractor is being used to reduce the noise level during the mining operation.

Noise levels were measured in the lease area and in the nearby villages Vanniper, Palamukkal, Kilsiviri, Peravur, Bramaddesam and Vellakulam Church 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	Project site	Core Zone	53	43.6
2	Vanniper	3.4	51.9	43.3
3	Palamukkal	2.5	50.1	42.3
4	Kilsiviri	1.9	51.4	42.7
5	Peravur	3.2	47.9	42.7
6	Bramaddesam	2.3	49.3	42.7
7	Vellakulam Church	1.4	49.7	43.6

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 seven 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

- ✚ Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- ✚ As per DGMS (Directorate General of Mines Safety) limits, the acceptable noise level is 85 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.

4.5 MITIGATION MEASURES

4.5.1 Mitigation measures for Noise level control

- ✚ As the distance between the source and receptor increases, the noise level decreases. Hence, there will be a natural attenuation.
- ✚ The proponent has planned to develop green belt in the periphery of the lease area which diminishes sound volume by dampening them.
- ✚ All the equipment/machinery/tippers 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.
- ✚ Providing green walls/nets wherever possible.

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

4.5.2 IMPACTS DUE TO VIBRATION

There will be negligible vibration of ground due to the following activities.

- ✚ Due to Blasting
- ✚ Due to Drilling
- ✚ Due to movement of machinery

Impacts

- ✚ Though vibration will be only felt by the people working inside the lease area it is usually undesired.
- ✚ Vibration may also cause fly rocks.
- ✚ It may frighten the birds and small insects in the lease area. However, it will be felt only for a short period.

Mitigation measures

- ✚ The DG set will be kept within the acoustic enclosure made by the stone blocks.
- ✚ Drills will be equipped with sharp bits and wet drilling will be adopted.
- ✚ A well-planned green belt is proposed for the mining to reduce noise level.
- ✚ Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.
- ✚ Regular maintenance of the machineries and vehicles to reduce the noise level.
- ✚ Use of ear muffs by the workers with occupational exposure to noise.
- ✚ Carrying out blasting on limited scale, only from 12:00 PM to 2:00 PM
- ✚ Control of fly rock and vibration by maintaining peak particle velocity within the standard as prescribed by the DGMS and MOEF & CC.
- ✚ Shallow depth jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive.
- ✚ Supervising blasting by competent and statutory Foreman/ Mines Manager.

4.5.3 SOCIO ECONOMIC IMPACT

The lease area is Patta land and owned by the PP, The proponent has planned to spend INR 5,00,000 for CER activities.

4.5.4 OCCUPATIONAL HEALTH

Impacts on humans due to various mining activities

The occupational risk due to proposed mining may be due to drilling, blasting, excavation and transportation. A total of 29 workers will be engaged in the mining activity. Mining activity may cause various health problems to the mines workers as follows:

- Dust generated during excavation, drilling, stone cutting, sizing and transportation may cause health problems like Silicosis, Asthma, Tuberculosis and other respiratory lungs disorders.
- Heavy weight lifting by the workers may cause injuries to arms, legs and back.
- Noise generated during the mining activity may cause Noise Induced Hearing Loss (NIHL).

Table 4.5 Impacts on humans due to various mining activities		
S.No.	Type of activity	Impact
1	Dust generation due to drilling and blasting	Continuous exposure to dust causes Pneumonia, Tuberculosis, Rhematic arthritis and Segmental Vibration
2	Noise generation due to drilling and blasting	Short term impact will be lack of sleep, high blood pressure and heart ailments. Long term exposure may lead to partial or permanent deafness
3	Unexpected accidents	Risks include fly rocks, cracks or fissures due to improper mining methods

Mitigation measures

- The mines worker will be provided with dust mask to minimize the inhalation of the dust.
- Water sprinkling twice in a day is in practice on the haul roads, near excavation and roads to reduce the fugitive dust emission.
- Wet drilling and drilling with dust extractor will be practiced.
- Ear muffs will be supplied to the workers working in the noise prone area

- The mining site will be supplied with first aid facilities and the entire mines worker will have access to that.
- The mines workers will be well trained about the safety practices in the mining activities.
- As per Mines Rules, 1955, medical examination of employees at the initial stage and periodically, shall be done by a team of qualified medical officers provided by the project proponent.
- Regular medical checkup camps shall also be arranged for detection of occupational diseases and minor disease in the nearby rural population.
- Free checkup and medicine for treatment for their acute and chronic illness shall be provided by the lessee. Conducting periodical Medical Examination as per DGMS.
- Making all first aid kits available in mines office
- Keeping fire extinguisher in place
- Educating the employees about how to handle unexpected happenings
- Posting information containing emergency contact numbers in mines office
- By adopting all these measures, the safety of the employees working in the quarry will be ensured.

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 1.0 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 off 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, Dept. of Geology & Mining, Viluppuram vide Rc.No.B/G&M/242/2024, dated 26.12.2024.

- 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 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.

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.

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 – 3.5, 3.11, 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

SI .No	Budget planned for	Capital Cost Amount (INR)	Recurring Cost/Annum Amount (INR)
1	Air Environment	5.70	1.19
2	Noise Environment	0.30	0.02
3	Water Environment	0.25	0.12
4	Implementation of EC, Mining Plan & DGMS Condition	0.77	0.75
5	Mine Closure	0.55	0.11
Total		7.56	2.19
The total EMP Cost is 35.11 Lakhs (For 10 Years)			

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 potential 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	Explosion	Controlled blasting will be done. DGMS norms will be strictly followed during blasting. Blasting will be done only by trained professionals.
3	Combustion of chemicals or hazardous substances	Combustible Substances are stored with all precautionary measures. Fire suppressant is made available at storage site
4	Landslide	Width, height and slope will be maintained as suggested by DGMS
5	Accidents during handlings	All vehicles will be properly maintained. Overloading will not be done. Only trained/certified people will be employed.
6	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 Details of quarries within 500m radius (as per 500m certificate)					
Sl. No	Name and address	Village and Taluk	S.F.No.	Extent (in Ha)	Period of lease
Abandoned Quarries					
1	Nil				
Existing Quarries					
1	Thiru.V.Ramesh, S/o.Vengatapathi, No.5, Thiyagarayar Street, HLL Colony, Pammal, Chennai - 75	T.Nallalam Village, Marakkanam Taluk,	16/11, 12, 17/1 & 18/3B	3.53.0 Ha	07.03.2022 to 06.03.2027
2	Tvl.Sree Thiruchendhur Murugan Blue Metals, Represented by its partner, Thiru.P.Subramani No.3-3/3-3, Main Road, Thoravi Village, Vikravandi Taluk, Viluppuram	T.Nallalam Village, Marakkanam Taluk	20/1, 2A, 2B, 3, 4, 6, 99/2, 3B & 6	4.57.5 Ha	04.01.2022 to 03.01.2027
Proposed Quarry					
1	Thiru.M.Venkadesan, S/o. Dhanapal, No.219/1C, Iyyanar Kovil street, Tennamadevi Village, Vikkiravandi Taluk, Viluppuram District	T.Nallalam Village, Marakkanam Taluk	81/2 & 82/9A	2.30.50 Ha	Under Proposed Quarry

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 December 2024 to February 2025 . The following sources are considered.

FIG 7.1 Isopleth of GLC Prediction for PM_{2.5}

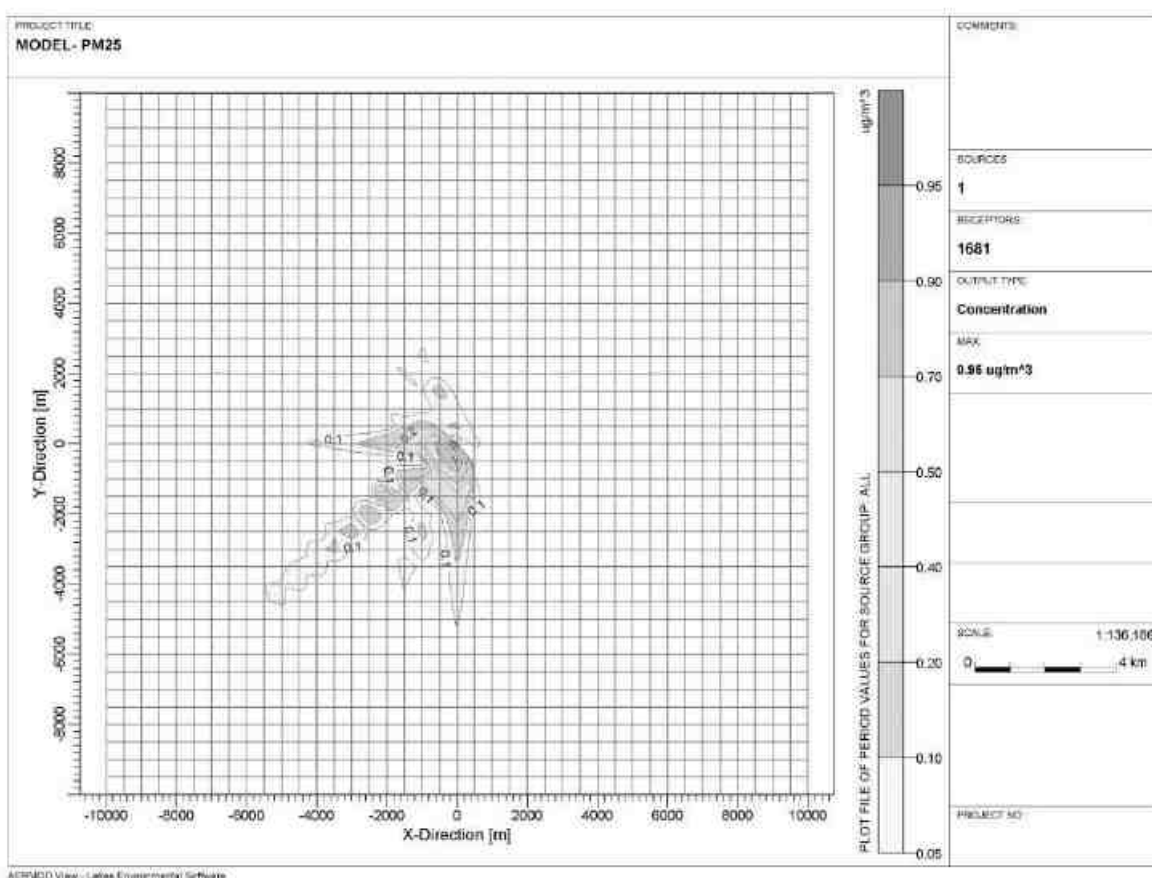


FIG 7.2 Isopleth of GLC Prediction for PM₁₀

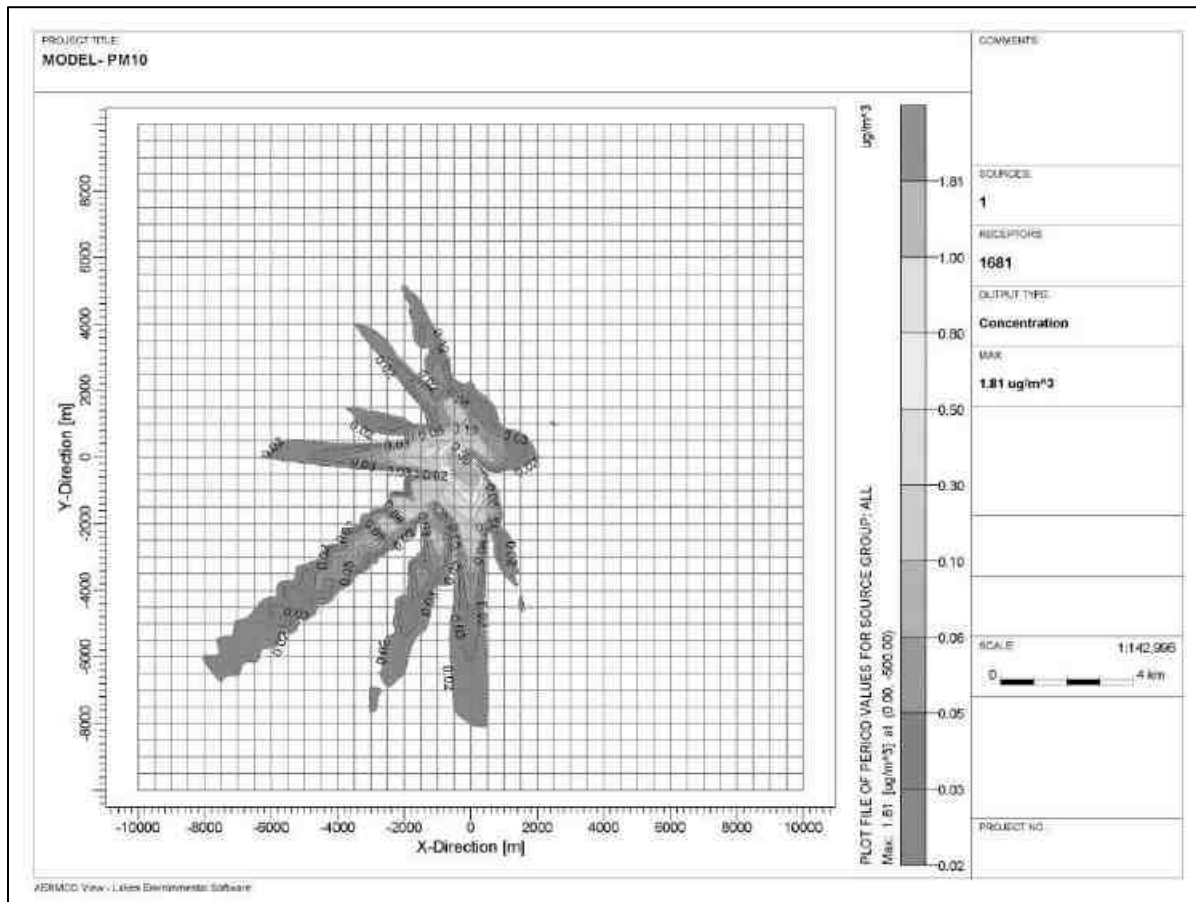


FIG 7.3 Isopleth of GLC Prediction –Cumulative for PM_{2.5}

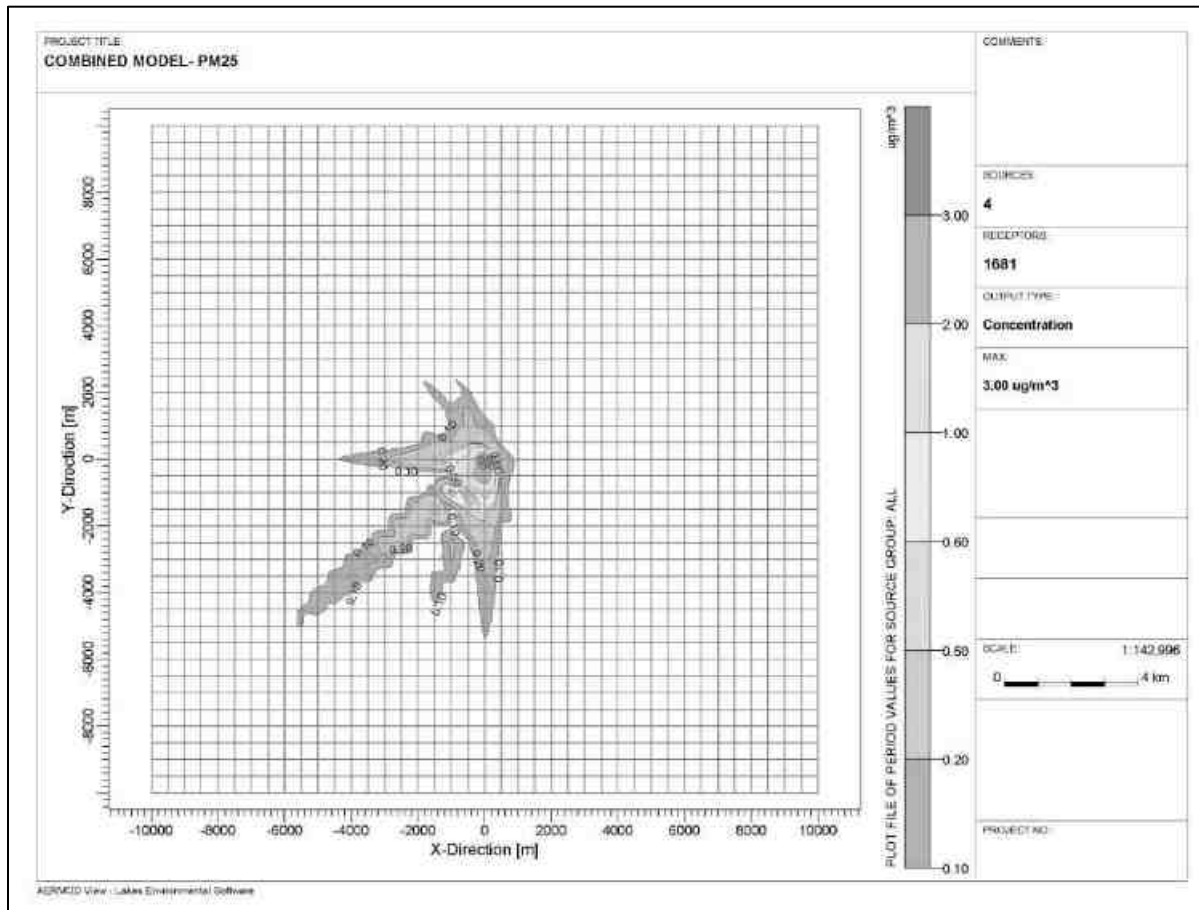
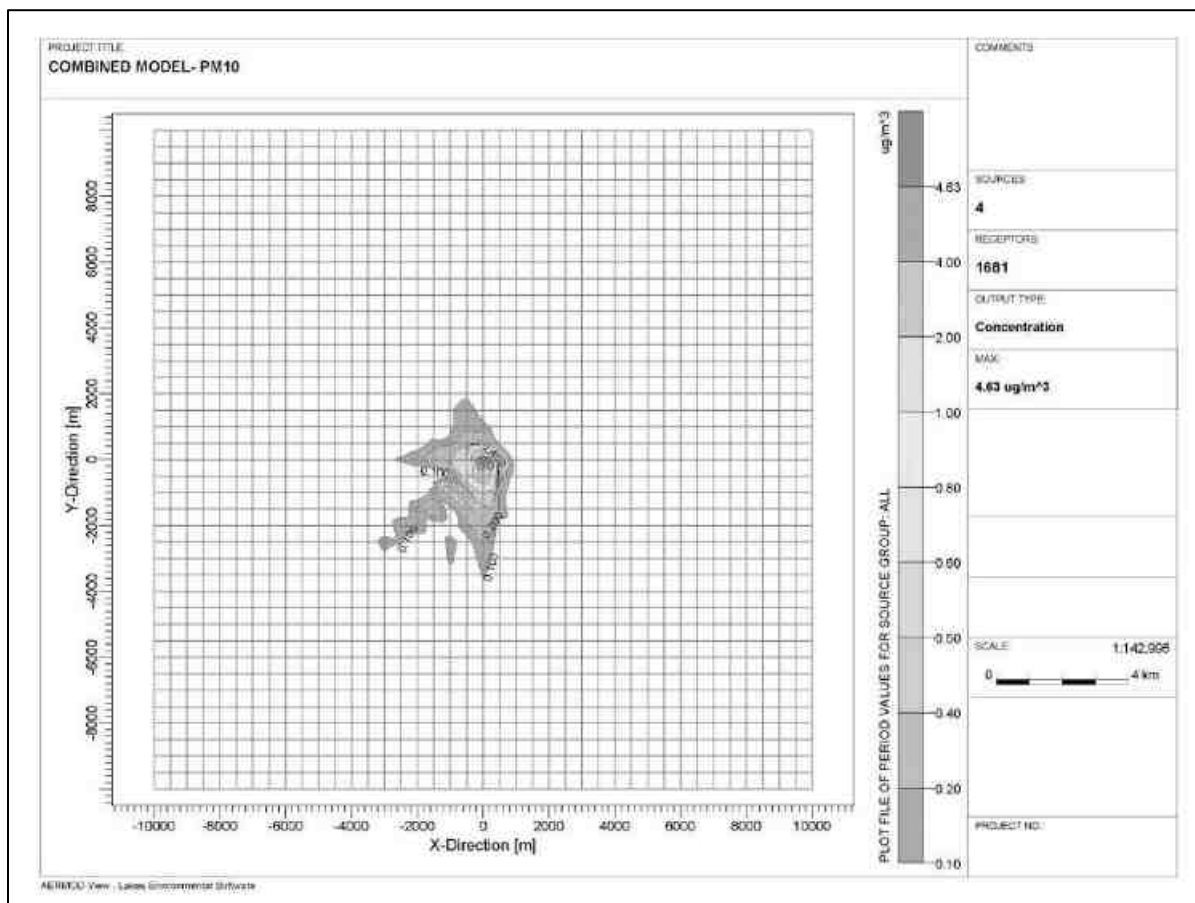


FIG 7.4 Isopleth of GLC Prediction –Cumulative for PM₁₀



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 - 4.3.

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	Project site	32.01	0.25	32.26	60
2	Vanniper	22.8	0.25	23.05	
3	Palamukkal	26.47	0.25	26.72	
4	Kilsiviri	25	0.25	25.25	
5	Peravur	25.51	0.25	25.76	

6	Bramaddesam	24.17	0.25	24.42	
7	Vellakulam Church	25.45	0.25	25.7	

Table 7.4 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	Project site	32.01	0.6	32.61	60
2	Vanniper	22.8	0.6	23.4	
3	Palamukkal	26.47	0.6	27.07	
4	Kilsiviri	25	0.6	25.6	
5	Peravur	25.51	0.6	26.11	
6	Bramaddesam	24.17	0.6	24.77	
7	Vellakulam Church	25.45	0.6	26.05	

Table 7.5 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	Project site	60.4	0.4	60.8	100
2	Vanniper	45.9	0.4	46.3	
3	Palamukkal	50.5	0.4	50.9	
4	Kilsiviri	46.3	0.4	46.7	
5	Peravur	47	0.4	47.4	
6	Bramaddesam	46.4	0.4	46.8	
7	Vellakulam Church	46.9	0.4	47.3	

Table 7.5a 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	Project site	60.4	0.4	60.8	100
2	Vanniper	45.9	0.4	46.3	
3	Palamukkal	50.5	0.4	50.9	
4	Kilsiviri	46.3	0.4	46.7	

5	Peravur	47	0.4	47.4	
6	Bramaddesam	46.4	0.4	46.8	
7	Vellakulam Church	46.9	0.4	47.3	

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 51.95 µg/m³ to 76.4 µg/m³ and for PM_{2.5} are in the range of 23.13 µg/m³ to 35.69 µg/m³ and PM₁₀ are surrounding area range of 52.86 µg/m³ to 79.43 µg/m³ and for PM_{2.5} are in the range of 23.18 µg/m³ to 36.13 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.

- Wet drilling will be practiced in drilling operation.
- 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 consumers like crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. The cumulative impact on traffic due to transportation of minerals from these three leases are provided below:

Table 7. 6 – Impact on Traffic

Description	Rough Stone & Gravel Production Per day in tons	No. of Lorry Load per day
P1, P2,P3 & P4	780	78.0
Total		78.0

The proposed projects will bring 78.0 trips per day. The existing road can absorb this additional traffic due to this project. Various measures like proper maintenance

of road, covering of the loaded truck with tarpaulin, water sprinkling will be carried out to ensure no adverse impact on the logistical front.

7.3.3 HYDROGEOLOGICAL STUDY

There is Kondamur River is located at a distance of 5.5 km in South west direction of lease area. Due to the presence of these water bodies nearby, a detailed hydrogeological study has been done. 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 mechanized mining with a bench height of 5m and bench width of 5m and overall slope 47° is proposed. The depth of mining is proposed as 27m (BGL), 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.
- Carrying out safe blasting by following DGMS norms
- 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 27m (BGL) only, which will be achieved in 5 years. The ultimate pit dimension will be 320m x 54m x 27m. After completion of quarrying operation, the mined-out pit will be left as rain water harvesting pond. The quarry will be properly fenced with barbed wire.

CHAPTER 8

PROJECT BENEFITS

INTRODUCTION

Thiru.M.Venkadesan has proposed Rough stone and gravel quarry over an extent of 2.30.50 Ha located at S.F.No.81/2 & 82/9A of T.Nallalam Village, Marakkanam 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 activity at proposed Rough Stone and Gravel of Thiru.M.Venkadesan, S/o. Dhanapal will create direct employment opportunity for 29 local people. As per MOEF & CC Notification CER cost is arrived for an amount of 5 Lakhs, it will be utilized as per the CER letter received from the competent authority, enclosed as annexure no 13.

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 Identification No. TO25B0108TN5867827N, dated 01.03.2025 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	Wet drilling to suppress the dust emission from drill machine
	Regular water sprinkling on haulage road through fixed water sprinkler.
	1.5 KLD of water will be used for dust suppression.
	Avoiding blasting during high wind period, night times and temperature inversion periods.
	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 Kondamur River is located at a distance of 5.5 km in South west 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 27 m above ground level, Water table is found at a depth of 68 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 1.5 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.
	Noise levels are controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes.
	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 and Fly Rock Control	Controlled blasting using delay detonators will be carried out to maintain the PPV value well within the prescribed standards of DGMS.
	Drilling and blasting will be carried under the supervision of qualified persons.

	Will be Ensured that blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material.
	To be Undertake noise or vibration monitoring.
Land Environment	At conceptual stage, the mining pits will be converted into Rain Water Harvesting pit. Remaining area will be converted into greenbelt area.
	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.

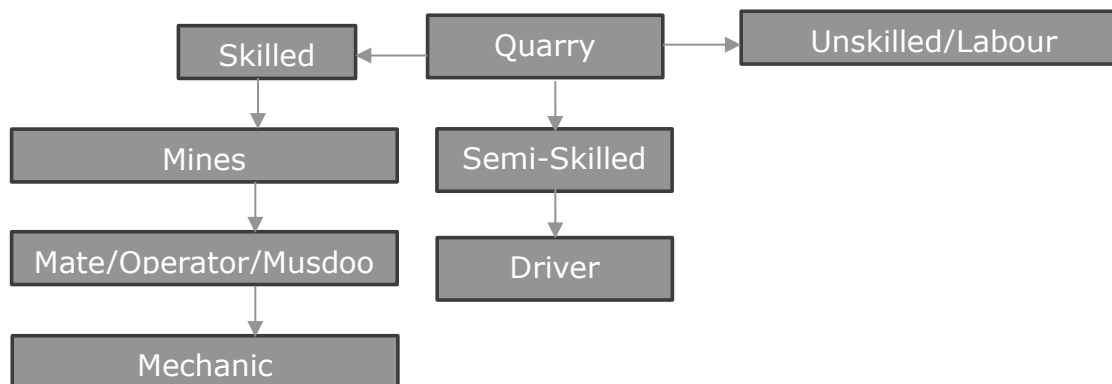
10.1.3 ADMINISTRATION AND TECHNICAL SETUP

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



1	Skilled	Mines Manager(II Class)	1 No
		Foreman/Mine Mate	2 Nos
		Operator	8 Nos
		Mechanic	1 No
2	Semi-Skilled	Diver	4 Nos
3	Un-skilled	Labours	13 Nos
Total			29 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 "Rough Stone & Gravel Quarry of Thiru.M.Venkadesan, S/o. Dhanapal 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

Sl .No	Budget planned for	Capital Cost Amount (INR)	Recurring Cost/Annum Amount (INR)
1	Air Environment	5.70	1.19
2	Noise Environment	0.30	0.02
3	Water Environment	0.25	0.12
4	Implementation of EC, Mining Plan & DGMS Condition	0.77	0.75
5	Mine Closure	0.55	0.11
Total		7.56	2.19
The total EMP Cost is 35.11 Lakhs (For 10 Years)			

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 35.11 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.M.Venkadesan, S/o. Dhanapal has obtained Precise Area Communication Letter from Assistant Director, Department of Geology and Mining, Viluppuram to quarry out 2,23,770m³ of Rough Stone and 34,272m³ of Gravel from an extent of 2.30.50 Ha located in S.F.No.81/2 & 82/9A at T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Rough Stone and Gravel Quarry of Thiru.M.Venkadesan, S/o. Dhanapal 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 Identification No.TO25B0108TN5867827N, dated 01.03.2025. This report has been prepared in line with the approved ToR for production of maximum excavation of 2,23,770m³ of Rough Stone and 34,272m³ of Gravel.

	Description	Status/Remarks
1.	Sector	1(a), non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone and Gravel
4.	Type of Lease	New Lease
5.	Extent of the lease	2.30.50 Ha
6.	Proposed depth of Mining	27m BGL
7.	Method of mining	Opencast Mechanized
8.	Proposed lease period	10 Years
9.	Proposed Environmental Clearance	10 Years
10.	Proposed production quantity for 1 st Five Years	2,00,025 m ³ of Rough Stone 34,272m ³ of Gravel
11.	Proposed production quantity for 2 nd Five Years	23,745m ³ of Rough Stone

The Lessee Thiru.M.Venkadesan, S/o. Dhanapal is an individual with sound experience in the identification, quarrying and marketing of Rough Stone and Gravel. The proposed land is a Patta land and attached as **Annexure 6**.

11.1.1 LOCATION

This project site is located in T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State with Latitude 12°02'58.03"N to 12°03'06.84"N and Longitude: 79°39'57.68"E to 79°40'03.51"E. with Survey of India Topo Sheet No.57-P/16. 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. December 2024 to February 2025)

11.1.2 GEOLOGY

The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock. The strike of the Charnockite formation is N45°E – S45°W with dipping towards SE80°.

11.1.3 PROJECT DESCRIPTION

This is a proposed Rough Stone quarry by Opencast Mechanized mining method with drilling and blasting. The quarrying is restricted up to a depth of 27m below ground level. The geological reserves are estimated to be 5,75,150 m³ of Rough Stone & 46,012 m³ of Gravel. The mineable reserve calculated by deducting 7.5m safety distance and bench loss. The mineable reserves are 2,23,770 m³ of Rough Stone & 34,272 m³ of Gravel which will be recovered at the rate of 100% recovery upto a depth of 27m Below ground level for the period of Ten Years.

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 47° slope using conventional Open cast Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough Stone.

- There is no overburden anticipated during entire rough stone & Gravel quarrying operation.

Sl.No	Description	Status/Remarks
1.	Sector	Non-coal Mining
2.	Category of the project	B1 Cluster
3.	Proposed mineral	Rough Stone and Gravel
4.	Type of Lease	Fresh quarry lease area
5.	Extent of the lease	2.30.5 Ha
6.	Proposed depth of Mining for first 5 years	27m below ground level for the proposed mining plan.
8.	Ultimate Pit Depth	27m below ground level
9.	Method of Mining	Opencast Semi-mechanized
10.	Life of the Mine	10 Years
11.	Proposed Environmental Clearance	10 Years
12.	Proposed production quantity for first five years (upto 27m below ground level)	2,00,025m ³ of Rough Stone 34,272m ³ of Gravel
13.	Proposed production quantity for second five years (upto 27m below ground level)	23,745m ³ of Rough Stone

11.1.4 PROJECT REQUIREMENTS

The requirements of the project is given below.7

S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 5.0 KLD which will be procured from the outside agencies. Out of 1.5KLD drinking water requirement, green belt development is 2.0 KLD and dust suppression is 1.5 KLD.
2	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid.
3	Manpower requirement	Permanent employees – 10, temporary employees – 19

4	Financial requirement	Total EMP cost will be Rs.35.11 Lakhs
5	Funds for Socio economic development	INR 5 Lakhs is allocated.

11.1.5 DESCRIPTION OF LEASE AREA

The features in the study area is given below.

Table 11.1 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,	Odai - 40m (W) Brammadesam Lake - 708m (E) Tank - 870m (SW) Nallalam Lake - 1.43km (NW) Tank - 2.12km (SW) Ariyanthangal Lake - 2.63km (NE) Perumukkal Lake - 2.83km (NW) Vanniper Tank - 2.84km (E) Endur Lake - 3.05km (NE) Nallavur Lake - 4.43km (SW) Munnur Lake - 5.00km (E) Kondamur River - 5.5km (SW)
B	Coastal zone, biospheres,	Nil within 10km radius
C	Mountains, forests	Kumalumpittu R.F. - 3.27 km (SE) Sevur R.F. - 4.45 km (NW) Nil within a 10Km radius. Oussudu Birds Sanctuary - 23.35 Km (S)
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 15km radius
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	Kilsiviri Village – 1.4km (SW)
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Kilsiviri Village – 1.4km (SW)
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 December 2024 to February 2025. 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 has been carried out in 7 locations and the results are given below.

Table 11.2: Details Of Ambient Air Quality Monitoring Locations				
S. No.	Station Code	Locations	Distance	Coordinates
1	AAQ 1	Project site	Core Zone	12°11'13.78"N 79°45'34.34"E
2	AAQ 2	Vanniper	3.4Km	12°10'58.11"N 79°47'27.06"E
3	AAQ 3	Palamukkal	2.5 Km	12°11'37.89"N 79°44'17.62"E
4	AAQ 4	Kilsiviri	1.9 Km	12°10'54.84"N 79°44'47.19"E

Table 11.2: Details Of Ambient Air Quality Monitoring Locations

S. No.	Station Code	Locations	Distance	Coordinates
5	AAQ 5	Peravur	3.2 Km	12° 9'34.84"N 79°44'52.71"E
6	AAQ6	Bramaddesam	2.3 Km	12°11'55.17"N 9°46'42.43"E
7	AAQ7	Vellakulam Church	1.4 Km	12°12'7.12"N 79°45'48.42"E

Station ID	Min	Max	Avg.
Particulate matter PM_{2.5} (µg/m³)			
AAQ-1	28.9	35.2	32.01
AAQ-2	20.6	25.2	22.8
AAQ-3	23.6	29.95	26.47
AAQ-4	22.22	28.18	25
AAQ-5	22.56	28.03	25.51
AAQ-6	22.27	26.26	24.17
AAQ-7	22.51	28.70	25.45
CPCB NAAQS 2009 for PM_{2.5} - 60 µg/m³			
Particulate matter PM₁₀ (µg/m³)			
AAQ-1	60.4	74.5	66.8
AAQ-2	45.9	56.1	50.8
AAQ-3	50.5	62.4	55.3
AAQ-4	46.3	58.7	52.09
AAQ-5	47	58.4	53.15
AAQ-6	46.4	54.7	50.36
AAQ-7	46.9	59.8	53.03
CPCB NAAQS 2009 for PM₁₀ - 100 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	6.9	8.2	7.5
AAQ-2	5.2	7.5	6.3
AAQ-3	5.9	7.4	6.77
AAQ-4	7.1	9.1	8.3
AAQ-5	7.7	10.2	8.87
AAQ-6	7.4	10.1	8.74
AAQ-7	7.7	9.5	8.86
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	9.7	15.2	12.6
AAQ-2	9.2	11.5	10.4
AAQ-3	8.8	10.9	9.74
AAQ-4	8.7	11	10
AAQ-5	10.3	13.2	11.61
AAQ-6	8.1	11	9.66
AAQ-7	9.2	12.2	10.53
CPCB NAAQS 2009 for NO₂ - 80 µg/m³			

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

11.2.2 WATER ENVIRONMENT

Sl.No	Parameter	Unit	SW1	SW2	Surface water standards (IS 2296 Class-A)
1	Odour	-	AGREEABLE	AGREEABLE	-
2	Turbidity	NTU	<1	<1	1
3	pH at 25 °C	-	7.56	7.48	6.5-8.5
4	Electrical Conductivity	µs/cm	1723	2029	-
5	Total Dissolved Solids	mg/l	1008	1214	500
6	Total hardness as CaCO ₃	mg/l	472	488	-
7	Calcium as Ca	mg/l	80.4	104	300
8	Magnesium as Mg	mg/l	58.4	54.8	-
9	Calcium as CaCO ₃	mg/l	236	284	-
10	Magnesium as CaCO ₃	mg/l	233	204	-
11	Total alkalinity as CaCO ₃	mg/l	442	358	-
12	Chloride as Cl ⁻	mg/l	239	594	-
13	Free Residual chlorine as Cl ⁻	mg/l	BDL (D.L - 0.2)	BDL (D.L - 0.2)	250
14	Sulphates as SO ₄ ²⁻	mg/l	183	329	400
15	Iron as Fe	mg/l	0.03	0.07	1.0
16	Nitrate as NO ₃	mg/l	2.43	4.54	20
17	Fluoride as F	mg/l	0.49	0.63	1.5
18	Manganese as Mn	mg/l	BDL (D.L - 0.05)	BDL(D.L- 0.05)	0.5
19	Chemical Oxygen Demand	mg/l	58.2	63.4	
20	Bio-Chemical Oxygen Demand	mg/l	16.0	18.0	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

21	Dissolved Oxygen	mg/l	6.4	6.7	
22	Total Suspended Solids	mg/l	66.0	72.0	

All the values were found to be within permissible limits

Table 11.3 Results of Ground Water sampling Analysis in 7 locations									Specification/ Limit (As per IS:10500: 2012)	
S.NO	Para mete r	W1	W2	W3	W4	W5	W6	W7	Desir able	Permis sible
1	Odour	AGREE ABLE	AGREE ABLE	AGREE ABLE	AGREE ABLE	AGREE ABLE	AGREE ABLE	AGREE ABLE	Agree able	Agreea ble
2	Turbidity	<1	<1	<1	<1	<1	<1	<1	Agree able	Agreea ble
3	pH at 25 °C	6.71	6.78	6.83	7.47	7.14	6.79	7.31	6.5 - 8.5	No Relaxat ion
4	Electrica l Conduct ivity	1518	1296	1673	654.4	992.4	2488	633.7	1	5
5	Total Dissolve d Solids	940	802	1034	392	604	1534	394	500	2000
6	Total hardnes s as CaCO ₃	428	504	438	127	378	465	135	1	15
7	Calcium as Ca	80.4	96.6	98	32.8	68.1	104	33.8	200	600
8	Magnesi um as Mg	58.4	66.5	41.6	15.2	56.1	54.8	17.4	200	600
9	Calcium as CaCO ₃	214	232	216	85.4	184	247	89.4	75	200
10	Magnesi um as CaCO ₃	204	272	222	41.6	194	218	45.6		
11	Total alkalinit y as CaCO ₃	411	409	496	159	352	311	147		
12	Chloride as Cl ⁻	229	188	302	136	148	589	128	250	1000
13	Free Residual	BDL (D.L -	BDL (D.L -	BDL (D.L -	BDL (D.L -	BDL (D.L -	BDL (D.L -	BDL (D.L -	30	100

	chlorine as Cl ⁻	0.2)	0.2)	0.2)	0.2)	0.2)	0.2)	0.2)		
14	Sulphates as SO ₄ ²⁻	172	123	219	70.3	80.9	314	71.5	45	No Relaxation
15	Iron as Fe	0.04	0.02	0.03	0.04	0.03	0.09	0.04	200	400
16	Nitrate as NO ₃	2.19	2.23	3.63	1.58	2.27	4.48	1.28	1	No Relaxation
17	Fluoride as F	0.43	0.45	0.57	0.29	0.31	0.59	0.27	0.1	0.3
18	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 (D.L - 0.05)	BDL (D.L - 0.05)	Not Specified	Not Specified

11.2.3 NOISE ENVIRONMENT

Noise levels were measured in 7 locations and the results are given below.

Table 11.4 Noise monitoring results					
S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Project site	53	43.6	75	70
2	Vanniper	51.9	43.3		
3	Palamukkal	50.1	42.3		
4	Kilsiviri	51.4	42.7		
5	Peravur	47.9	42.7		
6	Bramaddesam	49.3	42.7		
7	Vellakulam Church	49.7	43.6		

11.2.4 SOIL ENVIRONMENT

Soil samples are collected from 7 locations and the results are given below.

Table 11.5 Results of Soil Sample Analysis									
S. No	Parameter	Unit	S1	S2	S3	S4	S5	S6	S7
			Results	Results	Results	Results	Results	Results	Results
1	pH at 25 °C	-	8.11	7.08	7.67	5.24	6.16	7.54	5.67

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

2	Electrical Conductivity	µmhos/cm	189.4	348.6	239.2	206.7	92.76	208.3	198.7
3	Dry matter content	%	81.12	83.24	82.89	95.93	91.34	84.12	96.46
4	Water Content	%	18.88	16.76	17.11	4.07	8.66	15.88	3.54
5	Organic Matter	%	0.45	0.51	0.29	0.68	0.51	0.83	0.64
6	Soil texture	-	SILTY CLAY	SILTY CLAY	CLAY	SILTY CLAY	SILTY CLAY	SILTY CLAY	SILTY CLAY
7	Grain Size Distribution	%	2.81	2.94	4.92	4.08	5.48	4.32	4.21
	i. Sand								
8	ii. Silt	%	42.22	56.85	38.13	43.19	44.15	47.18	44.53
9	iii. Clay	%	54.97	40.21	56.96	52.73	50.37	48.50	51.26
10	Phosphorous as P	mg/kg	0.38	0.69	0.76	0.61	0.68	0.54	0.66
11	Sodium as Na	mg/kg	1004	861	812	641	1033	629	682
12	Potassium as K	mg/kg	498	358	431	257	685	452	294
13	Nitrogen and Nitrogenous Compounds	mg/kg	189	282	268	362	149	312	334
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)	BDL(D.L .0.02)
15	Porosity	%	21.9	23.8	32.7	29.2	30.8	21.6	29.7
16	Water Holding Capacity	Inches /foot	2.9	3.9	3.9	3.7	3.5	3.7	3.5

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. 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

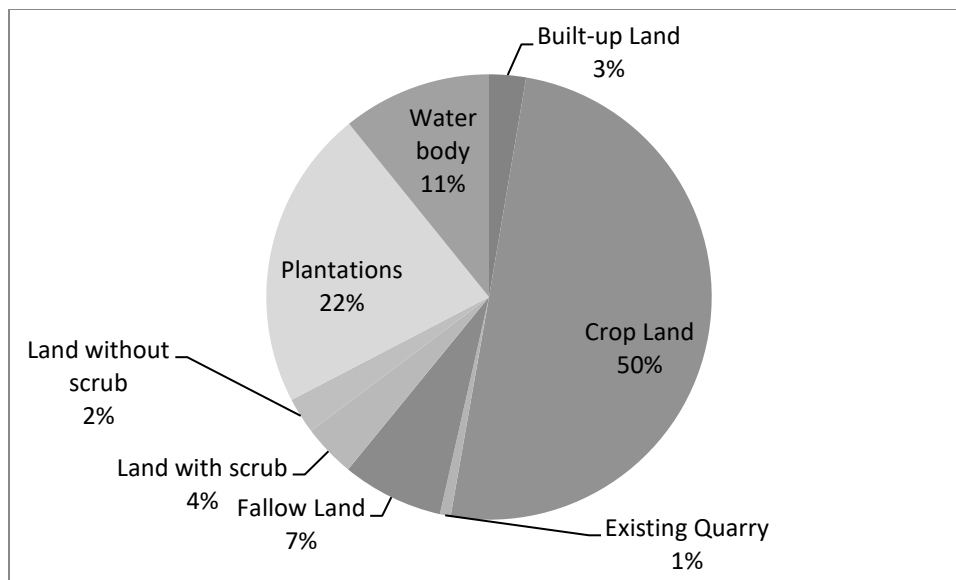
In the study area, commonly found animals like dogs, cats, bush rat, cows, birds like crow, Myna, Sparrow, etc were found.

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:

Table No. 11.6: Major Land Use Units of the Study Area in Percentage

S. No	Classification	Area in (sq.km)	Percentage (%)
1	Built-up Land	8.6	2.67
2	Crop Land	161.3	50.08
3	Existing Quarry	2.53	0.78
4	Fallow Land	23.7	7.36
5	Land with scrub	12.32	3.82
6	Land without scrub	8.45	2.62
7	Plantations	70.3	21.83
8	Water body	34.83	10.84
Total		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.
- Amenities available.

The expert visited 5 villages in the study area Vanniper, Palamukkal, Kilsiviri, Peravur, Bramaddesam and Vellakulam Church village. Discussions were held with the people from nearby locality to study the social and economic conditions prevailing in the area. The expert also visited nearby hospitals, primary health centres and T.Nallalam. The following observations were made.

The following observations were made.

Primary schools are available in many villages. For hospital facilities, people in the locality have to go to hospital in T.Nallalam which is about 730m from the lease area. Major schools with higher secondary and senior secondary schools are located in T.Nallalam. The major T.Nallalam Union located in the area is Villupuram. Facilities like petrol pump stations, ATM facility are available in T.Nallalam.

11.2.8 HYDROGEOLOGY OF THE LEASE AREA

Since there is Kondamur River is located at a distance of 5.5 km in South west direction of lease area, the hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

Kondamur River is the major river in the lease area. But there is no running water currently in the river. Only during monsoons, water gets stagnated at a few places.

There are many tanks located in the study area, which are mostly dry throughout the year. These tanks get water only during monsoons. The factors may be monsoon failure, insufficient rainfall, poor rain water management and water consuming patterns.

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 27m BGL. 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 27m BGL. 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. At the mine closure stage, 1.73.0 Ha of lease area will be left as rain water harvesting pond. 0.55.5Ha will be developed with green belt. For this, plants like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indica are selected. A total of 555 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 5.0 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 27m (BGL), 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 7.5H.P.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.

Odai	- 40m (W)
Brammadesam Lake	- 708m (E)
Tank	- 870m (SW)
Nallalam Lake	- 1.43km (NW)
Tank	- 2.12km (SW)
Ariyanthangal Lake	- 2.63km (NE)
Perumukkal Lake	- 2.83km (NW)
Vanniper Tank	- 2.84km (E)
Endur Lake	- 3.05km (NE)
Nallavur Lake	- 4.43km (SW)
Munnur Lake	- 5.00km (E)
Kondamur River	- 5.5km (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

- Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.
- 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 left as rain water collecting tank, which can attract bird population in the nearby areas.
- 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 to drilling, blasting and transportation. The major mitigation measures include Using Wet drilling methods, Allowing drilling only with PPE, Carrying out blasting only during specified times, Avoiding blasting during unfavourable weather conditions, Using explosives of good quality, Using mist sprayers Regular wetting of transport, Covering the materials carried in tippers

with tarpaulin, Proper maintenance of vehicles used for transportation, Conducting regular emission tests for vehicles used for transport Development of greenbelt is proposed in the safety zone of 7.5m barriers in the lease area.

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

- ✚ Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- ✚ As per DGMS (Directorate General of Mines Safety) and OSHA (Occupational Safety and Health Administration) limits, the acceptable noise level is 85 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

Impacts

- ✚ Though vibration will be only felt by the people working inside the lease area, it is usually undesired.
- ✚ Vibration may also cause flyrocks
- ✚ It may frighten the birds and small insects in the lease area. However, it will be felt only for a short period

Mitigation measures

- ✚ Carrying out blasting on limited scale, only from 12:00 PM to 2:00 PM
- ✚ Control of fly rock and vibration by maintaining peak particle velocity with in standard as prescribed by the DGMS and MOEF & CC.
- ✚ Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive
- ✚ Supervising blasting by competent and statutory foreman/ mines manager

11.2.16 SOCIO ECONOMIC ENVIRONMENT

Impact and Mitigation measures

No land is acquired from anyone. No rehabilitation is needed. Hence, there is no negative impact. The proponent has planned to spend INR 5,00,000 for CER activities. This amount will be subjected to change after public hearing.

11.2.17 OCCUPATIONAL HEALTH

Impacts

Dust generation due to drilling and blasting, Noise generation due to drilling and blasting, unexpected accidents. Continuous exposure to dust causes Pneumonia, Tuberculosis, Rhematic arthritis and Segmental Vibration, Short term impact will be

lack of sleep, high blood pressure and heart ailments. Long term exposure may lead to partial or permanent deafness, Risks include fly rocks, cracks or fissures due to improper mining methods

Mitigation measures

- Using dust suppression measures like water spraying on roads to reduce rise of air pollutants
- Providing green belt for air pollutant and noise attenuation
- Ensuring slope stability
- Employing only trained professionals for blasting
- Conducting Pre-Medical Examination for employees before inducting
- Conducting periodical Medical Examination once in 6 months.
- Making all first aid kits available in mines office
- Keeping fire extinguisher in place
- Educating the employees about how to handle unexpected happenings
- Posting information containing emergency contact numbers in mines office
- By adopting all these measures, the safety of the employees working in the quarry will be ensured.

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 35.11 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 29 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 5,00,000 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 35.11 Lakhs for the Ten 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 Rough Stone and Gravel Quarry over an extent of 2.30.50 Ha, while total cluster area of 6.51.5 Ha at T.Nallalam Village, Marakkanam 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

M. MANIKANDAN

EIA CO-ORDINATOR
GLOBAL MINING SOLUTIONS
SALEM

Signature & Date

Period of involvement: December 2024 to February 2025.

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: December2024 to February 2025.</u>	R. Dhanu
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: December2024 to February 2025</u>	K. Abirami
3	SHW	Ramadoss N	Assessment of waste generated from the project, suggested waste management practices. <u>Period: December2024 to February 2025</u>	C. Ramadoss
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: December2024 to February 2025</u>	K. Sarasvathy
5	EB	Saravanan S	Baseline data collection of related to ecology of the area. <u>Period: December2024 to February 2025</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: December2024 to February 2025</u>	N. Ravinthiran

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

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: December2024 to February 2025</u>	T Srilatha
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: December2024 to February 2025</u>	R.Dhami
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: December2024 to February 2025</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: December2024 to February 2025</u>	Sprashant
11	SC	Shisupal Sing	Soil monitoring, secondary data collection on soil type, soil management practices, utilization of topsoil. <u>Period: December2024 to February 2025</u>	Shisupal Sing
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: December2024 to February 2025</u>	Valliappan

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

TM-FAE:

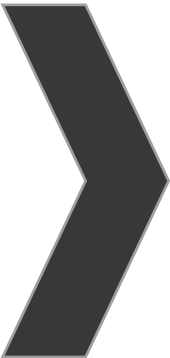
S.No	Name of TM (FAE)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	M.Prabu	LU	T.Srilatha	<u>December 2024 to February 2025</u>	Associated with FAE in preparing Land use map based on satellite imagery, Land use classification and analysis, Impact prediction 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>December 2024 to February 2025</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 management practices, utilization of top soil	

Proposed TM-FAA:

S. No	Name of TM (FAA)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	Suresh	WP	Abirami Kaliaperumal	<u>December 2024 to February 2025</u>	Associated with the expert in assessing existing water quality, studying impact of the project on surface and ground water quality, suggesting mitigation measures for minimizing impact	M. Suresh
		AP	Dhanalakshmi Ramanathan		Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	
2	S. Kamaraj	HG	Ashok Kumar Rajagopal	<u>December 2024 to February 2025</u>	Associated with Experts in studying hydrogeological pattern of study area, Studying ground water and the impact of the project on ground water	S. Kamaraj
3.	S.AsanAli	WP	Abirami Kaliaperumal	<u>December 2024 to February 2025</u>	Associated with the expert in assessing existing water quality, studying impact of the project on surface and ground water quality, suggesting mitigation measures for minimizing impact	S. Asan ali
		GEO	Valliappan Meyyappan		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	
		AP	Dhanalakshmi Ramanathan		Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	
		NV	Dhanalakshmi Ramanathan		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	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.M.VENKADESAN OVER AN EXTENT OF 2.30.50 HA LOCATED AT S.F.NOS.81/2 & 82/9A OF T.NALLALAM VILLAGE, MARAKKANAM TALUK, VILUPPURAM DISTRICT, TAMILNADU STATE.

					mines.	
4.	Mownica.B	AP	Dhanalaksh mi Ramanathan	<u>December20 24 to February 2025</u>	Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	Mownica.B
		NV	Dhanalaksh mi Ramanathan		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.	
5.	G.BalaSubra mani	GEO	Valliappan Meyyappan	<u>December20 24 to February 2025</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	G.BalaSubra
		NV	Dhanalaksh mi Ramanathan		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: 11693
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA),
TAMIL NADU)



Dated **01/03/2025**



To,

Thiur.VENKADESAN M
 No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Villupuram, VILLUPURAM, TAMIL
 NADU, 604301
 mvenkadesan89@gmail.com

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

Sir/Madam,

SEIAA, Tamil Nadu – Terms of Reference along with Public Hearing (ToR) for the Proposed Rough stone and Gravel Quarry Mining Lease Over an extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu by Thiru.M.Venkadesan - 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/517532/2025, Dated: 09/01/2025.
2. Your application submitted for Terms of Reference dated: 20.01.2025.
3. Minutes of the 532th Meeting of SEAC held on 13.02.2025.
4. Minutes of the 798th Meeting of Authority held on 26.02.2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO25B0108TN5867827N
(ii) File No.	11693
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Proposed Rough stone and Gravel Quarry of Thiru.M.Venkadesan
(viii) Name of Company/Organization	VENKADESAN M
(ix) Location of Project (District, State)	VILLUPURAM, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no

1. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1 (Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by SEIAA in the meeting held on 26/02/2025. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of Thiru.M.Venkadesan Projects and Infra Limited under the provisions of EIA Notification, 2006 and as amended thereof.
5. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6. The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7. This issues with the approval of the Competent Authority.
8. The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The 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. Assistant Director, Department of Geology & Mining, Viluppuram District.
10. EI Division, Ministry of Environment & Forests, Paryavaran 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	1. The EMP should cover the detailed restoration plan of the site. 2. The concerns of the public regarding the impacts of the mining activity on water bodies and agriculture shall be deliberated in detail during public hearing.

S. No	Terms of Reference

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 Boundary pillars to be erected as per the mine rules and the evidence should be submitted along with the EIA report. 3. Since waterbodies are situated nearby, the PP shall carry out the hydrological study including the details of waterflow pattern to determine the impacts of the mining operation in the waterbodies. 4. The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report. 5. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m & upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc. and spell out the mitigation measures to be proposed for the protection of the above structures, if any during the quarrying operations. 6. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 7. The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report. 8. 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. 9. The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures. 10. The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed. 11. The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report.

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

S. No	Terms of Reference
	(ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report. 6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site. 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of 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.

S. No	Terms of Reference
	· Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study. 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.

S. No	Terms of Reference
	28. Impact on local transport infrastructure due to the Project should be indicated. 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible. 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner. 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner 34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 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	<u>Cluster Management Committee</u> 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. <u>Agriculture & Agro-Biodiversity</u> 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. <u>Forests</u> 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. <u>Water Environment</u> 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.

S. No	Terms of Reference
	21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: - 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. <u>Energy</u> 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. <u>Climate Change</u> 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. <u>Mine Closure Plan</u> 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. <u>EMP</u> 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. <u>Risk Assessment</u> 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. <u>Disaster Management Plan</u> 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. <u>Others</u> 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

S. No	Terms of Reference
	all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics
1.6	Details about the land proposed for mining activities should be 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
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided

S. No	Terms of Reference
1.9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period
1.10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given
1.11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished
1.18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost

S. No	Terms of Reference
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given
1.23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect

S. No	Terms of Reference
	groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report
1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed
1.36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations
1.37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if

S. No	Terms of Reference
	any, occupational health impacts besides other impacts specific to the proposed Project
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area

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:

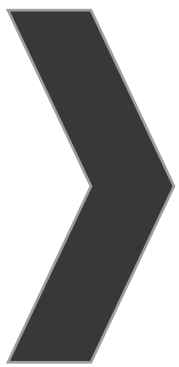
1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
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 OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.



ANNEXURE-2

ந.க.ஆ/புவி(ம)சுர/242/2024
நாள்: 04.12.2024

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை அலுவலகம்,
விழுப்புரம். 26 DEC 2024

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் மற்றும் கிராவல் - மரக்காணம் வட்டம் - டி.நல்லாளம் கிராமம் பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9A - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி திரு.வெங்கடேசன் த.பெ முருகேசன் என்பவர் விண்ணப்பம் செய்தது - குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்து அறிக்கை வரப்பெற்றது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

- பார்வை:**
1. திரு. வெங்கடேசன் த.பெ. முருகேசன், நெ.121, கீழண்ட தெரு, கீழ்சிவிரி கிராமம், மரக்காணம் வட்டம், விழுப்புரம் மாவட்டம் என்பவரின் விண்ணப்ப நாள்: 06.09.2024
 2. திண்டிவனம் சார் அவர்களின் கடிதம் ந.க.அ3/4935/2024 நாள்: 16.11.2024
 3. விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோர்களின் கூட்டுப் புலத்தணிக்கை அறிக்கை நாள்: 28.11.2024

விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், கீழ்சிவிரி கிராமம், நெ.121, கீழண்ட தெரு என்ற முகவரியில் வசிக்கும் திரு. வெங்கடேசன் த.பெ. முருகேசன் என்பவர், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுப்பது தொடர்பாக 1959-ம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி எண். 19(1)-ன்கீழ் குவாரிபணி செய்ய குவாரி குத்தகை உரிமம் வழங்கிட கோரி பார்வை 1-ல் கண்டவாறு விண்ணப்பம் சமர்ப்பித்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, திண்டிவனம் சார் ஆட்சியர், விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோரின் நேரடி விசாரணை மற்றும் பரிந்துரை அறிக்கை, சமர்ப்பிக்கப்பட்டுள்ள ஆவணங்கள் ஆகியவை பரிசீலனை செய்யப்பட்டதில், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பட்டா நிலத்தில் திரு. வெங்கடேசன் த.பெ. முருகேசன் என்பவருக்கு பத்தாண்டுகளுக்கு சாதாரணக்கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு குவாரி குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

H.G.



- i. குவாரி குத்தகை அனுமதி வழங்க கோரும் புலன்களுக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
- ii. குவாரி குத்தகை உரிமம் கோரும் புலன்களை சுற்றியுள்ள மின்கம்பி பாதைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விடப்பட வேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை 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, திண்டிவனம் சார் ஆட்சியர், விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோரின் நேரடி விசாரணை, பரிந்துரை அறிக்கை மற்றும் சமர்ப்பிக்கப்பட்டுள்ள ஆவணங்களின் அடிப்படையில், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் விண்ணப்பதாரர் திரு. வெங்கடேசன் த-பெ. முருகேசன் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க அ ரசு நிபந்தனைகளுக்குட்பட்டு பத்தாண்டுகளுக்கு குவாரி குத்தகை உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

அதன் அடிப்படையில், தமிழ்நாடு சிறு கனிம சலுகை விதிகள் 1959 விதி எண்.41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க கிட்டத்தினை தகுதிவாய்ந்த நபர் (QP) மூலமாக கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு தயாரித்து அதனை 90 தினங்களுக்குள் உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரரை கேட்டுக் கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-ன்படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மை சான்று பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

14.12

பு. இ. 17.7.77

நிபந்தனைகள்:-

- 2 -



- i. குவாரி குத்தகை அனுமதி வழங்க கோரும் புலன்களுக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
- ii. குவாரி குத்தகை உரிமம் கோரும் புலன்களை சுற்றியுள்ள மின்கம்பி பாறைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விடப்பட வேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.

26 DEC 2024
உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

14/12/24

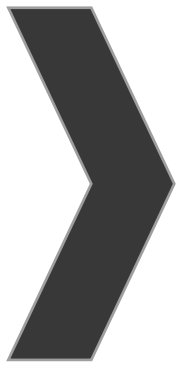
பெறுநர்:-

திரு. வெங்கடேசன்
த-பெ. முருகேசன்,
நெ.121, கீழண்ட தெரு,
கீழ்சிவிரி கிராமம்,
மரக்காணம் வட்டம்,
விழுப்புரம் மாவட்டம் - 604 301.

நகல்:-

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

14/12/24



ANNEXURE-3

From

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

To

Thiru. M.Venkadesan,
S/o. Murugesan,
No. 121, Keezhanda Street,
Kilsiviri Village,
Marakkanam Taluk,
Viluppuram District - 604 301.

Rc.No.B/G&M/242/2024, Dated:26.12.2024

Sub: Mines & Minerals - Minor Mineral - Rough Stone and Gravel - Viluppuram District - Marakkanam Taluk - T.Nallalam Village - S.F.No.81/2 - 1.90.0 and 82/9A-0.40.5 Over on extant 2.30.5 Hectare patta land - Application seeking quarry lease preferred by Thiru.M.Venkadesan S/o. Murugesan - Precise area communicated - Submission of mining plan for approval - Mining plan Approved - Regarding.

- Ref: 1. Quarry Application preferred by Thiru.M.Venkadesan S/o. Murugesan, No. 121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District - 604 301, Dated: 06.09.2024.
2. Assistant Director, Geology and Mining, Viluppuram Letter Rc.No.B/G&M/242/2024 Dated: 04.12.2024.
3. Mining Plan submitted by Thiru.M.Venkadesan S/o. Murugesan, No. 121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District - 604 301, Dated: 19.12.2024.

In response to the precise area communicated vide that S.F.No.81/2 - 1.90.0 and 82/9A- 0.40.5 Over on extant 2.30.5 Hectare of T.Nallalam Village, Marakkanam Taluk, Villupuram District as precise area for grant of quarry lease for quarrying rough stone and gravel for a period of 10 years to Thiru.M.Venkadesan S/o. Murugesan, with a direction produce on Mining Plan for approval and to obtain Environment Clearance in respect of the precise area as per Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2. Accordingly, the applicant has submitted the mining plan prepared by the Qualified Person for approval vide reference 3rd cited.

3. The draft mining plan submitted in respect of the precise area has been examined with reference to the provisions of Rule 41 of Tamil Nadu Minor Minerals Concession Rules, 1959 and the followings are observed.

- (i) The field boundaries geographical co-ordinates (GPS readings) for the entire boundary corners 12 Nos) of the area have been incorporated and shown in the mining plan.



- (ii) All the conditions stipulated in the Assitant Director, Geology and Mining, Viluppuram letter RC.No.B/G&M/242/2024
Dated: 04.12.2024
- (iii) The available geological and minable reserves as follows.

Depth in Mts.	Geological reserves in Cu.m.	Minalbe Reserves in Cu.m.
27m below ground level	Rough stone : 5,75,150 Gravel : 46,012	Rough stone : 2,23,770 Gravel : 34,272

4. In the above details, in exercise of the powers confirmed under Rule 14(7) of Tamil Nadu Minor Mineral Concession Rules, 1959 the mining plan in respect of Rough stone and gravel quarry to Thiru.M.Venkadesan S/o. Murugesan is approved subject to the following conditions:-

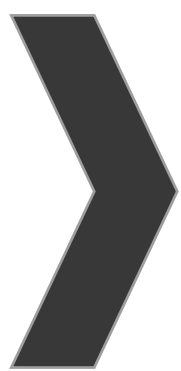
- (i) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (ii) This approval of the mining plan does not in any way imply the approval of the Government 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.

Encl: Two copies of Approved Mining Plan.

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

Copy to:-

1. The Commissioner of Geology and Mining, Chennai-32.
2. The Chairman, State Level Environment Impact Assessment Authority,
3rd Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chenna-15.



APPROVAL MINING PLAN

MINING PLAN FOR T.NALLALAM ROUGH STONE & GRAVEL QUARRY

(Prepared under rule 19(1), 41 & 42 of Tamil Nadu
Minor Mineral Concession Rules, 1959)



LOCATION OF THE QUARRY LEASE APPLIED AREA

STATE : TAMIL NADU
DISTRICT : VILUPPURAM
TALUK : MARAKKANAM
VILLAGE : T.NALLALAM
S.F.NOS : 81/2 AND 82/9A
EXTENT : 2.30.5Ha

ECO-FRIENDLY



SUSTAINABILITY



SAFETY



FOR APPLICANT

Thiru.M.Venkadesan,
S/o.Murugesan,
No.121, Keezhanda Street,
Kilsiviri Village, Marakkanam Taluk,
Viluppuram District-604 301.

PREPARED BY

C.Natarajan, M.Sc.,M.Phil.,
Qualified Person
No.93/36E2, Subramaniyar Kovil Street,
Omalur Taluk, Salem District, Tamil Nadu,
Pin code-636 455.
Mobile: 97502 23535 & 94446 54520.



(PPE)

M.Venkadesan,
S/o.Murugesan,
No.121, Keezhanda Street,
Kilsiviri Village, Marakkanam Taluk,
Viluppuram District-604 301.



CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 2.30.5hectares of Patta lands in S.F.Nos. 81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram 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, Viluppuram 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 code-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

M.Venkadesan

Place: Viluppuram

Date: 05.12.2024

M.Venkadesan,
S/o.Murugesan,
No.121, Keezhanda Street,
Kilsiviri Village, Marakkanam Taluk,
Viluppuram District-604 301.



DECLARATION

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 2.30.5hectares of Patta lands in S.F.Nos.81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram 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

M.Venkadesan

Place: Viluppuram

Date: 05.12.2024

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

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,
Omalur Taluk, Salem District,
Tamil Nadu, Pin code-636 455.
Mobile:97502 23535 & 94446 54520.



CERTIFICATE

This is to certify that, the provisions of under rules 41 & 42 as Amended in under Tamil Nadu Minor Mineral Concession Rules, 1959, have been observed in the Mining Plan for the grant of **Rough Stone and Gravel** quarry lease over an extent of 2.30.5hectares of Patta lands in S.F.Nos.81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State applied by Thiru.M.Venkadesan, 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

Place: Salem

Date: 06.12.2024

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



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

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin code-636 455.

Mobile:97502 23535 & 94446 54520.

26 DEC 2024

CERTIFICATE

Certified that, in preparation of Mining Plan for **Rough Stone and Gravel** quarry over an extent of 2.30.5hectares of Patta lands in S.F.Nos.81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District, Tamil Nadu State for Thiru.M.Venkadesan, 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

Place: Salem

Date: 06.12.2024

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

Qualified Person

CERTIFICATE



Certified that I, C.Natarajan, residing at No.93/36 E2, Subramaniyar 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 Rough Stone and Gravel quarry lease applied for an extent of 2.30.5hectares of Patta land in S.F.Nos. 81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District, by Thiru.M.Venkadesan, for a period of Ten 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

Place: Salem

Date: 06.12.2024

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

CONTENTS

S. No.	Description	Page No.
1.0	Introduction	1
2.0	General Information	5
3.0	Location	6
4.0	Geology and Mineral Reserves	8
5.0	Mining	11
6.0	Blasting	15
7.0	Mine Drainage	16
8.0	Other Permanent Structures	17
9.0	Employment Potentials & Welfare Measures	18
10.0	Environment Management Plan	20
11.0	Mine Closure Plan	23
12.0	Any Other Details Intend to furnish by the Applicant	24



ANNEXURE

S. No.	Description	No.
1.0	Precise Area Communication letter issued by the Assistant Director, Department of Geology and Mining,	
2.0	Copy of FMB	II
3.0	Copy of Village map	III
4.0	Copy of Patta	IV
5.0	Copy of Adangal	V
6.0	Copy of A Register	VI
7.0	Copy of Identity Proof	VII
8.0	Copy of QP Certificate	VIII

LIST OF PLATES

S. No.	Description	Plate No.
1.0	Location Plan	I
2.0	Environmental Plan	I-A
3.0	Satellite imagery map	I-B
4.0	Topo sketch of Quarry lease applied area for 10Km Radius	I-C
5.0	Key Plan	I-D
6.0	Quarry lease & Surface plan	II
7.0	Topography, Geological Plan & Sections	III
8.0	Mineable Plan & Sections	IV
9.0	Year wise Development and Production Plan & Sections	V
10.0	Second five Year Wise Development & Production Plan & Sections	VA
11.0	Progressive Quarry Closer Plan & Sections	VI
12.0	Conceptual Plan & Sections	VII

MINING PLAN FOR MINOR MINERALS

ROUGH STONE AND GRAVEL

Over an extent of 2.30.5 hectares of Patta land in S.F.Nos. 81/2 and 82/9A of

T.Nallalam Village, Marakkanam Taluk, Viluppuram District,

Tamil Nadu State.

(PREPARED UNDER RULE 19(1), 41 and 42 OF TNMMCR 1959)

1.0 Introduction and Executive Summary:

1. The present Mining Plan is prepared for Thiru.M.Venkadesan, S/o.Murugesan, residing at No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District-604 301.
2. The application was processed by the Assistant Director, Department of Geology and Mining, Viluppuram, and passed an order vide Rc.No. A/G&M/242/2024 dated 04.12.2024. directing the applicant to produce approved Mining Plan under Rule 41(5) of the Tamil Nadu Minor Mineral Concession Rules, 1959 and Environmental Clearance Certificate under Rule 42 from the State Level Environmental Impact Assessment Authority (SEIAA) for the grant of quarry lease to quarry **Rough Stone and Gravel** over an extent of 2.30.5 hectares of Patta lands in S.F.Nos.81/2 and 82/9A of T.Nallalam Village, Marakkanam Taluk, Viluppuram District of Tamil Nadu State for a period of ten years.
3. Accordingly, Mining Plan is prepared under the provisions of rule 19(1), 41 and 42 as per the amendments under Tamil Nadu Minor Mineral Concession Rules, 1959 by incorporating following the conditions imposed in the precise area communication letter.
 - a) A safety distance of 7.5m should be provided to the adjacent patta lands and safety distance of 10m should be provided to government poramboke land while quarrying operation.



- b) A safety distance of 50m should be provided to the EB Lines to surrounding the quarry lease applied area.
 - c) The applicant should not cause any hindrance to adjoining government poramboke lands and patta lands while quarrying operations.
 - d) The applicant should be submit DGPS survey report before the grant of quarry lease.
4. Geological Resources is estimated at 5,75,150m³ of Rough stone and 46,012m³ of gravel formation and Mineable Reserves is estimated at 2,23,770m³ of Rough Stone and 34,272m³ of gravel formation and after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force.
 5. The production schedule is proposed production of 2,00,025m³ of Rough Stone, 34,272m³ of gravel formation for the period of first five years upto a depth of 27m below ground level and remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five years.
 6. The applicant ensured that, child labours under 18 years of age will not be engaged for quarrying operation.
 7. The applicant ensure that will appoint should have valid certified persons (Mines Manager, Foreman, Mate) during quarrying operation.
 8. Environmental parameters,
 - i) The area does not attract the Forest Conservation Act, 1980 as there is no forest around 3.3km radius.
 - ii) There is no interstate boundary around 10Kms radius.
 - iii) There is no wild life animal sanctuary within 10Kms 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).



9. Environmental measures to be adopted shall be,

- i) Dust Control at source while drilling and blasting,
- ii) Dust suppression at loading point and transport haul roads,
- iii) Noise Control in blasting, control of fly rock missiles and vibration by doing peak particle velocity with in standard as prescribed by the DGMS and MOEF.
- iv) Unnecessary land degradation should be avoided or damaged land should be reclaimed or rehabilitated.
- v) Avoid uneven rat hole mining and follow scientific and systematic mining by safe bench system of open cast mining.
- vi) Mining near major fracture zones if any should be avoided to control ground water fluctuation in the adjacent agricultural lands.
- vii) Emission test of vehicles should be in tack to maintain minimum emission level of flue gases.
- viii) Noise level should not exceed 80db and the vehicles should use only permitted Air Horn while on road near residential areas.
- ix) Safety zones as prescribed by the Department of Geology and Mining from adjacent infrastructures should be strictly adhere to.
- x) And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.



EXECUTIVE SUMMARY:

a.	Name of the Village Panchayat	:	T.Nallalam
b.	Name of the Panchayat Union	:	Marakkanam
c.	The proposed total Movable Reserves	:	2,23,770m ³ of Rough Stone, 34,272m ³ of gravel formation
d.	The proposed quantity of reserves (level of production) for Five years to be mined is (Recoverable reserves)	:	2,00,025m ³ of Rough Stone, 34,272m ³ of gravel formation
e.	Total extent of the area	:	2.30.5Ha
f.	Proposed Period of mining	:	Five Years
g.	Existing depth	:	It is fresh quarry lease applied area
h.	Proposed Depth of mining	:	27m below ground level for the proposed mining plan.
i.	Method of mining/level of mechanization	:	Opencast, Semi-mechanized Mining with a bench height of 5m and bench width of 5m is proposed.
j.	Types of Machineries used in the quarry	:	Machineries like Tractor mounted compressor attached with Jack hammers, Excavators are proposed to deploy for quarrying operation.
k.	Cost of the Project A. Fixed Assets Cost B. Operational Cost C. EMP Cost		Rs.16,83,000/- Rs. 62,00,000/- Rs. 5,70,000/- Total Project cost(A+B+C)= Rs. 84,53,000/-

- l. The area applied for lease is bounded by twelve corners and the coordinates are clearly marked in plate no II.

Corners	Co-ordinates		Distance between the corners
	Latitude	Longitude	
1	12° 11' 14.15"N	79° 45' 34.45"E	1-2 = 67.8m
2	12° 11' 16.19"N	79° 45' 35.32"E	2-3 = 30.2m
3	12° 11' 16.37"N	79° 45' 34.34"E	3-4 = 161.6m
4	12° 11' 21.49"N	79° 45' 35.56"E	4-5 = 19.4m
5	12° 11' 21.41"N	79° 45' 36.19"E	5-6 = 78.0m
6	12° 11' 23.94"N	79° 45' 36.32"E	6-7 = 47.4m
7	12° 11' 24.76"N	79° 45' 37.65"E	7-8 = 59.2m
8	12° 11' 23.99"N	79° 45' 39.45"E	8-9 = 66.6m
9	12° 11' 22.00"N	79° 45' 38.58"E	9-10 = 17.0m
10	12° 11' 22.13"N	79° 45' 38.03"E	10-11 = 194.6m
11	12° 11' 15.86"N	79° 45' 37.12"E	11-12 = 66.0m
12	12° 11' 13.78"N	79° 45' 36.59"E	12-1 = 65.6m

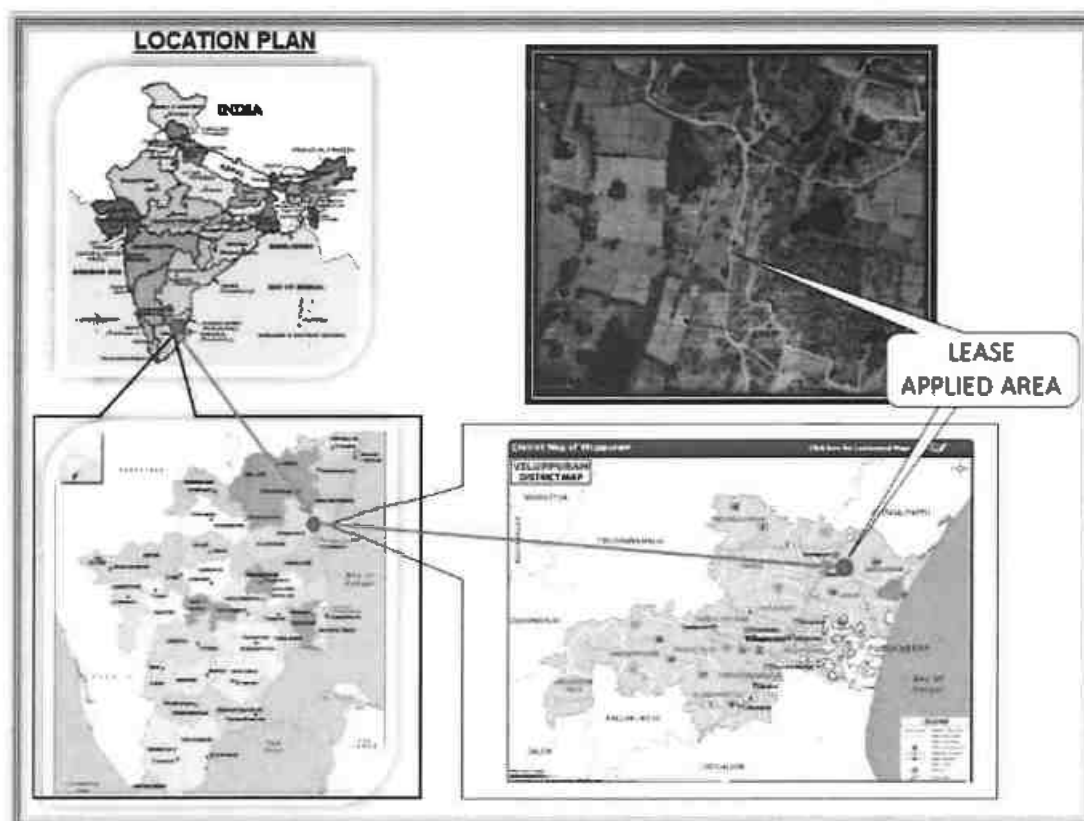


2.0 General Information:

2.1	a.	Name of the Applicant	:	Thiru.M.Venkadesan,
	b.	Address of the Applicant with phone No and e-mail id if any	:	S/o.Murugesan, No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District-604 301 Cell No.:9943454858
	c.	Status of the Applicant	:	Individual
2.2	a.	Mineral Which the applicant intends to mine	:	Rough Stone and Gravel.
	b.	Precise area communication letter No.	:	Precise area communication letter received from the Assistant Director, Department of Geology and Mining, Viluppuram, vide Rc.No.A/G&M/242/2024 dated 04.12.2024.
	c.	Period of permission / lease granted	:	The Assistant Director, Department of Geology and Mining, Viluppuram, has grant of lease period for ten years .
	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.

3.0 Location:

S.No	Details of the Area:	
1	Corner Coordinates	Latitude: 12°11'13.78"N to 12°11'24.76"N Longitude: 79°45'34.34"E to 79°45'39.45"E
2	Toposheet Number	57- P/16
3	The altitude of the area	65m (MSL)
4	Extent	2.30.5Ha
5	Survey Nos	81/2 and 82/9A
6	Village	T.Nallalam
7	Taluk	Marakkanam
8	District	Viluppuram
9	State	Tamil Nadu





a.	Classification of the Area (Ryotwari / poramboke / others)	:	Patta land
b.	Ownership / Occupancy of the Applied area (Surface rights)	:	It is patta land registered in the name of Applicant vide patta nos.2380 and 2277, Please refer Annexure No: IV.
c.	Toposheet No. with Latitude and Longitude	:	Topo Sheet No: 57-P/ 16 Latitude: 12°11'13.78"N to 12°11'24.76"N Longitude: 79°45'34.34"E to 79°45'39.45"E
d.	Existence of Public Road / Railway line if any nearby the area and approximate distance	:	There is an existing road from the area leads to Kiliyanur - Vellakulam village road on eastern side of the area. The Nearest Railway line is Viluppuram to Chennai line which is about 12Km on northwestern side of the area.



SATELLITE IMAGERY OF THE LEASE APPLIED AREA



TOPOGRAPHICAL VIEW OF LEASE APPLIED AREA

Fig. Location of the lease applied area



PART - A

4.0 Geology and Mineral Reserves:

4.1	a. Topography :	➤ The area applied for quarry lease exhibits almost plain topography covered by Gravel formation. The massive Charnockite formation is noticed below 2m (Avg) Gravel formation and sloping towards southeastern side of the area, the altitude of the area is above 65m (maximum) from MSL. ➤ No major river is found nearby the lease applied area. ➤ Water table is found at a depth of 68m in summer and 65m in rainy seasons. ➤ Temperature of the area is reported to be 18°C to a maximum of 42°C during summer. ➤ Rainfall of this area is about 800mm to 900 mm during the both NE & SW monsoons.
	b. General Geology of the Area :	The area is underlain by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places. 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 rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high grade metamorphic rock. The strike of the Charnockite formation is N45°E -S45°W with dipping towards SE80°. The general geological succession of the area is given as under.

M. S.



			AGE Recent Archaeal	ROCK TYPE Gravelly soil Unconformity Dolerite dyke Charnockite. Peninsular Gneissic complex and Calc Gneiss
4.2		Details of Exploration already carried out if any	:	No exploration was carried out, as the Rough stone formations are clearly visible from adjacent existing quarry pit.
4.3	a.	Estimation of Reserves	:	The Geological and Recoverable reserves are estimated by cross sectional method. Totally five sections have been drawn, one section drawn length wise as (X-Y), and another four sections drawn width wise as (A-B), (C-D), (E-F) and (G-H) to cover maximum area considered for lease. The Plans and Sections have been drawn with a scale of 1:1000 and 1:500 respectively. Please refer plate No.III.

a. Geological Resources

The quarrying is restricted up to a depth of 27m below ground level only, availability of resources is given below.

Table -1

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Gravel in m ³	Geological Resources of Rough stone in m ³
XY-AB	I	67	77	2	10318	10318	
	II	67	77	5	25795		25795
	III	67	77	5	25795		25795
	IV	67	77	5	25795		25795
	V	67	77	5	25795		25795
	VI	67	77	5	25795		25795
	Total					10318	128975
XY-CD	I	46	53	2	4876	4876	
	II	46	53	5	12190		12190
	III	46	53	5	12190		12190
	IV	46	53	5	12190		12190
	V	46	53	5	12190		12190
	VI	46	53	5	12190		12190
	Total					4876	60950

Handwritten signature



XY-EF	I	148	76	2	22496	22496	
	II	148	76	5	56240		56240
	III	148	76	5	56240		56240
	IV	148	76	5	56240		56240
	V	148	76	5	56240		56240
	VI	148	76	5	56240		56240
Total					22496		281200
XY-GH	I	73	57	2	8322	8322	
	II	73	57	5	20805		20805
	III	73	57	5	20805		20805
	IV	73	57	5	20805		20805
	V	73	57	5	20805		20805
	VI	73	57	5	20805		20805
Total					8322		104025
Grand Total					46012		575150

Gravel Formation : 46,012m³

The Geological Resources of Rough stone : 5,75,150m³

b. Mineable Reserve

The mineable reserve calculated by deducting 7.5m, 10m and 50m safety distance and bench loss.

Table No-2

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Gravel in m ³	Mineable Reserves of Rough stone in m ³
XY-AB	I	60	62	2	7440	7440	
	II	58	58	5	16820		16820
	III	53	48	5	12720		12720
	IV	48	38	5	9120		9120
	V	43	28	5	6020		6020
	VI	33	18	5	2970		2970
Total					7440		47650
XY-CD	I	46	38	2	3496	3496	
	II	46	34	5	7820		7820
	III	46	24	5	5520		5520
	IV	46	14	5	3220		3220
Total					3496		16560
XY-EF	I	148	61	2	18056	18056	
	II	148	57	5	42180		42180
	III	148	47	5	34780		34780
	IV	148	37	5	27380		27380
	V	148	27	5	19980		19980
	VI	138	17	5	11730		11730
Total					18056		136050
XY-GH	I	66	40	2	5280	5280	
	II	64	36	5	11520		11520
	III	59	26	5	7670		7670
	IV	54	16	5	4320		4320
Total					5280		23510
Grand Total					34272		223770

The mineable reserve is computed as 2,23,770m³ of Rough stone and 34,272m³ of Gravel formation upto a depth 27m below ground level only.



5.0 Mining:

5.1	Method of Mining	:	1. Opencast method of semi mechanized mining with 5.0m height 5m width of the bench. 2. However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106(2) (b) as above is seldom[possible due to various inherent petrogenetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of mines safety for which necessary provision is available with the regulation 106 (2) (b) of MMR-1961, under Mine Act-1952.
5.2	Mode of Working	:	The rough stone is proposed to quarry 5m bench height, 5m width with conventional opencast semi-Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough stone to the needy crushers/other buyers. The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining. Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers/other buyers. Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast semi mechanized method of mining.
5.3	Proposed bench height & Width	:	Quarrying of Rough Stone is proposed bench height of 5m and bench width of 5m.

M. A.



5.4	Details of Overburden / Mineral Production proposed for the first 5 years.	:	The overburden in the form of Gravel, after the excavation of Gravel and Rough stone will be directly loaded into tipper to the needy crushers/other buyers for road project and construction works for filling and leveling of low lying areas.

The Yearwise Production and Development Table

Table No -3

Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m³	Gravel in m³	Mineable reserve of Rough stone in m³
I	XY-AB	I	60	62	2	7440	7440	
		II	58	58	5	16820		16820
		III	53	48	5	12720		12720
	XY-CD	I	35	38	2	2660	2660	
		II	35	34	5	5950		5950
		III	35	24	5	4200		4200
	Total						10100	39690
II	XY-CD	I	11	38	2	836	836	
		II	11	34	5	1870		1870
		III	11	24	5	1320		1320
	XY-EF	I	71	61	2	8662	8662	
		II	71	57	5	20235		20235
		III	71	47	5	16685		16685
	Total						9498	40110
III	XY-EF	I	77	61	2	9394	9394	
		II	77	57	5	21945		21945
		III	77	47	5	18095		18095
	XY-GH	I	66	40	2	5280	5280	
	Total						14674	40040
IV	XY-GH	II	64	36	5	11520		11520
		III	59	26	5	7670		7670
		IV	54	16	5	4320		4320
	XY-EF	IV	90	37	5	16650		16650
	Total							40160
V	XY-EF	IV	58	37	5	10730		10730
		V	59	27	5	7965		7965
	XY-CD	IV	46	14	5	3220		3220
	XY-AB	IV	48	38	5	9120		9120
		V	43	28	5	6020		6020
		VI	33	18	5	2970		2970
	Total							40025
Grand Total							34272	200025

The applicant has proposed to carry out 2,00,025m³ of Rough stone and 34,272m³ of Gravel formation upto a depth of 27m below ground level for the period of first five years and remaining quantity of 23,745m³ of Rough Stone will be proposed for the period of second five year.

(Signature)



The proposed tentative yearwise production for 6th to 10th year is given below

Table No-4

Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m³	Mineable reserve of Rough stone in m³
VI	XY-EF	V	35	27	5	4725	4725
	Total						4725
VII	XY-EF	V	35	27	5	4725	4725
	Total						4725
VIII	XY-EF	V	19	27	5	2565	2565
		VI	26	17	5	2210	2210
	Total						4775
IX	XY-EF	VI	56	17	5	4760	4760
	Total						4760
X	XY-EF	VI	56	17	5	4760	4760
	Total						4760
Grand Total							23745

5.5	Machineries to be used		
a.	Drilling	:	It is proposed to use following machineries for quarrying rough stone
	S.No	Type	Nos
	1	Jack hammer	3
	2	Compressor	1
b.	Loading	:	Excavator of 0.90m ³ bucket capacity (with Rock breaker attachment) (2No).
c.	Transportation	:	Tipper 4Nos (5/10Ts) capacity.
5.6	Disposal of Overburden	:	The overburden in the form of Gravel, after the excavation gravel will be directly loaded into tipper to the needy buyers for road project and construction works for filling and leveling of low lying areas.

M.H



5.7	Brief Note on Conceptual Mining Plan for the entire lease period	Conceptual Mining Plan is prepared with an object of ten years of systematic development of bench lay outs, selection of ultimate pit limit, depth of quarrying, ultimate pit slope, selection of sites for construction of infrastructures etc. Ultimate pit size is designed based on certain practical factors such as the economical depth of mining, safety zones, permissible areas etc. Ultimate Pit dimension is <table><tr><th colspan="4">Ultimate Pit dimension (M) end of Mining plan Period</th></tr><tr><th>Pit No</th><th>Length (max) in (m)</th><th>Width (Avg) in (m)</th><th>Depth(max) in(m)</th></tr><tr><td>I</td><td>320</td><td>54</td><td>27</td></tr></table> <table><tr><th colspan="4">Ultimate pit dimension End of the lease period</th></tr><tr><th>Pit No</th><th>Length (max) in (m)</th><th>Width (Avg) in (m)</th><th>Depth(max) in(m)</th></tr><tr><td>I</td><td>320</td><td>54</td><td>27</td></tr></table> Afforestation has been proposed on all along the boundary barrier by planting trees. All the baseline information studies like Air Quality monitoring, Noise and Vibration monitoring, Water Analysis studies will be carried out every year as per the MOEF norms.	Ultimate Pit dimension (M) end of Mining plan Period				Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)	I	320	54	27	Ultimate pit dimension End of the lease period				Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)	I	320	54	27
Ultimate Pit dimension (M) end of Mining plan Period																										
Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)																							
I	320	54	27																							
Ultimate pit dimension End of the lease period																										
Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)																							
I	320	54	27																							

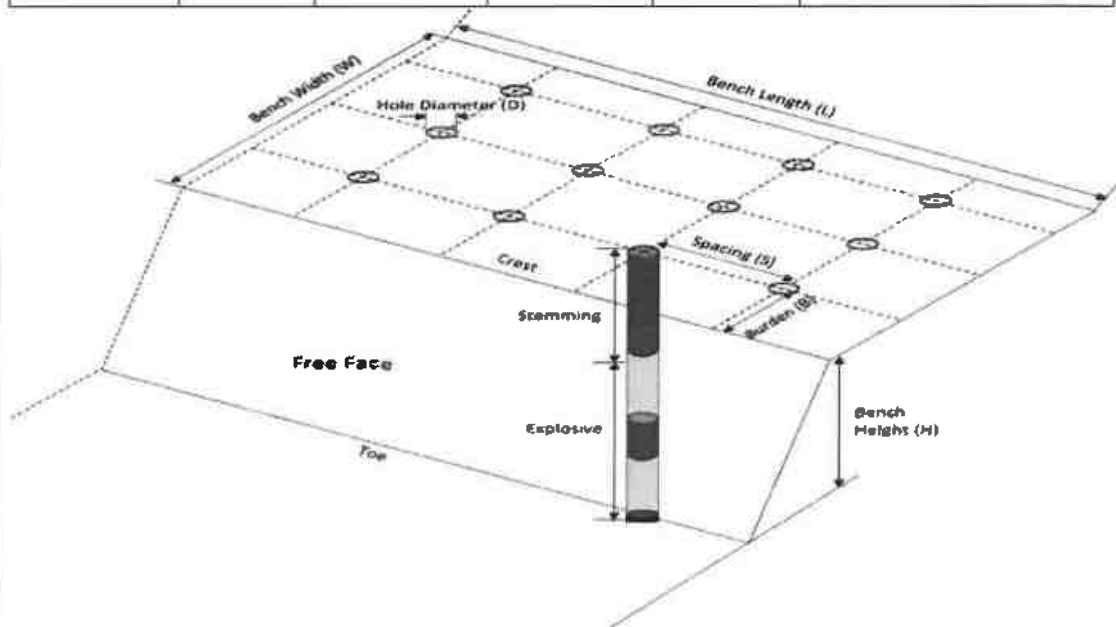
M. G.



6.0 Blasting:

- 6.1 Blasting Pattern : The massive formation shall be broken into pieces of portable size by drilling and blasting using jack hammers and shot hole blasting. Powder factor of explosives for breaking such hard rock shall be in the order of 6 to 7 Tonnes per K.g of explosives. Blasting parameters are as follows.

Diameter of the hole	Spacing	Depth	Burden for hole	Pattern of hole	Inclination of hole
32-36mm	0.6m	1 to 1.5m	0.6m	Zig Zag	70° from the horizontal



- 6.2 Types of Explosives : Small dia, 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No deep hole drilling or primary blasting is proposed.



6.3	Measures proposed to minimize ground vibration due to blasting	➤ Controlled blasting measures will be adopted for minimizing ground vibration and fly rock. ➤ Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly rock. <table><tr><td>Number of holes</td><td>: 116</td></tr><tr><td>Powder factor</td><td>: 6Ts/Kg of explosives</td></tr><tr><td>Total explosive required</td><td>: 58Kg slurry explosives</td></tr><tr><td>Charge / hole</td><td>: 0.5Kg</td></tr><tr><td>Blasting time</td><td>: 12-2 Pm</td></tr></table>	Number of holes	: 116	Powder factor	: 6Ts/Kg of explosives	Total explosive required	: 58Kg slurry explosives	Charge / hole	: 0.5Kg	Blasting time	: 12-2 Pm
Number of holes	: 116											
Powder factor	: 6Ts/Kg of explosives											
Total explosive required	: 58Kg slurry explosives											
Charge / hole	: 0.5Kg											
Blasting time	: 12-2 Pm											
6.4	Storage of Explosives and safety measures to be taken while blasting.	➤ The applicant will engage an authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/ mines manager. ➤ <i>The applicant ensure that will appoint the Mate (Should have Valid Blaster Certificate) during Blasting Operation.</i>										

7.0 Mine Drainage:

7.1	Depth of Water table	: The ground water table is reported as 68m below ground level. In the proposed mining plan only 27m (below ground level) depth 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.
7.2	Arrangement and Places where the mine water is finally proposed to be discharged	: The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300lpm and it shall be pumped about periodically by a stand by diesel powered Centrifugal pump motivated with 7.5H.P.Motor. The quality of water is potable and it is not contaminated with any hazardous things. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water stored in the old pit will also be used for plantation purposes

M. G.



8.0 Other Permanent Structures:

8.1	Habitations / Village	:	There are no habitations within a radius of 300m.
8.2	Power lines (HT/LT)	:	There is no Power line (HT/LT) passing within a radius of 50m.
8.3	Water bodies (River, Pond, Lake, Odai, Channel etc)	:	There is seasonal odai passing on western side and is 50m safety distance maintained from odai.
8.4	Archeological / Historical Monuments	:	There are no Archaeological / Historical Monuments within a radius of 300m.
8.5	Road (NH, SH, Village Road etc)	:	The National Highway (NH-32) Chennai - Thoothukudi is about 6.9km on southwest side of the area. The State Highway (SH-134) Tindivanam - Marakkanam is about 1.3Km on north side of the area.
8.6	Places of Worship	:	There are no Places of Worship within a radius of 50m.
8.7	Reserved Forest / Forest / Social Forest / Wild Life Sanctuary etc.,	:	There is no Reserved Forest / Wild Life Sanctuary etc., within a radius of 1Km.
8.8	Any Interstate Border, Protected areas under the Wild Life (Protection) Act, 1972, Critically Polluted Areas as Identified by Central Pollution Control Board and Notified Eco sensitive areas	:	There are No inter State border within a radius of 10Kms.
8.9	Any Other Structures	:	Nil

M. [Signature]

9.0 Employment Potential & Welfare Measures:		26 DEC 2024																													
9.1	Employment Potential (Management & Supervisory personal)																														
	The proposed organization chart <pre> graph TD QO[QUARRY OWNER] --> S[SKILLED] QO --> SS[SEMI-SKILLED] QO --> U[UNSKILLED/LABOUR] S --> MM[Mines Manager /Foreman] SS --> D[Driver] MM --> MO[Mate/Operator/ Musdoor] MO --> M[Mechanic] </pre> <table border="1"> <tr> <td>1.</td> <td>Skilled</td> <td>Mines Manager</td> <td>1 No.</td> </tr> <tr> <td></td> <td></td> <td>Foreman / Mate</td> <td>2 No.</td> </tr> <tr> <td></td> <td></td> <td>Operator</td> <td>8No.</td> </tr> <tr> <td></td> <td></td> <td>Mechanic</td> <td>1 No.</td> </tr> <tr> <td>2.</td> <td>Semi-skilled</td> <td>Driver</td> <td>4 No.</td> </tr> <tr> <td>3.</td> <td>Unskilled</td> <td>Labours</td> <td>13Nos</td> </tr> <tr> <td colspan="3"></td> <td>Total = 29Nos</td> </tr> </table> Allowing 10% absentee, the no. of men of roll will be around 26. The above man power is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply the statutory provisions of Mines Safety Regulations. ➤ It is been ensured that, child labours under 18 years of age will not be engaged for quarrying operation. ➤ Necessary life insurance policies will be taken by the applicant to all the employees up to the end of the lease period.			1.	Skilled	Mines Manager	1 No.			Foreman / Mate	2 No.			Operator	8No.			Mechanic	1 No.	2.	Semi-skilled	Driver	4 No.	3.	Unskilled	Labours	13Nos				Total = 29Nos
1.	Skilled	Mines Manager	1 No.																												
		Foreman / Mate	2 No.																												
		Operator	8No.																												
		Mechanic	1 No.																												
2.	Semi-skilled	Driver	4 No.																												
3.	Unskilled	Labours	13Nos																												
			Total = 29Nos																												
9.2	Welfare Measures																														
	a.	Drinking Water	: Packaged drinking water is available from the nearby approved water vendors in Bramadesam village which is about 2.0km on northeast side of the area.																												



b.	Sanitary facilities	:	Semi-permanent latrines & urinals shall be maintained at convenient places for use of labours as per the provisions of Rule (33) of the Mines Rules, 1960 separately for males and females. Washing facilities shall also be arranged as per rule (36) of the Mines Rules, 1960.
c.	First Aid Facility	:	First aid kits are kept in Mines office room, in case of such eventualities the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 12Km (NW) in Tindivanam the competent and Statutory foreman/ permit manager will be in charge of first aid.
d.	Labour Health	:	As per Mines Rule, Periodic medical examination related to occupational health safety will be conducted to all the workers in applicant's own cost.
e.	Precautionary safety measures to the Labourers:		
	Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc., have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation. Necessary training will be conducted once in a year to all the employees with the help of qualified and experienced officers to train about the safe and systematic quarrying operation.		

M. Sub



PART - B

10.0 Environmental Management Plan:

10.1	Existing Land Use Pattern	: 1. The area exhibits almost plain topography covered by Gravel formation. 2. Quarrying operation is proposed up to a depth of 27m (below ground level) for the proposed mining plan period. 3. Fluctuation of Water table in this area is in between 68m and 65m during a year. 4. This region receives the average annual rainfall of 800mm to 900mm. The surrounding area is practiced by the seasonal cultivation. The existing land use pattern is given as under. Table No-5 <table><tr><th>Sl. No.</th><th>Land Use</th><th>Present Area (Ha)</th><th>Area in use during the quarrying period (Ha)</th></tr><tr><td>1.</td><td>Quarrying Pit</td><td>Nil</td><td>1.73.0</td></tr><tr><td>2.</td><td>Infrastructure</td><td>Nil</td><td>0.01.0</td></tr><tr><td>3.</td><td>Roads</td><td>Nil</td><td>0.01.0</td></tr><tr><td>4.</td><td>Green Belt</td><td>Nil</td><td>0.55.5</td></tr><tr><td>5.</td><td>Unutilized</td><td>2.30.5</td><td>Nil</td></tr><tr><td></td><td>Total =</td><td>2.30.5</td><td>2.30.5</td></tr></table>	Sl. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)	1.	Quarrying Pit	Nil	1.73.0	2.	Infrastructure	Nil	0.01.0	3.	Roads	Nil	0.01.0	4.	Green Belt	Nil	0.55.5	5.	Unutilized	2.30.5	Nil		Total =	2.30.5	2.30.5
Sl. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)																											
1.	Quarrying Pit	Nil	1.73.0																											
2.	Infrastructure	Nil	0.01.0																											
3.	Roads	Nil	0.01.0																											
4.	Green Belt	Nil	0.55.5																											
5.	Unutilized	2.30.5	Nil																											
	Total =	2.30.5	2.30.5																											
10.2	Water Regime	: Water table in this area is noticed at a depth of 68m and presently, in the proposed mining plan only 27m (below ground level) depth has been envisaged as workable depth for safe & economic quarrying for the entire lease period. hence, it will not affect the ground water depletion of this area.																												
10.3	Flora and Fauna	: Except acacia bushes, no other valuable trees are noticed in the applied area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.																												
10.4	Climatic conditions	: Generally subtropical climatic condition prevails throughout the year and there is no sharp variation in climate. This District receives rain both in south west and north east monsoon. The average rainfall is about 800mm to 900mm and the temperature ranges from 18°C during winter and to a maximum of 42°C during the summer.																												

14.12



10.5	Human Settlement	:	The nearest habitations with the population is given as under.
Table No-6			
S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Bramadesam	2.0km - NE	800
2.	T.Nallalam	2.2km - NW	600
3.	Olagapuram	3.0km - SE	700
4.	Kilsiviri	1.4km - SW	500
10.6	Plan for Air, Dust Suppression	:	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc., will be suppressed by periodical wetting of land by water spraying. Wet drilling and dust extractor arrangements will be provided to drilling units so as to control raise of dust from the site of drilling. Operators, those exposed directly to such conditions will be provide such protective equipment like mask, ear plug, helmet, gloze etc., as per the Mines Act.
10.7	Plan for Noise Control	:	Quarrying of Rough Stone will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out to check the noise level in and around the quarry site. Nowhere the noise level should exceed the permissible limit of 80db during the quarry working hours.
10.8	Environmental Impact Assessment Statement Describing Impact on mining on the next Five years	:	The mining plan proposed is for a small production of Rough stone without involving deep hole drilling and heavy 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, anyhow environmental impact studies will be conducted as per EIA notification issued by MOEF.



10.9	Proposal for Waste Management	:	There is no waste anticipated in this rough stone quarry operation.
10.10	Proposal of Reclamation of Land affected during mining activities and at the end of mining.	:	In the proposed mining plan 27m (below ground level) depth has been envisaged as workable depth for safe & economic mining during the lease period. Hence, after quarry reaches ultimate pit limit (for this lease period) of 27m depth, fencing will be constructed around the quarried pits to prevent inherent entry of the public and cattle.
10.11	Program for Afforestation	:	The 7.5m, 10m and 50m safety distance along the lease boundary has been identified to be utilized for afforestation. Appropriate native species of Neem/Pungan trees will be planted in the first year. Nearly 5550 Sqm area is proposed to use under afforestation by planting 666nos of Neem/Pungan trees during first year with an anticipated survival rate of 80%. The Quarry landuse, layout and afforestation plan is shown in Plate No.V.
10.12	Proposed Financial Estimate / Budget for (EMP) Environment Management		
	A. Fixed Asset Cost:		
	1. Land Cost (600000/1Ha)=		Rs. 13,83,000
	2. First aid room and accessories		Rs.1,00,000
	3. Labour Shed		Rs.1,00,000
	4. Sanitary Facility		Rs.1,00,000
	Total=		Rs. 16,83,000/-
	B. Operational Cost:		
	1. Machineries	:	Rs.60,00,000-
	2. Fencing cost	:	Rs. 2,00,000
	Total	:	Rs.62,00,000/-

17.12



	<u>C.EMP Cost:</u> <u>Expenditure</u> 1. Drinking water facility 2. Sanitary Arrangements 3. Safety kids 4. Water sprinkling 5. Afforestation Total=	Budget Provision for the entire quarrying period. : Air Quality Sampling = Rs. 40,000/- : Water Quality Sampling = Rs. 40,000/- : Noise Monitoring = Rs. 20,000/- : Ground vibration test = Rs. 20,000/- Rs.1,00,000/- Rs. 50,000/- Rs. 50,000/- Rs. 1,50,000/- Rs. 1,00,000/- Rs. 5,70,000/-
	Total Project Cost (A+B+C)	: Rs. 84,53,000 /-
	CSR Cost(2% of Total Project Cost)	: Rs. 1,69,060/-

11.0 Mine Closure Plan:

11.1	Steps proposed for phased restoration, reclamation of already mined out area.	: There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of the life of lease will be fenced to prevent inherent entry of public and cattles.
11.2	Measures to be under taken on mine closure as per Act & Rules	: Measures will be taken as per the Acts and Rules. The quarried pit will be fenced by using Barbed wire fencing to prevent inherent entry of public and cattle.
11.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	: Mitigation measures: Drilling will be carried out by wet drilling mode to control the dust propagation into the air. Blasting will be carried out on limited scale. Mist Water spraying on haul road is proposed to prevent the dust propagation into the air.

Handwritten signature



12.0 Any Other Details Intend to Furnish by the Applicant:

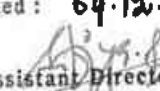
- (i) Permission will be obtained from the District Mines Office to extract the Rough Stone from the Boundary barriers and for slopes.
- (ii) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.
- (iii) The applicant will endeavor every attempt to quarry the Rough Stone 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 issued and relevant mining laws in force.
- (v) Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

Prepared by


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

Place : Salem
Date : 06.12.2024

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

This mining plan is approved based on the instructions and guidelines issued by the Commissioner of Geology and Mining, Chennai vide letter Rc.No.3868/LC/2012 dated 19.11.2012 and based on incorporation of the conditions laid by the Assistant Director (i/c), Geology and Mining, Viluppuram in the precise area communication letter Rc.No. B/1934/2422/2024	
Dated : 26.12.2024	Dated : 04.12.2024
	 Assistant Director, Geology and Mining, Viluppuram.


26.12.24



ந.க.ஆ/புவி(ம)சுர/242/2024
நாள்: 04.12.2024

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை அலுவலகம்,
விழுப்புரம். 26 DEC 2024

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் மற்றும் கிராவல் - மரக்காணம் வட்டம் - டி.நல்லாளம் கிராமம் பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9A - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி திரு.வெங்கடேசன் த.பெ. முருகேசன் என்பவர் விண்ணப்பம் செய்தது - குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்து அறிக்கை வரப்பெற்றது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை: 1. திரு. வெங்கடேசன் த.பெ. முருகேசன், நெ.121, கீழண்ட தெரு, கீழ்சிவிரி கிராமம், மரக்காணம் வட்டம், விழுப்புரம் மாவட்டம் என்பவரின் விண்ணப்ப நாள்: 06.09.2024
2. திண்டிவனம் சார் அவர்களின் கடிதம் ந.க.அ3/4935/2024 நாள்: 16.11.2024
3. விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோர்களின் கூட்டுப் புலத்தணிக்கை அறிக்கை நாள்: 28.11.2024

விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், கீழ்சிவிரி கிராமம், நெ.121, கீழண்ட தெரு என்ற முகவரியில் வசிக்கும் திரு. வெங்கடேசன் த.பெ. முருகேசன் என்பவர், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுப்பது தொடர்பாக 1959-ம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி எண். 19(1)-ன்கீழ் குவாரிபணி செய்ய குவாரி குத்தகை உரிமம் வழங்கிட கோரி பார்வை 1-ல் கண்டவாறு விண்ணப்பம் சமர்ப்பித்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, திண்டிவனம் சார் ஆட்சியர், விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோரின் நேரடி விசாரணை மற்றும் பரிந்துரை அறிக்கை, சமர்ப்பிக்கப்பட்டுள்ள ஆவணங்கள் ஆகியவை பரிசீலனை செய்யப்பட்டதில், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பட்டா நிலத்தில் திரு. வெங்கடேசன் த.பெ. முருகேசன் என்பவருக்கு பத்தாண்டுகளுக்கு சாதாரணக்கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு குவாரி குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

M.G.



- i. குவாரி குத்தகை அனுமதி வழங்க கோரும் புலன்களுக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
- ii. குவாரி குத்தகை உரிமம் கோரும் புலன்களை சுற்றியுள்ள மின்கம்பி பாதைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விடப்பட வேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை 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, திண்டிவனம் சார் ஆட்சியர், விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் மற்றும் உதவி புவியியலாளர் ஆகியோரின் தேரடி விசாரணை, பரிந்துரை அறிக்கை மற்றும் சமர்ப்பிக்கப்பட்டுள்ள ஆவணங்களின் அடிப்படையில், விழுப்புரம் மாவட்டம், மரக்காணம் வட்டம், டி. நல்லாளம் கிராம பட்டா புல எண்கள்: 81/2 - 1.90.0 ஹெக்டேர் மற்றும் 82/9ஏ - 0.40.5 ஏர்ஸ் ஆக மொத்தம் 2.30.5 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலத்தில் விண்ணப்பதாரர் திரு. வெங்கடேசன் த-பெ. முருகேசன் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க அ ரசு நிபந்தனைகளுக்குட்பட்டு பத்தாண்டுகளுக்கு குவாரி குத்தகை உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

அதன் அடிப்படையில், 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 தினங்களுக்குள் உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரரை கேட்டுக் கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-ன்படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மை சான்று பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

14.12

மு. இ. ச. ப.



நிபந்தனைகள்:-

- 3 -

- i. குவாரி குத்தகை அனுமதி வழங்க கோரும் புலன்களுக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
- ii. குவாரி குத்தகை உரிமம் கோரும் புலன்களை சுற்றியுள்ள மின்கம்பி பாதைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விடப்பட வேண்டும்.
- iii. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
- iv. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.

26 DEC 2024
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

04/12/24

பெறுநர்:-

திரு. வெங்கடேசன்
த-பெ. முருகேசன்,
நெ-121, கீழண்ட தெரு,
கீழ்சிவிரி கிராமம்,
மரக்காணம் வட்டம்,
விழுப்புரம் மாவட்டம் - 604 301.

நகல்:-

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

14/12

District : Viluppuram

Taluk : Marakkanam

Village : T.Nallalam [149]



Survey No : 81

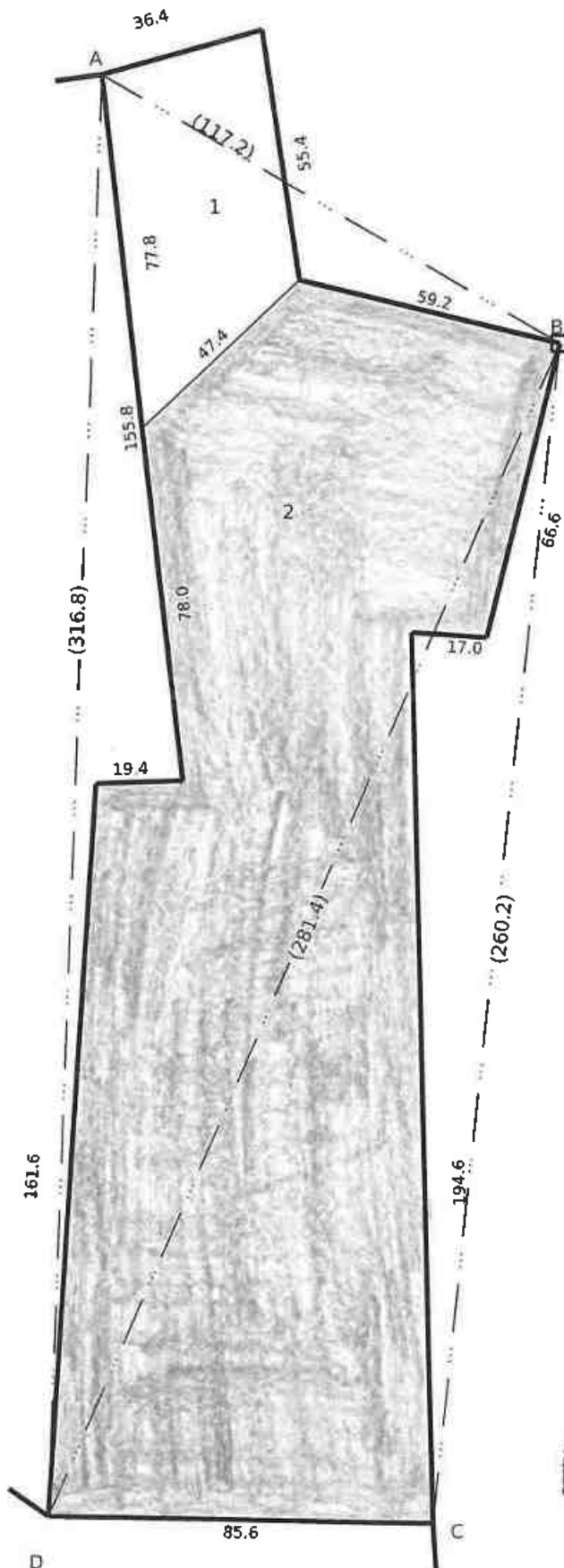
Area : Hect 02 Ares 15.00

Scale : 1 : 1000

ANNEXURE



80



V.NO.236 PERAMA THESAM

LEASE APPLIED AREA



Date of Issue: 02-12-2024 16:36:56

Survey and Settlement Department, Government of TamilNadu

82

Data Digitally Signed By
P BALAMURUGAN

277



District : Viluppuram

Taluk : Marakkanam

Village : T.Nallalam [149]



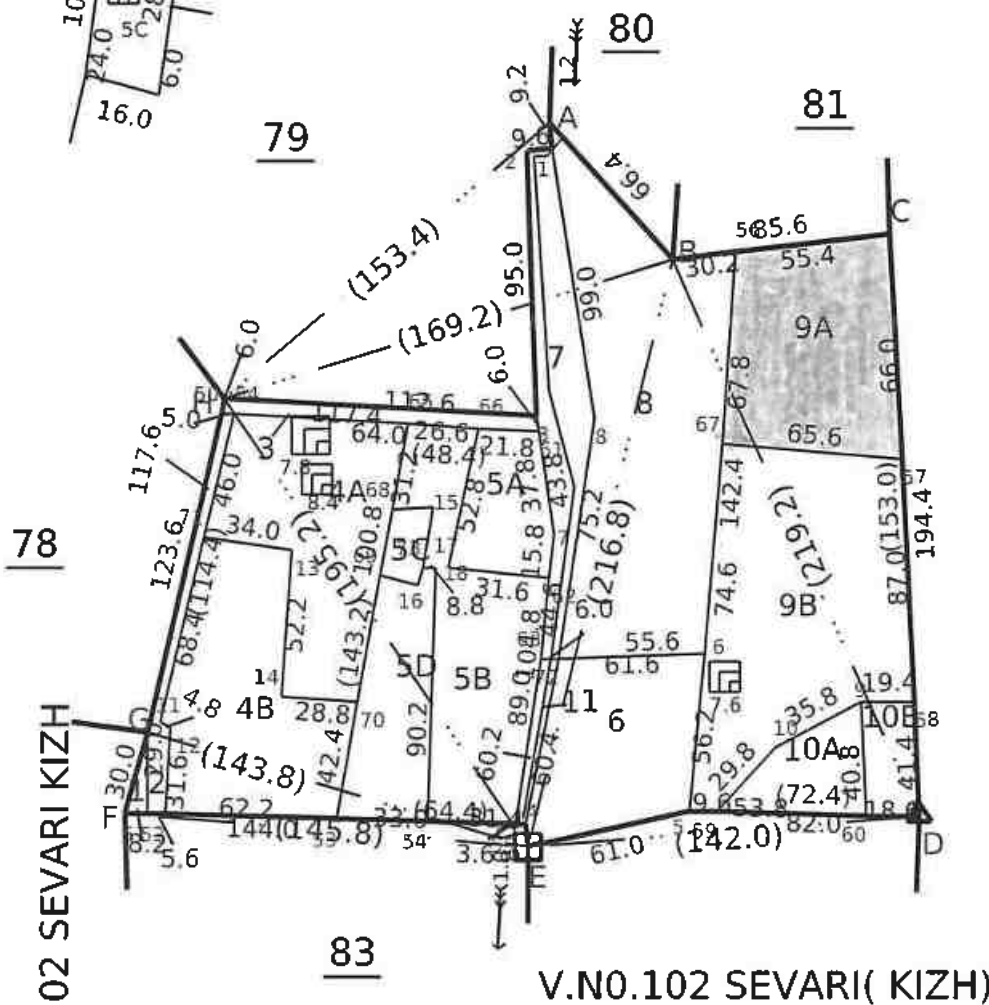
Survey No : 82

Area : Hect 04 Ares 90.00

Scale : 1 : 2578



ENLARGEMENT



V.NO.102 SEVARI KIZH

V.NO.236 PERMA THESAM

V.NO.102 SEVARI(KIZH)

LEASE APPLIED AREA

Signed By Tahsildar

Name of approver : tahm

Date of Approval : 18-07-2017



Date of Issue: 02-12-2024 16:46:20

Survey and Settlement Department, Government of TamilNadu

240/78



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ.என் பிரிவு

மாவட்டம் : Villupuram (07)

வருவாய் இராமம் : Talaiyam (149)

வட்டம் : Marakkalam (11)

பட்டசண் : 2380

உரிமையாளர்கள் பெயர்

பெயர்க்கோடு

புல எண்	உட்பிரிவு	நன் டிசை		புன் டிசை		மற்றவை			குறிப்புரைகள்	Blocked - Under
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	தீர்வை		
		ஹெக்டேர்	ரூ. ரூப	ஹெக்டேர்	ரூ. ரூப	ஹெக்டேர்	ரூ. ரூப	ரூ. ரூப		
81	2			1-90.00	5.70					
		0	0.00	1-90.00	5.70	0	0.00			

குறிப்பு



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்களின் <https://eip.in.gov.in/cip> என்ற இணைய தளத்தில் உறுதி செய்துகொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்துகொள்ள வேண்டினால் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப் படுத்திக்கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

2. தீர்த்தகவல்கள் 2-12-2024 அன்று 16:49:23 மணி வேளையில் அச்சடிக்கப்பட்டது.

3. கைப்பேசி கேமராவின் 2D barcode படம்புரன் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

Print

ANNEXURE

IV





தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : தி. என் பிரிவு

வட்டம் : Karaikkannal (11)

பட்டாளம் : 2277

உரிமையாளர்கள் பெயர்

மாவட்டம் : Villupuram (07)

வருவாய் இராமம் : T.nallalam (149)

பெயர்க்கோடுகள்

புல எண்	உட்பிரிவு	நகர் பகுதி		புனர்வாழ்வு		மற்ற நில		குறிப்புக்கள்	Blocked - Under
		பரப்பு	தீர்மானம்	பரப்பு	தீர்மானம்	பரப்பு	தீர்மானம்		
		மீட்டர் - ஏர்	மீட்டர் - ஏர்	மீட்டர் - ஏர்	மீட்டர் - ஏர்	மீட்டர் - ஏர்	மீட்டர் - ஏர்		
82	9A			0-40.50	1.22				
		0	0.00	0-40.50	1.22	0	0.00		

குறிப்பு



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்களே <https://clip.ta.gov.in/clip> என்ற இணைய தளத்தில் உறுதி செய்துகொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்து கொள்ள வேண்டுமெனில் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப்படுத்திக் கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

2. தீர்த்தகவல்கள் 2-12-2024 அன்று 16:51:4 மணி வேளை யில் அச்சடிக்கப்பட்டது.

3. இக்கப்பேக்கிரேமரவின் 2D barcode படிப்பான மூலம் படித்து 36/6PRS ஐ பி இணைய தளத்தில் சரிபார்க்கவும்

Print



மாவுட்டம்

சா.குமா.
மாணவரின்
பெயர்.

முதல் பாகம்

26 DEC 2024

விழுப்புரம்

ՀԱՅԿԱՆ ԳՐԱԴԱՐԱՆ

अ. ३३

செய்து

புதுச்சேரி

এক

1

(12)

100

1

100

44-87

2004

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

100

1

1

1

4

1

[illegible]

1

100

[illegible]

1

[illegible][illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466

[illegible]

1



1

1	

T

282

அபதிவேடு விவரங்கள்

மாலட்டம் : Viluppuram (07)

வட்டம் : Parakkalam (11)

கிராமம் : Thallaiyam (149)

1. புல எண்	01	9. மண் வயன மும் ரக மும்	0-4
2. உட்பிரிவு எண்	2	10. மண் தரம்	7
3. பழைய புல உட்பிரிவு எண்	01--	11. தீர்வை (ரூ - டிஸ்)	3.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	1-90.00
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - டிஸ்)	5.70
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	2380
7. பாசன ஆதாரம்	-	15. குறிப்பு	.
8. கிராமபேரம்	இல்லை	16. பெயர்	வெங்கடேசன்

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்றிதழ் தகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eip.tn.gov.in/cip> என்ற இணைய தளத்தில் உறுதி செய்துகொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்துகொள்ள வேண்டுமெனில் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப்படுத்தக்கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

Print

ANNEXURE

VI



அ-பதிவேடு விவரங்கள்

மாஸ்ட்டம் : Viluppuram (07)

வட்டம் : Narakkannam (11)

கிராமம் : Thalakkulam (149)

1. புல எண்	82	9. மண் வயன மூல ரக மூலம்	8-4
2. உட்பிரிவு எண்	9A	10. மண் தரம்	7
3. பருமன புல உட்பிரிவு எண்	65-16	11. தீர்வை (ஏ - டிஹ)	3.00
4. பகுதி		12. பரப்பு (ஹெக்டேர் - ஏர்)	0-40.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ஏ - டிஹ)	1.22
6. நிலத்தின் வகை	பஞ்ச	14. பட்டா எண்	2277
7. பாசன ஆதாரம்		15. குறிப்பு	*
8. இருபேரகமா	இல்லை	16. பெயர்	வெங்கடேசன்

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்று நிதழ்ந்தால் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தரங்கள் <https://clio.in.gov.in/clio> என்ற இணைய நளத்திலு் உறுதி செய்துகொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்துகொள்ள வேண்டுமெனில் தரங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப்படுத்திக் கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

Print





Udai Card: 240612043



வெங்கடேசன் மு
Venkadesan M
பிறந்த நாள் / DOB: 05/07/1989
ஆண் / MALE

6092 0933 1643

मेरा आधार, मेरी पहचान



Print Date: 06/03/2024

முருகேசன் S/O முருகேசன், கதவு-121,
கீழ்மண்டா வீதி, கீழ்மேயூர்,
திருவாரூர் மாவட்டம், திருச்சிராப்பள்ளி,
விழுப்புரம், தமிழ்நாடு, 604301

Address: S/O Murugesan, 121,
KEEZHANDA STREET, KEEZHSEVIRI,
TINDIVANAM-THALUK, Kavarin,
Viluppuram, Tamil Nadu, 604301

6092 0933 1643

☎ 1947

✉ help@uidai.gov.in

🌐 www.uidai.gov.in



M. S.

CHETTINAD CEMENT CORPORATION LTD.,

(Regd. Office: RANI SEETHAI HALL BUILDING IV & V FLOORS, 603, ANNA SALAI, MADRAS-600006.)

WORKS OFFICE: PULIYUR.

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

All Correspondences to
Kumararajah Muthiah Nagar
PULIYUR CEMENT FACTORY POST 629114
(Karur Taluk Trichy Dt.)

26 DEC 1979

22 September, 1987.

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

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 B. Natarajan has been admitted to the Degree of Master of Science (by Examination) in Geology, 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.

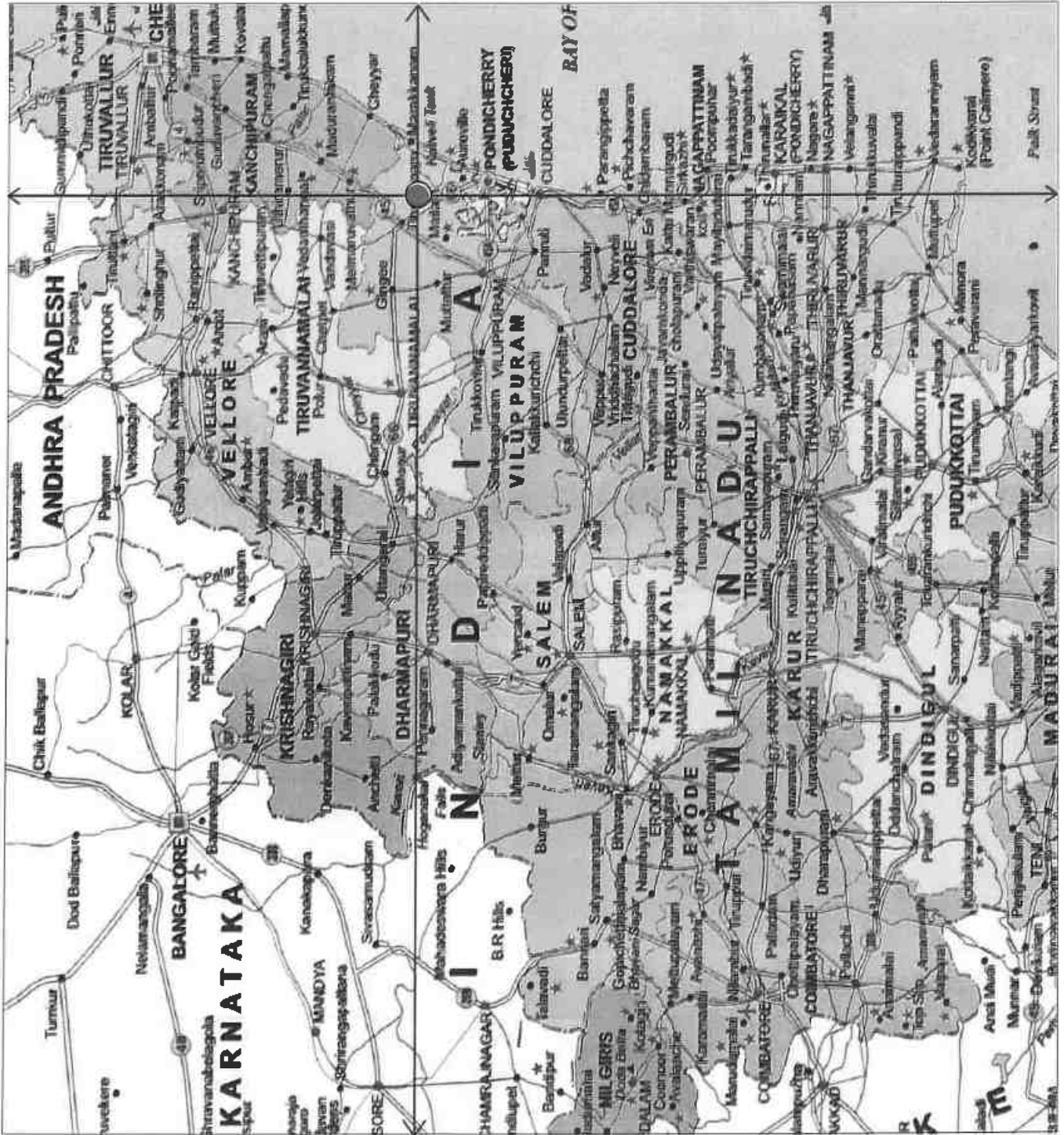
Given under the seal of the University.

Annamalainagar
8th December, 1976.

M.L.

A. Chandrasekhar
287
Vice-Chancellor.

12°11'24.76"N



79°45'34.34"E

12°11'13.78"N

PLATE NO-I

DATE OF SURVEY : 05.12.2024

APPLICANT:

THIRU.M.VENKATESAN,
S/o.MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:

S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Hq,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

Q. LEASE APPLIED AREA : ●

TOPO SHEET No. : 57 P/16

LATITUDE : 12°11'13.78"N to 12°11'24.76"N

LONGITUDE : 79°45'34.34"E to 79°45'39.45"E

LOCATION MAP

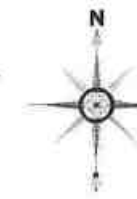
NOT TO SCALE

PREPARED BY :

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



PLATE NO-IA
DATE OF SURVEY : 05.12.2024



APPLICANT:
THIRU.M.VENKADESAN,
S/o.MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.



QUARRY LEASE APPLIED AREA:

S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

TOPO SHEET No. : 57 P/16
LATITUDE : 12°11'13.78"N to 12°11'24.76"N
LONGITUDE : 79°45'34.34"E to 79°45'39.45"E

Q.LEASE APPLIED BOUNDARY	
7.5m, 10m & 50m SAFETY	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
MAJOR DISTRICT ROAD	
ODAI	
BARREN LAND	
TREES	
SEASONAL AGRICULTURE	
QUARRY PIT	
TANK	
CRUSHER PLANT	
HABITATION	

LAND USE PATTERN

DESCRIPTION	AREA IN (%)
ROAD	04
TREES	14
BARREN LAND	54
AGRICULTURE LAND	05
WATER BODIES	12
CRUSHER PLANT	08
HABITATION	03

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.M.Sc.M.Phil..
QUALIFIED PERSON



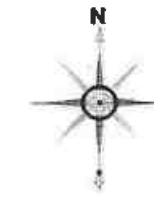


PLATE NO-IB

DATE OF SURVEY : 05.12.2024

APPLICANT:

THIRU.M.VENKADESAN,
S/o.MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:

S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

TOPO SHEET No. : 57 P/16

LATITUDE : 12°11'13.78"N to 12°11'24.76"N

LONGITUDE : 79°45'34.34"E to 79°45'39.45"E

Q.LEASE APPLIED BOUNDARY	
7.5m, 10m & 50m SAFETY	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
MAJOR DISTRICT ROAD	

SATELLITE IMAGERY MAP

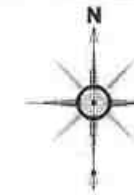
SCALE 1: 10,000

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.NARAJAN.M.Sc.M.Phil.,
QUALIFIED PERSON

DATE OF SURVEY : 05.12.2024



THIRU. M. VENKADESAN,
S/o. MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.



DISTRICT : VILUPPURAM.

TOPO SHEET No. : 57 P/16

LONGITUDE : 79°45'34.34"E to 79°45'39.45"E

A diagram showing a rectangular container with a sphere inside. The sphere is touching the top edge of the container.



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

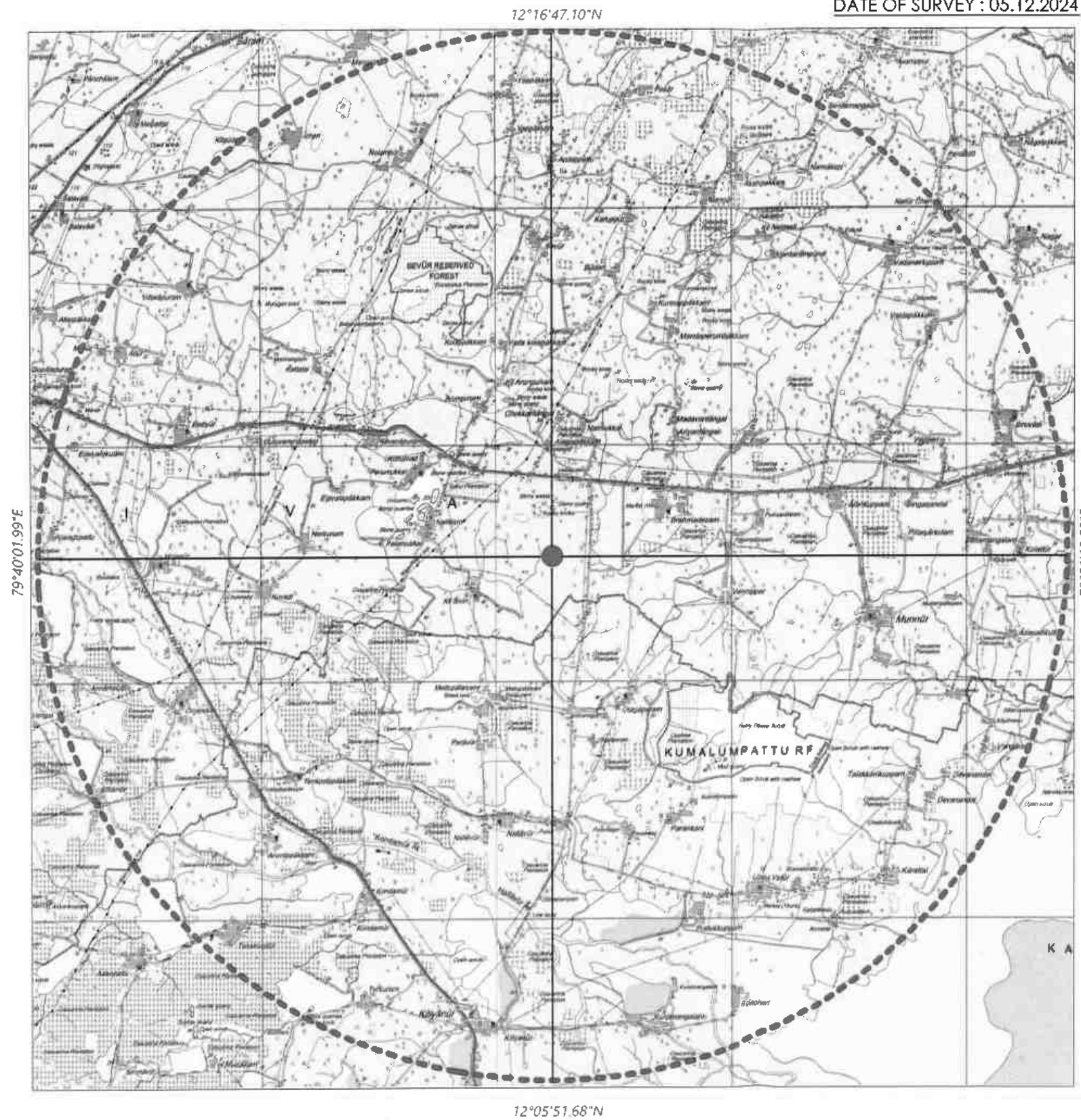


PLATE NO-ID

DATE OF SURVEY : 05.12.2024

APPLICANT:

THIRU.M.VENKATESAN,
S/o.MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:

S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha.
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

Q.LEASE APPLIED BOUNDARY



APPROACH ROAD



MAJOR DISTRICT ROAD



STATE HIGHWAY



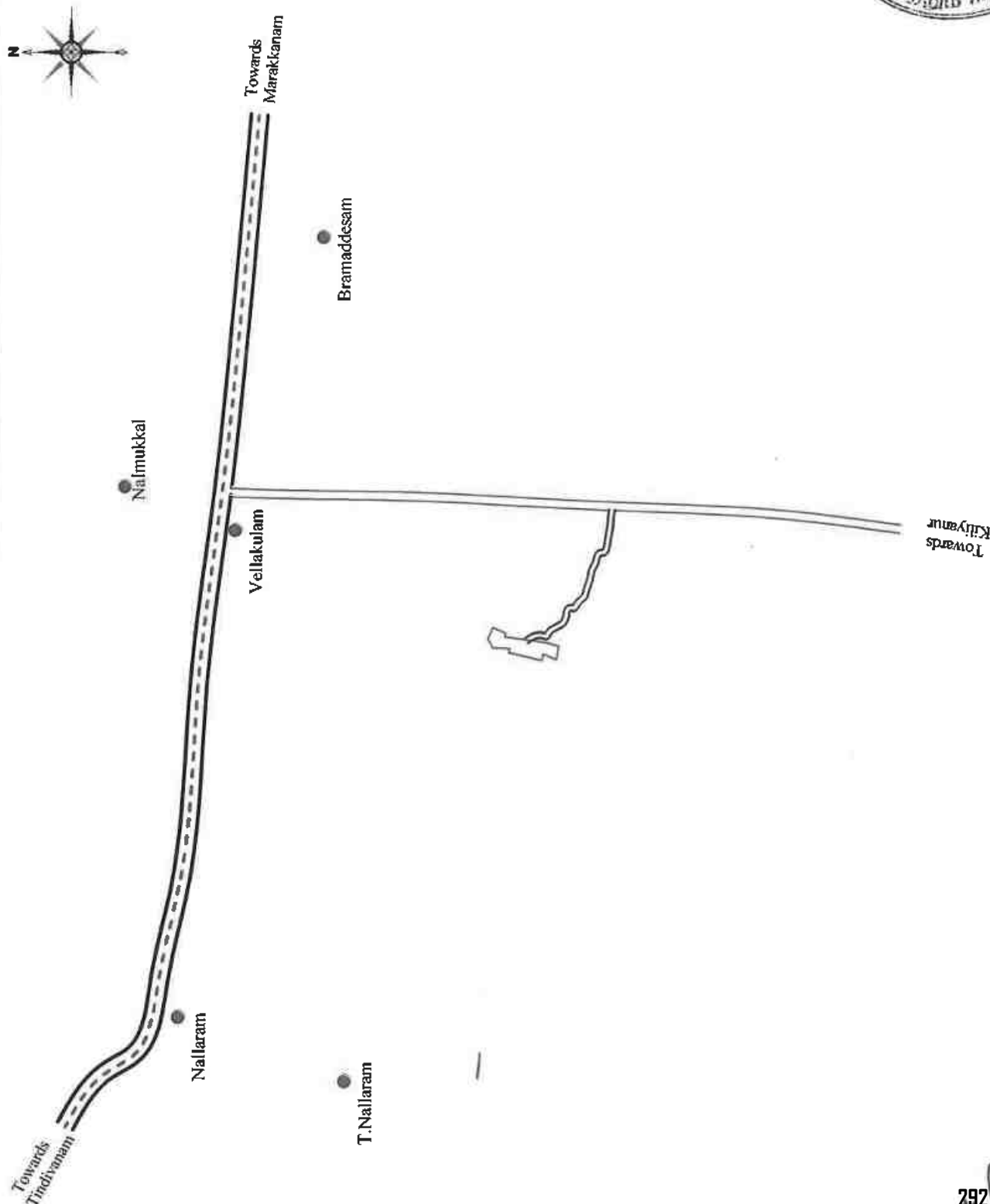
HABITATIONS



KEY PLAN

Not To Scale

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 AS SUBMITTED BY STATE
GOVERNMENT



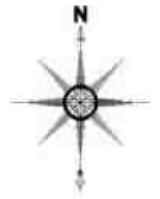
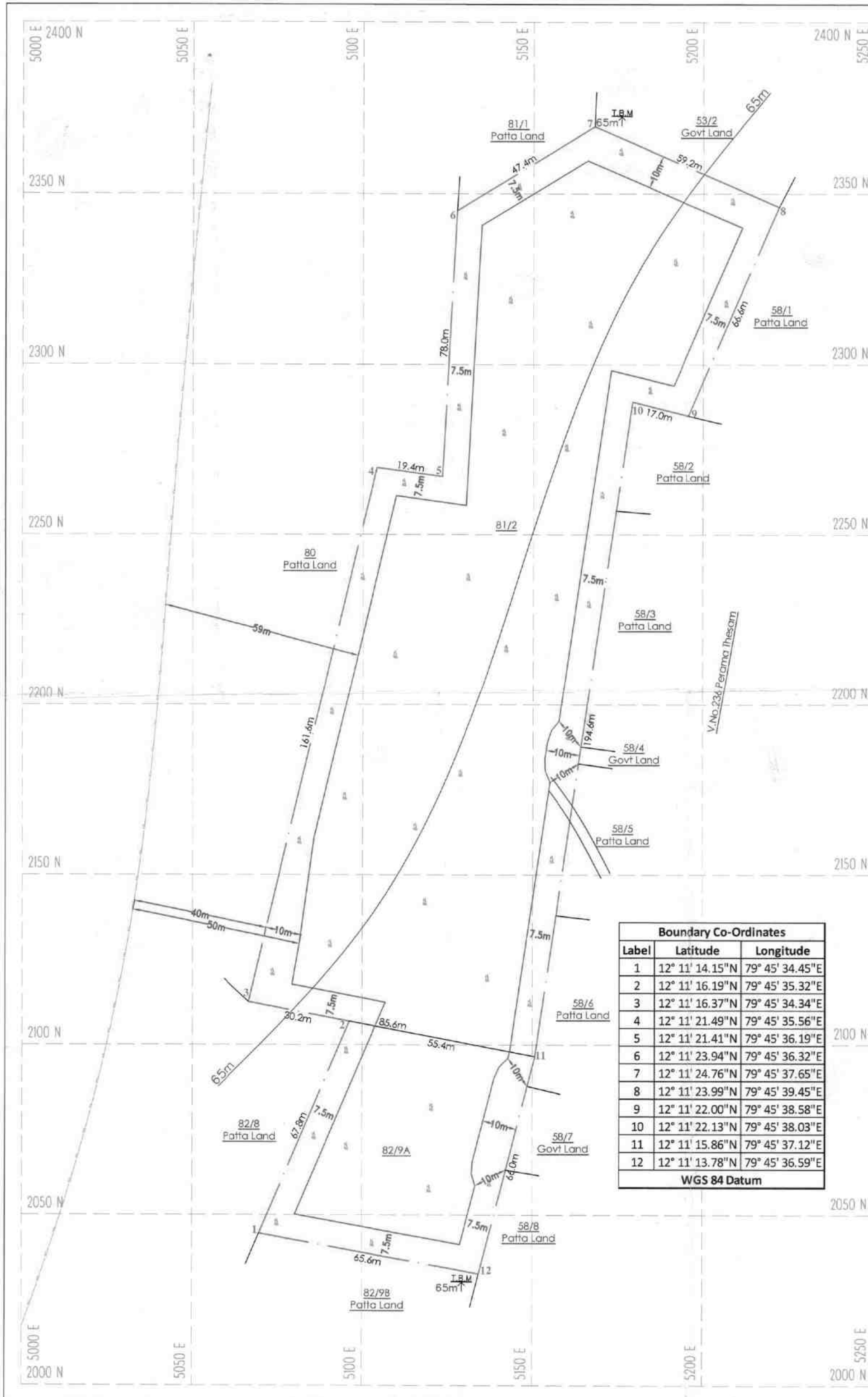


PLATE NO-II

DATE OF SURVEY: 12.12.2024

APPLICANT

THIRU.M.VENKATESA
S/o.MURUGESAN
NO.121, KEEZHARPA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT



QUARRY LEASE APPLIED AREA:

S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

Q.LEASE APPLIED BOUNDARY	
7.5m,10m & 50m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
ODAI	

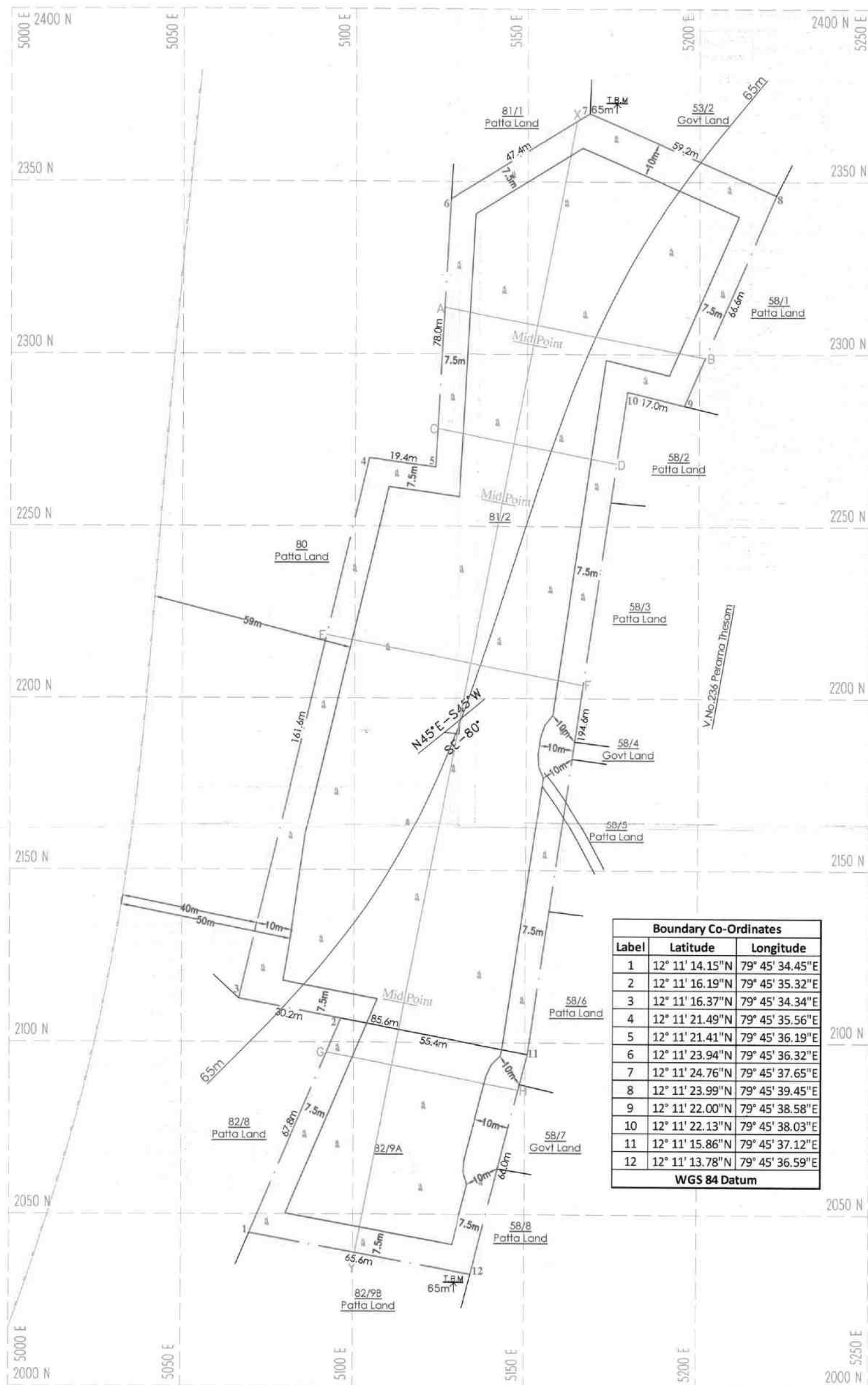
QUARRY LEASE & SURFACE PLAN

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

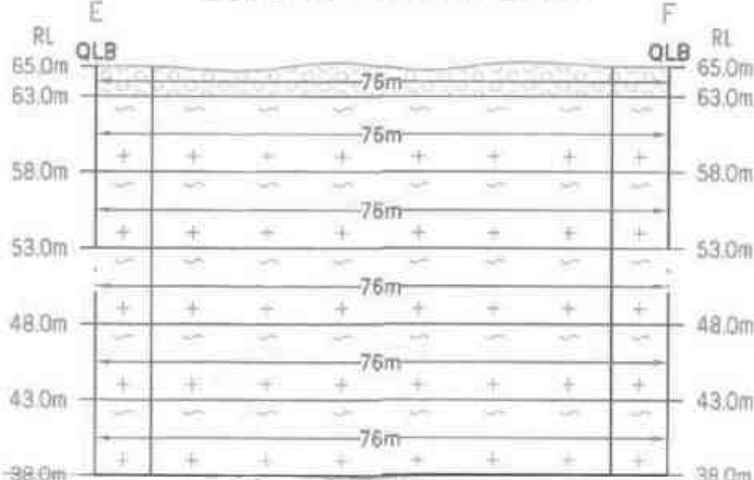


Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 38.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E
WGS 84 Datum		

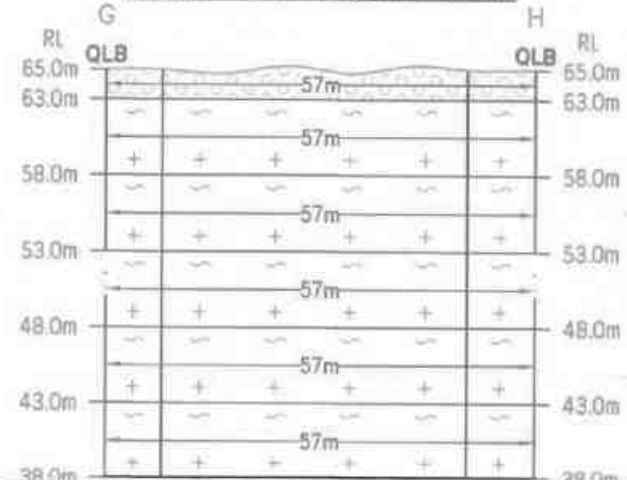
Geological Resources							
section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume m3	Gravel in m3	Geological Resources in m3
XY-AB	I	67	77	2	10318	10318	
	II	67	77	5	25795		25795
	III	67	77	5	25795		25795
	IV	67	77	5	25795		25795
	V	67	77	5	25795		25795
	VI	67	77	5	25795		25795
Total						10318	128975
XY-CD	I	46	53	2	4876	4876	
	II	46	53	5	12190		12190
	III	46	53	5	12190		12190
	IV	46	53	5	12190		12190
	V	46	53	5	12190		12190
	VI	46	53	5	12190		12190
Total						4876	60950
XY-EF	I	148	76	2	22496	22496	
	II	148	76	5	56240		56240
	III	148	76	5	56240		56240
	IV	148	76	5	56240		56240
	V	148	76	5	56240		56240
	VI	148	76	5	56240		56240
Total						22496	281200
XY-GH	I	73	57	2	8322	8322	
	II	73	57	5	20805		20805
	III	73	57	5	20805		20805
	IV	73	57	5	20805		20805
	V	73	57	5	20805		20805
	VI	73	57	5	20805		20805
Total						8322	104025
Grand Total						46012	575150



SECTION ALONG E-F



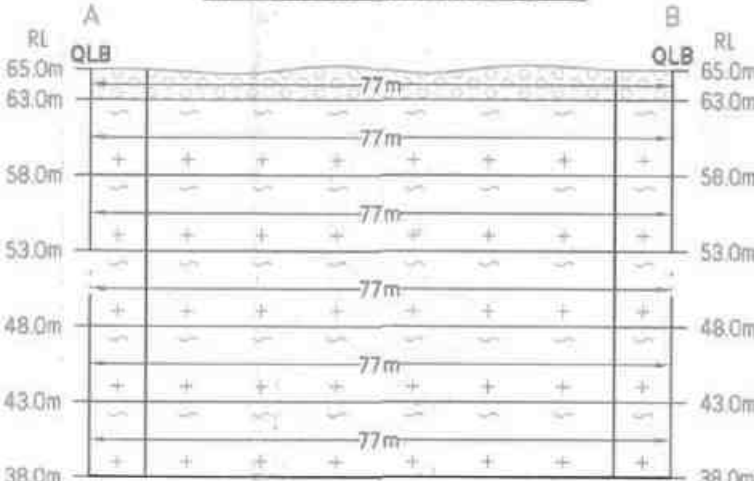
SECTION ALONG G-H



SECTION ALONG C-D



SECTION ALONG A-B



SECTION ALONG X-Y

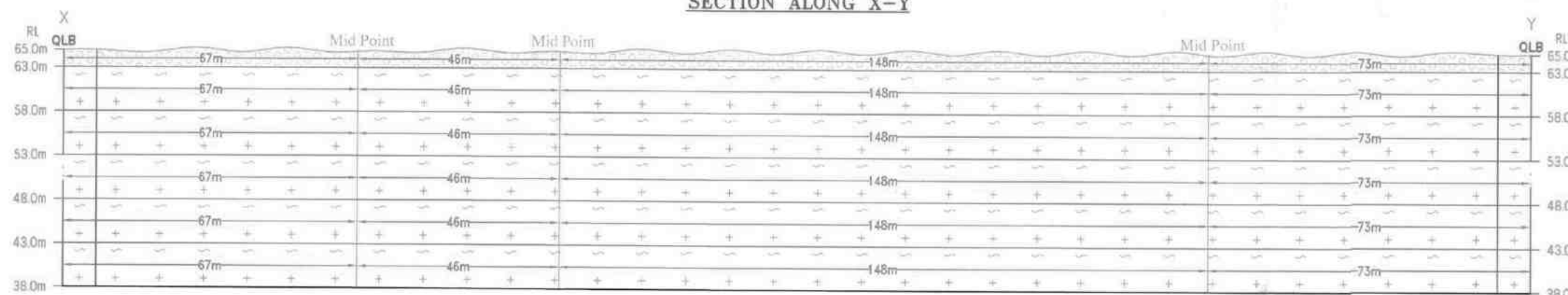


PLATE NO-III
DATE OF SURVEY : 05.12.2024
APPLICANT:
THIRU.M.VENKATESAN
S/O.MURUGESAN
NO.121, KEEZHANADA STREET,
KILSIVIRI VILLAGE,
MARAKKANATALUK
VILUPPURAM DISTRICT - 604 301.
QUARRY LEASE APPLIED AREA:
S.F.NO'S : 81/2 & 82/9A
EXTENT : 2.30.5 Ha
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

- Q.LEASE APPLIED BOUNDARY
- 7.5m,10m & 50m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- CONTOUR
- SCRUB
- ODAI
- GRAVEL
- ROUGH STONE
- STRIKE & DIP

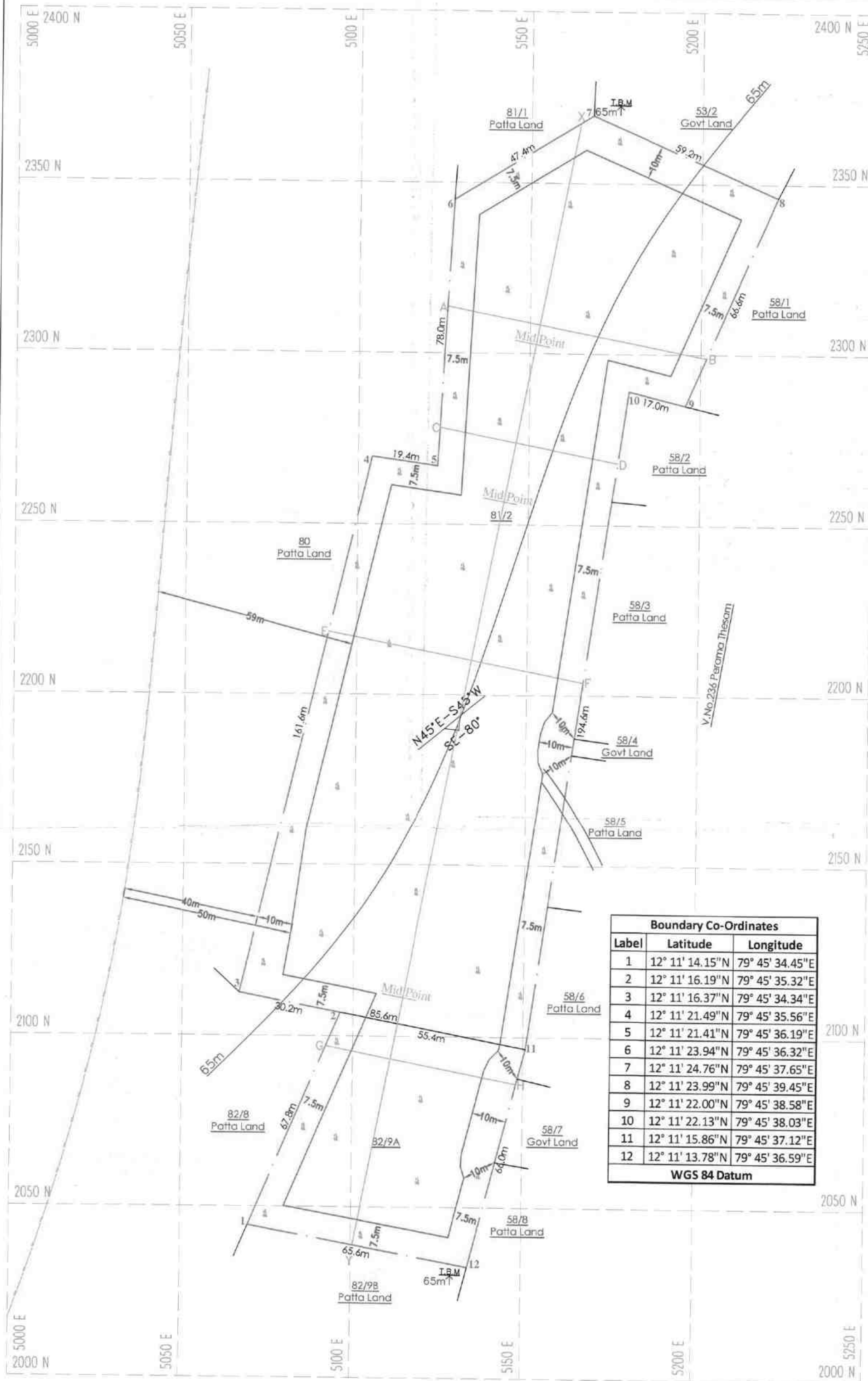
TOPOGRAPHY, GEOLOGICAL PLAN & SECTIONS

SCALE 1 : 1000
SECTIONS HOR 1:1000, VER 1:500

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

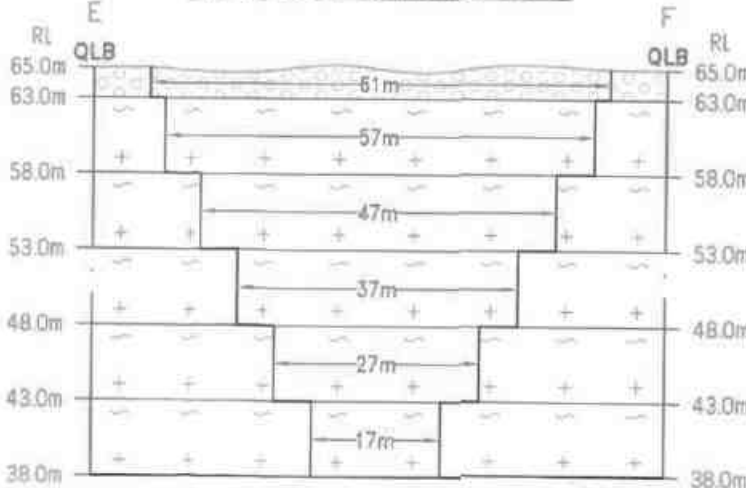
C.N.A.PARASAM, M.Sc, M.Phil.,
QUALIFIED PERSON

14/2

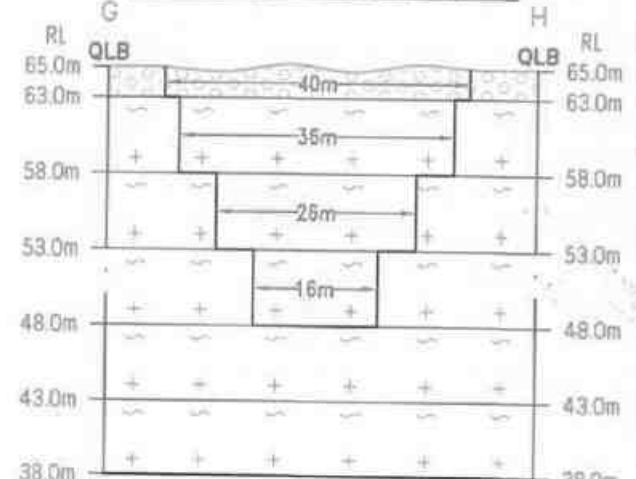


Mineable Reserves							
section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume m3	Gravel in m3	Mineable Reserves in m3
XY-AB	I	60	62	2	7440	7440	
	II	58	58	5	16820		16820
	III	53	48	5	12720		12720
	IV	48	38	5	9120		9120
	V	43	28	5	6020		6020
	VI	33	18	5	2970		2970
Total						7440	47650
XY-CD	I	46	38	2	3496	3496	
	II	46	34	5	7820		7820
	III	46	24	5	5520		5520
	IV	46	14	5	3220		3220
Total						3496	16560
XY-EF	I	148	61	2	18056	18056	
	II	148	57	5	42180		42180
	III	148	47	5	34780		34780
	IV	148	37	5	27380		27380
	V	148	27	5	19980		19980
	VI	138	17	5	11730		11730
Total						18056	136050
XY-GH	I	66	40	2	5280	5280	
	II	64	36	5	11520		11520
	III	59	26	5	7670		7670
	IV	54	16	5	4320		4320
Total						5280	23510
Grand Total						34272	223770

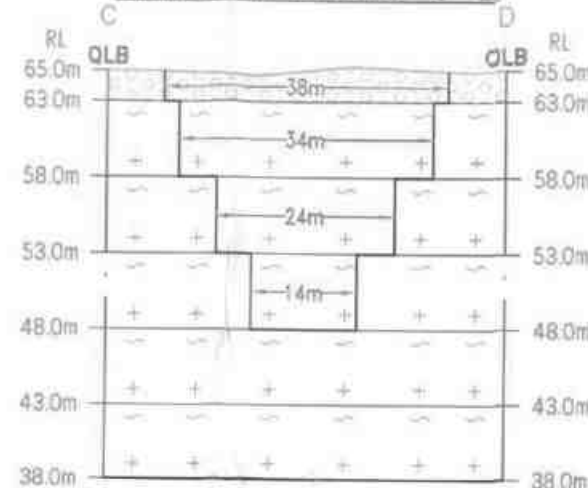
SECTION ALONG E-F



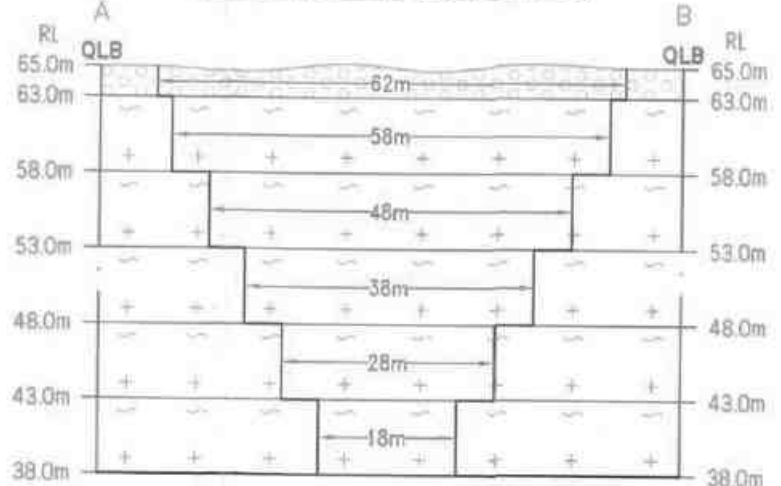
SECTION ALONG G-H



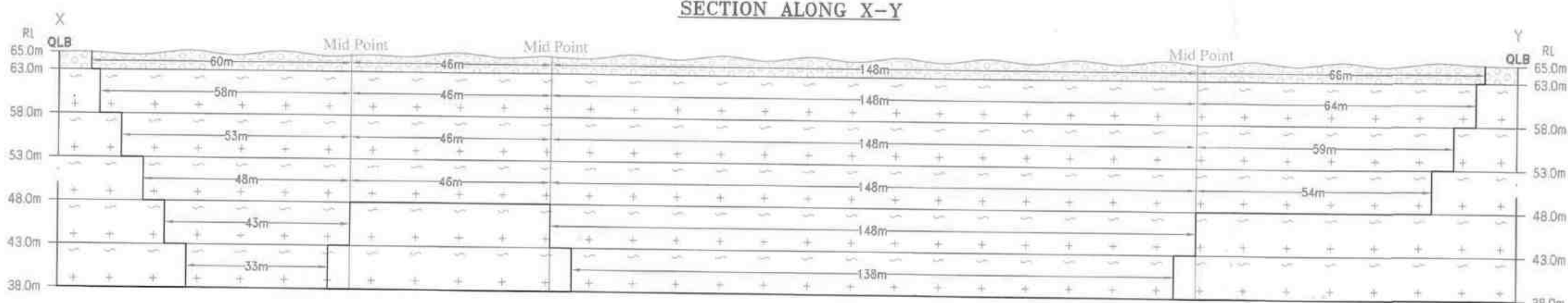
SECTION ALONG C-D



SECTION ALONG A-B



SECTION ALONG X-Y



Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 38.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E
WGS 84 Datum		

PLATE NO-IV
DATE OF SURVEY : 05.12.2024

APPLICANT:
THIRU.M.VENKAT
S/o.MURUGESA
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:
S.F.NO'S : 81/2 & 82/2A
EXTENT : 2.30.5 H
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

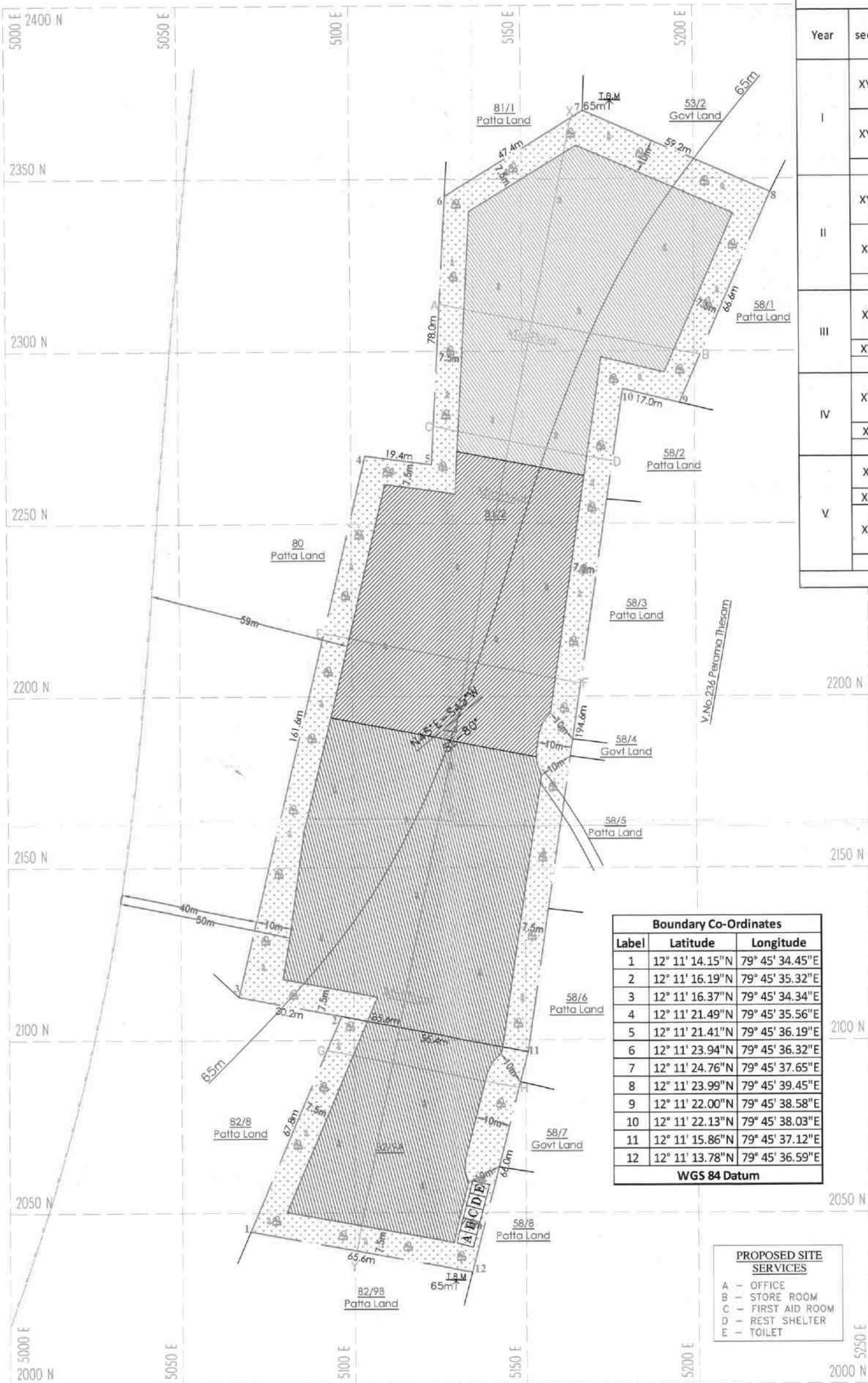
Q.LEASE APPLIED BOUNDARY	
7.5m,10m & 50m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
ODAI	
GRAVEL	
ROUGH STONE	
STRIKE & DIP	

MINEABLE PLAN & SECTIONS

SCALE 1 : 1000
SECTIONS HOR 1:1000, VER 1:500

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 295

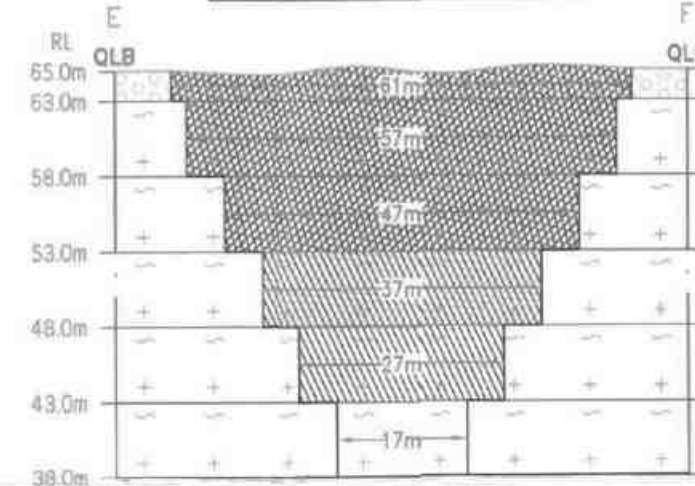


1st Five Year - Yearwise Production								
Year	section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume m3	Gravel in m3	Yearwise Production in m3
I	XY-AB	I	60	62	2	7440	7440	
		II	58	58	5	16820		16820
		III	53	48	5	12720		12720
	XY-CD	I	35	38	2	2660	2660	
		II	35	34	5	5950		5950
		III	35	24	5	4200		4200
Total						10100	39690	
II	XY-CD	I	11	38	2	836	836	
		II	11	34	5	1870		1870
		III	11	24	5	1320		1320
	XY-EF	I	71	61	2	8662	8662	
		II	71	57	5	20235		20235
		III	71	47	5	16685		16685
Total						9498	40110	
III	XY-EF	I	77	61	2	9394	9394	
		II	77	57	5	21945		21945
		III	77	47	5	18095		18095
	XY-GH	I	66	40	2	5280	5280	
Total						14674	40040	
IV	XY-GH	II	64	36	5	11520		11520
		III	59	26	5	7670		7670
		IV	54	16	5	4320		4320
	XY-EF	IV	90	37	5	16650		16650
Total							40160	
V	XY-EF	IV	58	37	5	10730		10730
		V	59	27	5	7965		7965
	XY-CD	IV	46	14	5	3220		3220
		IV	48	38	5	9120		9120
	XY-AB	V	43	28	5	6020		6020
		VI	33	18	5	2970		2970
Total							40025	
Grand Total							34272	200025

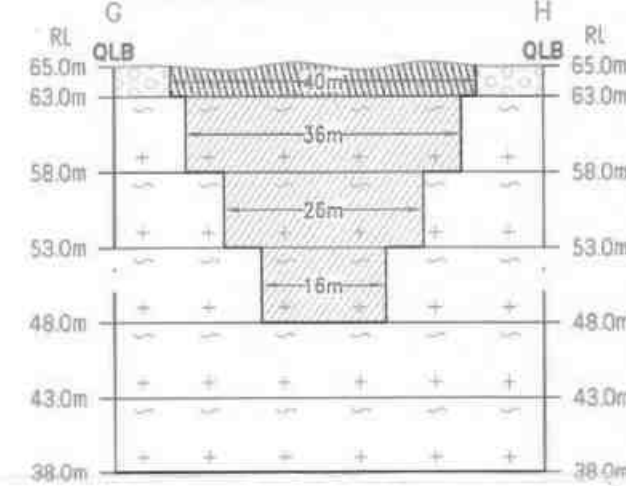
- 1st yr Proposed area to be Quarried
- 2nd yr Proposed area to be Quarried
- 3rd yr Proposed area to be Quarried
- 4th yr Proposed area to be Quarried
- 5th yr Proposed area to be Quarried

Proposed area to be Planted

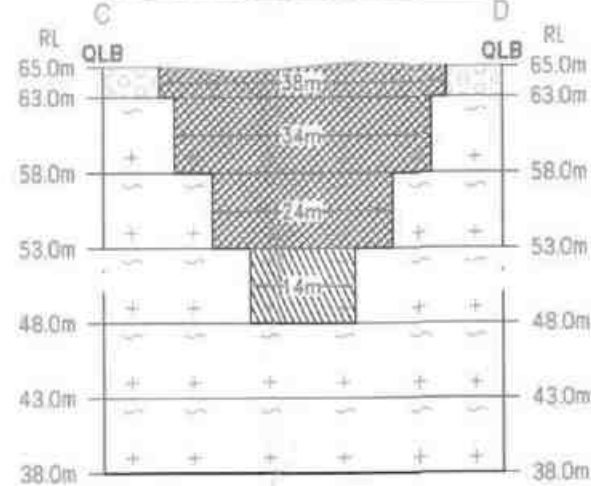
SECTION ALONG E-F



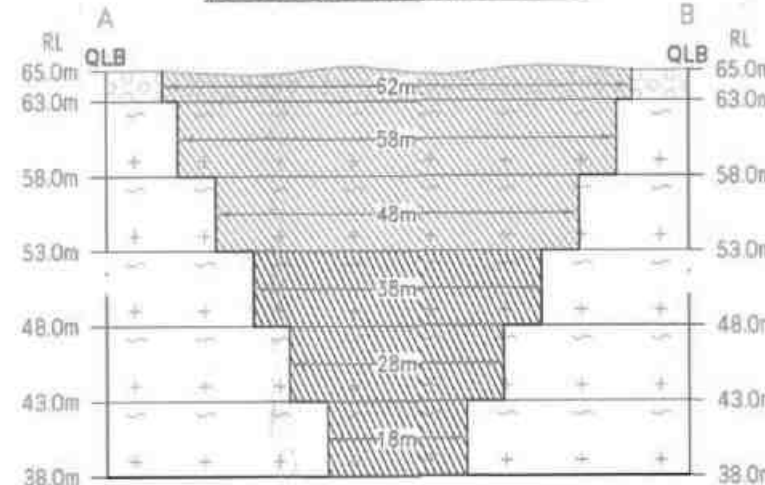
SECTION ALONG G-H



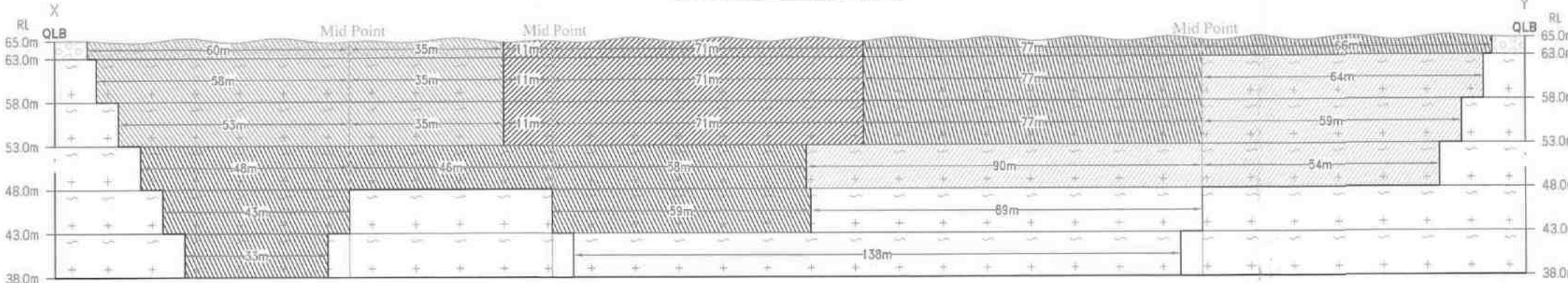
SECTION ALONG C-D



SECTION ALONG A-B



SECTION ALONG X-Y



Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 38.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E

WGS 84 Datum

PROPOSED SITE SERVICES

- A - OFFICE
- B - STORE ROOM
- C - FIRST AID ROOM
- D - REST SHELTER
- E - TOILET

PLATE NO-V
 DATE OF SURVEY : 05/10/2024
APPLICANT:
 THIRU.M.VENKATESAN,
 S/o.MURUGESAN,
 NO.121, KEEZHAN STREET,
 KILSIVIRI VILLAGE,
 MARAKKANAM TALUK,
 VILUPPURAM DISTRICT.
QUARRY LEASE APPLIED AREA:
 S.F.NO'S : 81/2 & 82/9A,
 EXTENT : 2.30.5 Ha,
 VILLAGE : T.NALLALAM,
 TALUK : MARAKKANAM,
 DISTRICT : VILUPPURAM.

INDEX

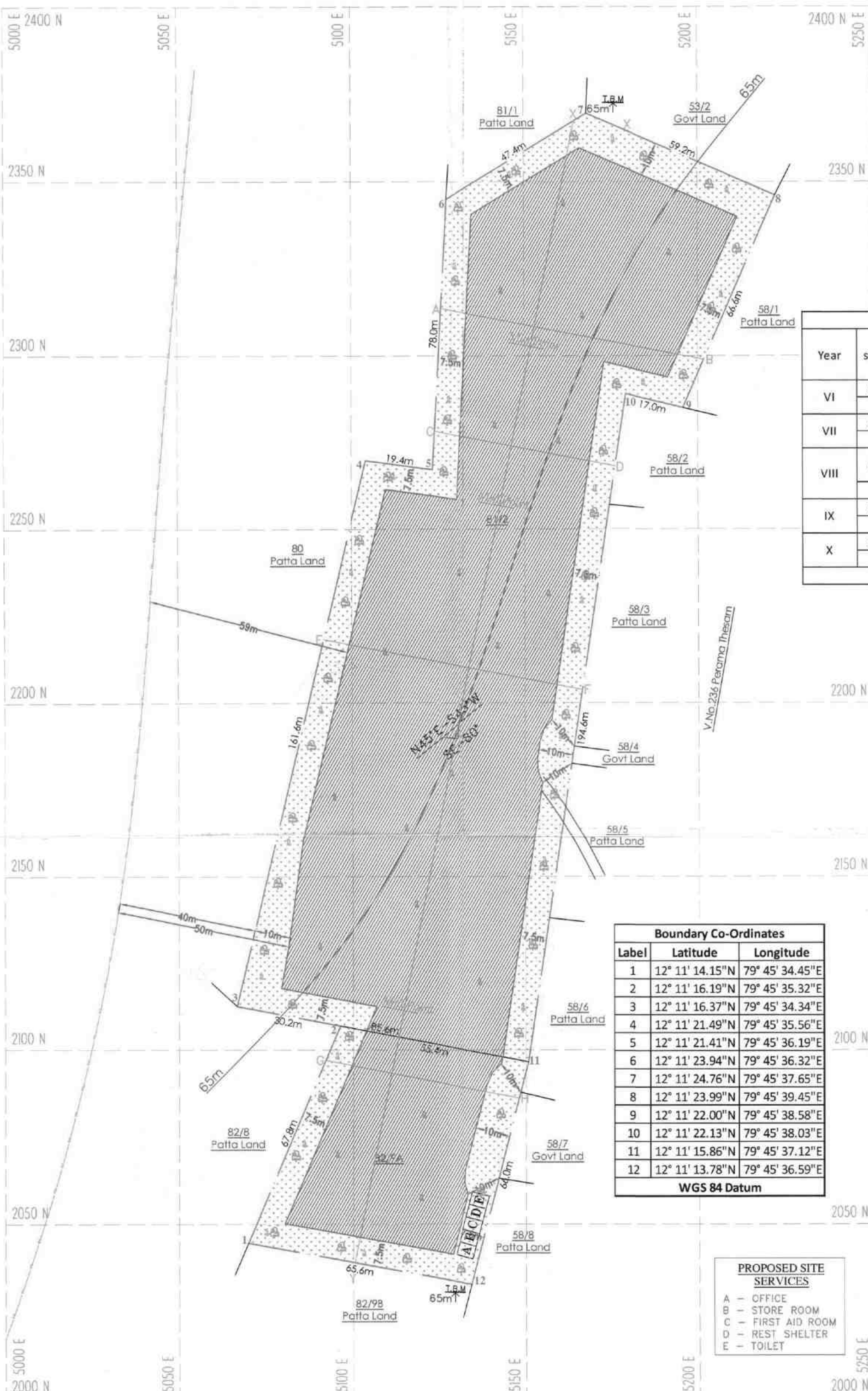
- Q.LEASE APPLIED BOUNDARY
- 7.5m,10m & 50m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- CONTOUR
- SCRUB
- ODAI
- GRAVEL
- ROUGH STONE
- STRIKE & DIP

YEAR WISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS

SCALE 1 : 1000
 SECTIONS HOR 1:1000, VER 1:500

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 PER 298



2nd Five Year - Yearwise Production								
Year	section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume m3	Gravel in m3	Yearwise Production in m3
VI	XY-EF	V	35	27	5	4725		4725
	Total							4725
VII	XY-EF	V	35	27	5	4725		4725
	Total							4725
VIII	XY-EF	V	19	27	5	2565		2565
		VI	26	17	5	2210		2210
	Total							4775
IX	XY-EF	VI	56	17	5	4760		4760
	Total							4760
X	XY-EF	VI	56	17	5	4760		4760
	Total							4760
Grand Total								23745

1st 5 Year Proposed area to be Quarried

6th Year Proposed area to be Quarried

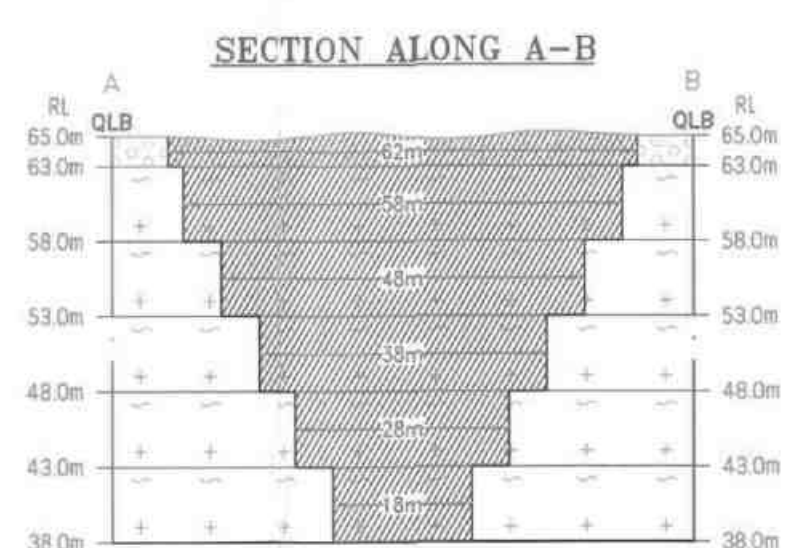
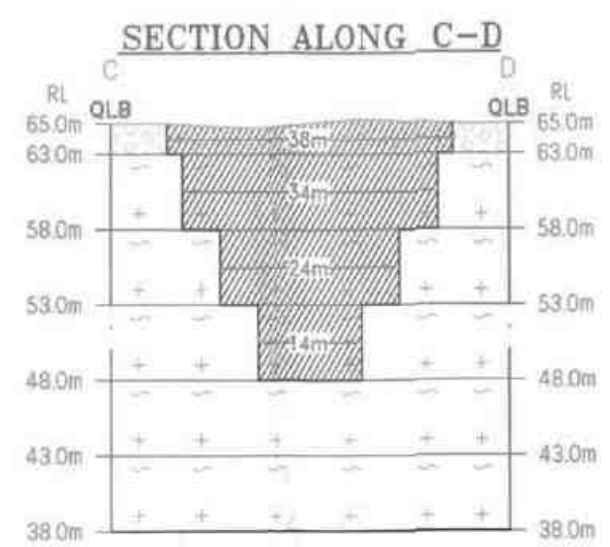
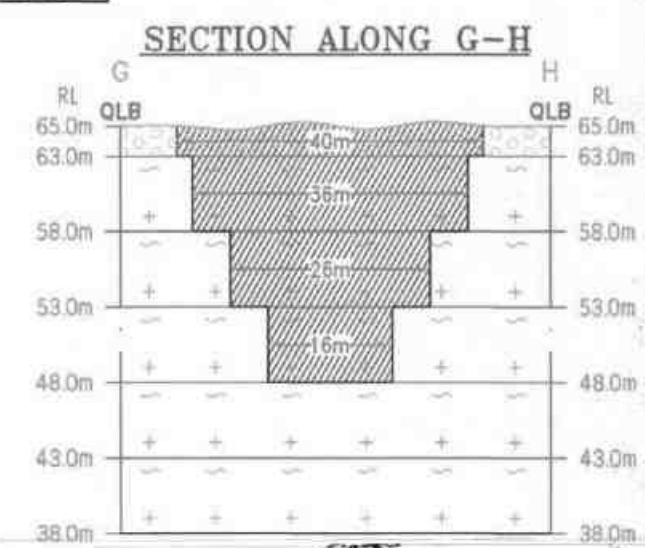
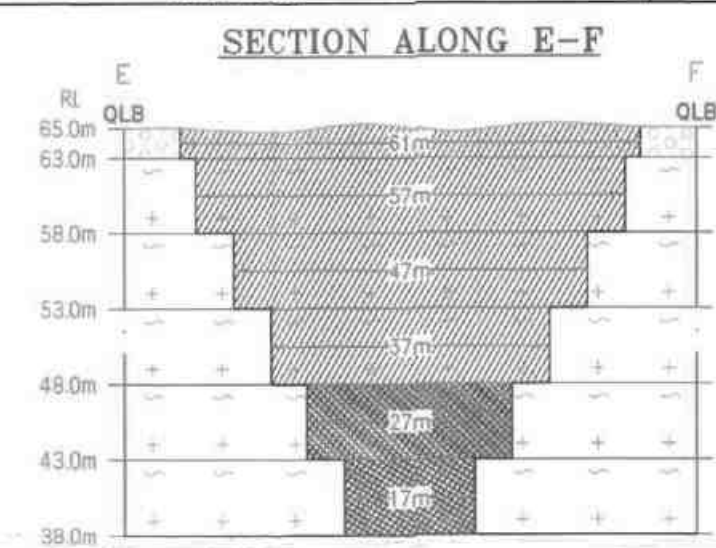
7th Year Proposed area to be Quarried

8th Year Proposed area to be Quarried

9th Year Proposed area to be Quarried

10th Year Proposed area to be Quarried

Proposed area to be Planted



Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 37.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E

WGS 84 Datum

- PROPOSED SITE SERVICES**
- A - OFFICE
 - B - STORE ROOM
 - C - FIRST AID ROOM
 - D - REST SHELTER
 - E - TOILET

PLATE NO-VA
 DATE OF SURVEY : 05/11/24
APPLICANT:
 THIRU.M.VENKATESAN,
 S/o.MURUGESAN,
 NO.121, KEEZHANDI STREET,
 KILSIVIRI VILLAGE,
 MARAKKANAM TALUK,
 VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:
 S.F.NO'S : 81/2 & 82/9A,
 EXTENT : 2.30.5 Ha,
 VILLAGE : T.NALLALAM,
 TALUK : MARAKKANAM,
 DISTRICT : VILUPPURAM.

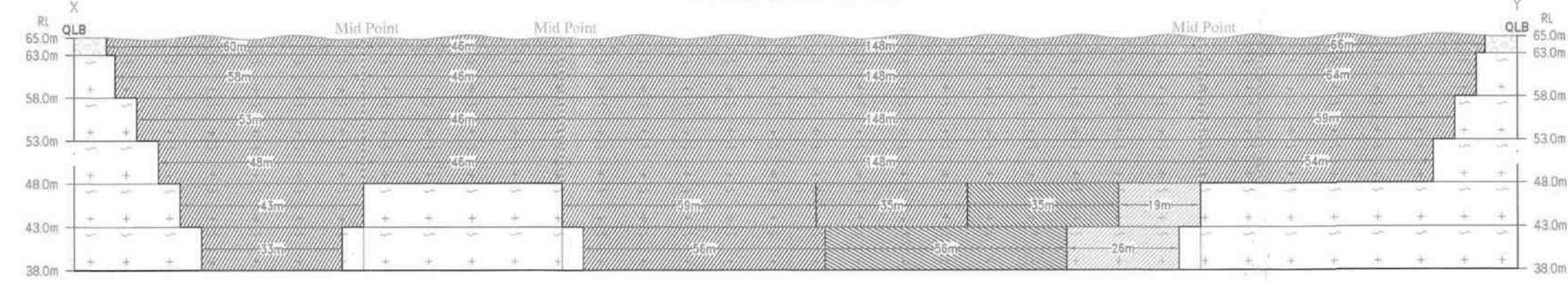
- INDEX**
- Q.LEASE APPLIED BOUNDARY
 - 7.5m,10m & 50m SAFETY DISTANCE
 - TEMPORARY BENCH MARK
 - APPROACH ROAD
 - CONTOUR
 - SCRUB
 - ODAI
 - GRAVEL
 - ROUGH STONE
 - STRIKE & DIP

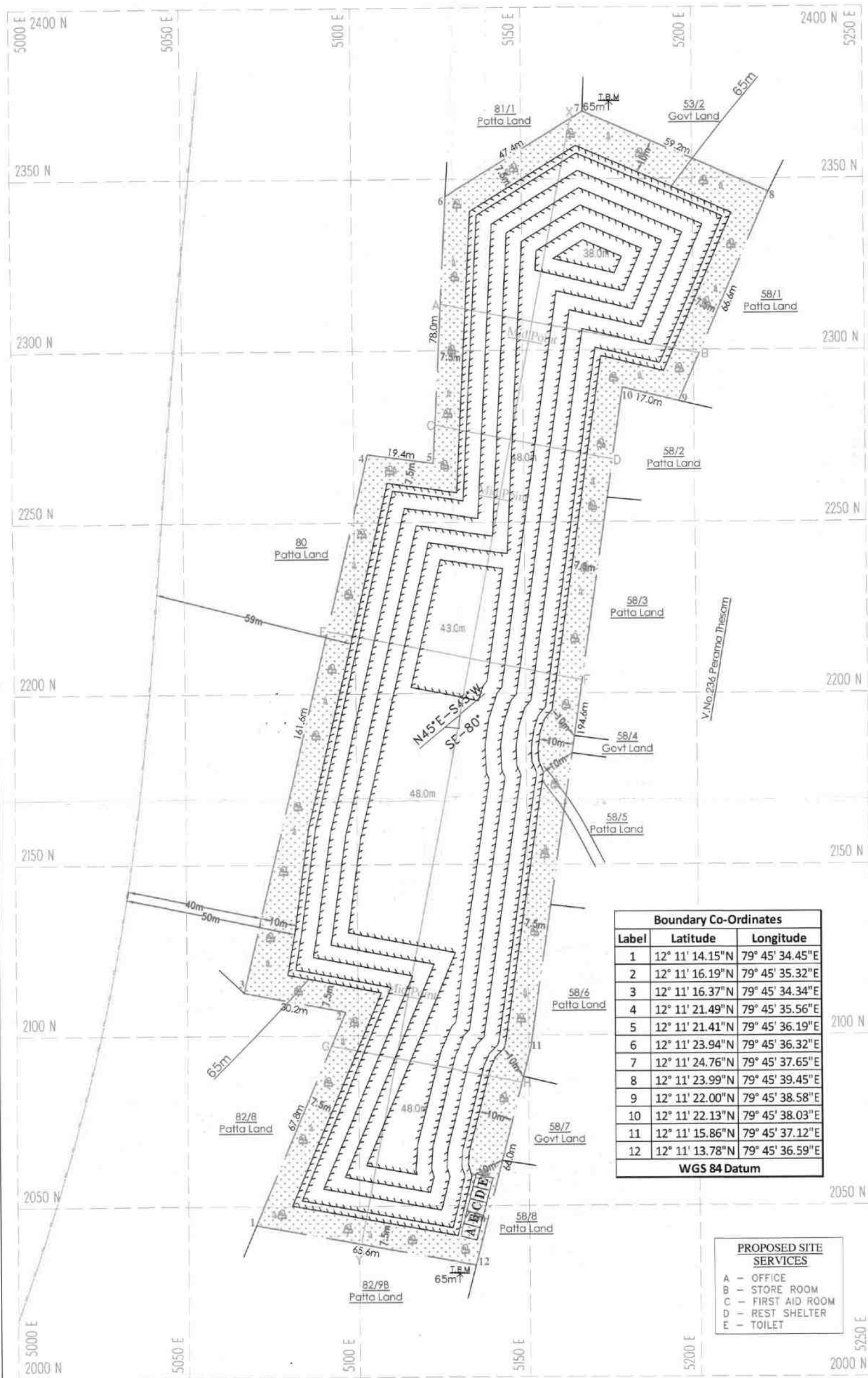
2nd Five Yr YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS
 SCALE 1 : 1000
 SECTIONS HOR 1:1000, VER 1:500

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





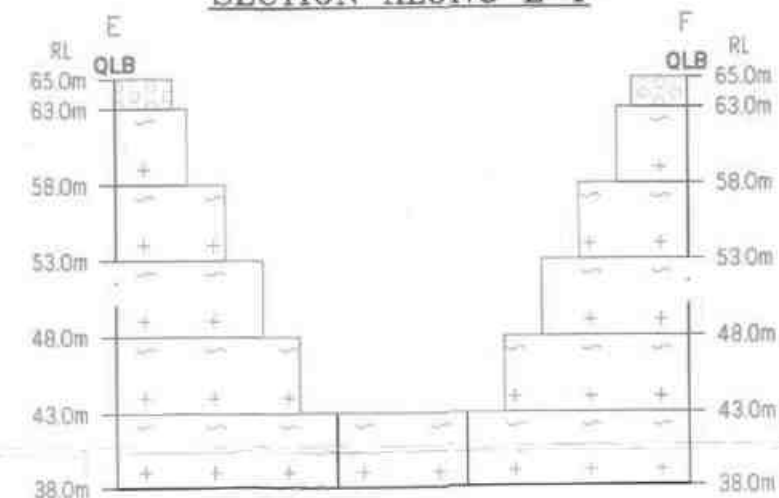
Ultimate Pit Dimension of End of the Mining Plan Period
 1320m(Max)X54(Avg)mXD27m(Max)

PRESENT & POST LAND USE PATTERN

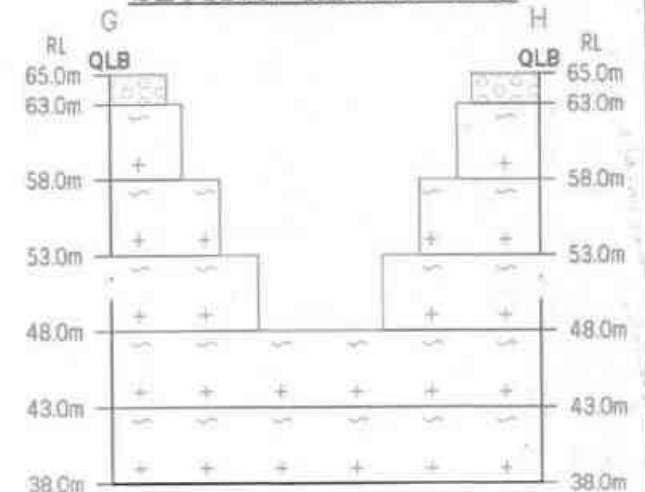
DESCRIPTION	PRESENT AREA (Ha)	AREA AT THE END OF THIS QUARRYING PERIOD (Ha)
AREA UNDER QUARRYING	NII	1.73.0
INFRASTRUCTURE	NII	0.01.0
ROADS	NII	0.01.0
GREEN BELT	NII	0.55.5
UN-UTILIZED AREA	2.30.5	NII
GRAND TOTAL	2.30.5	2.30.5

Proposed area to be Planted

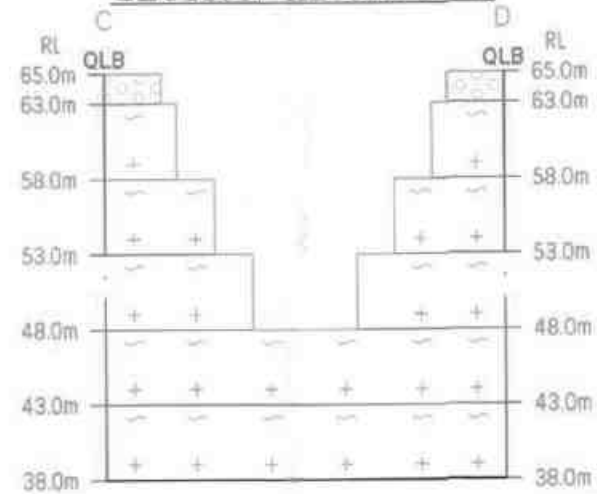
SECTION ALONG E-F



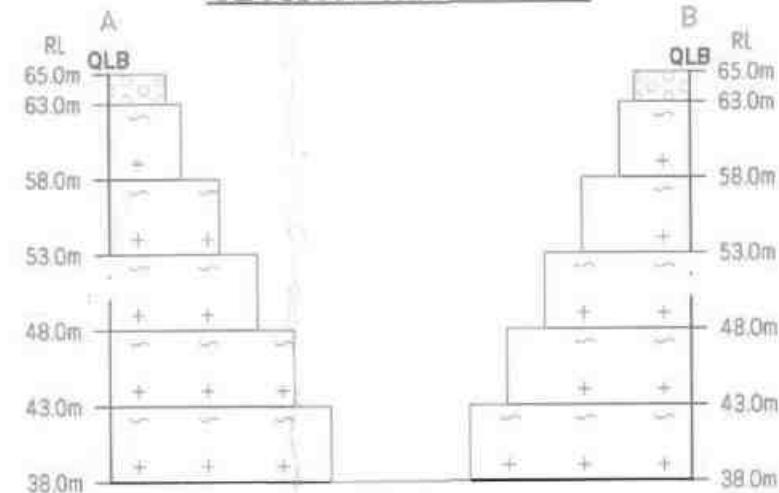
SECTION ALONG G-H



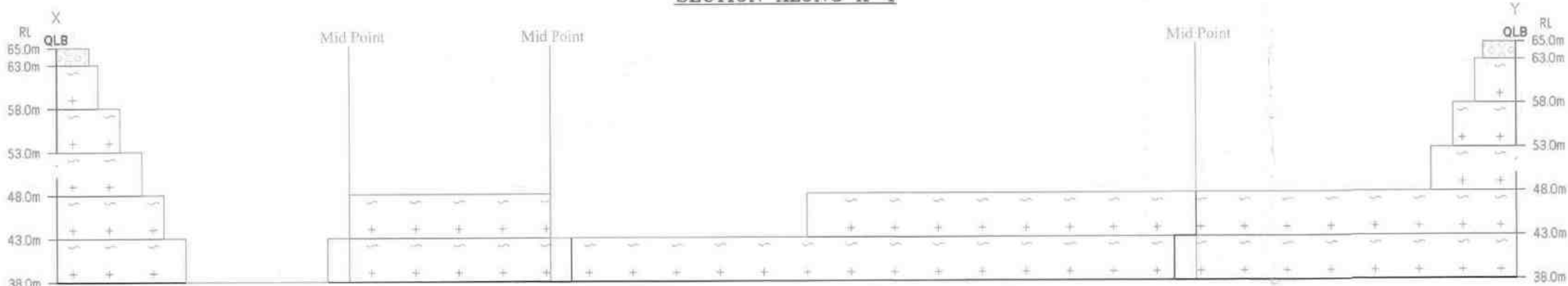
SECTION ALONG C-D



SECTION ALONG A-B



SECTION ALONG X-Y



Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 38.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E

WGS 84 Datum

PROPOSED SITE SERVICES

- A - OFFICE
- B - STORE ROOM
- C - FIRST AID ROOM
- D - REST SHELTER
- E - TOILET

PLATE NO-VI

DATE OF SURVEY : 05.12.2024

APPLICANT:

THIRU/M.VENKATESAN,
 S/o. MURUGESAN,
 NO.121, KEEZHANDA STREET,
 KILSIVIRI VILLAGE,
 MARAKKANAM TALUK,
 VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA

S.F.NO'S : 81/2 & 82/9A,
 EXTENT : 2.30.5 Ha,
 VILLAGE : T.NALLALAM,
 TALUK : MARAKKANAM,
 DISTRICT : VILUPPURAM.

INDEX

- Q.LEASE APPLIED BOUNDARY
- 7.5m,10m & 50m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- CONTOUR
- SCRUB
- ODAI
- GRAVEL
- ROUGH STONE
- STRIKE & DIP
- PROPOSED QUARRY PIT

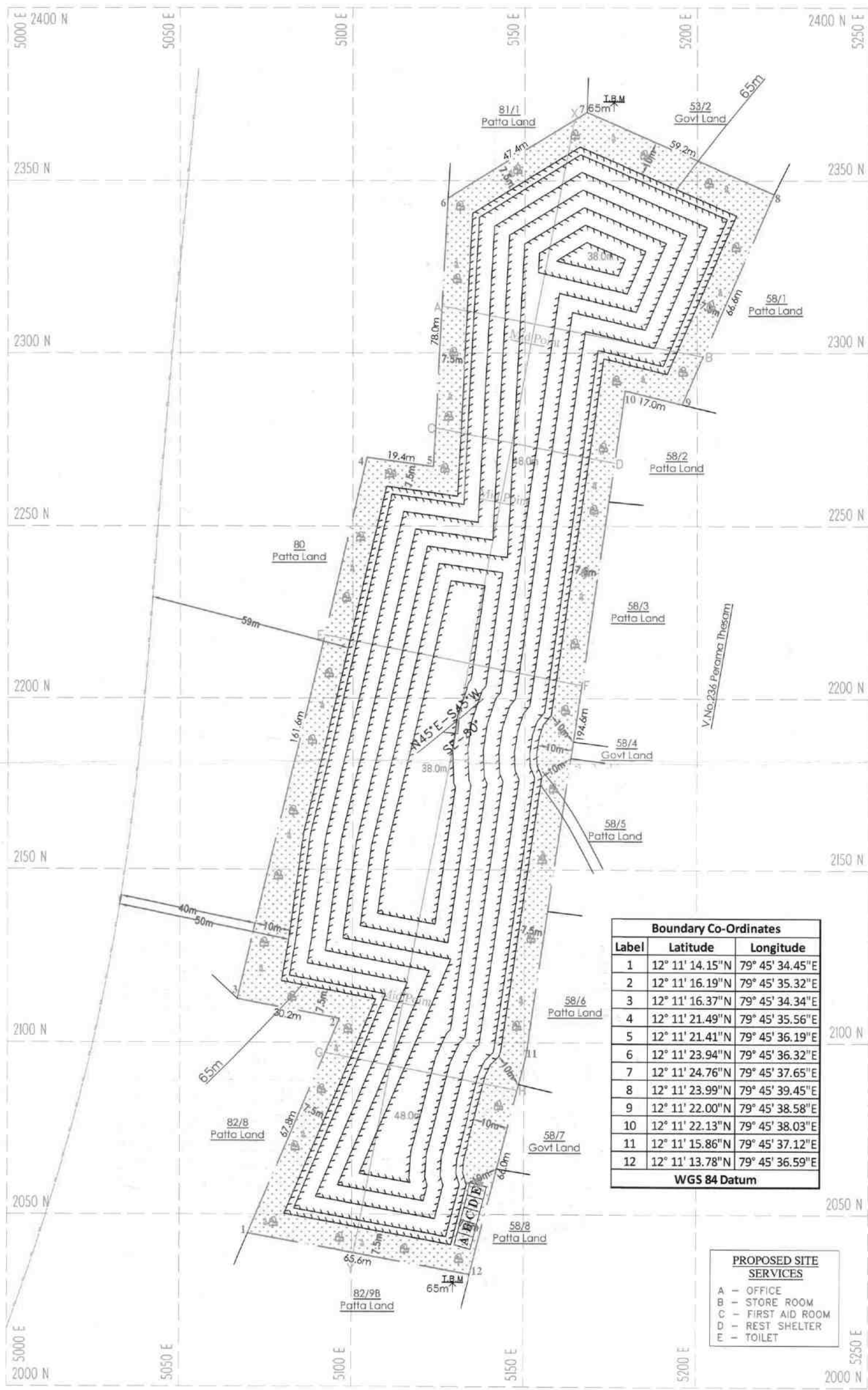
PROGRESSIVE QUARRY CLOSER PLAN & SECTIONS

SCALE 1 : 1000
 SECTIONS HOR 1:1000, VER 1:500

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



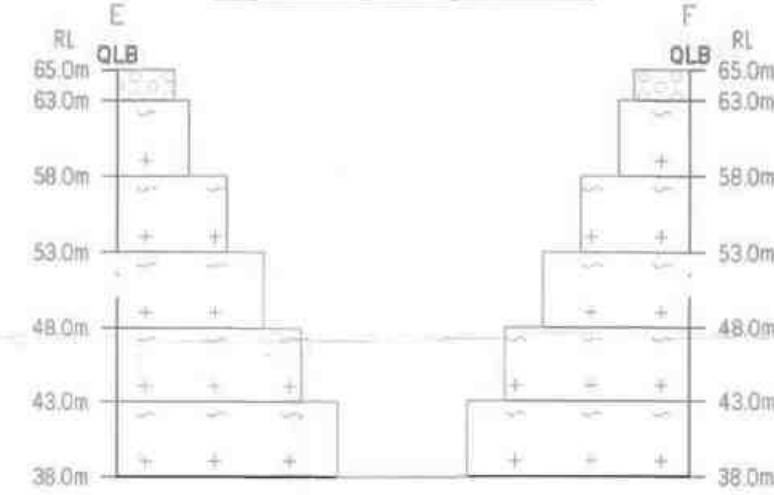
Boundary Co-Ordinates		
Label	Latitude	Longitude
1	12° 11' 14.15"N	79° 45' 34.45"E
2	12° 11' 16.19"N	79° 45' 35.32"E
3	12° 11' 16.37"N	79° 45' 34.34"E
4	12° 11' 21.49"N	79° 45' 35.56"E
5	12° 11' 21.41"N	79° 45' 36.19"E
6	12° 11' 23.94"N	79° 45' 36.32"E
7	12° 11' 24.76"N	79° 45' 37.65"E
8	12° 11' 23.99"N	79° 45' 39.45"E
9	12° 11' 22.00"N	79° 45' 38.58"E
10	12° 11' 22.13"N	79° 45' 38.03"E
11	12° 11' 15.86"N	79° 45' 37.12"E
12	12° 11' 13.78"N	79° 45' 36.59"E
WGS 84 Datum		

- PROPOSED SITE SERVICES**
- A - OFFICE
 - B - STORE ROOM
 - C - FIRST AID ROOM
 - D - REST SHELTER
 - E - TOILET

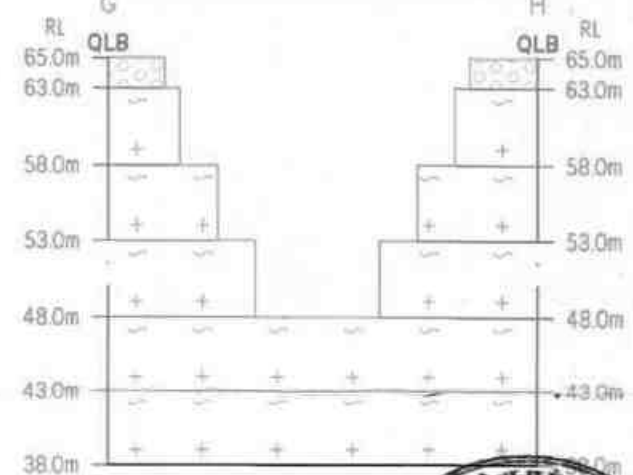
Ultimate Pit Dimension of End of the Lease Period
L320m(Max)X54(Avg)mXD27m(Max)

Proposed area to be Planted

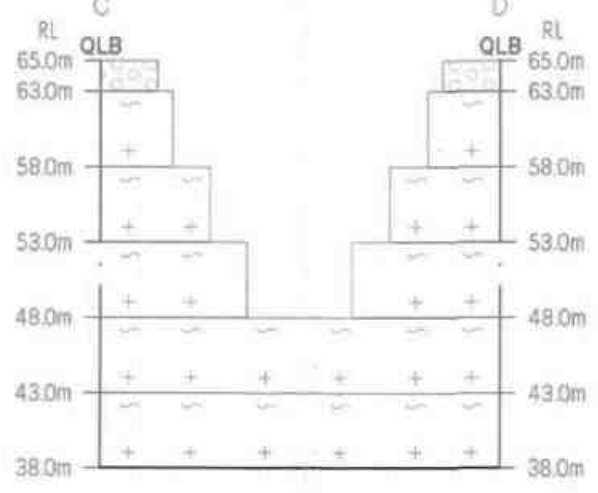
SECTION ALONG E-F



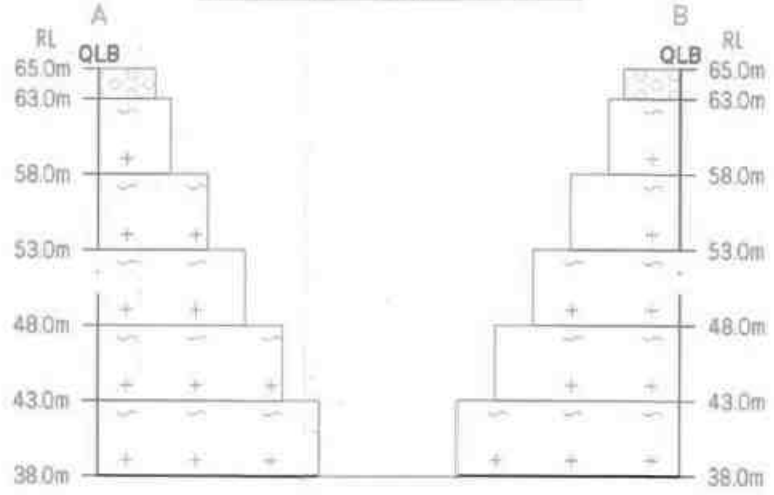
SECTION ALONG G-H



SECTION ALONG C-D



SECTION ALONG A-B



SECTION ALONG X-Y

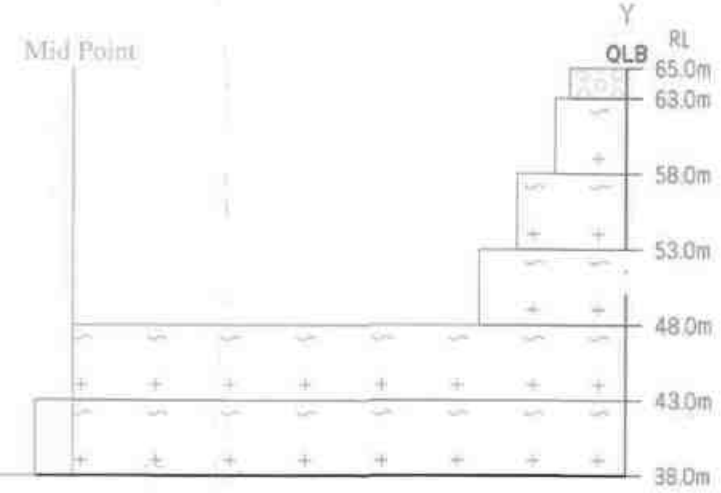
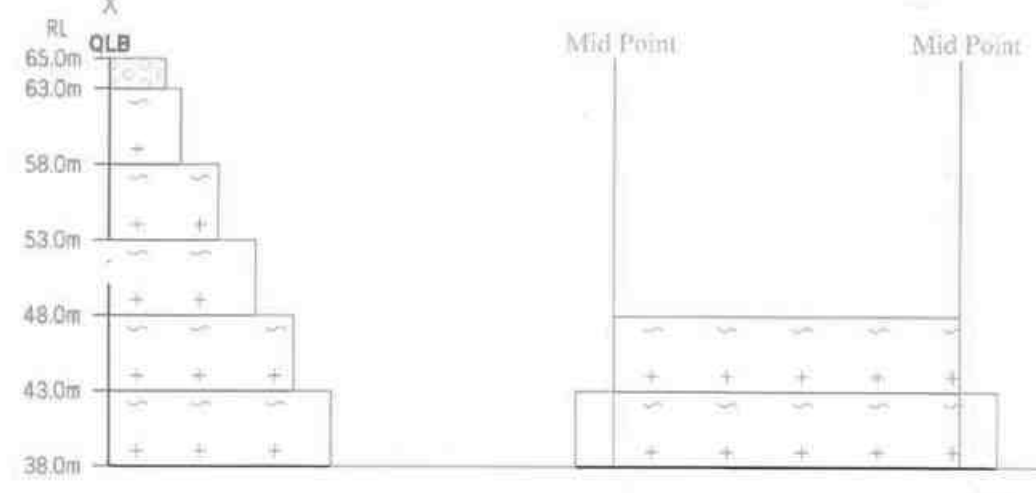


PLATE NO-VII
DATE OF SURVEY : 05.12.2024
APPLICANT:
THIRU.M.VENKATESAN,
S/o.MURUGESAN,
NO.121, KEEZHANDA STREET,
KILSIVIRI VILLAGE,
MARAKKANAM TALUK,
VILUPPURAM DISTRICT - 604 301.

QUARRY LEASE APPLIED AREA:
S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.

INDEX

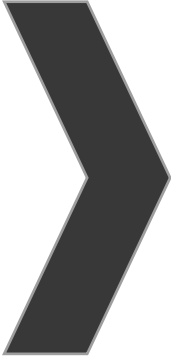
- Q.LEASE APPLIED BOUNDARY
- 7.5m,10m & 50m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- CONTOUR
- SCRUB
- ODAI
- GRAVEL
- ROUGH STONE
- STRIKE & DIP
- PROPOSED QUARRY PIT

CONCEPTUAL & SECTIONS

SCALE 1 : 1000
SECTIONS HOR 1:1000, VER 1:500

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

G.NATARAJAN,M.SC,M.Phil.,
QUALIFIED PERSON 299



ANNEXURE-4

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

To
Thiru. M.Venkadesan,
S/o. Murugesan,
No. 121, Keezhanda Street,
Kilsiviri Village,
Marakkanam Taluk,
Viluppuram District - 604 301.

Rc.No.B/G&M/242/2024 Dated.26.12.2024

Sub: Mines & Minerals - Minor Mineral - Rough Stone and Gravel - Viluppuram District - Marakkanam Taluk - T.Nallalam Village - S.F.No.81/2 - 1.90.0 and 82/9A-0.40.5 Over on extant 2.30.5 Hectare patta land - Application seeking quarry lease preferred by Thiru.M.Venkadesan S/o. Murugesan - Details of quarries situated within 500 meter radial distance - furnished - Regarding.

Ref: 1. Assistant Director, Geology and Mining, Viluppuram Letter Rc.No.B/G&M/242/2024 Dated 04.12.2024.
2. Representation received from Thiru.M.Venkadesan S/o. Murugesan Dated 19.12.2024.

With reference to your letter in the reference 2nd cited, the details of existing, proposed and abandoned quarries located within 500 mts. radial distance from the periphery of the proposed Rough stone and Gravel quarry over an extent of 2.30.5 hectares of patta lands in - S.F.No.81/2 - 1.90.0 and 82/9A- 0.40.5 T.Nallalam Village, Marakkanam Taluk, Viluppuram District are as follows.

1. 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.	S.Jagadheesan, S/o.Subburayalu, No.1/3, Mariamman Koil Street, Keezsevoor Village & Post, Tindivanam Taluk, Viluppuram District.	Rough stone & Gravel	Marakkanam & Brammadesam	49/1B 49/2 49/4B 49/5A 49/6 49/7 49/12 49/13	0.15.5 0.21.5 0.14.0 0.73.5 0.28.0 0.12.0 0.10.0 0.10.0 <u>1.84.5</u>	23.09.2022 to 22.09.2032	
2.	R.Vadivel, S/o.Ranganatha Gounder, Keelsiviri Village & Post, Marakkanam Taluk, Viluppuram District	Rough stone & Gravel	Marakkanam & Brammadesam	59/13 59/14 59/15 59/16 59/17 59/18 59/19	0.17.0 0.14.5 0.14.0 0.14.0 0.14.0 0.17.0 0.17.0 <u>1.07.5</u>	03.02.2023 to 02.02.2033	

H.G.

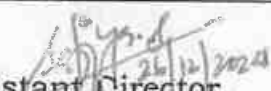
3.	R.Rasu, S/o.Ramakrishna Gounder, No.157A, Pilliyar Koil Street, Perumukkal Village, Marakkanam Taluk, Viluppuram District.	Rough stone & Gravel	Marakkanam & Brammadesam	54/4A 54/5A 54/5B 56/1	0.72.5 0.03.5 0.09.5 <u>0.43.5</u> <u>1.29.0</u>	19.10.2022 to 18.10.2027	-

II. Proposed Area :

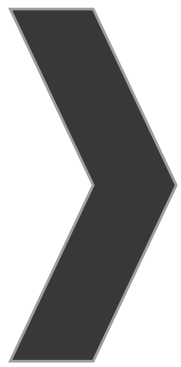
Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Remarks
1.	Thiru. M.Venkadesan, S/o. Murugesan, No. 121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District - 604 301.	Rough stone & Gravel	Marakkanam & T.Nallalam	81/2 82/9A	1.90.0 <u>0.40.5</u> <u>2.30.5</u>	-

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	Remarks
1.	Balaraman, S/o,Aanaikutti Gounder, Keelsiviri Village & Post, Tindivanam Taluk, Viluppuram District	Rough stone & Gravel	Tindivanam & T.Nallalam	18/2	1.10.0	26.12.2011 to 25.12.2021	-
2.	C.Ganesan, S/o.Chinnapalani, Brammadesam Village, Tindivanam Taluk, Viluppuram District.	Rough stone & Gravel	Tindivanam & Brammadesam	26/5 26/6 & 26/7	0.82.0 0.42.0 0.13.0 1.37.0	25.05.2014 to 24.05.2019	-
3.	M. Ranganathan, S/o. Muthu Gounder, Keelsiviri, Tindivanam Taluk	Rough stone & Gravel	Tindivanam & Keelsiviri	62/4 62/5 63/1 63/4A1	0.91.0 0.15.0 0.52.0 <u>1.45.5</u> <u>3.03.5</u>	20.04.2014 to 19.04.2019	-
4.	K.Kasinathan, S/o. Kupusamy, Nadu Street, Keelsiviri, Tindivanam Taluk	Rough stone & Gravel	Tindivanam & T.Nallalam	80/3 80/6	0.32.5 <u>1.15.5</u> <u>1.48.0</u>	17.04.2014 to 16.04.2019	-


 Assistant Director,
 Dept. of Geology and Mining
 Viluppuram.

26/12/24



ANNEXURE-5

**TOPOGRAPHICAL VIEW OF
T. NALLALAM – M.VENKADESAN
ROUGHSTONE / GRAVEL QUARRY LEASE APPLIED AREA**



LOCATION DETAILS:

Name and Address of the Applicant : M. Venkadesan
S/o K. Murugesan
No : 121, Keezhanda Street,
Kilsiviri Village,
Marakam Taluk,
Villupuram Dt. – 604 301.

Survey No : 81/2 & 82/9A
Extent : 2.30.5 Ha
Village : T.Nallalam
Taluk : Marakanam
District : Villupuram
State : Tamil Nadu.

H. Dhingra
14/12/2024
Administrative Officer
T. Nallalam, Villupuram Dt., Tamil Nadu.

M. Venkadesan
Signature of the Applicant

M. Venkadesan

உருபுமரம் மாவட்டம், மரக்காணம் உட்பட,
 தி. நல்லாமை கிராமம், ஆயன் புத்தூர் சீர்து
 ரண், 81/2 மஞ்சம் 82/9A ரெக்டீரி - 2.30.5,
 குடுகெசன் மகன் ரெக்டீரிசன் ரெக்டீரி ரெக்டீரி
 கிராம கணக்கில் தாக்கவாகியுள்ளது. மேற்படி டீ
 ரெக்டீரி லைசன்ஸ் ரெக்டீரி இன்னை, மேற்படி டீ
 ரெக்டீரி உபநிர்வாகிக்குக் கமிட்டி ரெக்டீரி இன்னை.
 மேற்படி டீ ரெக்டீரி 300 மீட்டர் சுற்றளவில்
 ரெக்டீரிக்குக் கமிட்டி ரெக்டீரி, கெடவீசன்
 ரெக்டீரி இன்னை. மேற்படி ரெக்டீரி கமிட்டி மஞ்சம்
 ரெக்டீரி ரெக்டீரி கமிட்டி ரெக்டீரி ரெக்டீரி
 ரெக்டீரி ரெக்டீரி ரெக்டீரி ரெக்டீரி ரெக்டீரி
 ரெக்டீரி ரெக்டீரி ரெக்டீரி ரெக்டீரி ரெக்டீரி

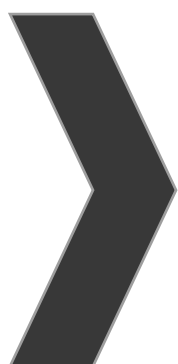
H. M. M. M.
 14/12/2024
 ரெக்டீரி ரெக்டீரி ரெக்டீரி
 ரெக்டீரி ரெக்டீரி ரெக்டீரி

H. M. M. M.

புதிதான கிராமம், திருச்சி கிராமம்,

14/12/2024
10.7 தலைவரின் 12, பழங்குடிகள்
மற்றும் மக்கள்.

H.G.



ANNEXURE-6

District : Viluppuram

Taluk : Marakkanam

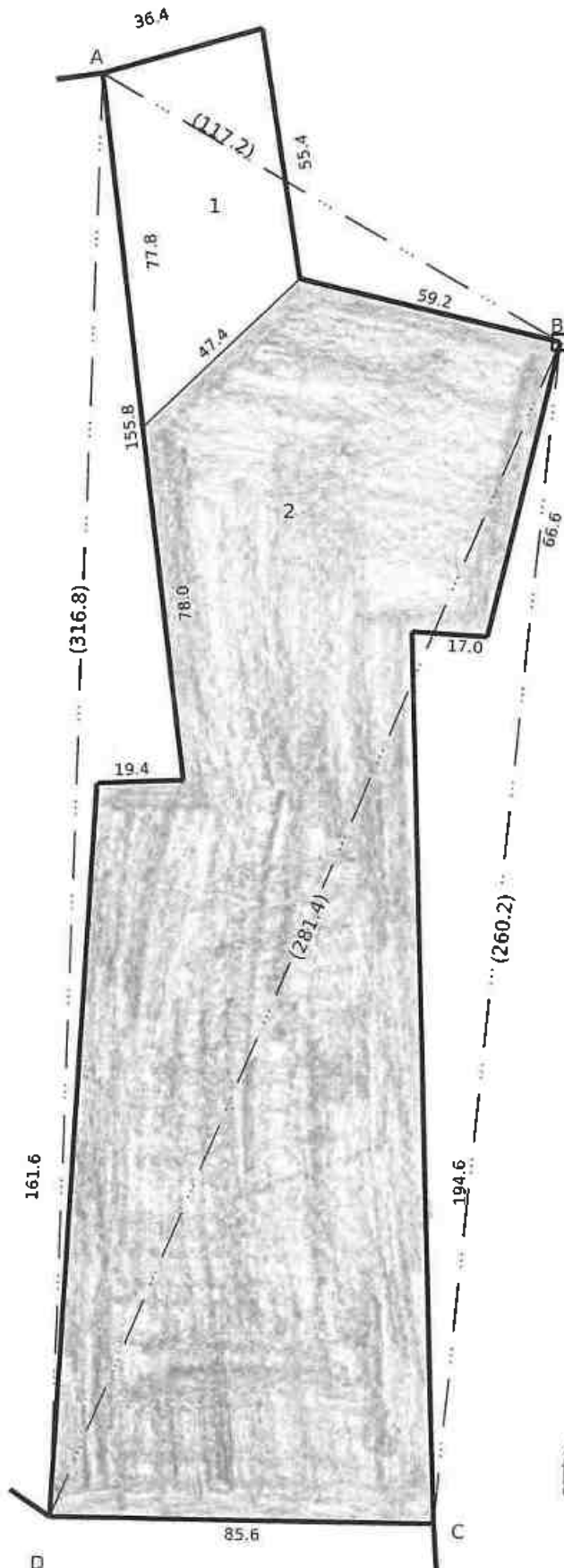
Village : T.Nallalam [149]



Survey No : 81

Area : Hect 02 Ares 15.00

Scale : 1 : 1000



V.NO.236 PERAMA THESAM

LEASE APPLIED AREA

Data Digitally Signed By
P BALAMURUGAN

Date of Issue: 02-12-2024 16:36:56

Survey and Settlement Department, Government of TamilNadu



District : Viluppuram

Taluk : Marakkanam

Village : T.Nallalam [149]



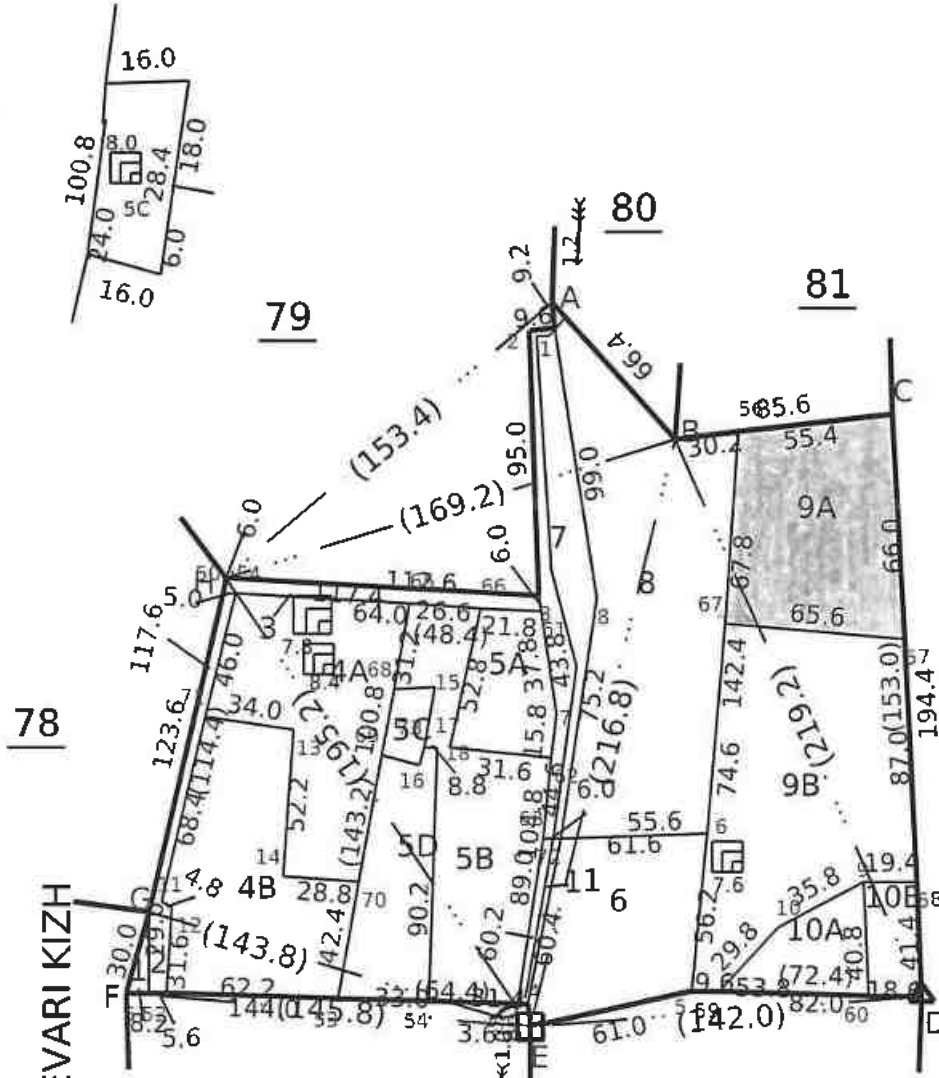
Survey No : 82

Area : Hect 04 Ares 90.00

Scale : 1 : 2578



ENLARGEMENT



V.NO.102 SEVARI KIZH

V.NO.102 SEVARI(KIZH)

V.NO.236 PERMA THESAM

LEASE APPLIED AREA

Signed By Tahsildar

Name of approver : tahm

Date of Approval : 18-07-2017

Date of Issue: 02-12-2024 16:46:20

Published by Taylor & Francis Group, Inc.
Joint Director of Study and the Secretary, English
as a Field of the University of London (1991) (The University of London 2013)



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. என். பிரிவு

வட்டம் : Villupuram (07)

வருவாய் கிராமம் : T.nallalam (149)

வட்டம் : Karaikkal (11)

பட்டாளம் : 2300

உரிமைவாரிகள் பெயர்

பெறுகிறதே

புல எண்	உட்பிரிவு	நன்குசம்		புன்குசம்		மற்றவை		குறிப்புரைகள்	Blocked - Under
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை		
		ஹெக்டேர்	ரூ - பை	ஹெக்டேர்	ரூ - பை	ஹெக்டேர்	ரூ - பை		
81	2			1-90.00	5.70				
		0	0.00	1-90.00	5.70	0	0.00		

குறிப்பு



மேற்கண்ட தகவல் / சான் றிதழ் நகல் விவரங்கள் பின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eip.tn.gov.in/cip> என்ற இணைய தளத்தில் உறுதி செய்து கொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்து கொள்ள வேண்டினால் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப் படுத்திக்கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

2. இத்தகவல்கள் 2-12-2024 அன்று 16:49:23 மணி வேளையில் அச்சடிக்கப்பட்டது.

3. கைப்பேசிக் கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 36/6PRS வழி இணைய தளத்தில் சரிபார்க்கவும்

Print

ANNEXURE

IV





தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : டி. என் பிரிவு

மாவட்டம் : Villupuram (07)

வருவாய் கிராமம் : T.nallalam (149)

வட்டம் : Narakkanam (11)

பட்டாள எண் : 2277

உரிமையாளர்கள் பெயர்

கொள்கட்டை

புல எண்	உட்பிரிவு	நன் செய்		புன் செய்		மற்றவை		குறிப்புரைகள்	Blocked - Under
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை		
82	9A			0-40.50	1.22	0-40.50	1.22	0	0.00
		0	0.00	0-40.50	1.22	0-40.50	1.22	0	0.00

குறிப்பு



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://slip.in.gov.in/cslip> என்ற இணையத்திலு் உறுதி செய்து கொள்ளவும்.

1. ஆவண விவரங்களை மேலும் உறுதி செய்து கொள்ள வேண்டிய தரவளில் தரவளங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப்படுத்தக்கூடியன.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

2. இத்தகவல்கள் 2-12-2024 அன்று 16:51:4 மணி வேளையில் அச்சிடப்பட்டது.

3. இக்கப்பெடுகிகேமராவின் 2D barcode படிப்பான மூலம் படித்து 36/6PFS விதிமுறை யதன்கீழ் சரிபார்க்கவும்

Print



அ-பதிவேடு விவரங்கள்

மாவட்டம் : Viluppuram (07)

வட்டம் : Marakkannam (11)

கிராமம் : T.nallalam (349)

1. புல எண்	01	9. மண் வயன மூலம் ரகமும்	6-4
2. உட்பிரிவு எண்	2	10. மண் தரம்	7
3. பழைய புல உட்பிரிவு எண்	01--	11. தீர்க்கை (ரூ - பை)	3.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - சர)	1-90.00
5. அரசு / ரயத்துவாரி		13. மொத்த தீர்க்கை (ரூ - பை)	5.70
6. நிலத்தின் வகை		14. பட்டா எண்	2300
7. பாசன ஆதாரம்		15. குறியீடு	-
8. இருபேரகமா		16. பெயர்	செவக்கேசன்

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://cipn.tn.gov.in/cipn> என்ற இணைய தளத்தில் உறுதி செய்து கொள்ளவும்.

1. தவண விவரங்களை மேலும் உறுதி செய்து கொள்ள வேண்டுமெனில் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிப்படுத்திக் கொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

Print

ANNEXURE VI



அ-பதிவேடு விவரங்கள்

மாவட்டம் : Viluppuram (07)

லட்டம் : Narakkalam (11)

இராணம் : T. Nallam (149)

1. புல எண்	82	9. மண் வயன மூலம் ரகமும்	8-4
2. உட்பிரிவு எண்	9A	10. மண் தரம்	7
3. பகையு புல உட்பிரிவு எண்	63-16	11. தீர்க்கை (ரூ. டீஸ)	3.00
4. பகுதி		12. பரப்பு (ஹெக்டேர் - ஏர்)	0-40.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்க்கை (ரூ. ரூப)	1.22
6. நிலத்தின் வகை	பஞ்ச	14. பட்டள எண்	2277
7. பாசன ஆதாரம்		15. குறிப்பு	
8. இரூபோகம்	இல்லை	16. பெயர்	செவ்வேசன்

குறிப்பு 1:



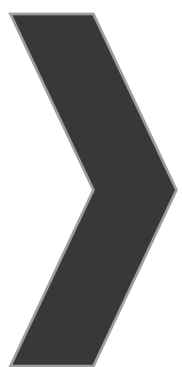
மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://clp.in.gov.in/cdp> என்ற இணைய தளத்தில் உறுதிபெய்துகொள்ளவும்.

1. ஆவண விரைக்களை மேலும் உறுதிபெய்துகொள்ள வேண்டுமெனில் தாங்கள் வட்டாட்சியர் அலுவலகத்தை அணுகி உறுதிபெய்துகொள்ளவும்.

Further Certificate confirmation and details, you may approach Tahsildar concerned.

Print





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/24/4795	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4795	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	16.12.2024
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	61.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.6	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	11.1	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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4796	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4796	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	16.12.2024
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	52.3	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	5.2	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 14



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/24/4797	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4797	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	16.12.2024
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	65.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4798	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4798	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	16.12.2024
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	49.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.4	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4799	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4799	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	16.12.2024
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	54.8	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	6.7	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4800	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4800	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	16.12.2024
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	49.1	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	8.5	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4801	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4801	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	16.12.2024
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	62.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.0	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	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4802	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4802	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	16.12.2024
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	48.4	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	7.4	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4803	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4803	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	16.12.2024
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	54.4	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	9.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4804	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4804	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	16.12.2024
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	46.4	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	7.4	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/24/4805	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4805	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	16.12.2024
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	49.8	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	9.1	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/24/4806	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4806	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	16.12.2024
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	49.2	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	8.2	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/24/4807	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4807	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	16.12.2024
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	49	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	8.1	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/24/4808	Report Date.	16.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 AND 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4808	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	16.12.2024
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	49.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/24/4851	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4851	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	23.12.2024
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	56.8	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	9.3	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4852	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4852	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	23.12.2024
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	54.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.9	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4853	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4853	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	23.12.2024
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	56.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.4	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4854	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4854	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	23.12.2024
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	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	8.6	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4855	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4855	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	23.12.2024
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	52.3	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	8.7	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4856	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4856	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	23.12.2024
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	54.8	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	8.9	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



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4857	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4857	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	23.12.2024
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	58.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 7 of 14



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/24/4858	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4858	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	23.12.2024
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	55.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.9	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
Verified



END OF THE REPORT

J. K
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 8 of 14



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/24/4859	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4859	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	23.12.2024
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	55.1	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	6.8	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4860	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4860	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	23.12.2024
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	53.6	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	8.6	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4861	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4861	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	23.12.2024
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	60.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.1	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/24/4862	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4862	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	23.12.2024
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	55.2	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	7.4	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

8 PaL
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/24/4863	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4863	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	23.12.2024
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	70.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	33.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4864	Report Date.	23.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4864	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	23.12.2024
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	50.4	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	6.2	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/24/4909	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4909	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	30.12.2024
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	72.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	34.8	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	14.5	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4910	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4910	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	30.12.2024
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	47.1	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	5.5	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 14



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/24/4911	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-4911	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	30.12.2024
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	73.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	35.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	15.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 3 of 14



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/24/4912	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-4912	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	30.12.2024
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	49.3	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	6.0	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/24/4913	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4913	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	30.12.2024
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	52.3	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	6.2	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 5 of 14



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/24/4914	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4914	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	30.12.2024
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	52.0	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	8.5	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4915	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-4915	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	30.12.2024
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	57.5	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	7.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4916	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-4916	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	30.12.2024
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	54.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.7	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/24/4917	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4917	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	30.12.2024
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	53.5	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	8.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.6	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/24/4918	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4918	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	30.12.2024
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	48.5	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	7.9	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/24/4919	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4919	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	30.12.2024
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	52.7	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	8.8	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/24/4920	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-4920	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	30.12.2024
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	51.7	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	8.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.2	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/24/4921	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-4921	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	30.12.2024
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	51.4	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	8.6	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/24/4922	Report Date.	30.12.2024

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4922	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	30.12.2024
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	55.3	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	9.3	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0001	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0001	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	06.01.2025
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	47	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	7.7	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0002	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0002	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	06.01.2025
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	50.6	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	8.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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

S. Paul
Verified



J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0003	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0003	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	06.01.2025
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	57.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.1	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0004	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0004	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	06.01.2025
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	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	8.5	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/25/0005	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0005	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	06.01.2025
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	48.2	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	7.8	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0006	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0006	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	06.01.2025
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	49.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.8	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	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0007	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0007	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	06.01.2025
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	54.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.0	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	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



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 7 of 14



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/25/0008	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0008	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	06.01.2025
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	56.8	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	8.6	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 8 of 14



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/25/0009	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0009	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	06.01.2025
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	59.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.7	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	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0010

Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0010	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	06.01.2025
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	48.7	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	7.8	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



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14

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/25/0011	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0011	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	06.01.2025
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	68.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	33.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/25/0012	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0012	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	06.01.2025
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	51.7	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	6.8	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 PaL
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14

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/25/0013	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0013	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	06.01.2025
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	64.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.4	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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0014	Report Date.	06.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0014	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	06.01.2025
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	48.5	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	5.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0029	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0029	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	31.12.2024	Test Completed on	13.01.2025
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	68.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	33.0	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	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0030	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0030	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	31.12.2024	Test Completed on	13.01.2025
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	56.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	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

8 Paul
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0031	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0031	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	01.01.2025	Test Completed on	13.01.2025
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	62.3	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	7.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.4	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0032	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0032	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	01.01.2025	Test Completed on	13.01.2025
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	53.4	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	7.1	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0033	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0033	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	02.01.2025	Test Completed on	13.01.2025
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	61.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.3	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	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:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0034	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0034	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	02.01.2025	Test Completed on	13.01.2025
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	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	7.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0035	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0035	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	03.01.2025	Test Completed on	13.01.2025
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	54.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.2	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	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0036	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0036	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	03.01.2025	Test Completed on	13.01.2025
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	50.4	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	8.0	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0037	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0037	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	04.01.2025	Test Completed on	13.01.2025
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	50.2	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	8.2	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0038	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0038	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	04.01.2025	Test Completed on	13.01.2025
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	47.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.8	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	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0039	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0039	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	04.01.2025	Test Completed on	13.01.2025
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	47.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.7	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0040	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0040	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	05.01.2025	Test Completed on	13.01.2025
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	47.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/25/0041	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0041	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	05.01.2025	Test Completed on	13.01.2025
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	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/25/0042	Report Date.	13.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0042	Sample Received on	06.01.2025
Sample Collected by	LABORATORY	Test Commenced on	06.01.2025
Sample Collected on	05.01.2025	Test Completed on	13.01.2025
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	51.2	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	8.9	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



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0057	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0057	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	07.01.2025	Test Completed on	20.01.2025
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	55.1	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	9.1	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0058	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0058	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	07.01.2025	Test Completed on	20.01.2025
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	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	9.2	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

S. Paul
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0059	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0059	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	07.01.2025	Test Completed on	20.01.2025
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	53.5	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	9.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0060	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0060	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	08.01.2025	Test Completed on	20.01.2025
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	52.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.2	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	11.4	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/25/0061	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0061	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	08.01.2025	Test Completed on	20.01.2025
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	50.1	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	8.8	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

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0062	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0062	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	08.01.2025	Test Completed on	20.01.2025
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	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	8.6	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0063	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0063	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	09.01.2025	Test Completed on	20.01.2025
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	56.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.1	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	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

8 Paul
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 7 of 14



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/25/0064	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0064	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	09.01.2025	Test Completed on	20.01.2025
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	51.9	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	8.4	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 8 of 14



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/25/0065	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0065	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	10.01.2025	Test Completed on	20.01.2025
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	52.7	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	6.5	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 9 of 14



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/25/0066	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0066	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	10.01.2025	Test Completed on	20.01.2025
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	49.8	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	7.8	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14

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/25/0067	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0067	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	11.01.2025	Test Completed on	20.01.2025
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	74.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	35.8	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	15.2	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



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0068	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0068	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	11.01.2025	Test Completed on	20.01.2025
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	52.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.8	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	10.8	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 PaL
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14

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/25/0069	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0069	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	12.01.2025	Test Completed on	20.01.2025
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	67.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0070	Report Date.	20.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0070	Sample Received on	13.01.2025
Sample Collected by	LABORATORY	Test Commenced on	13.01.2025
Sample Collected on	12.01.2025	Test Completed on	20.01.2025
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	47.5	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	5.6	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



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0085	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0085	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	14.01.2025	Test Completed on	27.01.2025
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	63.4	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	7.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.6	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0086	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0086	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	14.01.2025	Test Completed on	27.01.2025
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	53.9	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	7.2	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

S. Paul
Verified



J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 2 of 14



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/25/0087	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0087	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	15.01.2025	Test Completed on	27.01.2025
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	67.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.7	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0088	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0088	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	15.01.2025	Test Completed on	27.01.2025
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	51.6	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	6.4	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0089	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0089	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	16.01.2025	Test Completed on	27.01.2025
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	58.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.3	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 5 of 14



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/25/0090	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0090	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	16.01.2025	Test Completed on	27.01.2025
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	54.7	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	8.5	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0091	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0091	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	17.01.2025	Test Completed on	27.01.2025
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	56.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.1	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0092	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0092	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	17.01.2025	Test Completed on	27.01.2025
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	50.4	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	8.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0093	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0093	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	18.01.2025	Test Completed on	27.01.2025
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	58.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	10.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.2	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:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0094	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0094	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	18.01.2025	Test Completed on	27.01.2025
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	50.8	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	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/25/0095	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0095	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	18.01.2025	Test Completed on	27.01.2025
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	56.3	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	9.0	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:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/25/0096	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0096	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	19.01.2025	Test Completed on	27.01.2025
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	55.5	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	9.3	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0097	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0097	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	19.01.2025	Test Completed on	27.01.2025
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	52.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.2	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	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/25/0098	Report Date.	27.01.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0098	Sample Received on	20.01.2025
Sample Collected by	LABORATORY	Test Commenced on	20.01.2025
Sample Collected on	19.01.2025	Test Completed on	27.01.2025
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	51.7	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	9.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.2	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:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0113	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0113	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	21.01.2025	Test Completed on	06.02.2025
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	57.4	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	10.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 1 of 14



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/25/0114	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0114	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	21.01.2025	Test Completed on	06.02.2025
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	54.7	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	10.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R



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/25/0115	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0115	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	21.01.2025	Test Completed on	06.02.2025
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	57.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.5	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	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0116	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0116	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	22.01.2025	Test Completed on	06.02.2025
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	54.7	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	9.1	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

8 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/25/0117	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0117	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	22.01.2025	Test Completed on	06.02.2025
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	52.2	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	9.3	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0118	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0118	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	22.01.2025	Test Completed on	06.02.2025
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	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	8.6	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0119	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0119	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	23.01.2025	Test Completed on	06.02.2025
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	52.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.2	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	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

8 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0120	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0120	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	23.01.2025	Test Completed on	06.02.2025
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	56.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.7	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 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0121	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0121	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	24.01.2025	Test Completed on	06.02.2025
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	57.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.5	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	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0122	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0122	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	24.01.2025	Test Completed on	06.02.2025
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	46.3	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	8.2	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 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14

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/25/0123	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0123	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	25.01.2025	Test Completed on	06.02.2025
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	64.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.2	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



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/25/0124	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0124	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	25.01.2025	Test Completed on	06.02.2025
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	54.4	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	7.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.4	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 Paal
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14

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/25/0125	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0125	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	27.01.2025	Test Completed on	06.02.2025
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	68.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.7	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	13.4	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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 44



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/25/0126	Report Date.	06.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0126	Sample Received on	28.01.2025
Sample Collected by	LABORATORY	Test Commenced on	28.01.2025
Sample Collected on	27.01.2025	Test Completed on	06.02.2025
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	49.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.4	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	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 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0141	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0141	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	28.01.2025	Test Completed on	10.02.2025
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	69.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	33.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	13.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0142	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0142	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	28.01.2025	Test Completed on	10.02.2025
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	47.3	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	5.6	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

S. Paul
Verified



END OF THE REPORT

J. Gnanaprakasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 2 of 14



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/25/0143	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0143	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	29.01.2025	Test Completed on	10.02.2025
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	71.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	34.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	14.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0144	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0144	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	29.01.2025	Test Completed on	10.02.2025
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	51.2	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	6.4	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0145	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0145	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	30.01.2025	Test Completed on	10.02.2025
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	53.8	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	6.8	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 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 5 of 14



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/25/0146	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0146	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	30.01.2025	Test Completed on	10.02.2025
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	50.4	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	7.8	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0147	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0147	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	31.01.2025	Test Completed on	10.02.2025
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	50.5	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	5.9	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0148	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0148	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	31.01.2025	Test Completed on	10.02.2025
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	47.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.1	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

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0149

Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0149	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	01.02.2025	Test Completed on	10.02.2025
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	53.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.9	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

S. Paul
Verified



J. Gnanaprakasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0150	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0150	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	01.02.2025	Test Completed on	10.02.2025
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	48.7	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	8.4	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/25/0151	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0151	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	01.02.2025	Test Completed on	10.02.2025
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	50.8	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	8.5	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0152	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0152	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	02.02.2025	Test Completed on	10.02.2025
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	55.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.2	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 Feb
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/25/0153	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0153	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	02.02.2025	Test Completed on	10.02.2025
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	47.1	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	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0154	Report Date.	10.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0154	Sample Received on	03.02.2025
Sample Collected by	LABORATORY	Test Commenced on	03.02.2025
Sample Collected on	02.02.2025	Test Completed on	10.02.2025
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	48.3	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	8.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.6	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0169	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0169	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	04.02.2025	Test Completed on	17.02.2025
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	52.3	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	8.6	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0170	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0170	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	04.02.2025	Test Completed on	17.02.2025
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	53.5	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	9.9	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

S. Paul
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 2 of 14



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/25/0171	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0171	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	04.02.2025	Test Completed on	17.02.2025
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	50.2	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	9.4	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0172	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0172	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	05.02.2025	Test Completed on	17.02.2025
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	51.1	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	8.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11	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 Feb
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/25/0173	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0173	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	05.02.2025	Test Completed on	17.02.2025
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	48.4	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	8.2	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:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0174	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0174	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	05.02.2025	Test Completed on	17.02.2025
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	57.6	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	9.1	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0175	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0175	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	06.02.2025	Test Completed on	17.02.2025
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	53.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.5	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	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 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 7 of 14



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/25/0176	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0176	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	06.02.2025	Test Completed on	17.02.2025
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	49.2	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	8.9	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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 8 of 14



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/25/0177	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0177	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	07.02.2025	Test Completed on	17.02.2025
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	51.4	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	6.1	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0178	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0178	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	07.02.2025	Test Completed on	17.02.2025
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	56.8	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	8.6	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 Feb
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0179	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0179	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	08.02.2025	Test Completed on	17.02.2025
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	62.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.9	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

S. Paul
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R



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/25/0180	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0180	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	08.02.2025	Test Completed on	17.02.2025
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	45.9	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	5.2	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 PaL
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/25/0181	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0181	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	09.02.2025	Test Completed on	17.02.2025
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	67.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.2	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	12.6	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/25/0182	Report Date.	17.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0182	Sample Received on	10.02.2025
Sample Collected by	LABORATORY	Test Commenced on	10.02.2025
Sample Collected on	09.02.2025	Test Completed on	17.02.2025
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	49.6	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	6.1	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 14 of 14



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/25/0197	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0197	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	11.02.2025	Test Completed on	24.02.2025
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	64.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.2	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	11.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0198	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0198	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	11.02.2025	Test Completed on	24.02.2025
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	48.8	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	5.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 2 of 14



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/25/0199	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0199	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	12.02.2025	Test Completed on	24.02.2025
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	66.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	12.4	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0200	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0200	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	12.02.2025	Test Completed on	24.02.2025
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	53.5	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	7.2	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0201	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0201	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	13.02.2025	Test Completed on	24.02.2025
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	59.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.4	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	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
Verified



END OF THE REPORT

J. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0202	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0202	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	13.02.2025	Test Completed on	24.02.2025
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	54.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.4	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0203	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0203	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	14.02.2025	Test Completed on	24.02.2025
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	56.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.1	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	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0204	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0204	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	14.02.2025	Test Completed on	24.02.2025
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	58.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.2	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	11.0	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



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0205	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0205	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	15.02.2025	Test Completed on	24.02.2025
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	52.7	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	8.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.4	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0206	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0206	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	15.02.2025	Test Completed on	24.02.2025
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	46.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.4	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	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
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/25/0207	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0207	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	15.02.2025	Test Completed on	24.02.2025
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	54.9	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	9.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 11 of 14



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/25/0208	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0208	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	16.02.2025	Test Completed on	24.02.2025
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	50.8	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	8.1	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

8 Feb
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/25/0209	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0209	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	16.02.2025	Test Completed on	24.02.2025
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	50.3	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	8.7	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

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 13 of 14



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/25/0210	Report Date.	24.02.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0210	Sample Received on	17.02.2025
Sample Collected by	LABORATORY	Test Commenced on	17.02.2025
Sample Collected on	16.02.2025	Test Completed on	24.02.2025
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	59.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.6	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 14 of 14



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/25/0225	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0225	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	18.02.2025	Test Completed on	10.03.2025
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	57.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.7	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0226	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0226	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	18.02.2025	Test Completed on	10.03.2025
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	25.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	9.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.6	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



END OF THE REPORT

J. GNANAPRAKASAM
Authorized Signatory
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 2 of 4



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/25/0227	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0227	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	18.02.2025	Test Completed on	10.03.2025
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	56.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.
CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0228	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5-Peravur 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-0228	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	19.02.2025	Test Completed on	10.03.2025
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	55.3	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	9.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	11.8	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. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 4 of 14



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/25/0229	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-Bramaddesam 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-0229	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	19.02.2025	Test Completed on	10.03.2025
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	51.2	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	9.1	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
Verified



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0230	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-Vellakulam Church
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0230	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	19.02.2025	Test Completed on	10.03.2025
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	53.7	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	9.4	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0231	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0231	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	20.02.2025	Test Completed on	10.03.2025
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	54.4	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	6.8	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 7 of 14



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/25/0232	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0232	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	20.02.2025	Test Completed on	10.03.2025
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	55.2	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	8.5	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
Verified



END OF THE REPORT

J. Gnanaprasam
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 8 of 14



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/25/0233	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-Palamukkal 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-0233	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	21.02.2025	Test Completed on	10.03.2025
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	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	6.2	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0234	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-Kilsiviri 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-0234	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	21.02.2025	Test Completed on	10.03.2025
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	52.8	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	9.0	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. K.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 10 of 14



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/25/0235	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0235	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	22.02.2025	Test Completed on	10.03.2025
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	63.3	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	6.9	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0236	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0236	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	22.02.2025	Test Completed on	10.03.2025
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	52.4	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	6.7	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 PaL
Verified



END OF THE REPORT

J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 12 of 14



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/25/0237	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0237	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	65.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.3	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	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



J. 4
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0238	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-Vanniper 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-0238	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	47.9	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	5.8	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

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / **GST No :** 33AAYCS7325R1ZA / **PAN No:** AAYCS7325R

Page 14 of 14



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/25/0253	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	NOISE LEVEL DATA		

Customer Reference	As per work order	Sampling Method	SARL/IOP/023
Sample Reference No	SARL/NO/CHE-0253	Date of Monitoring	22.02.2025/ 23.02.2025
Sample Collected by	LABORATORY		

Time in hrs	N1	N2	N3	N4	N5	N6	N7
06.00	41.2	41.8	45.6	44.3	45.9	41.4	40.8
07.00	43.4	42.6	45.3	46.5	47.6	42.7	43.1
08.00	45.5	46.9	46.9	46.2	49.3	45.9	46.2
09.00	49.2	49.2	52.1	51.7	47.2	50.5	51.4
10.00	53.6	54.4	53.5	53.3	51.4	51.3	51.9
11.00	56.5	55.7	52.6	49.1	48.2	46.6	47.8
12.00	55.4	53.3	53.5	48.5	48.9	48.3	49.5
13.00	53.1	55.8	52.3	54.6	50.8	46.7	47.7
14.00	50.3	51.9	51.8	55.7	47.9	47.4	46.9
15.00	50.8	51.4	52.1	53.2	48.6	50.3	49.9
16.00	57.4	47.9	45.3	54.1	45.2	51.8	51.7
17.00	55.6	49.4	44.2	53.8	47.5	53.5	53.2
18.00	56.3	52.6	46.8	49.7	46.8	50.6	52.2
19.00	51.4	53.2	48.4	46.6	44.9	51.4	50.9
20.00	46.8	50.7	44.9	44.8	45.1	47.9	47.6
21.00	46.3	51.6	43.5	43.4	42.6	46.4	47.2
22.00	43.2	48.2	43.9	43.2	43.7	44.3	45.5
23.00	42.4	41.5	43.3	41.6	44.2	43.6	44.1
24.00	41.9	42.1	42.9	42.5	41.3	41.5	42.2
01.00	41.0	40.9	41.5	42.4	43.5	40.7	41.6
02.00	42.8	40.6	41.3	41.5	41.6	41.2	41.8
03.00	45.6	42.9	41.8	40.8	40.8	42.5	42.9
04.00	45.3	42.5	42.0	43.7	41.9	43.8	44.8
05.00	44.2	41.3	40.8	44.8	43.3	42.9	43.9

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

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/25/0253

Report Date.	10.03.2025

	N1	N2	N3	N4	N5	N6	N7
DAY EQUIVALENT	53.0	51.9	50.1	51.4	47.9	49.3	49.7
NIGHT EQUIVALENT	43.6	43.3	42.3	42.7	42.7	42.7	43.6
DAY & NIGHT EQUIVALENT	51.5	50.5	48.7	49.9	46.8	48.0	48.4

Remarks:

LOCATIONS:

N1-PROPOSED MINE LEASE AREA

N2-Vanniper Village

N3-Palamukkal Village

N4-Kilsiviri Village

N5-Peravur Village

N6-Bramaddesam Village

N7-Vellakulam Church

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0246	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S1-PROPOSED MINE LEASE AREA		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0246	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	8.11
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	189.4
3	Dry matter content	IS 15106: 2002	%	81.12
4	Water Content	IS 15106: 2002	%	18.88
5	Organic Matter	IS 2720: Part 22: 1972	%	0.45
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	189
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	%	2.81
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	42.22
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	54.97
	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	0.38
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	1004
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	498
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	%	21.9
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	2.9

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

S. Paul
Verified



J. P.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

END OF THE REPORT

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0247	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S2-Vanniper		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0247	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.08
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	348.6
3	Dry matter content	IS 15106: 2002	%	83.24
4	Water Content	IS 15106: 2002	%	16.76
5	Organic Matter	IS 2720: Part 22: 1972	%	0.51
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	282
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	%	2.94
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	56.85
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	40.21
	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	0.69
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	861
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	358
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	%	23.8
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).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0248	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S3-Palamukkal		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0248	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.67
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	239.2
3	Dry matter content	IS 15106: 2002	%	82.89
4	Water Content	IS 15106: 2002	%	17.11
5	Organic Matter	IS 2720: Part 22: 1972	%	0.29
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	268
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	CLAY
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	4.92
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	38.13
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	56.96
	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	0.76
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	812
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	431
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	%	32.7
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).

For Shrient Analytical and Research Labs Pvt. Ltd

S. Paul
Verified



J. P.
Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0249	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S4-Kilsiviri		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0249	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	5.24
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	206.7
3	Dry matter content	IS 15106: 2002	%	95.93
4	Water Content	IS 15106: 2002	%	4.07
5	Organic Matter	IS 2720: Part 22: 1972	%	0.68
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	362
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILTY CLAY
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	4.08
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	43.19
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	52.73
	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	0.61
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	641
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	257
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	%	29.2
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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0250	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S5-Peravur		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0250	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	6.16
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	92.76
3	Dry matter content	IS 15106: 2002	%	91.34
4	Water Content	IS 15106: 2002	%	8.66
5	Organic Matter	IS 2720: Part 22: 1972	%	0.51
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	149
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILTY CLAY
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	5.48
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	44.15
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	50.37
	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	0.68
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	1033
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	685
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	%	30.8
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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0251	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S6-Bramaddesam		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0251	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.54
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	208.3
3	Dry matter content	IS 15106: 2002	%	84.12
4	Water Content	IS 15106: 2002	%	15.88
5	Organic Matter	IS 2720: Part 22: 1972	%	0.83
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	312
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILTY CLAY
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	4.32
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	47.18
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	48.50
	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	0.54
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	629
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	452
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	%	21.6
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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0252	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu		
Sample Description	SOIL		
Sample Mark	S7-Vellakulam Church		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0252	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	5.67
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	198.7
3	Dry matter content	IS 15106: 2002	%	96.46
4	Water Content	IS 15106: 2002	%	3.54
5	Organic Matter	IS 2720: Part 22: 1972	%	0.64
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	334
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILTY CLAY
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	4.21
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	44.53
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	51.26
	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	0.66
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	682
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	294
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	%	29.7
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


Verified




Authorized Signatory
J. GNANAPRAKASAM
Technical Manager

Please Contact:

For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.



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/25/0239	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, 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-0239	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	6.71	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1518	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	940	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	428	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	80.4	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	58.4	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	214	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	204	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	411	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	229	1000



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/25/0239

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	172	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.04	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	2.19	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.43	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0240	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W2-Vanniper

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0240	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	6.78	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1296	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	802	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	504	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	96.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	66.5	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	232	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	272	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	409	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	188	1000



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/25/0240

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	123	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.02	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	2.23	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.45	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 2



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/25/0241	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W3-Palamukkal

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0241	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	6.83	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1673	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	1034	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	438	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	98	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	41.6	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	216	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	222	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	496	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	302	1000



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/25/0241

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	0.03	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	3.63	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.57	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0242

Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W4-Kilsiviri

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0242	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	7.47	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	654.4	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	392	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	127	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	32.8	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	15.2	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	85.4	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	41.6	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	159	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	136	1000



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/25/0242

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	70.3	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.04	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	1.58	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.29	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

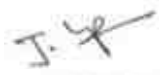
Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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/25/0243	Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W5-Peravur

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0243	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	7.14	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	992.4	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	604	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	378	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	68.1	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	56.1	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	184	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	194	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	352	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	148	1000



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/25/0243

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	80.9	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.03	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	2.27	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.31	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 2



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/25/0244

Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W6-Bramaddesam

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0244	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	6.79	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	2488	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	1534	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	465	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	104	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	54.8	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	247	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	218	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	311	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	589	1000



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/25/0244

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	314	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	4.48	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.59	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

Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 2



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/25/0245

Report Date.	10.03.2025

Customer Name & Address	Rough stone and Gravel Quarry of Thiru.M.Venkadesan, extent of 2.30.5 hectares at S.F. No: 81/2 And 82/9A of T.Nallalam Village, Marakkanam Taluk, Villupuram District, Tamil Nadu
Sample Description	WATER
Sample Mark	W7-Vellakulam Church

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0245	Sample Received on	24.02.2025
Sample Collected by	LABORATORY	Test Commenced on	24.02.2025
Sample Collected on	23.02.2025	Test Completed on	10.03.2025
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	-	7.31	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	633.7	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	394	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	135	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	33.8	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	17.4	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	89.4	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	45.6	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	147	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	128	1000



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/25/0245

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result	*Limits
					Permissible
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	71.5	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.04	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	1.28	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.27	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

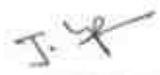
Remarks: *Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

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

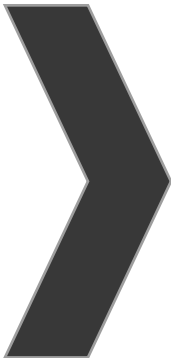
Terms and conditions:

(1) The test items will not be retained for more than 15 days from the date of issue of test report. (2) The results relate only to the items tested (3) The test report shall not be reproduced except in full without the written approval of the laboratory (4) Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation, chapter A-3.4. (5) The correctness of the information related to sample(s) in the Test Request Form/Customer letterhead/Email is the customer's responsibility. The laboratory reports the said information in the test report and is not liable for the same.

LAB SERVICES FOR:- Food, Water, Milk, Environment, Academic & Industrial Segment.

CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R

Page 2 of 2



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.

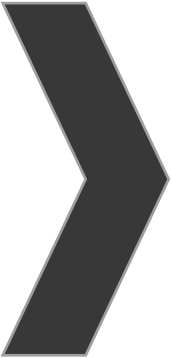
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: SHRIENT ANALYTICAL AND RESEARCH LABS PRIVATE LIMITED

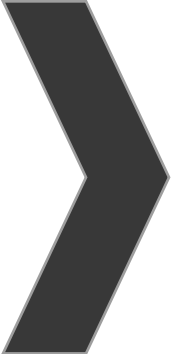
Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



ANNEXURE-9



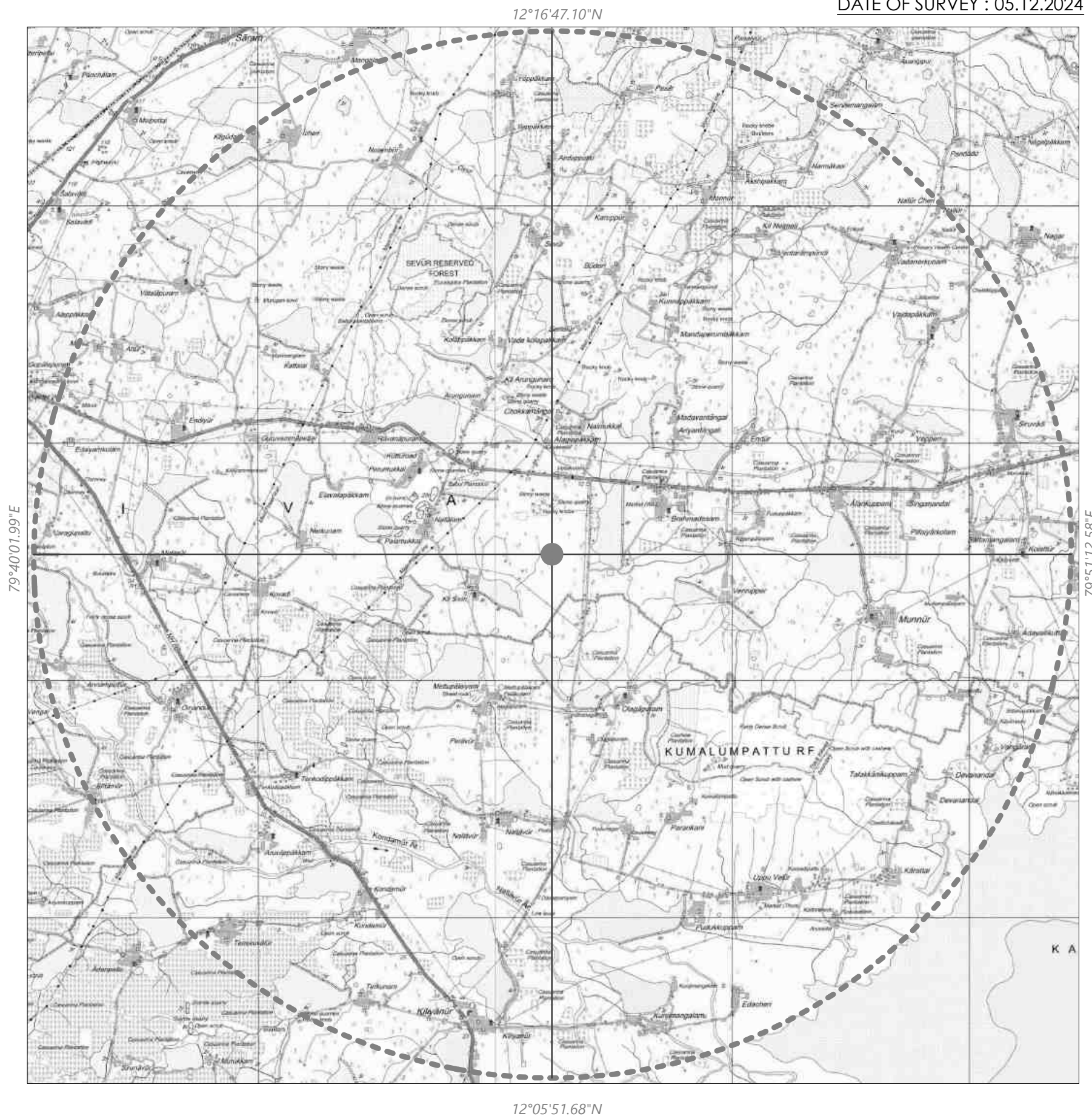
ANNEXURE-10

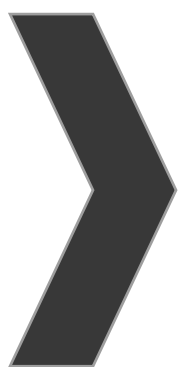
S.F.NO'S : 81/2 & 82/9A,
EXTENT : 2.30.5 Ha,
VILLAGE : T.NALLALAM,
TALUK : MARAKKANAM,
DISTRICT : VILUPPURAM.



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

513





ANNEXURE-11



தமிழ்நாடு தமிழ்நாடு TAMILNADU 7.1.2025

M. Venkadesan
Viluppuram

100/ EK 066270

M. *[Signature]*

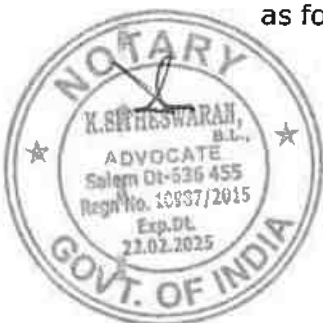
திரு. முருகேசன் (அ) தங்கவேலு, (கி.தி.வி.)
ச.பி.பி. எண்: 8206-14/91
கச்சேரி வீதி, சூழப்பாடி
சேலம் மாவட்டம்

AFFIDAVIT TO SEIAA, TAMIL NADU

I, Thiru.M.Venkadesan, S/o.Murugesan, residing at No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District- 604 301, do hereby solemnly declare and sincerely affirm that, I have applied for getting environmental clearance to SEIAA, Tamil Nadu for quarry lease of Rough Stone and Gravel quarry over an extent of 2.30.5 Ha., of Patta land in 81/2 and 82/9A of T.Nallalam Village, Marakkanam 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
 - 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 proposal for Corporate Environment Responsibility (CER) activities is given as follows;

[Signature]



Sl. No.	PROPOSED CER ACTIVITIES	COST IN LAKHS.
1	Plantation (40 Nos.)	5.0
2	Providing smart classrooms, accessories for computer and providing books for the library	
3	Construction of toilet and maintenance for the entire lease period	
Total		5.0

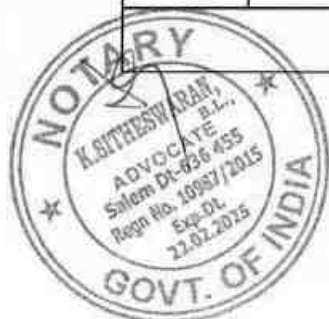
The above proposed CER cost will be spent on Gandhiji High School, Kilsivir Village and I assure you that the proposed CER activities will be completed before the commencement of quarrying operations.

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	Haul Road Maintenance	0.23	0.23
2	Water Sprinkler Arrangement	8.00	0.75
3	AAQ Monitoring	0.00	0.50
4	Control Blasting (Muffle blasting)	0.00	0.08
5	Wet Drilling	0.75	0.08
6	No overloading of trucks/tippers/tractors	0.00	0.05
7	Stone carrying trucks will be covered by tarpaulin	0.00	0.18
8	Enforcing speed limits of 20 km/hr within ML area	0.20	0.00
9	Regular monitoring of exhaust fumes as per RTO norms	0.00	0.06
10	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	0.00	5.53
11	Installing wheel wash system near gate of quarry	0.50	0.20
Sub-Total (A)		9.68	7.66
Noise Environment			
12	Provision for Portable blaster shed	0.50	0.04
13	NONEL Blasting will be practiced to control Ground vibration and fly rocks	0.00	5.02



Sub-Total (B)		0.50	5.06
Water Environment			
14	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	0.23	0.05
15	Installation of Bio toilet (Portable)	2.00	0.20
16	Sump Maintenance	0.00	0.20
17	Dewatering Cost	0.00	1.00
Sub-Total (C)		2.23	1.45
Implementation of EC, Mining Plan & DGMS Condition			
18	Waste management (Spent Oil, Grease etc.,)	0.35	0.23
19	Environmental Parameters Display Board	0.20	0.02
20	Issue of PPE's	1.16	0.29
21	IME & PME Checkup	0.00	0.29
22	First Aid facility Provision	0.00	0.09
23	Signage & boards for safety precautions	0.10	0.02
24	Barbed Wire Fencing to quarry area	4.61	0.10
25	Parking yard Management	1.15	0.10
26	Installation of CCTV cameras in the mine and mine entrance	0.30	0.05
27	Implementation as per Mining Plan and ensure safe quarry working	0.00	10.80
Sub-Total (D)		7.87	11.99
Green Belt			
28	Plantation inside ML area (670 Nos.)	1.34	0.20
29	Plantation outside ML area (480 Nos.)	1.44	0.14
Sub-Total (E)		2.78	0.35
Additional Key EMP Expenses			
30	Constructing Rainwater Harvesting Structure	5.00	0.10
31	Environmental Awareness Programme	0.50	0.00
32	District Green Fund	22.06	0.00
33	Mine Closure Plan	5.00	0.00
Sub-Total (F)		32.56	0.10

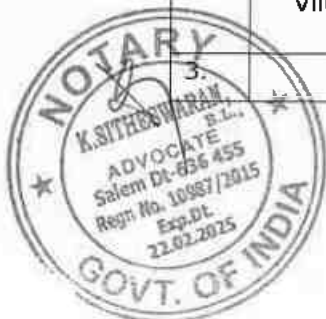


H. G.

Grant Total (A+B+C+D+E+F)	55.62	26.61
Total EMP Cost for 10 years is 390.32 lakhs i.e., Rs. 55.62 Lakhs of Capital Cost + Rs. 334.70 Lakhs of Recurring cost (For 10 Years)		

4. Details of quarry within a 500m radius of the applied area

S.No	Name of the Quarry Owner	S.F. Nos & Village	Lease Period	Area
a. Abandoned Quarry				
1.	Thiru.Balaraman, S/o. Aanaikutti Gounder, Keelsiviri Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.No.18/2 T. Nallalam Village	26.12.2011 to 25.12.2021	1.00.0 Ha
2.	Thiru.C.Ganesan, S/o. Chinnapalani, Brammedesam Village, Tindivanam Taluk, Viluppuram District	S.F.Nos.26/5, 26/6, 26/7 Brammedesam Village	12.07.2010 to 11.07.2020	0.77.0 Ha
3.	Thiru.M.Ranganathan, S/o. Muthu Gounder, Keelsiviri, Tindivanam Taluk	S.F.Nos.62/4, 62/5, 63/1, 63/4A1 Brammedesam Village	20.04.2014 to 19.04.2019	3.03.5 Ha
4.	Thiru.K.Kasinathan, S/o. Kupusamy, Nadu Street, Keelsiviri, Tindivanam Taluk.	S.F.Nos.80/3, 80/6 T. Nallalam Village	17.04.2014 to 16.04.2019	1.48.0 Ha
b. Existing Quarry				
1.	Thiru.S.Jagadheesan, S/o. Subburayalu, No.1/3, Mariamman Koil Street, Keezesevoor Village & Post, Tindivanam Taluk, Viluppuram District.	S.F.Nos.49/1B, 49/2, 49/4B, 49/5A, 49/6, 49/7, 49/12, 49/13 Brammedesam Village	23.09.2022 to 22.09.2032	1.84.5 Ha
2.	Thiru.R.Vadivel, S/o. Ranganatha Gounder, Keelsiviri Village & Post, Marakkanam Taluk, Viluppuram District.	S.F.Nos. 59/13, 59/14, 59/15, 59/16, 59/17, 59/18, 59/19 Brammedesam Village	03.02.2023 to 02.02.2033	1.07.5 Ha
3.	Thiru.R.Rasu,	S.F.Nos.54/4A,	19.10.2022 to	1.29.0 Ha



	S/o. Ramakrishna Gounder, No.157A, Pilliyar Koil Street, Perumukkal Village, Marakkanam Taluk, Viluppuram District.	54/5A, 54/5B, 56/1 Brammedesam Village	18.10.2027	
c. Proposed Quarry				
1.	Thiru.M.Venkadesan No.121, Keezhanda Street, Kilsiviri Village, Marakkanam Taluk, Viluppuram District 604 301.	S.F.Nos.81/2 and 82/9A T.Nallalam Village	-	2.30.5 Ha
Total Area of Cluster				6.51.5 Ha

The total lease area within the 500m radius works out to 6.51.5 Ha including this proposed lease area (2.30.5 Ha). **As such, cluster situation is applicable and Environmental Clearance for this project is applied under B1 Cluster Category.**

5. There will not be any hindrance or disturbance to the people living no uprooted/ 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 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.

M.G.



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

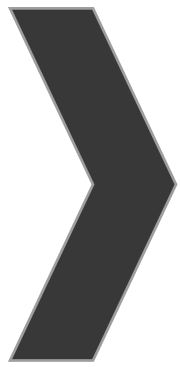
H.G.

Thiru.M.Venkadesan



H.G.
27/1/2025
K. SITHESWARAN, B.L.
Advocate & Notary Public
Opp. BDO Office, Omalur (Tk),
SALEM (Dt)-636 455.
Regn. No: 10987/2015.
Cell: 94435 16211

H.G.



ANNEXURE-12

18.12.24

அனுப்புநர் :

திரு. R. சீரஜ்

(தலைமை ஆசிரியர்)

காந்திஜி உயர்நிலைப் பள்ளி

கீழ்ச்சிவரி

மறுநர் :

M. மலங்கடல்

த/ம. குடுகச்சன்

கீழ்ச்சிவரி (பிரதீபம்)

மரக்காணம் வட்டம்

அனுப்புநர் மாவட்டம்

மேலா

மேலா :-

கீழ்ச்சிவரி காந்திஜி உயர்நிலைப் பள்ளி

கூற்று மார்ப்ச்சிக்காக நிதி கோருதல்

சார்பு,

அணக்கம் :-

அனுப்புநர் மாவட்டம் மரக்காணம் வட்டம் கீழ்ச்சிவரி

கிராமத்தின் உரிக்கம் திரு. M. மலங்கடல் அலுவலர் D. அண்ணா

கிராமத்தின் கருவாரி அமைப்பு உரிக்காக அறிவித்தல். குடியே

சார்பு எண் 81/2, 82/9, குடியே அலுவலர் பள்ளியை

06 செப்டம்பர் 10-ல் உரிப்பு வரை மாணவ-மாணவியர்களை பயிற்சி

பெறுகின்றனர். அங்கு அலுவலர் பள்ளியை கூற்று மார்ப்ச்சிக்காக

குறைவாகும். அறிவிக்கப்படுகிறது.

குறைவாக அறிவிக்கப்படுகிறது :-

* உரிப்பு கருவாரி கட்டிடம்

* கண்ணி உரிப்பை

* கண்ணி உரிக்காக

குடி : கீழ்ச்சிவரி

 18/12/24

தலைமை ஆசிரியர் IC
காந்திஜி உயர்நிலைப்பள்ளி
கீழ்ச்சிவரி & P.O., மரக்காணம் TK
விழுப்புரம்-604 301. 522