

DRAFT EIA & EMP FOR PROPOSED ROUGH STONE AND GRAVEL QUARRY CATEGORY – B1

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

ToR Identification No. TO24B0108TN5296961N (F.No. 11692), Dated: 02.03.2025

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	575 (P)
VILLAGE	PIRANCHERI
TALUK	MANUR
DISTRICT	TIRUNELVELI
EXTENT	2.18.15 Ha
CLUSTER EXTENT	6.50.65 ha
PROPOSED PRODUCTION QUANTITY FOR FIVE YEARS	ROUGH STONE : 3,42,975m³ GRAVEL : 33,966m³ PEAK PRODUCTION: 70,400m³
LAND	PATTA LAND

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

Category of the Project: B1 Cluster Mining, Total Cluster Area – 6.50.65 Ha
Baseline Monitoring Period – December 2024 to February 2025

APPLICANT

Thiru.S.Vellapandi,
S/o. Subbaiya,
No. 64A, South Street,
Vadakku Ilandaikulam,
Thoothukudi District – 628 952.

ENVIRONMENTAL CONSULTANT	LABORATORY
M/s. GLOBAL MINING SOLUTIONS <i>(NABET Accredited & ISO 9001 Certified Consultant)</i> Plot No. 6, S.F.No. 13/2, A2, VS City, RC Chettypatty, Kottamettupatty, Omalur, Salem, Tamil Nadu – 636 455. NABET Accreditation No: NABET/EIA/23-26/SA 0241 Valid up to: 04.01.2026 Contact: 97502 23535 & 94446 54520 Email: infoglobalmining@gmail.com, globalminingsolutionssalem@gmail.com	M/s. SHRIENT ANALYTICAL & RESEARCH LABS PRIVATE LIMITED <i>(NABL Accredited Testing Laboratory)</i> Valid up to: 29.09.2025 #416/15, Dhargas Road, Perungalathur, West Tambaram, Chennai, Tamil Nadu, India.



JUNE - 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 Thiru.S.Vellapandi, 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 2.18.15 Ha., & Cluster extent of 6.50.65 Ha., located at Pirancheri Village, Manur Taluk, Tirunelveli 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 Pirancheri 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 Draft EIA/EMP report submitted for EC of the proposed Rough Stone and Gravel quarry over a lease extent of 2.18.15 Ha., & Cluster extent of 6.50.65 Ha., located at Pirancheri Village, Manur Taluk, Tirunelveli District, 1Tamilnadu.

For: M/s. Global Mining Solutions


Name: **M.Manikandan**

EIA Coordinator – Mining

UNDERTAKING

In Line with OM no. J-11013/41/2006-IA.II (1) dated 4th Aug 2009 and its Amendments, we hereby confirm that all Terms of Reference issued by Ministry of Environment, Forest and Climate Change vide ToR Identification No. TO24B0108TN5296961N (F.No. 11692), Dated: 02.03.2025 of Draft EIA/EMP report for the proposed Stone Quarry over a lease extent of 2.18.15 Ha., & Cluster extent of 6.50.65 Ha., located at Pirancheri Village, Manur Taluk, Tirunelveli District, Tamilnadu for the production of 3,42,975m³ of Rough Stone and 33,96 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/23-26/SA 0241, valid till 04.01.2026.

For: M/s. Global Mining Solutions



Name: M.Manikandan

EIA Coordinator – Mining



भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL
OF INDIA
Creating an Ecosystem for Quality



NABET

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-A** under the QCI-NABET Scheme for Accreditation of
EIA Consultant Organization, Version 3: for preparing EIA/EMP reports in the following Sectors-

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast/ underground mining	1	1 (a) (i)	A
3	Thermal power plants	4	1 (d)	B
5	Metallurgical industries (ferrous)	8	3 (a)	A
6	Cement Plants	9	3 (b)	A
26	Building and construction projects	38	8 (a)	B
27	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated May 20, 2025, posted on QCI-NABET website.

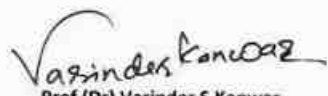
The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/25/3638 dated May 30, 2025. The accreditation needs to be renewed before the expiry date Eco Chem Sales and Services, Surat following due process of assessment.

Valid up to
January 4, 2026

Issue Date
May 30, 2025



Certificate No.
NABET/EIA/23-26/SA 0241


Prof (Dr) Varinder S Kanwar
CEO - NABET

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

Declaration By Expert

Declaration by Experts contributing to the proposed Stone Quarry over a lease extent of 2.18.15 Ha & Cluster extent of 6.50.65 Ha located at Pirancheri Village, Manur Taluk, Tirunelveli District, Tamilnadu.

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

EIA Coordinator Name: M. Manikandan


Signature & Date

Period of involvement: 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.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU 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. Dhanakshmi
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>	N. 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.	T. Srilatha

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

			<u>Period: December 2024 to 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. Dhanam
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

CHAPTER NO	TITLE	PAGE NO
1	INTRODUCTION	53
1.1	PURPOSE OF THE REPORT	53
1.2	IDENTIFICATION OF PROJECT AND PROJECT PROPONENT	55
1.3	BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION OF THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY, REGION	57
1.4	SCOPE OF THE STUDY -DETAILS OF REGULATORY SCOPING CARRIED OUT (AS PER TERMS OF REFERENCE):	58
2	PROJECT DESCRIPTION	61
2.1	TYPE OF PROJECT	61
2.2	NEED FOR THE PROJECT	62
2.3	LOCATION (MAPS SHOWING GENERAL LOCATION, SPECIFIC LOCATION, PROJECT BOUNDARY & PROJECT SITE LAYOUT):	63
2.4	SIZE OR MAGNITUDE OF OPERATION (INCL.ASSOCIATED ACTIVITIES REQUIRED BY OR FOR THE PROJECT)	69
2.5	PROPOSED SCHEDULE FOR APPROVAL & IMPLEMENTATION	70
2.6	TECHNOLOGY & PROCESS DESCRIPTION	70
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	75
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)	81
2.9	ASSESSMENT OF NEW & TESTED TECHNOLOGY FOR THE RISK OF TECHNOLOGICAL FAILURE	83
3	DESCRIPTION OF THE ENVIRONMENT	84
3.1	STUDY AREA, PERIOD COMPONENTS AND METHODOLOGY	84
3.2	ESTABLISHMENT OF BASELINE FOR VALUED ENVIRONMENTAL COMPONENTS:	87
3.3	BASE MAP OF ALL ENVIRONMENTAL COMPONENTS	89
4	ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	136
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.	137
4.2	MEASURES FOR MINIMIZING AND /OR OFFSETTING ADVERSE IMPACTS IDENTIFIED	138

4.3	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF ENVIRONMENTAL COMPONENTS	144
4.4	ASSESSMENT OF SIGNIFICANCE OF IMPACTS (CRITERIA FOR DETERMINING SIGNIFICANCE, ASSIGNING SIGNIFICANCE).	154
4.5	MITIGATION MEASURES	156
5	ANALYSIS OF ALTERNATIVES (TECHNOLOGY & SITES)	161
5.1	DESCRIPTION OF EACH ALTERNATIVE	161
5.2	SUMMARY OF ADVERSE IMPACTS OF EACH ALTERNATIVE	161
5.3	MITIGATION MEASURES PROPOSED FOR EACH ALTERNATIVE	161
5.4	SELECTION OF ALTERNATIVE	161
6	ENVIRONMENTAL MONITORING PROGRAMME	162
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)	162
7	ADDITIONAL STUDIES	168
7.1	PUBLIC CONSULTATION	168
7.2	RISK ASSESSMENT & MANAGEMENT	168
7.3	SOCIAL IMPACT ASSESSMENT (R & R) ACTION PLAN	170
8	PROJECT BENEFITS	182
8.1	IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE	182
8.2	IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE	182
8.3	EMPLOYMENT POTENTIAL: SKILLED, SEMI-SKILLED & UN-SKILLED	183
8.4	OTHER TANGIBLE BENIFITS	183
9	ENVIRONMENTAL COST BENEFIT ANALYSIS	184
10	ENVIRONMENTAL MANAGEMENT PLAN	185
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	185
11	SUMMARY AND CONCLUSIONS	194
11.1	OVER ALL JUSTIFICATION FOR IMPLEMENTATION OF THE PROJECT	194
11.2	EXPLANATION OF HOW ADVERSE EFFECTS HAVE BEEN MITIGATED	198
12	DISCLOSURE OF CONSULTANTS ENGAGED	212

FIGURE LIST

Figure No	Title	Page No
1.1	SATELLITE IMAGE SHOWING CLUSTER QUARRIES	55
2.1	LOCATION MAP	64
2.2	GOOGLE IMAGE SHOWING PROJECT SITE	65
2.3	SURFACE PLAN OF THE PROJECT AREA	66
2.4	TOPO MAP SHOWING EXISTING SITE FEATURES	68
2.5	PROJECT SITE PHOTOGRAPHS	68
2.6	WATER BALANCE DIAGRAM	71
2.7	REGIONAL EOLOGY MAP - 10 Km RADIUS FROM PROJECT AREA	74
2.8	BLASTING PATTERN	76
2.9	FLOW CHART OF THE QUARRY OPERATION	77
2.10	CONCEPTUAL PLAN	80
3.1	ENVIRONMENTAL SETTING OF THE STUDY AREA	86
3.2	GOOGLE MAP SHOWING 50M INTERVAL FOR 500M RADIUS FROM THE LEASE AREA	89
3.2a	SATELLITE MAP OF THE PROJECT AREA (10 KM RADIUS)	90
3.3	SEISMIC MAP OF INDIA	92
3.4	WIND ROSE PLOT DURING DEC TO FEB 2025	93
3.5	AMBIENT AIR MONITORING LOCATIONS	95
3.6	AMBIENT AIR QUALITY DATA AAQ1 - MINE LEASE AREA	96
3.7	AMBIENT AIR QUALITY DATA AAQ2 - PIRANCHERI VILLAGE	97
3.8	AMBIENT AIR QUALITY DATA AAQ3 - ITHIKULAM VILLAGE	97
3.9	AMBIENT AIR QUALITY DATA AAQ4 - KAYATHAR VILLAGE	98
3.10	AMBIENT AIR QUALITY DATA AAQ5 - ILANDAIIKULAM VILLAGE	98
3.11	AMBIENT AIR QUALITY DATA AAQ6 - ARSANKULAM VILLAGE	99
3.12a	BASE MAP OF GROUND WATER SAMPLING LOCATIONS	102
3.12b	BASE MAP OF SURFACE WATER SAMPLING LOCATIONS	103
3.13a	VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS	106
3.13b	VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS	106
3.14	NOISE MONITORING LOCATIONS	107
3.15	DAY AND NIGHT EQUIVALENT VALUES IN 6 LOCATIONS	108
3.16	SOIL SAMPLING LOCATIONS	109
3.17	REMOTE SENSING SATELLITE IMAGE	115
3.18	LAND USE/LAND COVER MAP OF THE STUDY AREA	119
3.19	VILLAGE MAP OF THE STUDY AREA	123
3.20	GENDER-WISE POPULATION DISTRIBUTION	126

3.21	GENDER WISE LITERACY DISTRIBUTION	126
3.22	OCCUPATIONAL STRUCTURE WITHIN BUFFER ZONE	127
3.23	10 KILOMETER RADIUS OF THE DRAINAGE MAP	129
3.24	10 KILOMETER RADIUS OF THE GEOLOGY MAP	131
3.25	10 KM RADIUS OF THE STUDY AREA GEOMORPHOLOGY MAP	132
3.26	10 KM RADIUS OF THE STUDY AREA SOIL TYPE MAP	133
3.27	NON-MONSOON WATER LEVEL MAP OF THE STUDY AREA	134
3.28	MONSOON WATER LEVEL MAP OF THE STUDY AREA	134
4.1	WATER BALANCE DIAGRAM	142
4.2	ISOPLETH OF GLC PREDICTION FOR PM2.5	149
4.3	ISOPLETH OF GLC PREDICTION FOR PM10	150
4.4	ISOPLETH OF GLC PREDICTION –CUMULATIVE FOR PM2.5	151
4.5	ISOPLETH OF GLC PREDICTION –CUMULATIVE FOR PM10	152
4.6	FIG 4.6 FENCING AND PLANTATIONS PHOTOGRAPHS	160
7.1	ISOPLETH OF GLC PREDICTION FOR PM2.5	172
7.2	ISOPLETH OF GLC PREDICTION FOR PM10	173
7.3	ISOPLETH OF GLC PREDICTION –CUMULATIVE FOR PM2.5	174
7.4	ISOPLETH OF GLC PREDICTION –CUMULATIVE FOR PM10	175
10.1	ORGANIZATION CHART	189

TABLE LIST

Table No	Title	Page No
1.1	CLUSTER MINES DETAILS	53
1.2	PROPOSED PROJECT DETAILS	57
2.1	500M RADIUS CLUSTER MINES DETAILS	61
2.1.a	SALIENT FEATURES OF THE PROJECT	62
2.2	CO-ORDINATES OF THE PROJECT SITE	64
2.3	CURRENT LAND USE PATTERN	66
2.4	LAND USE AT MINE CLOSURE STAGE	67
2.5	STATUS OF STATUTORY CLEARANCES, PERMISSIONS, NOC, CONSENTS	69
2.6	PROPOSED SCHEDULE FOR APPROVAL	70
2.7	WATER REQUIREMENT	71
2.8	MACHINERIES INVOLVED IN THE PROJECT	72
2.9	MINING DETAILS	77
2.10	SUMMARY OF PRODUCTION FOR 5 YEARS	79
2.11	ULTIMATE PIT DIMENSION	80
2.12	LAND USE AT MINE CLOSURE STAGE	80
3.1	DESCRIPTION OF THE LEASE AREA	84
3.2	RAINFALL DATA	91
3.3	DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS	94
3.4	RESULTS OF AIR SAMPLING ANALYSIS IN 6 LOCATIONS	95
3.5	WATER SAMPLING LOCATIONS	101
3.6	SURFACE WATER ANALYSIS RESULTS	104
3.7	RESULTS OF GROUND WATER SAMPLING ANALYSIS IN 6 LOCATIONS	105
3.8	NOISE MONITORING RESULTS	107
3.9	RESULTS OF SOIL SAMPLE ANALYSIS	109
3.10	FLORA IN CORE ZONE	110
3.11	FLORA IN BUFFER ZONE	111
3.12	FAUNA IN BUFFER ZONE	113
3.13	MAJOR LAND USE UNITS OF THE STUDY AREA	117
3.14	MAJOR LAND USE UNITS OF THE STUDY AREA IN PERCENTAGE	122

3.15	VILLAGE DETAILS IN STUDY AREA	124
3.16	POPULATION PROFILE OF THE STUDY AREA	125
3.17	EDUCATIONAL INFRASTRUCTURE	127
3.18	MEDICAL INFRASTRUCTURE	128
3.19	OTHER INFRASTRUCTURE	128
4.1	GROUND WATER LEVEL STATUS IN TIRUNELVELI DISTRICT	143
4.2	IMPACTS AND MITIGATION MEASURES FOR FAUNA	144
4.3	CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	152
4.3a	CLUSTER CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	153
4.3b	CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	153
4.3c	CLUSTER CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	153
4.4	NOISE LEVELS IN MONITORING LOCATIONS	155
4.5	IMPACTS ON HUMANS DUE TO VARIOUS MINING ACTIVITIES	158
6.1	ENVIRONMENTAL MONITORING SCHEDULE	163
6.2	IMPORTANT RECORDS TO BE MAINTAINED BY PP	165
6.3	ENVIRONMENTAL MANAGEMENT PLAN BUDGET	165
7.1	HAZARDS AND PRECAUTIONARY MEASURES	169
7.2	500M RADIUS CLUSTER MINES DETAILS (AS PER 500M CERTIFICATE)	170
7.3	CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	175
7.4	CLUSTER CONCENTRATIONS OF PM2.5 AFTER PROJECT IMPLEMENTATION	176
7.5	CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	176
7.5a	CLUSTER CONCENTRATIONS OF PM10 AFTER PROJECT IMPLEMENTATION	176
7.6	IMPACT ON TRAFFIC	179
10.1	ENVIRONMENTAL MANAGEMENT PLAN	186
10.2	ENVIRONMENTAL MANAGEMENT PLAN BUDGET	191
11.1	DESCRIPTION OF THE LEASE AREA	197
11.2	DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS	199
11.3	RESULTS OF GROUND WATER SAMPLING ANALYSIS IN 6 LOCATIONS	200
11.4	NOISE MONITORING RESULTS	201
11.5	RESULTS OF SOIL SAMPLE ANALYSIS	201
11.6	MAJOR LAND USE UNITS OF THE STUDY AREA IN PERCENTAGE	202

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 Affidavit	12

COMPLIANCE TO **TERMS OF REFERENCE**

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

S.No	ToR Points	Reply	Pg. No
1. Applicability of Specific Conditions:			
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	Agreed	-
2	The above-mentioned proposal has been considered by (SEIAA) Appraisal Committee of SEIAA in the meeting held on 17/10/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,] are available on PARIVESH portal which can be accessed by scanning the QR Code above.	Agreed	
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).	Agreed	
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.S.Vellapandi under the provisions of EIA Notification, 2006 and as amended thereof.	Agreed	
5	The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary	Agreed	
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	Agreed	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

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	Agreed	
1	Seiaa Specific Conditions		
1	After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 3,42,975m³ of Rough Stone & 33,966m³ of gravel with an ultimate depth of mining is 47m BGL as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & the conditions mentioned in Annexure of this minutes. 1.The concerns of public hearing with respect to impact of mining on water bodies and agriculture should be obtained and addressed in the EMP with financial allocation.	Agreed	
2	SEAC Conditions - Site Specific		
2.1	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.	Agreed	-
2	Given that the high-tension line is situated at distances of 235m (East), 370m (East), 340m (East),470m (East), 288m (Northeast), 490m (North), 485m (Southwest), 370m (Southwest),	Agreed. Will be complied.	.

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	425m (Southwest), and 455m (South), the PP must obtain a NoC from the relevant authority in accordance with the Electricity Act		
3	As there is a solar power plant at a distance of 530m, the PP shall provide comprehensive details about the plant and the potential implications of the mining activity	Agreed. Will be complied.	
4	The Boundary pillars to be erected as per the mine rules and the evidence should be submitted along with the EIA report	Agreed.	-
5	The PP should explore the possibility of transporting the quarry material through closed trucks.	Agreed.	
6	The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report.	Agreed. Will be complied.	-
7	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.	
8	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	Complied. photographs of adequate fencing, & green belt incorporated in chapter 4	160
9	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 details are given in Chapter 3.	110
10	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.	Complied. The details are given in Chapter 6.	167

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

11	The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included ripping (or) any other non-explosive ground breaking techniques, loading & hauling on the surrounding village and structures	Complied. The details are given in Chapter 4.	147
12	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	
13	The PP shall furnish the details of transportation through the trucks supported with hydraulic operated covers while passing through the village/highway in order to avoid the spillage of material & dust pollution.	Complied. The details are given in Chapter 4.	138
14	The PP shall prepare a conceptual action plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed.	Agreed.	
3	SEAC Standard Condition		
1	In the case of existing/operation 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 lining lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6m height and ultimate depth of not exceeding 50m.	Not applicable. This is a fresh quarry.	-
2	Details of habitations around the proposed mining area and latest VAO Certificate regarding the location of habitations within 300m radius from the periphery of the site.	Complied.	Enclosed as Annexure 5

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Complied.	
4	The PP shall submit a detailed hydrogeological report indicating the impact of proposed quarrying operations on the water bodies like lake, water tanks, etc are located within 1 km of the proposed quarry.	The study is under progress. It will be incorporated in the final EIA & EMP.	-
5	The Project Proponent shall carry out Bio-diversity study through reputed institution and the same shall be included in the EIA report.	Complied. The biodiversity report of the study area to be incorporated at the time of final EIA submission.	110
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries. Tiger reserve etc. upto a radius of 25 km from the proposed site.	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S). The DFO letter stating that the proximity distance of RF & PF to be incorporated at the time of final EIA submission.	-
7	In 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.	-	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

8	However, in case of the fresh/virgin quarries, the project shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30m below ground level.	It will be complied at the timing of EC appraisal.	-
9	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent	Proponent undertaking agreement enclosed	-
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site	Agreed. Will be complied.	-
11	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	The details to be incorporated at the time of final EIA Submission.	-
12	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines	Not applicable. This is a fresh quarry project.	-
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	Not applicable. This is a fresh quarry project.	-
14	Quantity of minerals mined out. • Highest production achieved in any one year. • Detail of approved depth of mining. • Actual depth of the mining achieved earlier. • Name of the person already mined in that leases area. • If EC and CTO already obtained, the copy of the same shall be submitted. • Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches	Not applicable. This is a fresh quarry project.	-
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an	Project coordinates superimposed in satellite imagery and given as Figure No – 2.2 in Chapter – 2.	65 & 68 131-132

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	The geology and geomorphology map are provided in Figure No.3.24 3.25 Chapter 3. The Soil map is provided under Figure No. 3.26, Chapter-3. The 10km Radius Index plan showing buffer zone is given in Figure No.3.1 & Figure 3.2 in Chapter – 3.	131-133
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing etc.,	This is fresh quarry. The condition will be complied after commencement of the mining operation.	-
17	The proponent shall furnish photographs of adequate fencing, greenbelt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan	There are no trees within ML area. Fencing and plantations are under process. Greenbelt / Plantation will be carried out in the safety zone to enhance the vegetative growth and aesthetic in the safety zone area. In the post mining stage, an area of 0.46.15 Ha will be under greenbelt and plantation.	164
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding, environment and the remedial measures for the same.	The geological reserves are 9,79,200 m3 of Rough stone, 43,520 m3 of gravel The mineable reserves of rough stone 3,42,975 m3 of Rough Stone, 33,966m3 of gravel	75
19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR" 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Complied. Please refer Fig. 10.1	189
20	The Project Proponent shall conduct the Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD/TWAD so as to assess the impacts on the wells due to mining activity. Based on actual	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 3.	129

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	monitoring data, it may clearly be shown whether working all intersect ground water. 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 for all environments is collected for the Summer season (December 2024 to Feb 2025).	89-135
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 air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Detailed cumulative impact study has been carried and the same is incorporated in the Chapter 4. Accordingly, a detailed Environment Management Plan is prepared considering air, water, noise and soil environment and the details are given in Chapter 7.	152 & 170
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	NA	
24	Land use of the study area delineating forest area, agricultural land, grazing land. Wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Satellite imagery has been used to study the lease area and the details of land use is given in Chapter 3.	119
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable. There is no generation of the OB & waste.	-
26	Proximity to Areas declared as ' Critically Polluted'(or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	No proximity to Critically polluted areas.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The impact of the mining operations due to this quarry on water environment is studied and mitigation measures are proposed. Rain water harvesting plan is given Chapter 4.	141
28	Impact on local transport infrastructure due to the Project should be indicated	Since the production is very less, only few trucks of 5/10T will be used for transport. The effect of transport on local transport will be negligible.	-
29	A tree survey shall be carried out (Nos. name of species, age, diameter, etc) both within the mining lease applied area & 300m buffer zone and its management during mining activity	There are no trees within 300m buffer zone of the project area.	-
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific	Detailed mine closure plan is given in Chapter 7.	181
31	As 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, where ever 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 and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Green belt is proposed in an area of 0.46.15 ha. Green belt development plan provided.	160
33	Taller/one year old saplings raised in appropriate size of bags; preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/horticulturist with regard to site-specific choices. The proponent shall earmark the green belt area with GPS coordinates all along the boundary of the project site with at least 3 m wide and in between blocks in an organized manner	Accepted. The photographs showing green belt will be provided once it is completed.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan is prepared and the details are given in Chapter 7.	180
35	A risk assessment and Management plan shall be prepared and included in the EIA/EMP report for the complete life of the proposed quarry or till the end of the lease period	Risk assessment and its management is given in Chapter 7.	168
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health Impacts of the project and preventive measures are detailed under Chapter 4.	160
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No major impact on public health will be there since the villages are located more than 1km from the lease area. Details of CER and CSR are discussed under Chapter No. 8	-
38	The Socio-economic studies should be carried out within a 5km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Socio economic study is conducted both by visits and secondary data collection. Details are given in Chapter 3	122
39	Details of litigation pending against the project, if any, with direction /order passed by any Court of law against the Project should be given.	No litigation is pending	-
40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project is given in Chapter 8	185
41	If any quarrying operations were carried out in the proposed quarrying site for which now 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/TNPCCB.	Not applicable. This is a fresh quarry project.	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

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 condition mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986	Agreed	-
4.Seiaa standard Conditions:			
Cluster Management Committee			
1	Cluster management committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	There are four quarries within a 500-metre radius. The proponent will take the initiative to form a cluster management committee once environmental clearance is obtained for this quarry as well as the other proposed quarry.	-
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	Agreed. Will be complied.	-
3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Agreed. The list of members of the committee formed will be submitted to AD/mines after obtaining Environmental Clearance.	-
4	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Agreed. Details of the Operation plan for cluster mining operations will be submitted once we get environmental clearance for all quarries proposed in the cluster area.	-
5	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	Risk management plan for the individual quarry is given in this report. As far as cluster working condition is concerned, once the committee is formed, risk management as a cluster including inundation of clusters and the evacuation plan will be elaborated and the same will be submitted to the EIA.	-
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the	Environmental policy for the cluster will be framed by the cluster management committee and the policy will be in accordance with EPA	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	committee in implementing the environmental policy devised shall be given in detail in the EIA Report.	Act, 1986 and its amendments, guidelines by MoEF&CC/SEIAA and other regulatory bodies. This policy will be displayed in the quarry.	
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	Agreed. It will be complied 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.	Agreed. It will be complied as mentioned in the Point No.4.	-
Agriculture & Agro-Biodiversity			
9	Impact on surrounding agricultural fields around the proposed mining Area.	Agreed. It is described in the point no. 12 (e) of this ToR Compliance Annexure-1	-
10	Impact on soil flora & vegetation around the project site.	Complied. The details are given in Chapter 3.	110
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.	110
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.	110
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.	185
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 4.	120
Forests			
15	The project proponent shall detailed study on impact of mining on Reserve Forests free ranging wildlife.	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S) Gangaikondan Spotted deer Sanctuary – 9.21km (S)	85
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.	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

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.	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S) Gangaikondan Spotted deer Sanctuary – 9.21km (S)	85
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.	180
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.	
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 3.	87
22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Not applicable.	-
23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	Fragmentation impact on environment may be due to drilling and blasting. The anticipated impacts and mitigation measures are discussed in Chapter 4.	144
24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	An ecological and biodiversity study has been conducted and the same is incorporated in the Chapter 3 of the Draft EIA/EMP report. However, there is no any features mentioned in this condition within the M.L area. However, the impacts anticipated with respect to the environment of the project area is very negligible and it will be	110

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

		minimized within the project area. The details are described in Chapter 10.	
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components 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.	99
27	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including environmental stress. c) Sediment geochemistry in the surface streams.	There is no wastewater generation from this Quarry, so this is not applicable.	
Energy			
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished	Complied. The details are described in Chapter 4.	144
Climate Change			
29	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Complied. The details are described in Chapter 4.	144
30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Complied. The details are described in Chapter 4.	144
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood	Complied. The details are described in Chapter 4.	144
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.	181
EMP			
33	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area	Complied. The details are described in Chapter 10.	185

	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.	Complied. The details are described in Chapter 10.	185
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.	185
Disaster Management Plan			
36	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Complied. The details are described in Chapter 7.	180
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.	The VAO certificate of 300 m radius is submitted in the Annexure V.	-
38	As per the MoEF& CC office memorandum F.NO.22-65/2017-1A.11I 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,	Nil	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	contemplated during mining may be investigated and reported.		
Standard Terms of Reference for (Mining of minerals)			
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	Not applicable. This is not a Violation Category Project. This proposal is for Environmental Clearance for B1 Category Cluster Situation.	
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.	The copy of LOI i.e. Precise Area Communication Letter in the name of all Lessee is attached as Annexure2,	
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	Noted & agreed.	
1.4	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).	Project coordinates superimposed in satellite imagery and given as Figure No – 2.2 in Chapter – 2. The geology and geomorphology map are provided in Figure No.3.24 3.25 Chapter 3.	67 &134-135
1.5	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.	The details are incorporated in chapter 3	65 & 68 131-132
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.	The applied area is inspected by the VAO, Revenue Inspector of Mines, Assistant Director and confirmed the land is suitable for Rough stone quarrying operation with the land	

		use policy of the state. VAO Certificate is attached as Annexure 5 ,	
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.	Environment policy details given chapter- 10.	185
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.	It is an open cast mining project. Blasting details are incorporated in Chapter-2	76
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.	The study area comprise of 10 km zone around the mine lease from. in Chapter 2	
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.	Satellite imagery has been used to study the lease area and the details of land use is given in Chapter 3.	119

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	There is no proposal for use of land outside the mine lease area for OB dumps, etc. There are no R&R issues involved in the project.	
1.12	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.	No forest land involved in the project.	
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	Not applicable since no forest land involved within mine lease area.	
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	Not applicable since no forest land involved in mine lease area.	
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Not applicable since no forest land involved within mine lease area.	
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.	Impact on Biological Environment is given in Chapter 3	110
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors,	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S)	

	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.	Gangaikondan Spotted deer Sanctuary – 9.21km (S)	
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 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.	Details biological study (flora & fauna) within 10 km radius of the project site have been incorporated in Chapter 3	110
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 Department should be secured and furnished to the effect that the proposed mining activities could be considered.	There is no critically polluted area within 10 km radius of the mining area. Also, the project does not come under the 'Aravali Range'.	
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 with respect to CRZ, coastal features such as mangroves, if any, should be furnished.	The project does not fall under CRZ.	

	(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.	There is no Rehabilitation and resettlement is involved. Land classified as Patta land	
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	Baseline environmental monitoring was conducted in the core zone and buffer zone during Summer December 2024 to Feb 2025 . Site specific meteorological data was also collected during the study period. The monitoring location details and the monitoring results are discussed in Chapter 3 .	84

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.	Air quality modeling was carried out for the rough stone mining project using AERMOD as incorporated in Chapter-4	146
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.	Water requirement for the project and source are given in detail in Chapter 2	71
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Not Applicable Water will be taken from out sources	
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.	Proposed water conservation measures including rainwater harvesting measures are discussed in Chapter 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 of the project on the surface and ground water environment and necessary control measures are discussed in Chapter 4	143
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for	Hydro Geological Study will be submitted in final EIA	129

	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.	There is no seasonal stream or nallah flowing through the mining area.	
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.	Highest elevation: 85 AMSL Depth: 65 m (below from existing ground profile) i.e. 47m Below Ground Level as per TOR	
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.	There are no trees within ML area. Fencing and plantations are under process. Greenbelt / Plantation will be carried out in the safety zone to enhance the vegetative growth and aesthetic in the safety zone area. In the post mining stage, an area of 0.46.15 Ha will be under greenbelt and plantation.	
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.	Traffic study details in chapter 7	177

1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Details of onsite facilities to be provided	
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.	Conceptual Plan and Section of the mine lease area is given in chapter-2	80
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.	Details of anticipated occupational health impacts and proposed preventive measures are discussed in Chapter 4	157
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	No major impact on public health will be there since the villages are located more than 1km from the lease area.	
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.	Details of CER and CSR are discussed under Chapter No. 8	183
1.38	Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	Environmental Management Plan for the project is discussed in detail in Chapter 9 .	
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	The public hearing comments will be submitted during final EIA report	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

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.	There is no litigation pending against the project.	
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.	19.35 Lakhs	
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Disaster Management Plan is included in Chapter 7	180
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.	The Project benefits are clearly spelt out in Chapter 11 .	182
1.44	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. J11013/41/2006-IA.II(I) dated 4th August, 2009, which are	All general are followed while preparing EIA/EMP.	

	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. 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.		
STANDARD TERMS OF REFERENCE			
1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	Not applicable. This is not a Violation Category Project. This proposal is for Environmental Clearance for B1 Category Cluster Situation.	
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The copy of LOI i.e. Precise Area Communication Letter in the name of all Lessee is attached as 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.	Noted & agreed.	
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).	Project coordinates superimposed in satellite imagery and given as Figure No – 2.2 in Chapter – 2. The geology and geomorphology map are provided in Figure No.3.24 3.25 Chapter 3.	67 & 134-135
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.	The details are incorporated in chapter 3	65 & 68 131-132
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The applied area is inspected by the VAO, Revenue Inspector of Mines, Assistant Director and confirmed the land is suitable for Rough stone quarrying operation with the land use policy of the state. VAO Certificate is attached as Annexure 5 ,	
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	Environment policy details given chapter- 10.	185

	of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.		
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	It is an open cast mining project. Blasting details are incorporated in Chapter-2	76
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.	The study area comprise of 10 km zone around the mine lease from. in Chapter 2	
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Satellite imagery has been used to study the lease area and the details of land use is given in Chapter 3.	119
11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given	There is no proposal for use of land outside the mine lease area for OB dumps, etc. There are no R&R issues involved in the project.	
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	No forest land involved in the project.	

	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.	Not applicable since no forest land involved within mine lease area.	
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated	Not applicable since no forest land involved in mine lease area.	
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Gangaikondan Spotted deer Sanctuary – 9.21km (S).	
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.	Impact on Biological Environment is given in Chapter 3	110
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.	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S) Gangaikondan Spotted deer Sanctuary – 9.21km (S)	
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	Details biological study (flora & fauna) within 10 km radius of the project site have been incorporated in Chapter 3	110

	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.	There is no critically polluted area within 10 km radius of the mining area. Also, the project does not come under the 'Aravali Range'.	
20	Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease 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).	The project does not fall under CRZ.	
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	There is no Rehabilitation and resettlement is involved. Land classified as Patta land	

	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	Baseline environmental monitoring was conducted in the core zone and buffer zone during Summer December 2024 to Feb 2025 . Site specific meteorological data was also collected during the study period. The monitoring location details and the monitoring results are discussed in Chapter 3 .	84
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 modeling was carried out for the rough stone mining project using AERMOD as incorporated in Chapter-4	146

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.	Water requirement for the project and source are given in detail in Chapter 2	71
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Not Applicable Water will be taken from out sources	
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.	Proposed water conservation measures including rainwater harvesting measures are discussed in Chapter 4	
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 of the project on the surface and ground water environment and necessary control measures are discussed in Chapter 4	143
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.	Hydro Geological Study will be submitted in final EIA	129
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.	There is no seasonal stream or nallah flowing through the mining area.	
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.	Highest elevation: 85 AMSL Depth: 65 m (below from existing ground profile) i.e. 47m Below Ground Level as per TOR	

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.	There are no trees within ML area. Fencing and plantations are under process. Greenbelt / Plantation will be carried out in the safety zone to enhance the vegetative growth and aesthetic in the safety zone area. In the post mining stage, an area of 0.46.15 Ha will be under greenbelt and plantation.	
32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Traffic study details in chapter 7	177
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Details of onsite facilities to be provided	
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.	Conceptual Plan and Section of the mine lease area is given in chapter-2	80
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical	Details of anticipated occupational health impacts and proposed preventive measures are discussed in Chapter 4	157

	examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.		
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	No major impact on public health will be there since the villages are located more than 1km from the lease area.	
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.	Details of CER and CSR are discussed under Chapter No. 8	183
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.	Environmental Management Plan for the project is discussed in detail in Chapter 9 .	
39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project	The public hearing comments will be submitted during final EIA report	
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	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.	19.35 Lakhs	

42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Disaster Management Plan is included in Chapter 7	180
43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	The Project benefits are clearly spelt out in Chapter 8 .	182
44	Besides the above, the below mentioned general points are also to be followed:- d) Executive Summary of the EIA/EMP Report e) All documents to be properly referenced with index and continuous page numbering. f) 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. J11013/41/2006-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	All general are followed while preparing EIA/EMP.	

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. 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.S.Vellapandi, has obtained Precise Area communication letter from the Assistant Director, Department of Geology and Mining, Tirunelveli to quarry out 3,42,975m³ of Rough Stone and 33,966m³ of Gravel formation, Over an extent of 2.18.15 Ha located at the Survey No. S.F.No. 575 (P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State. Hence, this proposed quarry falls under the cluster situation due to the following proposed and abandoned quarries located within 500m radius. The details are given below.

Table 1.1 500m Radius Cluster Mines Details

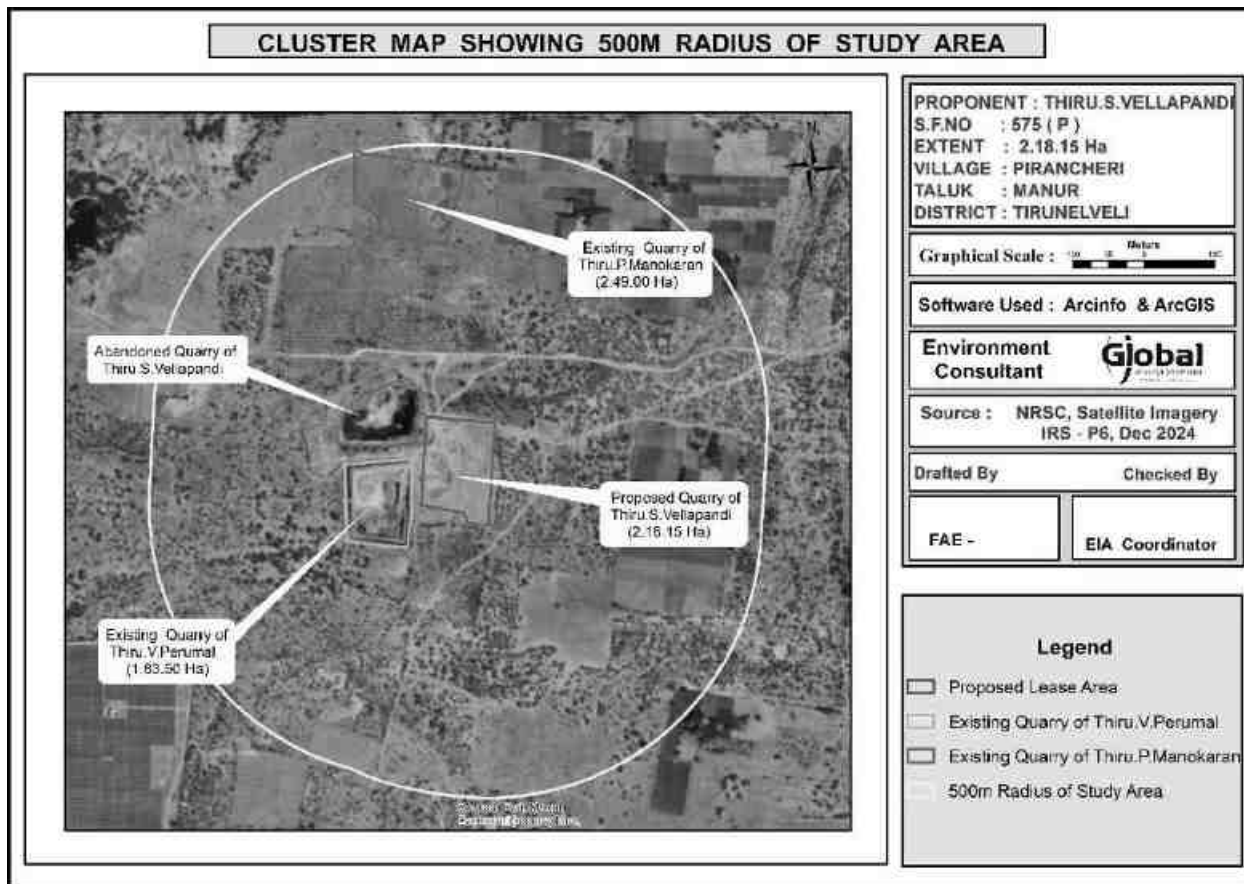
S.No	Name of the Quarry Owner	S.F. Nos, Village & Extent (Ha)	Lease Status	Remarks
a. Abandoned Quarry				
1	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No:781/1,782/2 & 783 1.92.0Ha	Proceedings No.M1/25662/2016, Dated: 05.03.2016 for a period of 5 years, 14.06.2016 to 13.06.2021	Abandoned
b. Existing Quarry				
1	Thiru.V.Perumal Selvam, S/o. Vellapandi, No.677, South Street,	Pirancheri Village S.F.No:784 1.83.5Ha	Proceedings No.M3/20350/2020, Dated: 06.01.2022	Existing

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	Vadakku Elathaikulam, Kayathar Taluk, Tuticorin District		for a period of 10 years, 12.01.2022 to 11.01.2032	
2	Thiru.P.Manoharan, S/o. Paul Thomas, No.5/52, Kanavilai Street, Avarikulam, Pazhavor, Radhapuram Taluk, Tirunelveli District	Pirancheri Village S.F.No:594 2.49.0Ha	Proceedings No.M3/34899/2020, Dated: 21.09.2023 for a period of 5 years, 22.09.2023 to 21.09.2028	
c. Proposed Quarry				
1.	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No. 575(P) 2.18.15 Ha	-	Proposed

As per EIA notification, 2006 and its subsequent amendments the proposed Thiru.S.Vellapandi 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 6.50.65 Ha which is >5 Ha. Satellite image of Quarries in Cluster is shown in Fig 1.1.

Figure.1.1 Satellite Image showing cluster quarries



The ToR for preparation of EIA/EMP was approved vide ToR Identification No. TO24B0108TN5296961N (F.No. 11692), dated 02.03.2025. This report has been prepared in line with the approved TOR for production of maximum excavation of 3,42,975m³ of Rough Stone and 33,966m³ of gravel for a period of five years.

1.2 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

The proposed project is for mining of Rough Stone and gravel (under cluster) from the S.F.No. 575 (P) over an extent of 2.18.15 Ha., Pirancheri Village, Manur Taluk, Tirunelveli 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 and Gravel
4.	Type of Lease	Fresh
5.	Extent of the lease	2.18.15 Ha
6.	Proposed depth of Mining for 5 years	47m (BGL)
7.	Ultimate Pit Depth	47m (BGL)
8.	Method of Mining	Opencast method of - mechanized mining
9.	Life of the Mines	5 Years
10.	Proposed Environmental Clearance	5 Years
11.	Proposed production quantity for 5 years (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation
12.	Mineable reserves (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation

(b) Profile of the project proponent

The proposed lessee Thiru.S.Vellapandi 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.S.Vellapandi
 Status of the Proponent : Individual
 Address : S.Vellapandi,
 S/o. Subbaiya,
 No.64A, South Street,
 Vadakku Ilandaikulam,
 Thoothukudi District - 628 952.

1.3 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The proposed quarrying operation Opencast Mechanized method with 5m bench height, 5m bench width and overall bench slope is less than 45°. 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	2.18.15 Ha
3	Type of lease	New Quarry
4	Geological Resource	9,79,200m ³ of Rough stone, 43,520m ³ of gravel
5	Mineable Reserve	3,42,975 m ³ of Rough Stone, 33,966m ³ of gravel
6	Proposed production quantity for five years	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel
7	Proposed depth of mining	47m BGL

(b) Location of the project

The proposed project site is located in Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu and its Latitude: 08°55'01.77"N to 08°55'08.19"N and Longitude: 77°45'12.55"E to 77°45'16.91"E. with Survey of India Topo Sheet No. 58-H/13.

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 WITH DETAILS OF REGULATORY SCOPING

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. TO24B0108TN5296961N (F.No. 11692), dated 02.03.2025 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 the winter season 2024-2025 (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 letter from the Assistant Director, Department of Geology and Mining, Tirunelveli, vide Rc.No.M2/04/2023, Dated: 04.10.2024. 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, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024. The mining plan approval letter along with approved plan is enclosed as **Annexure – 3.**

c. 500m radius quarry features:

The project proponent has obtained an official letter from Assistant Director, Dept. of Geology & Mining, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024. The letter copy enclosed as **Annexure – 4.**

d. Project Proponent undertaking affidavit:

The project proponent has issued an affidavit under MoEF & CC O.M. No. 3-50/2017-IA.III(Pt.) dated 30.05.2018 to comply with the direction of the Hon'ble SC made on 2.08.2017 in W.P. (C) 114 of 2014 in matter of Common Cause vs Union of India & Ors. The Affidavit copy is enclosed as **Annexure – 12.**

e. Land document of the proposed lease area:

It is patta land registered in the name of Applicant, vide patta no.711. The copy of the Patta, Adangal & 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.No.575 (P) over an extent of 2.18.15 Ha., in Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the project comes under Schedule 1 (a) under Category B1 (Lease area >5 to 250 Ha), considering cluster situation and the total cluster area is 6.50.65 Ha. The details of mines located in the cluster area is certified by Assistant Director, Dept. of Geology & Mining, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024.

Table 2.1 500m Radius of Cluster quarries

S.No	Name of the Quarry Owner	S.F. Nos, Village & Extent (Ha)	Lease Status	Remarks
a. Abandoned Quarry				
1	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No:781/1,782/2 & 783 1.92.0Ha	Proceedings No.M1/25662/2016, Dated: 05.03.2016 for a period of 5 years, 14.06.2016 to 13.06.2021	Abandoned
b. Existing Quarry				
1	Thiru.V.Perumal Selvam, S/o. Vellapandi, No.677, South Street, Vadakku Elathaikulam, Kayathar Taluk, Tuticorin District	Pirancheri Village S.F.No:784 1.83.5Ha	Proceedings No.M3/20350/2020, Dated: 06.01.2022 for a period of 10 years, 12.01.2022 to 11.01.2032	Existing
2	Thiru.P.Manoharan, S/o. Paul Thomas,	Pirancheri Village S.F.No:594	Proceedings No.M3/34899/2020,	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

	No.5/52, Kanavilai Street, Avarikulam, Pazhavor, Radhapuram Taluk, Tirunelveli District	2.49.0Ha	Dated: 21.09.2023 for a period of 5 years, 22.09.2023 to 21.09.2028	
c. Proposed Quarry				
1.	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadaku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No. 575(P) 2.18.15 Ha	-	Proposed

The total lease within the 500m radius (Proposed + Existing) (1no + 2nos) works out to 6.50.65Ha including this lease area.

The proposed production is 3,42,975m³ of Rough Stone and 33,966 m³ of Gravel formation by open cast mechanized mining method.

2.2 SALIENT FEATURES OF THE PROJECT

The salient features of the proposed Rough Stone quarry of Thiru.S.Vellapandi.

Table 2.1a Salient features of the project		
S.No.	Type of Detail	Description
1	Sector	Non-coal Mining
2	Category of the project	B1
3	Proposed mineral	Rough Stone and Gravel
4	Type of Lease	Fresh
5	Extent of the lease	2.18.15 Ha
6	Proposed depth of Mining for 5 years	47m (BGL)
7	Ultimate Pit Depth	47m (BGL)
8	Method of Mining	Opencast method of semi-mechanized mining
9	Life of the Mines	5 Years

10	Proposed Environmental Clearance	5 Years
11	Proposed production quantity for 5 years (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation
12	Mineable reserves (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation

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

This project site is located in Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State. Nearest Railway station is Gangaikondan – 10.39 km – SE & Tuticorin Airport - 36.67 km – SE. The approach (cart track) road is situated on the Northern side of the area which connects to Salem – Kanniyakumari (NH-44) Road located at 1.16km on the Eastern side of the area. The Nearest Railway line is Tirunelveli – Thoothukudi line which is about 9.8km on the Southeastern side of the area. The nearest habitation is Arasankulam Village at 1.2km distance on (NE) side of the lease boundary.

The general location is given in Figure 2.1. The specific location is given in Figure 2.2.

FIGURE 2.1 LOCATION MAP

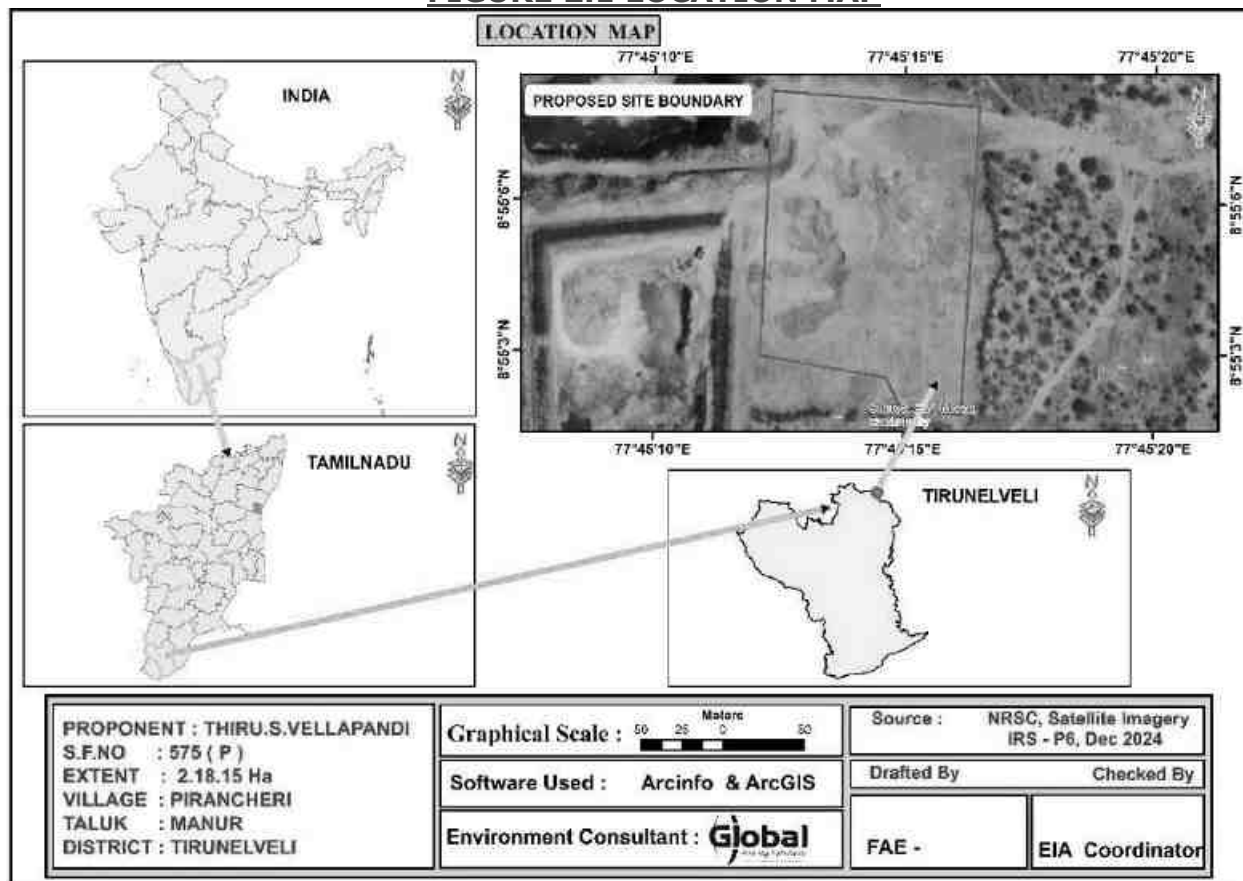


Table 2.2 Co-Ordinates of the Project Site

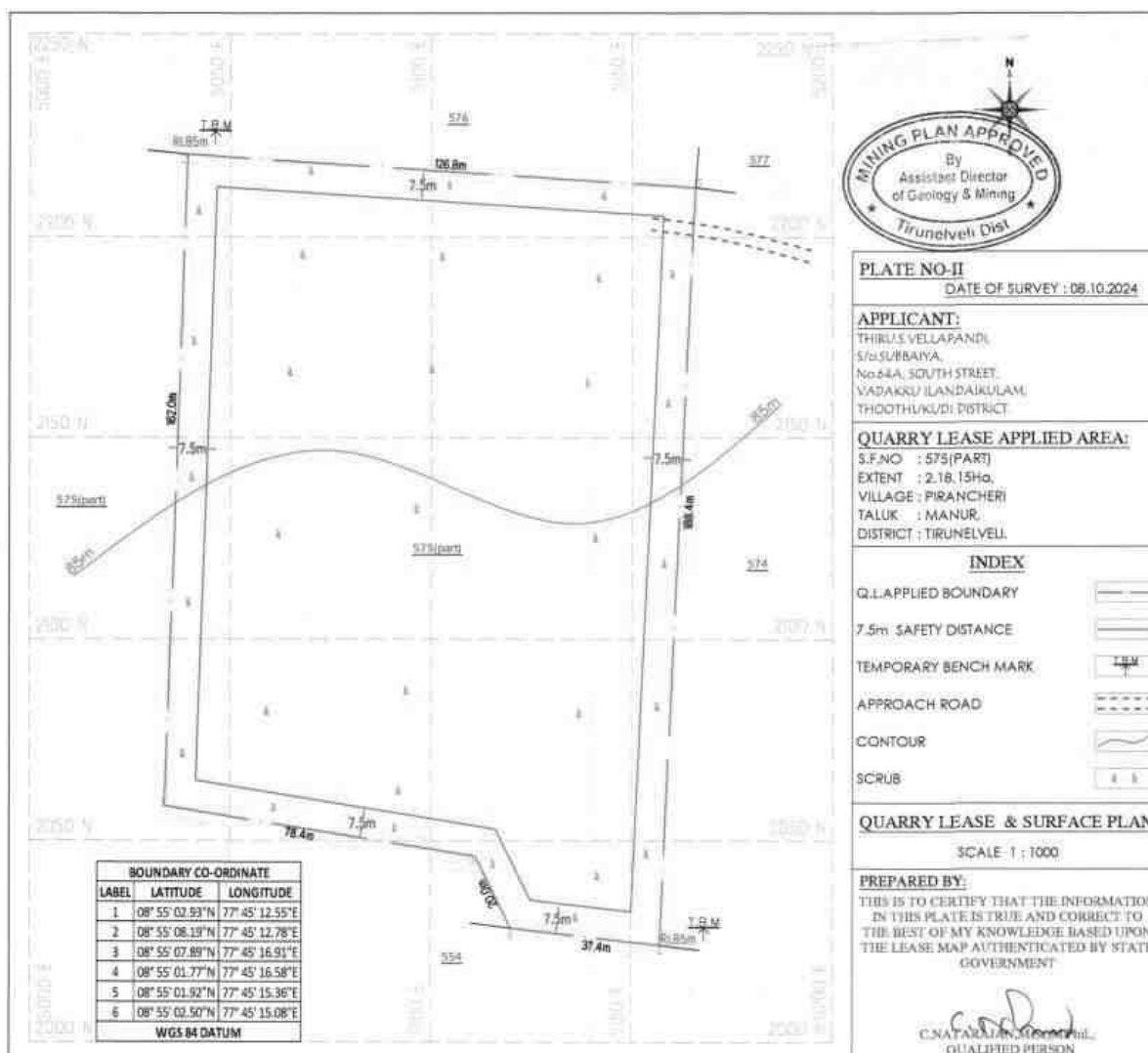
Corners	Co- ordinates		Distance between the corners
	Latitude	Longitude	
1	08° 55' 02.93"N	77° 45' 12.55"E	1-2 = 162.0m
2	08° 55' 08.19"N	77° 45' 12.78"E	2-3 = 126.8m
3	08° 55' 07.89"N	77° 45' 16.91"E	3-4 = 188.4m
4	08° 55' 01.77"N	77° 45' 16.58"E	4-5 = 37.4m
5	08° 55' 01.92"N	77° 45' 15.36"E	5-6 = 20.0m
6	08° 55' 02.50"N	77° 45' 15.08"E	6-1 = 78.4m

As shown in the map above, The Nearest Railway station is Gangaikondan – 10.39 km – SE. The National Highway (NH-44) Salem to Kanniyakumari 1.16 km – E

FIGURE 2.2 GOOGLE IMAGE SHOWING PROJECT SITE



FIGURE 2.3 SURFACE PLAN OF THE 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 2.3.

Table 2.3 Current Land Use Pattern			
S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1	Quarrying Pit	Nil	1.70.00
2	Infrastructure	Nil	0.01.00
3	Roads	Nil	0.01.00

4	Green Belt	Nil	0.46.15
5	Unutilized	2.18.15	Nil
	Total	2.18.15	2.18.15

2.3.2 LAND USE AT MINE CLOSURE STAGE

Table 2.4 Land Use at Mine Closure Stage		
S. No.	Land Use	Area in use during the quarrying period (Hect)
1	Area left for water body	1.70.00
2	Green Belt	0.46.15
3	Remaining area	0.02.0
	Total	2.18.15

2.3.3 SALIENT FEATURES OF THE LEASE AREA

Sr.No	Salient Features	Description
1	Nearest Roadway	(NH-44) Salem to Kanniyakumari 1.16 km - E
2	Nearest Village	Arasankulam Village – 1.2km - NE
3	Nearest Railway station	Gangaikondan – 10.39 km – SE
4	Nearest Airport	Tuticorin Airport - 36.67 km – SE

Figure 2.4 Topo Map showing existing site features

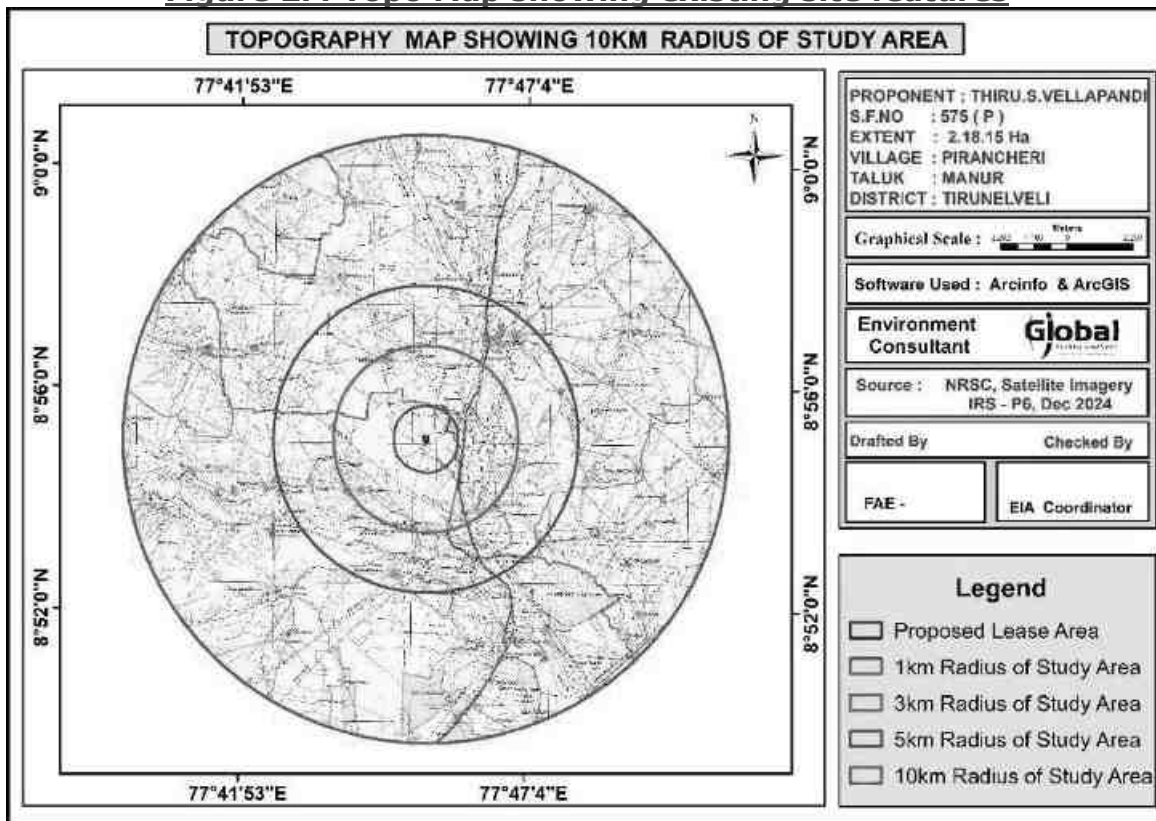


FIGURE 2.5 SITE PHOTOS



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

The proposed production is rough stone – 3,42,975m³ and 33,966m³ Gravel by Opencast Mechanized mining method.

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, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024
2	Environment Clearance Status	ToR Letter Received vide file no TO24B0108TN5296961N, dated 02.03.2025.
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	Aug 2025	Sep 2025	Oct 2025	Nov 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 28.12.2024, ToR was granted on 02.03.2025. 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, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024.

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 2.6 WATER BALANCE DIAGRAM

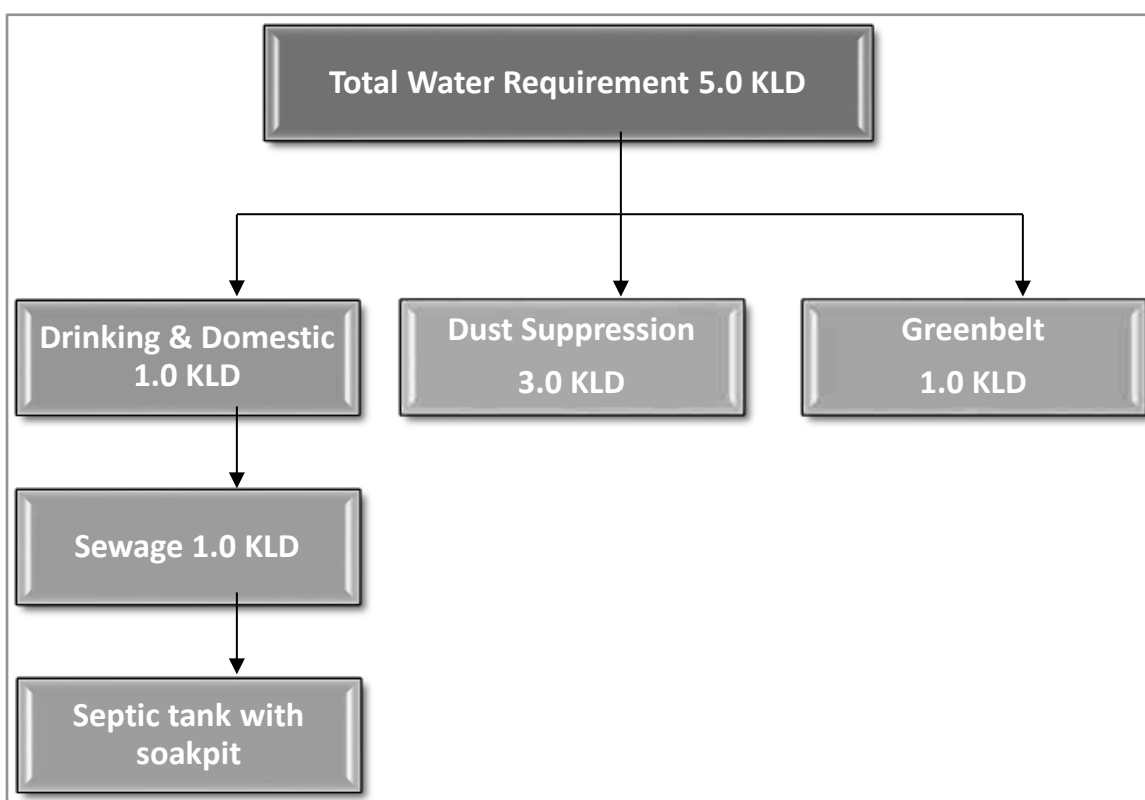


Table - 2.7 Water Requirement

S. No	Particular	Water Requirement (KLD)
1	Dust suppression	3.0
2	Drinking/Domestic	1.0
3	Greenbelt/Plantation	1.0
Total		5.0

2.6.3 POWER REQUIREMENT

No electricity is needed for mining operations. Total Fuel requirement is 280.044 KL for entire life of the project.

2.6.4 MAN POWER REQUIREMENT

Total Manpower requirement will be 26 persons which out of 12 persons (Mines manager, Foreman, Mining Mate, etc.,) and other are drivers and workman's categories. Beside this, 14 workmen will be drivers and workmen. Preference will be given to the locals as per their eligibility.

S.No	Description	Employment potential
1	Mines Manager	1 No.
2	Foreman / Mate	2 Nos.
3	Operator/Mechanic	9 Nos.
4	Driver	4 Nos.
5	Labours	10 Nos
Total		26 Nos

2.6.5 EXTENT OF MECHANIZATION

Table 2.8 Machineries involved in the project				
S.No.	Particulars	capacity	Motive Power	Nos
1.	Jack hammer	32mm dia	Compressed air	4
2.	Compressor	1 psi	Diesel drive	1
3.	Excavator with Bucket and Rock Breaker	0.90 m3	Diesel drive	1
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 in the ML area.

2.6.6 GEOLOGY AND TOPOGRAPHY

Topography

The mine lease area of 2.18.15 Ha is covered in the Survey of India Toposheet no: 58 H/13 and bounded by Latitude: 08°55'01.77"N to 08°55'08.19"N and Longitude: 77°45'12.55"E to 77°45'16.91"E. No major river is found nearby the lease applied area. Water table is found at a depth of 65 m. The normal temperature varies between 24.4°C and 27.1°C at mean minimum, whereas the hottest climate experiences from March to May with mercury reaching 38.5°C at the highest.

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 85m (maximum) from MSL. There is no forest land in the mine lease area. The project site is dry land which is not fit for any cropping.

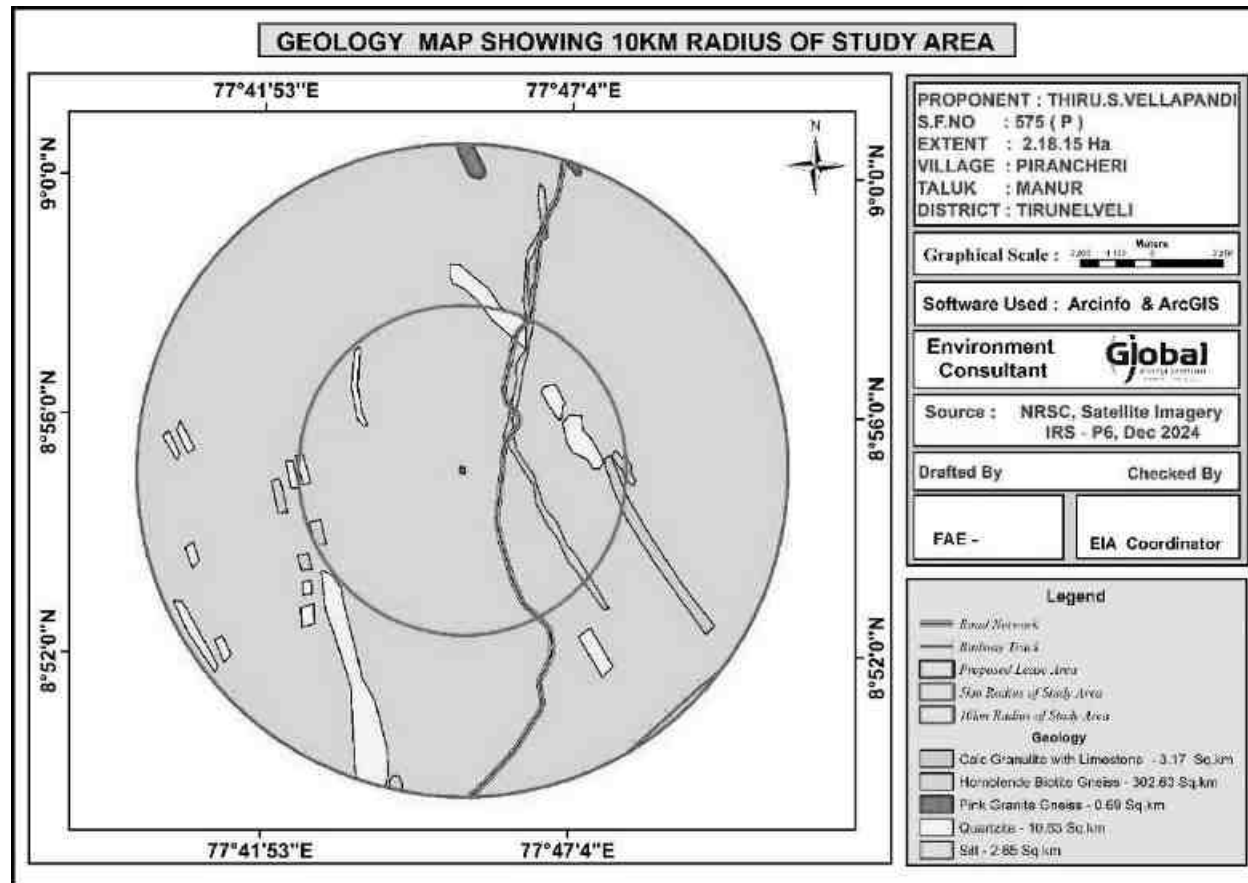
2.6.7 Regional Geology

The area 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 85m (maximum) from MSL.

Tirunelveli district generally experiences hot and humid climatic conditions. The district receives the rain under the influence of both northeast and southwest monsoons. Most of the precipitation occurs in the form of cyclonic storm caused due to the depressions in Bay of Bengal chiefly during northeast monsoon period. The southwest monsoon rainfall is highly erratic and summer rains are negligible. This

District receives rain both in south west and north east monsoon. The average rainfall is about 824.75mm to 1104.8mm

FIGURE 2.7 REGIONAL GEOLOGY MAP - 10 Km RADIUS



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 SE60°.

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

The Geological reserves and Mineable reserves are mentioned below.

S. No	Type of reserves	In Cum
1	Geological Reserves	9,79,200m ³ of Rough Stone, 43,520 m ³ of gravel
2	Mineable Reserves (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel

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 method of Mechanized Mining with bench height of 5.0m and width of 5.0m and overall bench slope of 45°. It is proposed to excavate 3,42,975 m³ of Rough stone and 33,966 m³ of Gravel formation for the period of five years. 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 slope angle will be at around 45° with the horizontal.

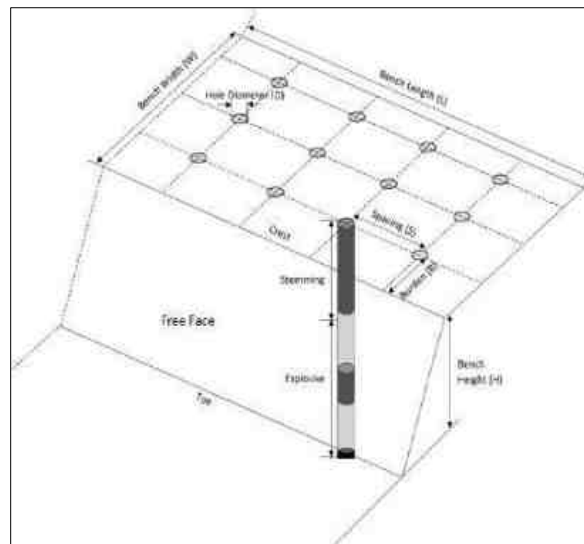
DEVELOPMENT OF MINING FACES

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 November 2025.

DRILLING & BLASTING

Drilling will be done up to maximum depth of 47 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 6-7 Tonnes per Kg of explosives. Small dia 25 mm 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 2.8.

FIGURE 2.8 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 2.9 FLOW CHART OF THE QUARRY OPERATION

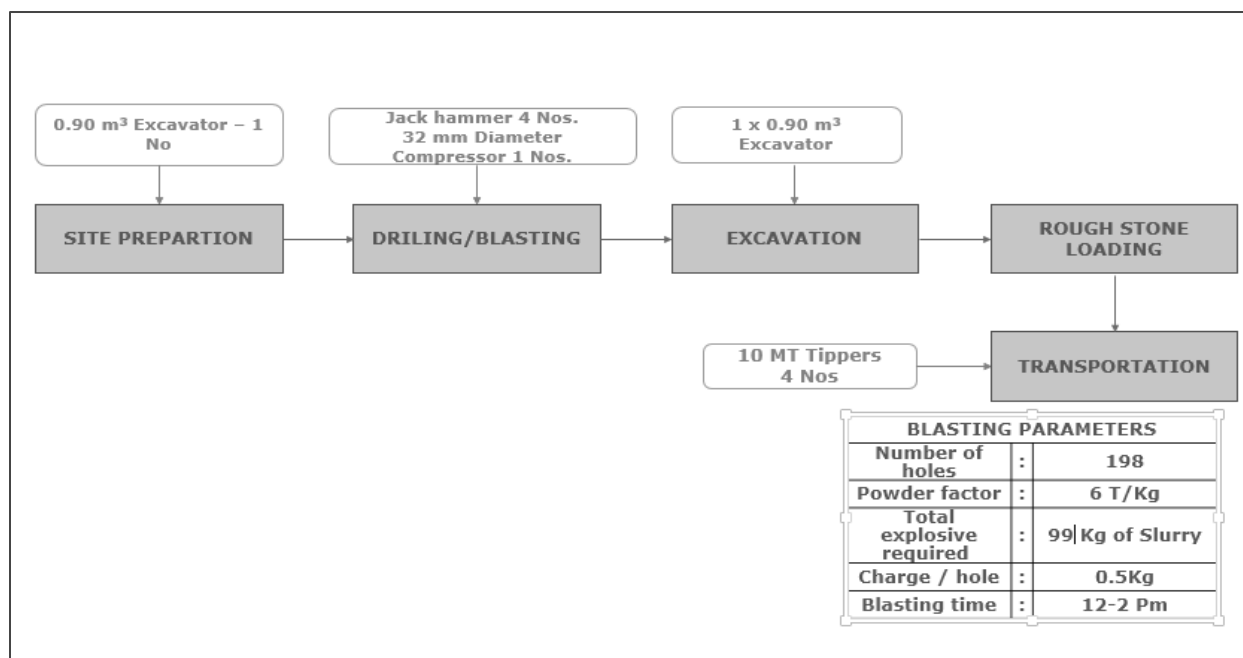


TABLE - 2.9 MINING DETAILS

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 56° 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 projects besides catering domestic housing and infrastructure projects in and around the district	-

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

3.	Proposed Depth	47m BGL			Water table in the area is around 65m BGL
4.	Proposed Production quantity	3,42,975 m3 of Rough Stone, 33,966 m3 of gravel for five years.			Five years
5.	Ultimate pit dimension	Ultimate pit dimension			
		PIT NO	Length in (m)	Width in (m)	Depth in (m)
		PIT 1	153	111	47(BGL)
5.	Safety Zone	Out of 2.18.15 Ha, 0.46.15 Ha will be maintained as safety zone during mining operation as well as at the conceptual stage of the project.			Around 500 nos. of saplings will be planted in this safety
6.	Water requirement	5.0 KLD			Procured from the outside watervendors
7.	Energy requirement	-			All the equipment will be diesel operated. No electricity is needed for mining operation
8.	Manpower	26 Nos			
9.	Shift	General Shift			8.00 AM – 5.00 PM
10.	Project Cost	1,01,93,900			(Including Fixed Asset + Operational & EMP cost + CER)
11.	EMP Cost	19.35 Lakhs			-
12.	CER Cost	CER cost allocated for 5.0 Lakhs.			The amount will be utilized for the development of nearby Panchayat Union Middle School, Mattu Pirancheri.

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 2.10.

Table 2.10 Summary of production for 5 Years								
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m³	Gravel in m³	Recoverable Reserves of Rough stone in m³
I	XY-AB	I	128	111	2	28416	28416	
		II	125	105	5	65625		65625
Total							28416	65625
II	XY-AB	I	25	111	2	5550	5550	
		II	22	105	5	11550		11550
		III	122	95	5	57950		57950
Total							5550	69500
III	XY-AB	III	15	95	5	7125		7125
		IV	127	85	5	53975		53975
		V	22	75	5	8250		8250
Total								69350
IV	XY-AB	V	95	75	5	35625		35625
		VI	107	65	5	34775		34775
Total								70400
V	XY-AB	VII	97	55	5	26675		26675
		VIII	87	45	5	19575		19575
		IX	77	35	5	13475		13475
		X	67	25	5	8375		8375
Total								68100
Grand Total							33966	342975

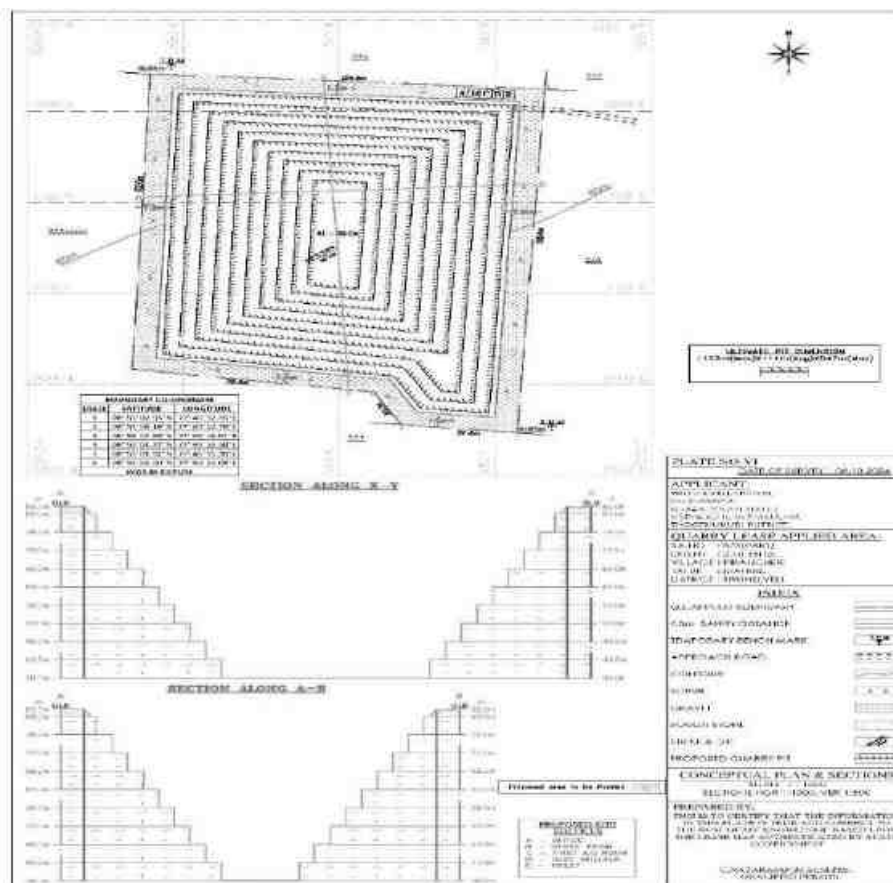
2.7.3 CONCEPTUAL PERIOD

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 2.10. Ultimate extent and size of the quarry at the conceptual stage is given below as Table 2.11 and Land Use pattern is given as Table 2.12. The conceptual plan is given as Figure 2.10.

TABLE 2.11 Ultimate Pit Dimension			
Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)
Ultimate Pit dimension at the end of Mining Plan Period as per approved Mining Plan			
I	153	111	47m BGL

TABLE 2.12 Land Use at Mine Closure Stage		
S. No.	Land Use	Area in use during the quarrying period (Ha)
1	Area left for water body	1.70.00
2	Green Belt	0.46.15
3	Remaining area	0.02.00
Total		2.18.15



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:

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 equipment 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 0.46.15 Ha. Trees like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc., will be planted around the mine lease area. A total of 500 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. DESCRIPTION OF THE STUDY AREA

The project area is located in Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State over an extent of 2.18.15 Ha. The project area is considered as Core zone and the area in the surrounding 10km radius is considered as Buffer Zone. The baseline environmental monitoring was conducted by M/s. Shrient Analytical & Research Labs Private Limited, Chennai it is an NABL and MOEF recognized laboratory for various components of environment, viz. Air, Noise, Water, Land was carried out during winter 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.

DESCRIPTION OF ENVIRONMENT IN THE STUDY AREA

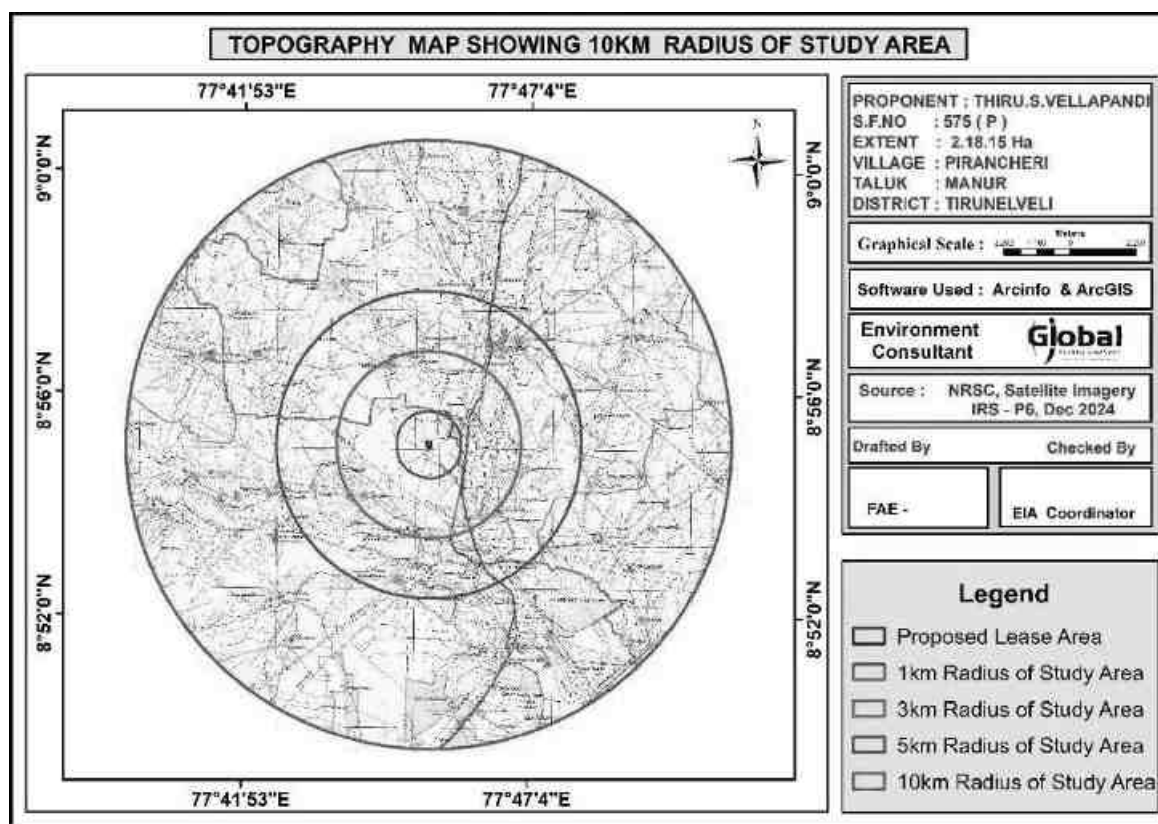
Table 3.1 Description of the lease area		
S.No.	Areas	Distance from project site
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius
2	Areas which are important or sensitive for ecological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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

A	Wetlands, water courses or other water bodies,	Water bodies	Distance	Direction
		Tank	480m	NE
		Tank	585m	NW
		Tank	1.35m	SE
		Canal	1.44 km	NE
		Uppodai River	1.1 km	NE
		Pirancheri Canal	2.94 km	S
		Chittar River	3.73 Km	SW
		Parakiramapandiyan Kulam	5.6 Km	SE
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests, Sanctuary	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S) Gangaikondan Spotted deer Sanctuary – 9.21km (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	Manur – 12.82km (SW)		
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Manur – 12.82km (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.

FIG 3.1 ENVIRONMENTAL SETTING OF THE STUDY AREA



STUDY PERIOD

The relevant information and data (both primary and secondary) were collected in core as well as buffer zone (10 km distance from the mine boundary) during Summer Season (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 Summer Season (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	Period	Monitoring/ Sampling locations
1	Land	Agriculture, Habitation, Industry, Stony waste/ Quarries, Forest area, Plantation/ Vegetation, Open scrub, Water bodies etc.	Once in a Season	10 km radius study area

2	Meteorology	Temperature, Relative Humidity, Wind Speed, Wind Direction.	Hourly	1
3	Air	PM10, PM2.5, SO ₂ , NO ₂ , CO & PAH	twice a week (24 hourly)	6
4	Noise	Equivalent noise levels in Leq in dB (A)	Once in a season (day & night time)	6
5	Water	Parameters as per IS 10500 - 2012	Once in a season	
A	Surface Water	Parameters as per IS 10500 - 2012	Once in a season	2
B	Ground Water	Parameters As per IS 2720/USDA	Once in a season	6
6	Soil	Parameters As per IS 2720/USDA	Once in a season	6
7	Biological Environment	Flora and Fauna	Once in a season	Study Area
8	Socio-Economic Environment	Socio-Economic Environment	Once in a season	Study Area

INSTRUMENTS USED FOR ENVIRONMENTAL BASELINE DATA COLLECTION

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

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

excellent opportunity to the members of the field team for obtaining clear scenario of the existing environment of the study area.

3.3. BASE MAP OF ALL ENVIRONMENTAL COMPONENTS

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

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

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

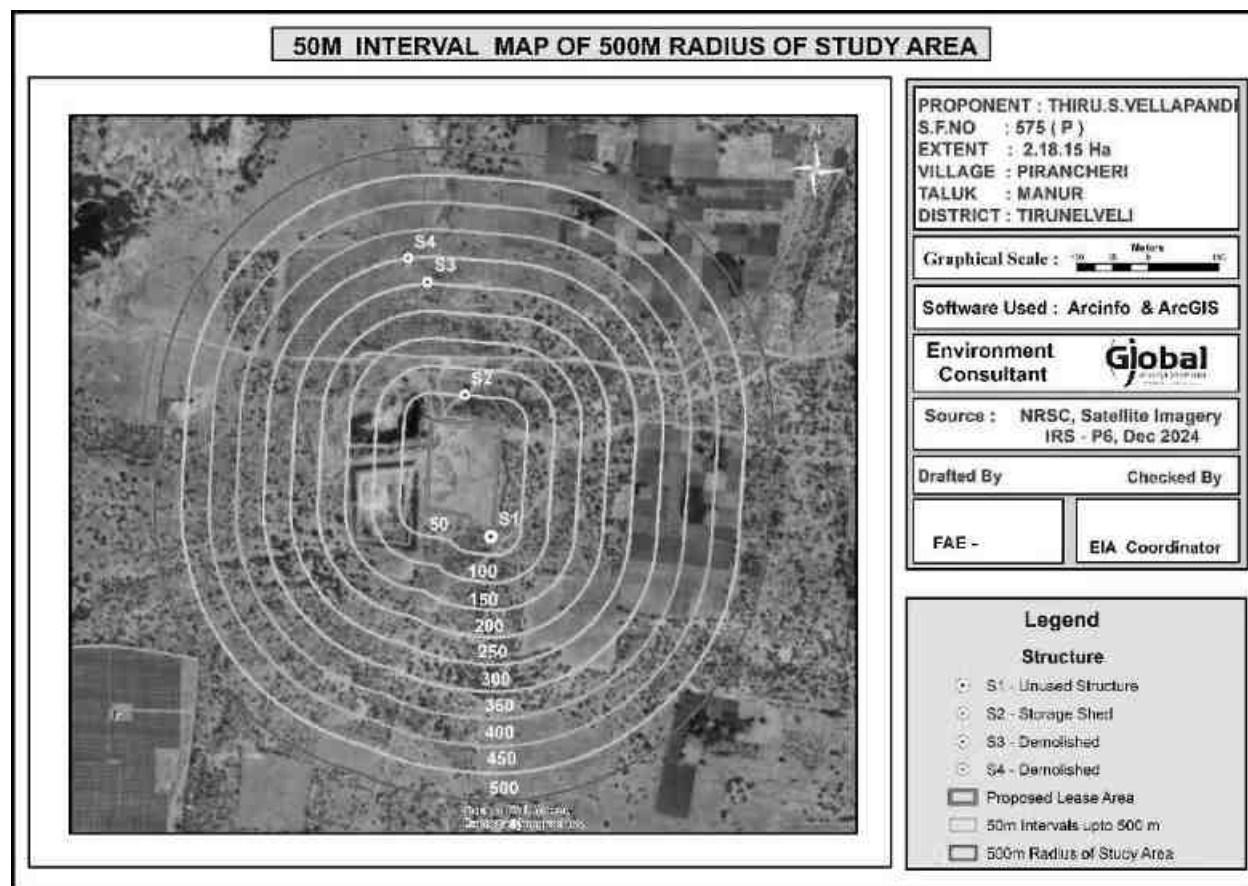
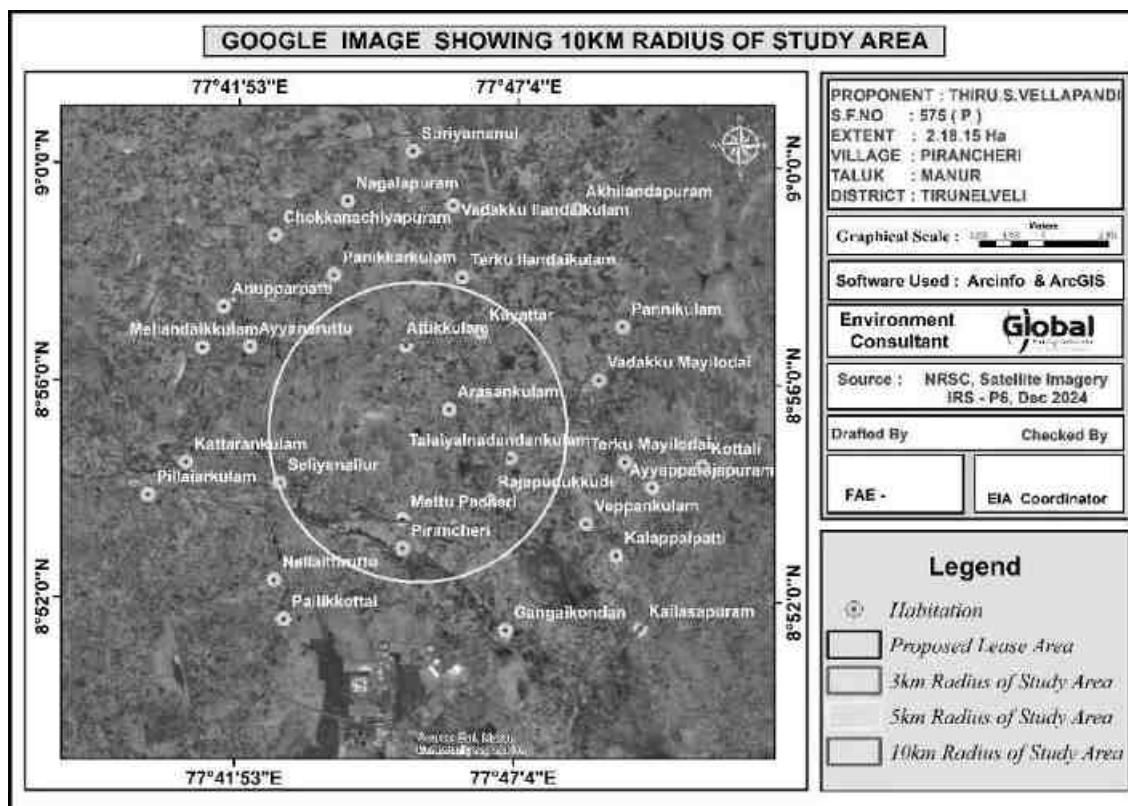


FIGURE - 3.2.A SATELLITE MAP OF THE PROJECT AREA (10 KM RADIUS)



3.3.1 METEOROLOGICAL ENVIRONMENT

Meteorological conditions prevailing in the buffer zone is given below

Climate

The district, in general experiences tropical climate with minor changes. The normal temperature varies between 24.4°C and 27.1°C at mean minimum, whereas the hottest climate experiences from March to May with mercury reaching 38.5°C at the highest. The climate is comparatively cool during the months from November to February. 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.

Rainfall

Main rainy season is from October to the middle of January. During this southwest monsoon season the rainfall is more in the western parts of the district. November is generally the rainiest month. The heaviest rainfall in 24 hours recorded in the district was 371.5 mm at Sivagiri on 29/10/1929. The average rain fall in the district is 814.8 mm per annum. Tirunelveli district in mm (Source: <http://www.nellai.tn.nic.in>)

This District receives rain both in south west and north east monsoon. The average rainfall is about 824.75mm to 1104.8mm

Rainfall received from 2014 to 2023 is given below.

Table 3.2 Rainfall data										
Years	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rainfall in mm	824.75	958.80	870.16	1004.80	945.10	910.60	893.4	915.6	1104.80	1004.50

Source: Trinelveli Hydrogeological report

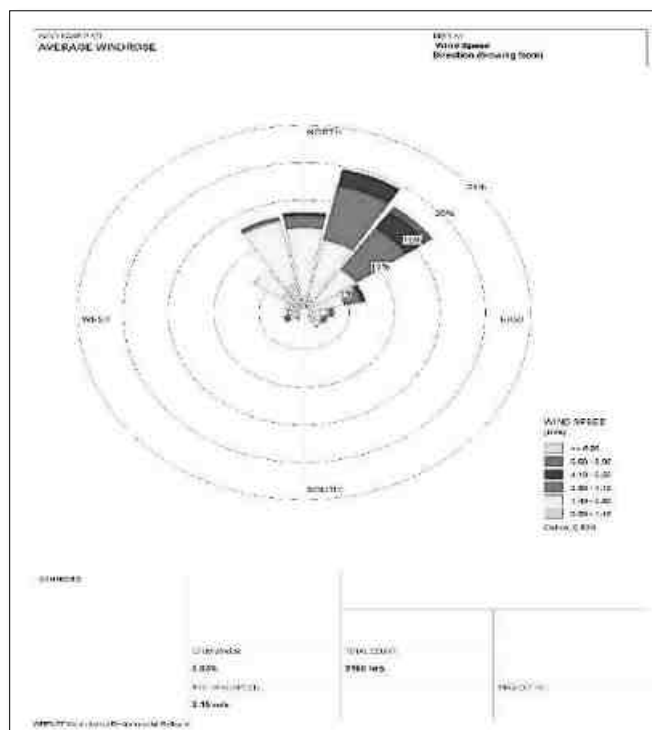
Relative Humidity

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 FEBRUARY 2025



Meteorological data of the project area

The meteorological data collected in the study area from December 2024 to February 2025 which includes Temperature, Wind speed, Wind direction and Relative humidity. The predominant wind blows from NE. The normal temperature varies between 24.4°C and 27.1°C at mean minimum, whereas the hottest climate experiences from March to May with mercury reaching 38.5°C at the highest.

3.3.2 AMBIENT AIR MONITORING DATA

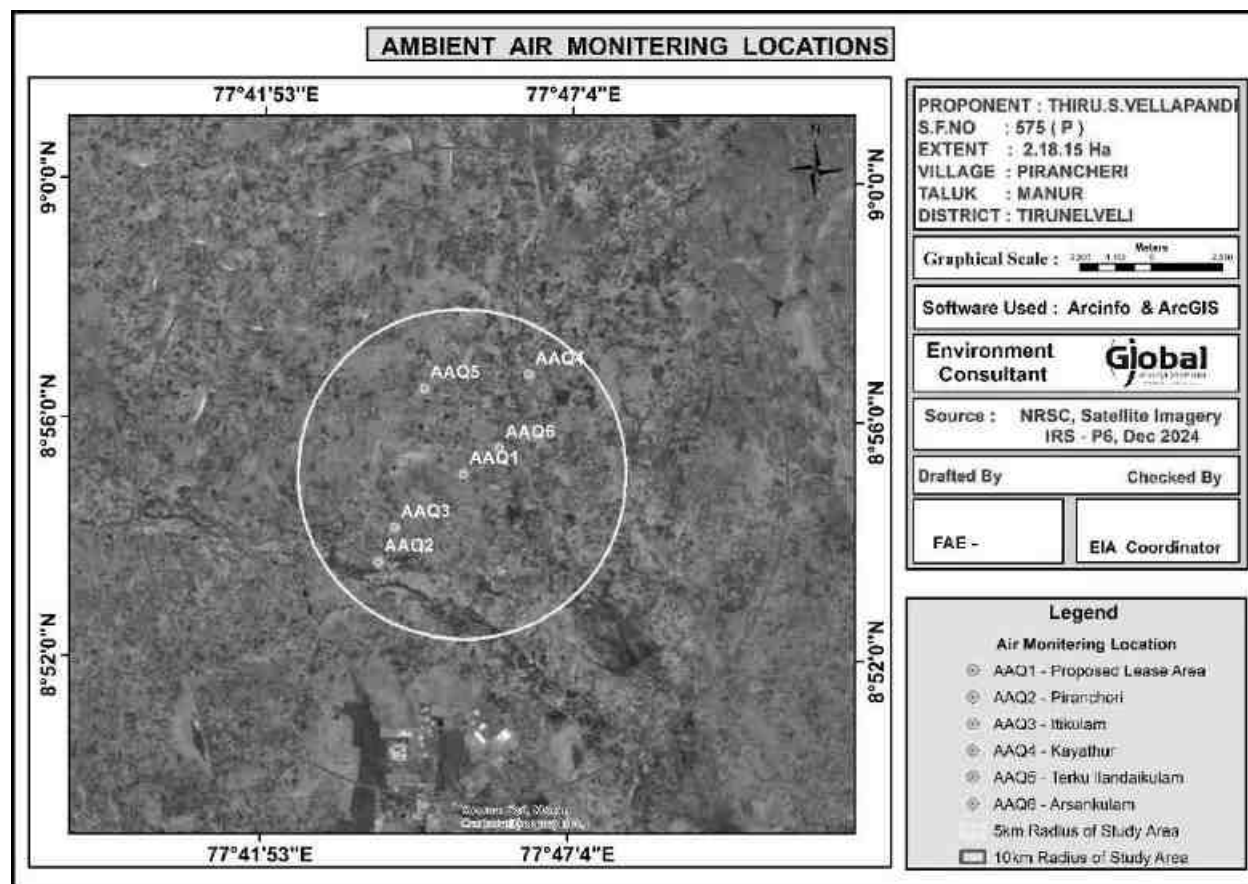
Ambient air quality monitoring has been carried out in 6 locations. One in the core zone and remaining five locations in the buffer zone areas. Monitoring locations have been chosen such that the measurement represents the overall air condition prevailing in the area. The study area represents mostly rural environment with 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 (PM_{2.5}), Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) were monitored for establishing the baseline status. PM₁₀ were sampled with the help of Respirable Dust Samplers on filter papers and SO₂ & NO_x were absorbed in the respective absorption media in the impingers attached to RD samplers and analyzed Spectro-photometrically. PM_{2.5} was monitored with the help of Fine Particulate Samplers. The monitoring locations for ambient air study are given in Table – 3.3 and Figure 3.5 below.

Table 3.3: Details Of Ambient Air Quality Monitoring Locations				
S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Project site	Core Zone	8°55'5.22"N 77°45'15.86"E
2	AAQ 2	Pirancheri Village	3.80 km, SW	8°53'36.12"N 77°43'50.68"E
3	AAQ 3	Ithikulam Village	2.72 km, SW	8°54'10.91"N 77°44'7.03"E
4	AAQ 4	Kayathar Village	3.66 km, NE	8°56'45.83"N 77°46'21.51"E
5	AAQ 5	Terku Ilandaikulam Village	2.85 Km, NW	8°56'31.07"N 77°44'35.48"E
6	AAQ6	Arsankulam Village	1.33 Km, NE	8°55'31.75"N 77°45'51.91"E

FIG 3.5 AMBIENT AIR MONITORING LOCATIONS



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

Table.3.4 Results of Air sampling Analysis in 6 locations

Station ID	Min	Max	Avg.
Particulate matter PM-2.5 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	25.7	31.5	28.6
AAQ-2	20.9	27.4	24.15
AAQ-3	16.0	23.6	19.8
AAQ-4	22.2	31.5	26.85
AAQ-5	20.2	25.9	23.05
AAQ-6	19.3	27.0	23.15
CPCB NAAQS 2009 for PM 2.5 - 60 $\mu\text{g}/\text{m}^3$			
Particulate matter PM-10 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	56.3	69.9	63.1
AAQ-2	50.0	60.0	55
AAQ-3	35.6	50.2	42.9
AAQ-4	51.9	68.4	60.15

Station ID	Min	Max	Avg.
AAQ-5	50.0	56.7	53.35
AAQ-6	42.0	58.2	50.1
CPCB NAAQS 2009 for PM₁₀ - 100 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	3.5	5.5	4.5
AAQ-2	3.2	5.6	4.4
AAQ-3	3.1	6.2	4.65
AAQ-4	5.6	11.3	8.45
AAQ-5	3.0	5.8	4.4
AAQ-6	2.9	5.1	4
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	7.4	11.1	9.25
AAQ-2	6.7	10.1	8.4
AAQ-3	6.4	9.6	8
AAQ-4	8.1	11.9	10
AAQ-5	7.1	10.8	8.95
AAQ-6	6.7	10.3	8.5
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 AAQ1 - MINE LEASE AREA

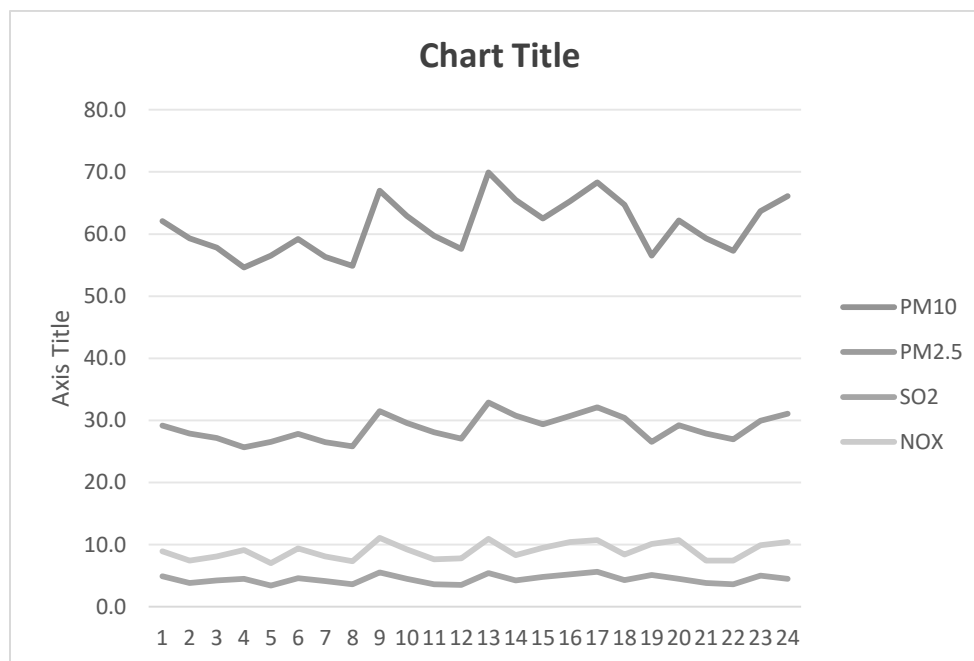


FIG 3.7 AMBIENT AIR QUALITY DATA AAQ2 - PIRANCHERI VILLAGE

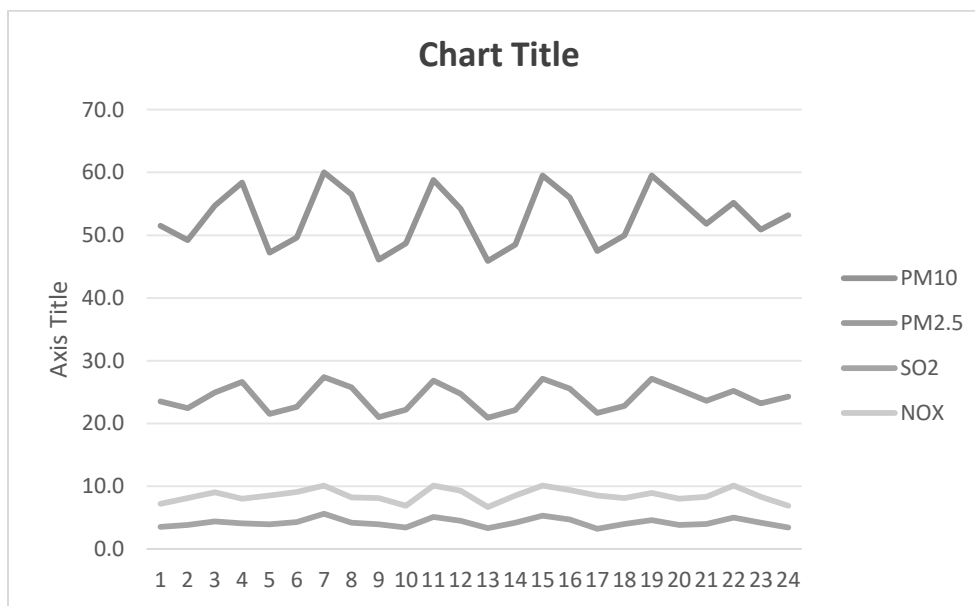


FIG 3.8 AMBIENT AIR QUALITY DATA AAQ3 - ITHIKULAM VILLAGE

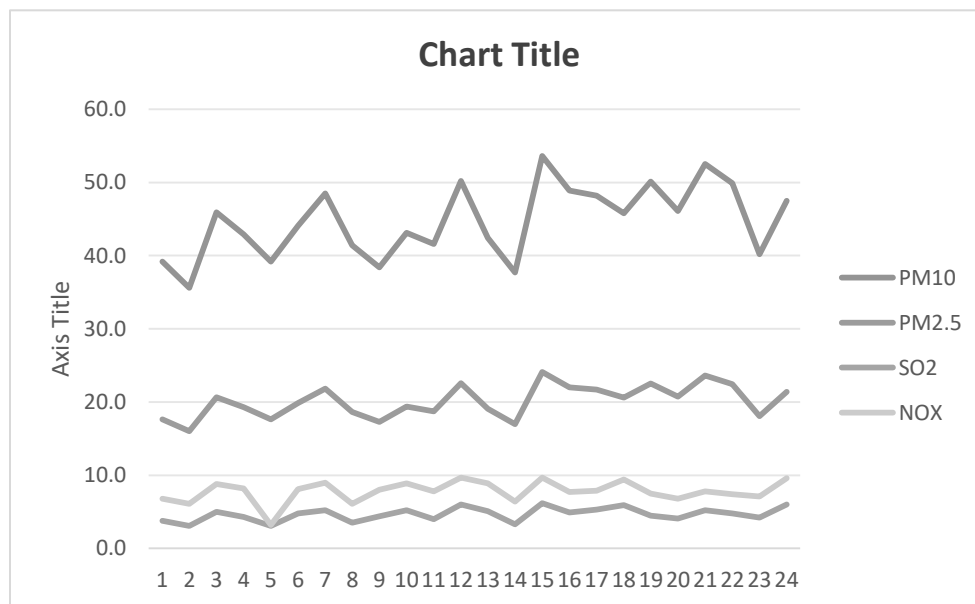


FIG 3.9 AAQ DATA AAQ4 - KAYATHAR VILLAGE

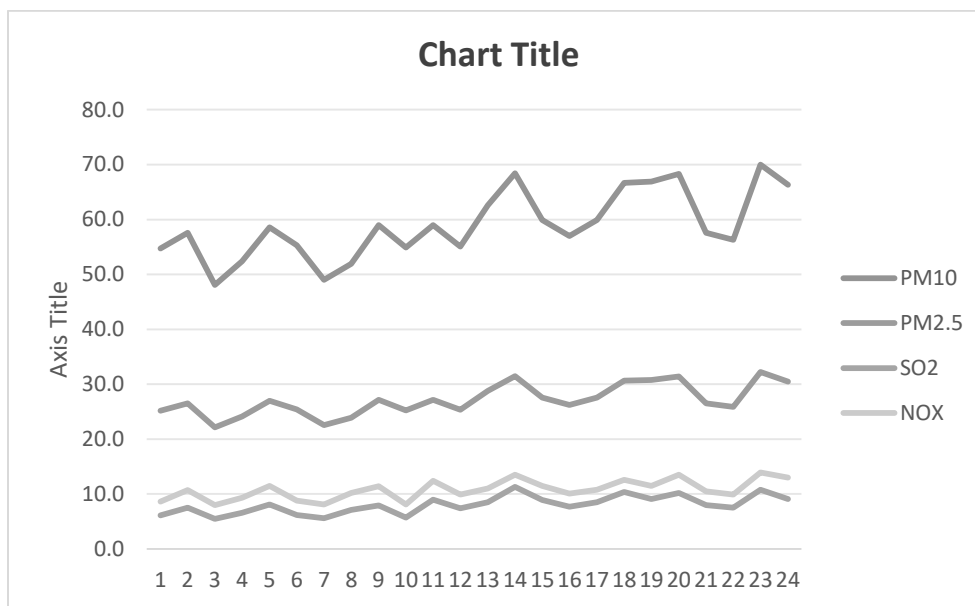


FIG 3.10 AMBIENT AIR QUALITY DATA AAQ5 - TERKU ILANDAIKULAM VILLAGE

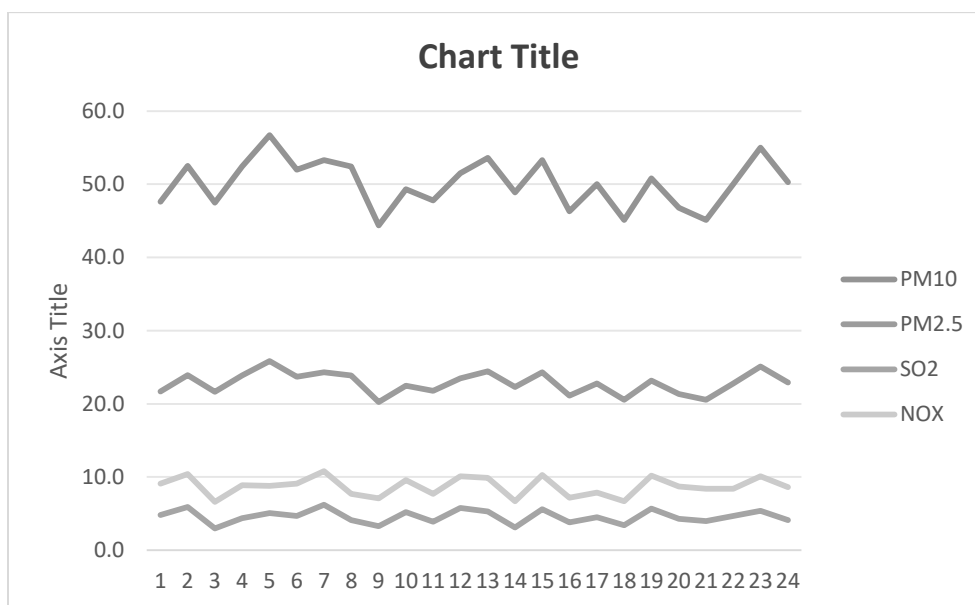
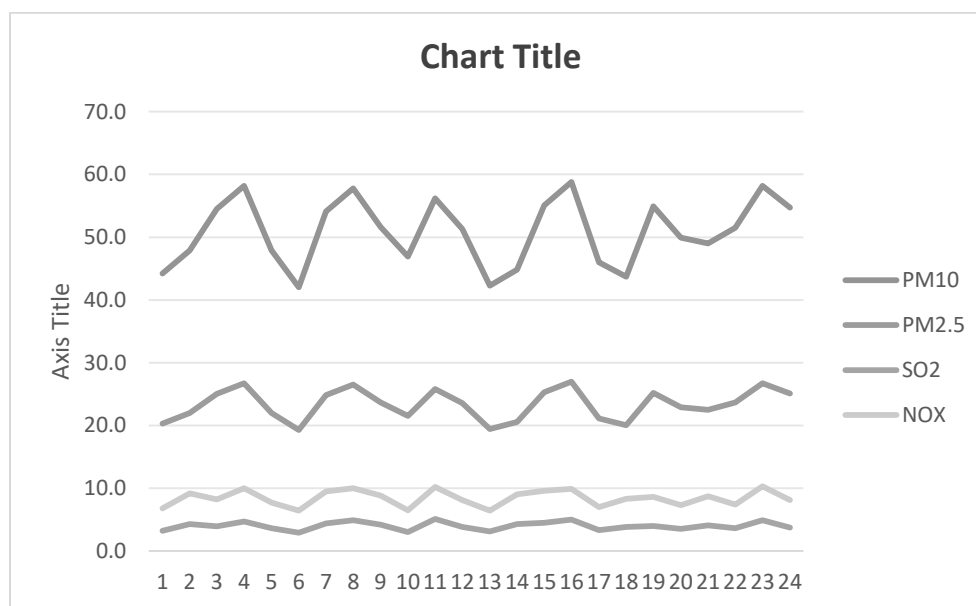


FIG 3.11 AMBIENT AIR QUALITY DATA AAQ6 - ARSANKULAM VILLAGE



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

3.3.3 WATER ENVIRONMENT

Assessment of baseline data on water environment includes:

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

Surface Water

There is Uppodai River is located at a distance of 1.62 km in NE direction and Pirancheri canal -2.94 km S of lease area. The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater. The prevailing status of surface water quality has been assessed during the study period. Surface water quality locations and results are provided in Table 3-6 and Figure 3.12b.

Tirunelveli district enjoys the benefit of the early showers of south west monsoon and of the later rains of the north-east monsoon. The district is chiefly irrigated by rivers rising in Western ghats. The dams and anaicuts constructed on Tamiraparani and Manimuthar rivers serve both agriculture and power generation. The total rain fall, though is light, averaging about 814.8 mm per annum, is generally well distributed. The Tamiraparani river affords perennial irrigation to a fairly large area on which two crops are normally raised. Several tanks and wells form part of the other sources of irrigation. The Tamiraparani is a symbol of Tamil culture and civilization and an identity of the far south of India. In Tamil and Sanskrit literature of earlier times, the Pandyas were referred to as the rulers of the land where the Tamiraparani flowed. Tamiraparani is the chief river of the district which has a large network of tributaries which include the Peyar, Ullar, Karaiyar, Servalar, Pampar, Manimuthar, Varahanathi, Ramanathi, Jambunathi, Gadanathi, Kallar, Karunaiyar, Pachaiyar, Chittar, Gundar, Aintharuvai, Hanumanathi, Karuppanathi and Aluthakanniar. The two rivers of the district which are not linked with Tamiraparani are the Nambiar and the Hanumanathi of Nanguneri taluk.

Ground Water

The rainfall is the main source for the availability of water both in surface and sub-surface. The quantum of rainfall varies every year depending upon the monsoon. However, the extraction of surface and sub-surface water is increasing year by year. It leads to environmental impact on the water sources like depletion of water level, deterioration of water quality. It makes the demand for the quantification of available water and also its quality for various purposes like agriculture, industries, drinking and domestic purposes. Total six (06) ground water monitoring locations were identified for assessment in different villages around the project site based on the usage of sub surface water by the settlements/ villages in the study area. The groundwater results are compared with the acceptable and permissible water quality standards as per IS: 10500 (2012) for drinking water. Groundwater quality monitoring locations and results are given in Table 3.7 and Figure 3.12a.

Sampling Locations

Two (2) surface water samples and six (6) ground water samples were collected from the study area and were analyzed 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 analyzed as per the procedures specified by CPCB, IS-10500:2012. The water sampling locations are given in Table 3.5 and shown as Figure 3.12a&b.

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	Ilandaikulam Pond	8°56'32.65"N 77°44'35.71"E
2	SW2	River Water (Nearby Kayathar)	8°56'39.17"N 77°46'2.82"E
Ground Water			
1	GW1	Project site	8°55'5.22"N 77°45'15.86"E
2	GW2	Pirancheri Village	8°53'36.12"N 77°43'50.68"E
3	GW3	Ithikulam Village	8°54'10.91"N 77°44'7.03"E
4	GW4	Kayathar Village	8°56'45.83"N 77°46'21.51"E
5	GW5	Terku Ilandaikulam Village	8°56'31.07"N 77°44'35.48"E
6	GW6	Arsankulam Village	8°55'31.75"N 77°45'51.91"E

FIG 3.12a BASE MAP OF GROUND WATER SAMPLING LOCATIONS

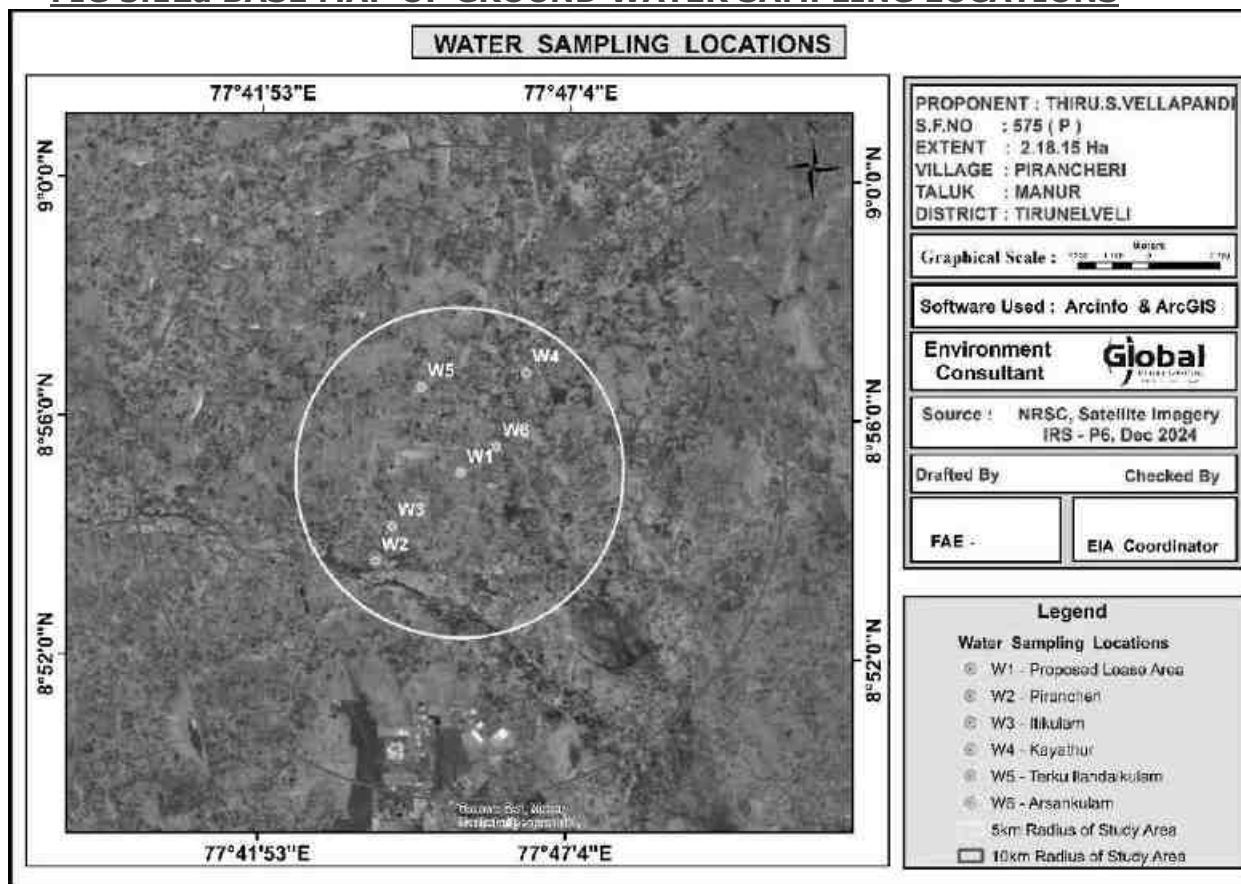


FIG 3.12b BASE MAP OF SURFACE WATER SAMPLING LOCATIONS

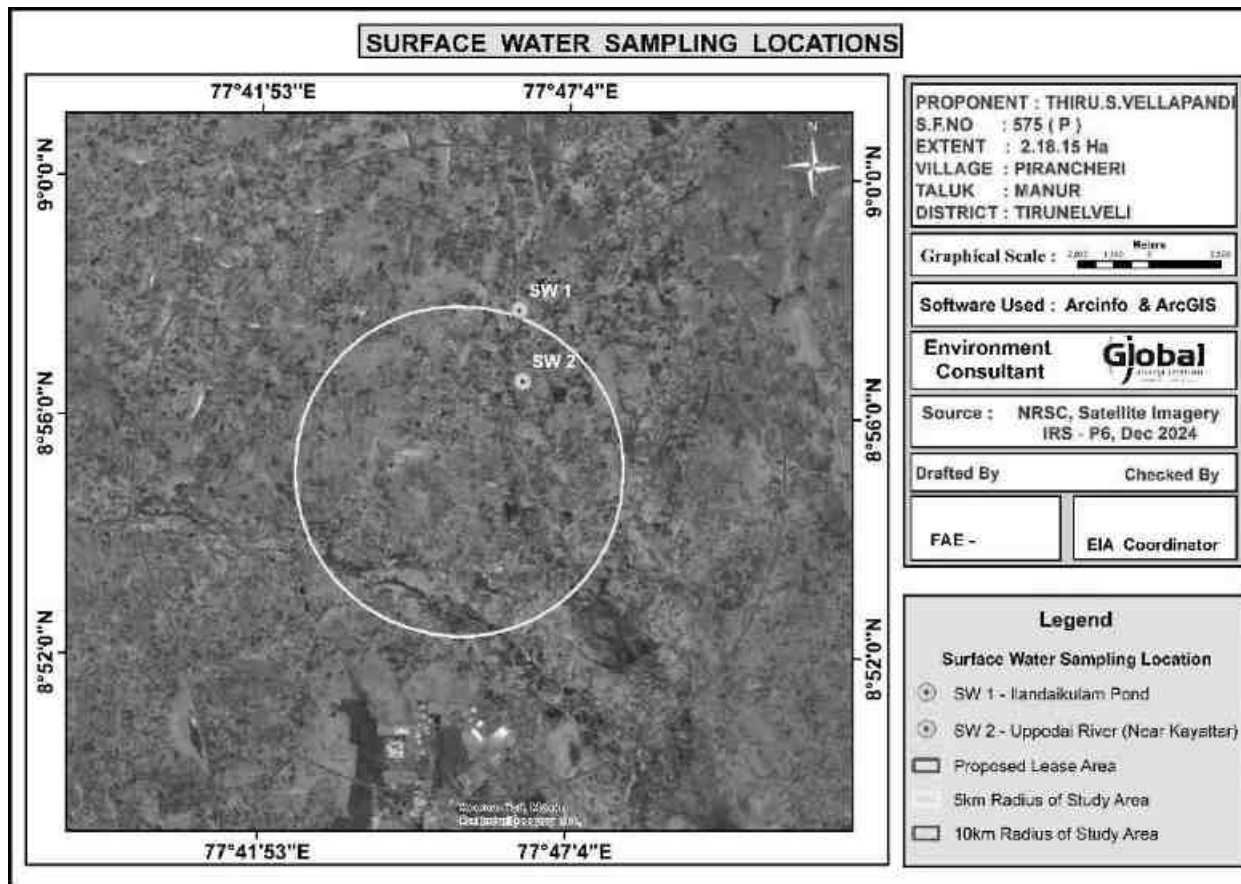


Table 3.6 Surface Water Analysis Results

Sr.No	Parameter	Unit	SW1	SW2	Surface water standard s (IS 2296 Class-A)
1	Odour	-	Agreeable	Agreeable	-
2	Turbidity	NTU	<1	<1.0	1
3	pH at 25 °C	-	7.58	8.31	6.5-8.5
4	Electrical Conductivity	µs/cm	154.7	456.3	-
5	Total Dissolved Solids	mg/l	92	273	500
6	Total hardness as CaCO3	mg/l	76.3	99.8	-
7	Calcium as Ca	mg/l	11.8	28.1	300
8	Magnesium as Mg	mg/l	1.32	6.99	-
9	Calcium as CaCO3	mg/l	64.1	70.2	-
10	Magnesium as CaCO3	mg/l	5.07	28.8	-
11	Total alkalinity as CaCO3	mg/l	46.5	68.9	-
12	Chloride as Cl-	mg/l	35.8	137	-
13	Free Residual chlorine as Cl-	mg/l	BDL (D.L-0.2)	BDL (D.L-0.2)	250
14	Sulphates as SO42-	mg/l	5.82	31.6	400
15	Iron as Fe	mg/l	0.11	0.13	1.0
16	Nitrate as NO3	mg/l	BDL (D.L-1.0)	BDL (D.L-1.0)	20
17	Fluoride as F	mg/l	0.13	0.22	1.5
18	Manganese as Mn	mg/l	BDL (D.L-0.05)	BDL (D.L-0.05)	0.5
19	COD	mg/l	BDL (D.L - 4.0)	BDL (D.L - 4.0)	
20	BOD	mg/l	BDL (D.L - 2.0)	BDL (D.L - 2.0)	
21	TSS	mg/l	BDL (D.L - 5.0)	BDL (D.L - 5.0)	

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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

Table 3.7 Results of Ground Water sampling Analysis in 6 locations							Specification/ Limit (As per IS:10500: 2012)	
	W1	W2	W3	W4	W5	W6	Desirable	Permissible
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity	<1.0	<1.0	<1	<1	<1	<1	Agreeable	Agreeable
pH at 25 °C	7.49	7.53	7.79	8.06	7.38	7.05	6.5 - 8.5	No Relaxation
Electrical Conductivity	1605	507.3	961.7	1099	634.5	1126	1	5
Total Dissolved Solids	963	304	577	659	380	675	500	2000
Total hardness as CaCO ₃	331	192	398	407	314	422	1	15
Calcium as Ca	58.2	50.4	66.9	81.7	66.5	91.7	200	600
Magnesium as Mg	37.9	10.05	44.92	46.1	30.4	39.3	200	600
Calcium as CaCO ₃	143	102	127	153	134	209	75	200
Magnesium as CaCO ₃	170	85.6	257	236	165	202		
Total alkalinity as CaCO ₃	308	186	231	307	207	308		
Chloride as Cl ⁻	307	43.2	108	82.1	45.8	143	250	1000
Free Residual chlorine as Cl ⁻	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL (D.L-0.2)	30	100
Sulphates as SO ₄ ²⁻	251	43.1	137	150	65.1	84.7	45	No Relaxation
Iron as Fe	0.08	0.04	0.07	0.03	0.02	0.05	200	400
Nitrate as NO ₃	3.52	3.18	2.81	2.08	6.04	4.13	1	No Relaxation
Fluoride as F	0.45	0.28	0.19	0.35	0.41	0.84	0.1	0.3
Manganese as Mn	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(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 6 locations were plotted and the graph is provided below.

FIG 3.13a VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS

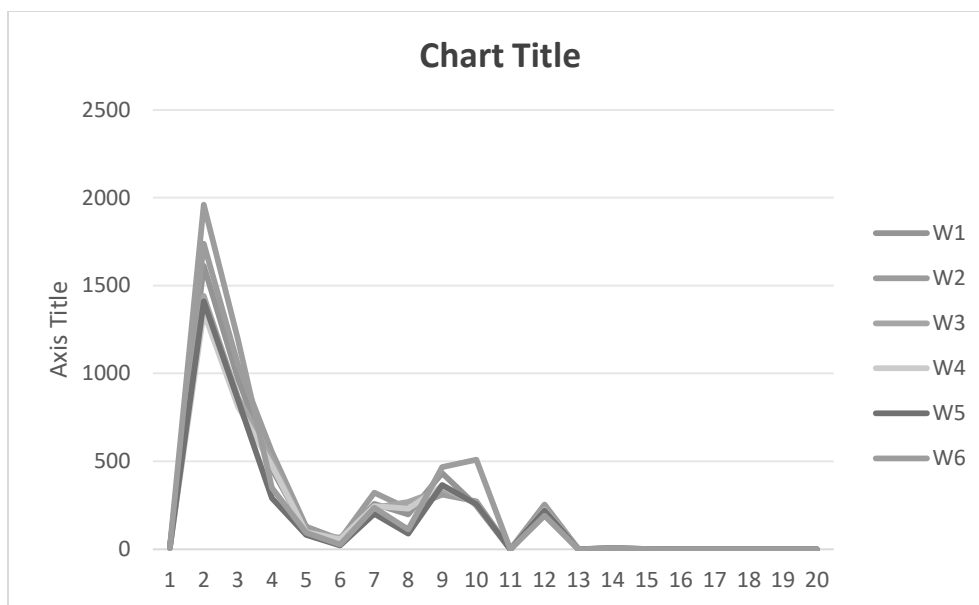
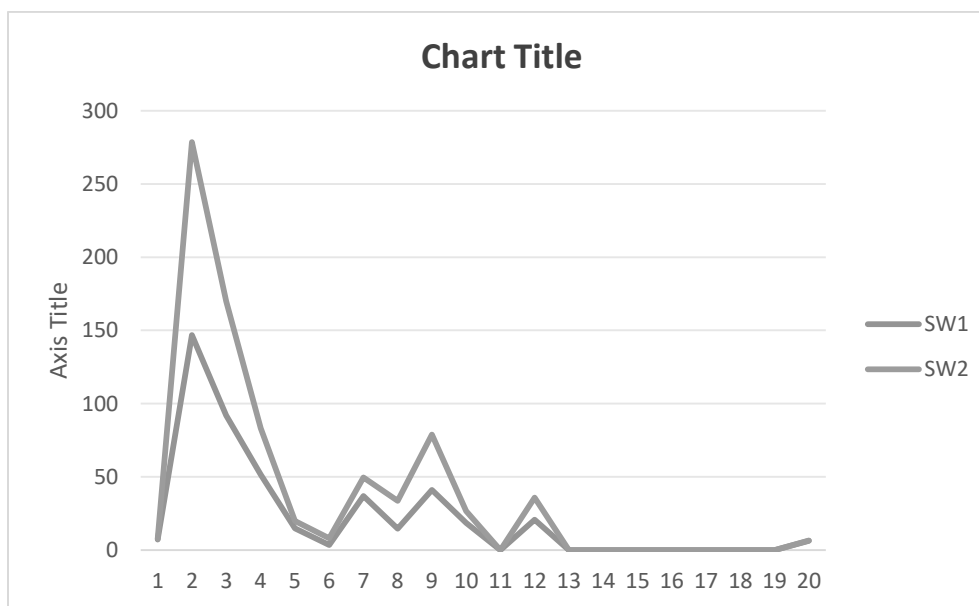


FIG 3.13b VALUES OF FEW COMMON PARAMETERS IN SURFACE WATER ANALYSIS



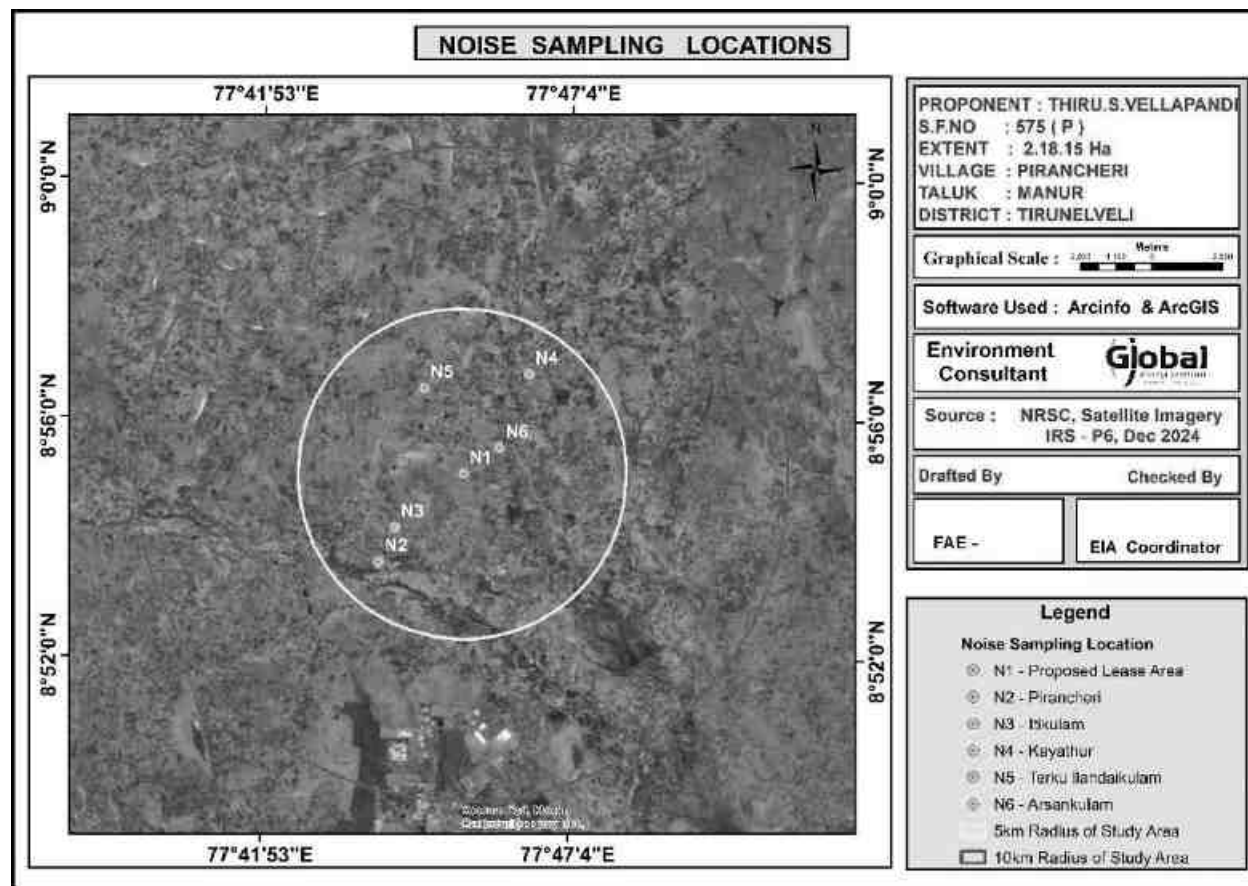
All the values were found to be within the permissible limits.

3.3.4 NOISE MONITORING

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

The noise monitoring locations are given in Fig 3.14

FIG 3.14 NOISE MONITORING LOCATIONS



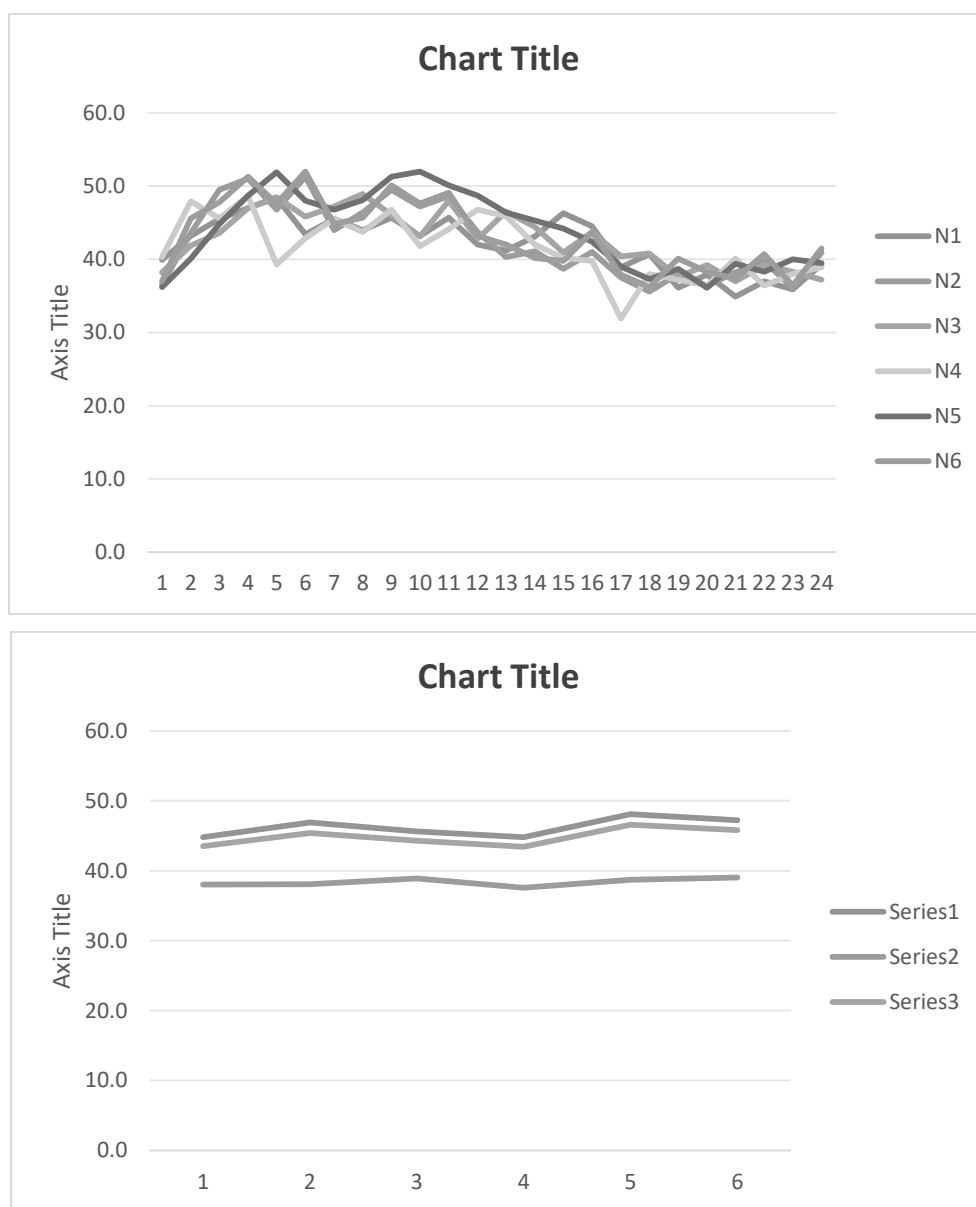
The results are given in Table below.

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	44.8	38.0	75	70
2	Pirancheri Village	46.9	38.1		
3	Ithikulam Village	45.6	38.9		
4	Kayathar Village	44.8	37.6		

5	Terku Ilandaikulam Village	48.1	47.2		
6	Arsankulam Village	47.2	39.0		

The results are plotted as below.

FIG 3.15 DAY AND NIGHT EQUIVALENT VALUES IN 6 LOCATIONS

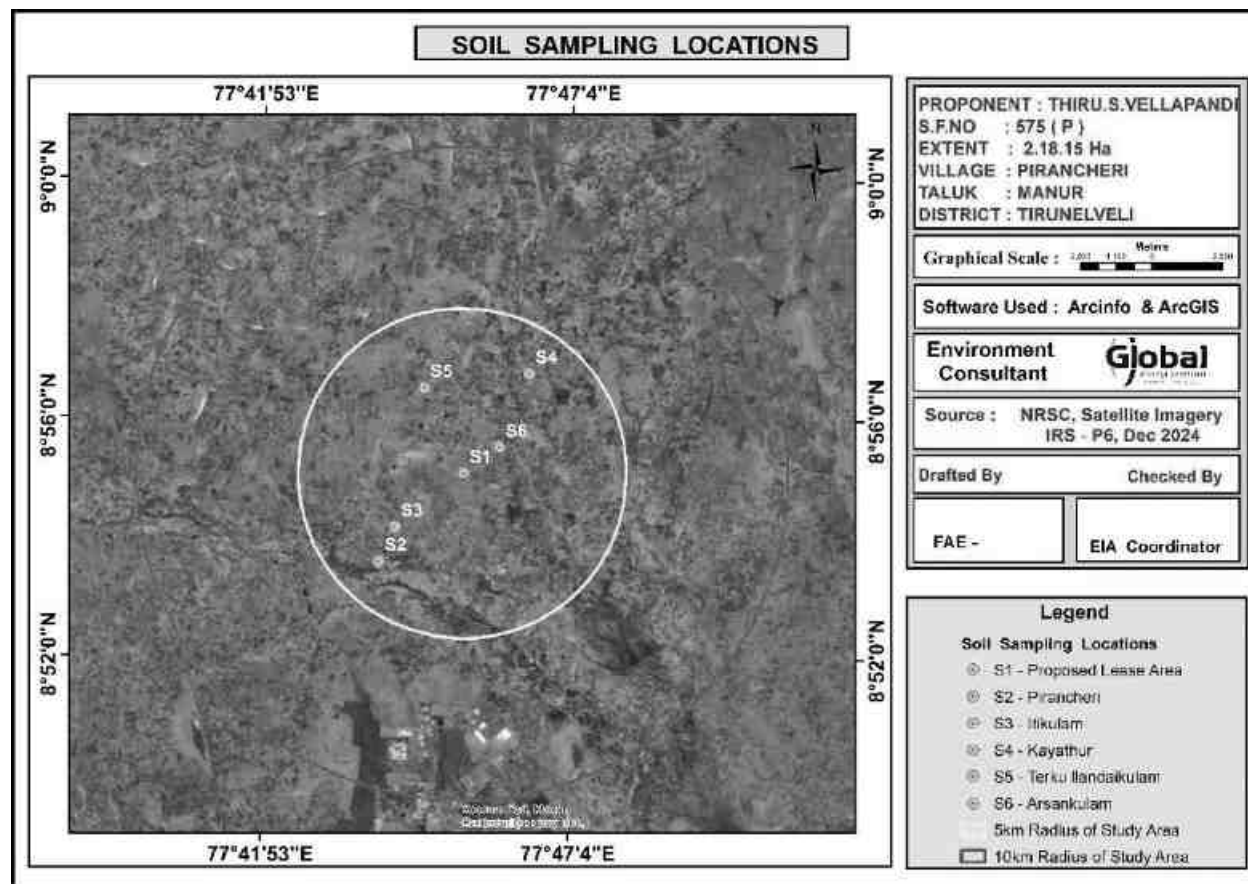


All the values are found to be within CPCB norms.

3.3.5 SOIL SAMPLING ANALYSIS

Soil samples have been collected from the mine lease area and 5 other locations from Pirancheri, Ithikulam, Kayathar, Terku Ilandaikulam and Arsankulam Villages. The locations are shown in figure below.

FIG 3.16 SOIL SAMPLING LOCATIONS



The results are summarized in the table below.

Table 3.9 Results of Soil Sample Analysis								
S. No	Parameter	Unit	S1	S2	S3	S4	S5	S6
1	pH at 25 °C	-	7.29	7.08	6.82	7.75	6.71	7.66
2	Electrical Conductivity	µmhos/cm	108.6	98.05	110.8	95.86	102.7	123.6
3	Dry matter content	%	93.97	95.54	94.08	95.99	94.86	96.91
4	Water Content	%	6.03	4.46	5.92	4.01	5.14	3.09
5	Organic Matter	%	1.98	1.35	1.66	1.24	1.53	1.94

6	Soil texture	-	SILT LOAM	SILT LOAM	SILT LOAM	Sandy Clay loam	SILT LOAM	Sandy Clay loam
7	Grain Size Distribution	%						
	i. Sand		38.54	35.25	40.97	46.12	36.34	45.76
8	ii. Silt	%	55.29	56.12	50.02	25.44	52.36	26.68
9	iii. Clay	%	6.17	8.63	9.01	28.44	11.3	27.56
10	Phosphorous as P	mg/kg	1.08	0.98	1.41	0.98	1.16	1.54
11	Sodium as Na	mg/kg	198	201	237	381	247	409
12	Potassium as K	mg/kg	703	597	519	607	549	618
13	Nitrogen and Nitrogenous Compounds	mg/kg	699	553	636	421	591	511
14	Total Soluble Sulphate	%	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)
15	Porosity	%	36	33	35	34	36	30
16	Water Holding Capacity	Inches/ foot	17.9	17.4	20.1	18.9	18.3	20.3

3.3.6 BIOLOGICAL ENVIRONMENT

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

Methodology

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

Flora in the study area

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

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

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

FLORISTIC COMPOSITION IN CORE ZONE

The lease area is a non- forest, private land with scrub and thorny bushes. In the core zone, there are no trees.

Flora in 300 m radius zone

There are some plantations within 300 m radius. It contains a total of 13 species belonging to 10 families have been recorded from the buffer zone of 300 m radius. Trees 3 (25%), Shrubs 4 (25%) Herbs 6 (50%) were identified.

Table 3.10 Flora in Core Zone				
S. No	Local Name	Scientific Name	Family Name	IUCN Conservation Status
Trees				
1	Vembu	<i>Azadirachta Indica</i>	Meliaceae	Not Listed
2	Karuvelam	<i>Vachellia Nilotica</i>	Fabaceae	Not Listed
3	Vealli Vealan	<i>Vachellia Leucophloea</i>	Babesiae	LC
Shrubs				
1	Erukku	<i>Calotropis Gigantea</i>	Apocynaceae	Not Listed
2	Avarai	<i>Senna Auriculata</i>	Fabaceae	Not Listed
3	Thuthi	<i>Abutilon Indicum</i>	Meliaceae	Not Listed
4	Kattamanakku	<i>Jatropha Curcas</i>	Euphorbiaceae	Not Listed
Herbs				
1	Mukkirattai	<i>Boerhaavia Diffusa</i>	Nyctaginaceae	Not Listed
2	Nai Kadugu	<i>Celome Viscosa</i>	Capparidaceae	Not Listed
3	Kovakkai	<i>Trichosanthes Dioica</i>	Cucurbitaceae	Not Listed
4	Perandai	<i>Cissus Quadrangularis</i>	Vitaceae	Not Listed
5	Thumbai	<i>Leucas Aspera</i>	Lamiaceae	Not Listed
6	Mookuthi Poondur	<i>Wedelia Trilobata</i>	Asteraceae	Not Listed

FLORISTIC SCENARIO IN BUFFER ZONE AREA

Taxonomically a total of 46 species distributed among 31 families have been recorded from the buffer area. Based on habitat classification of the enumerated plants the majority of species were Trees 21 and Shrubs 15 followed by herbs, climbers etc., 10. Details of flora with the scientific name were mentioned in Table No. 3.11.

Table 3.11 Flora in Buffer zone			
S.NO	Local Name	Scientific Name	Family Name
Trees			
1	Coconut	<i>Cocos nucifera</i>	Arecaceae
2	Banyan tree	<i>Ficus benghalensis</i>	Moraceae
3	Tambut/Indian Plum	<i>Flacourtia indica</i>	Flacourtiaceae
4	Mango	<i>Mangifera indica</i>	Anacardiaceae
5	Drumstick tree	<i>Moringa oleifera</i>	Moringaceae
6	Tulasi	<i>Ocimum sanctum</i>	Labiatae
7	Ashoka tree	<i>Saraca indica</i>	Caesalpinaceae
8	Tamarind	<i>Tamarindus indica</i>	Caesalpinaceae
9	Pomegranate	<i>Punica granatum</i>	Puniaceae
10	Guava	<i>Psidium guajava</i>	Myrtaceae
11	Babul	<i>Acacia nilotica</i>	Mimosaceae
12	Vembu	<i>Azadirachta Indica</i>	Meliaceae
13	Punnai	<i>Calophyllum Inophyllum</i>	Calophyllaceae
14	Ilanthai	<i>Ziziphus Jujubha</i>	Rhamnaceae
15	Thenpazham	<i>Muntingia Calabura</i>	Tiliaceae
16	Nochi	<i>Vitex Negundo</i>	Lamiaceae
17	Pappali Maram	<i>Carica Papaya L</i>	Caricaceae
18	Poovarasu	<i>Thespesia Populnea</i>	Malvaceae
19	Karuvelam Maram	<i>Vachellia Nilotica</i>	Fabaceae
20	Nelli	<i>Emblia Officinalis</i>	Phyllanthaceae
21	Navalmaram	<i>Sygygium Cumini</i>	Myrtaceae
Shrubs			
1	Pink Morning Glory	<i>Ipomea carnea</i>	Convolvulaceae
2	Hibiscus	<i>Hibiscus rosa-sinensis</i>	Malvaceae
3	Jasmine	<i>Jasminum arborens</i>	Oleaceae
4	Thuthi	<i>Abutilon Indicum</i>	Meliaceae
5	Nithyakalyani	<i>Cathranthus Roseus</i>	Apocynaceae
6	Kattamanakku	<i>Jatropha Curcas</i>	Euphorbiaceae
7	Avarai	<i>Senna Auriculata</i>	Fabaceae
8	Erukku	<i>Calotropis Gigantea</i>	Apocynaceae
9	Neermulli	<i>Hydrophila Auriculata</i>	Acanthaceae
10	Sarpunkha	<i>Tephrosia purpurea</i>	Fabaceae
11	Perandai	<i>Cissus quadrangularis</i>	Vitaceae
12	Agati	<i>Sesbania grandiflora</i>	Fabaceae

13	Dhatura, Umettha	<i>Datura metel</i>	Solanaceae
14	Uttareni	<i>Acyranthes aspera</i>	Amaranthaceae
15	Kundumani	<i>Abrus Precatorius</i>	Fabaceae
Herbs, Climber, Creeper & Grasses			
1	Veetukaayapoon Du	<i>Tridax Procumbens</i>	Asteraceae
2	Kuppaimeni	<i>Acalypha Indica</i>	Euphorbiaceae
3	Mukkirattai	<i>Boerhaavia Diffusa</i>	Nyctaginaceae
4	Karisilanganni	<i>Eclipta Prostata</i>	Asteraceae
5	Thumbai	<i>Leucas Aspera</i>	Lamiaceae
6	Thulasi	<i>Ocimum Tenuiflorum</i>	Lamiaceae
7	Manathakkali	<i>Solanumnigrum</i>	Solanaceae
8	Sangupoo	<i>Clitoriaternatia</i>	Fabaceae
9	Arugampul	<i>Cynodon Dactylon</i>	Poaceae
10	Nai Kadugu	<i>Celome Viscosa</i>	Capparidaceae

Fauna in the study area

A total of 34 species belonging were recorded in the buffer zone. Based on habitat classification the majority of species were 15 Birds, followed by 7 Insects, 4 Reptiles, 5 Mammals and 3 Amphibians. There are one schedule I species, one schedule II species, 31 schedule IV species and one Schedule V species according to Indian wild life Act 1972. There are no critically endangered, vulnerable and endemic species observed. List of fauna in the buffer zone is mentioned in Table 3.12.

Table 3.12 Fauna in buffer zone			
S.No.	Scientific Name	Common Name	Conservation status as per Indian Wildlife Protection Act (1972)
Avifauna			
1	<i>Ardeola grayii</i>	Pond heron/ Paddy Bird	Sch-IV
2	<i>Ploceus philippinus</i>	Weaver bird	Sch-IV
3	<i>Tachybaptus ruficollis</i>	Little Grebe	Sch-IV
4	<i>Corvus splendens</i>	House crow	Sch-V
5	<i>Acridotheres tristis</i>	Common myna	Sch-IV
6	<i>Dicrurus macrocerus</i>	Black drongo	Sch-IV
7	<i>Quills contronix</i>	Grey quail	Sch-IV
8	<i>Apus affinis</i>	House swift	Sch-IV
9	<i>Columba livia</i>	Blue Rock pigeon	Sch-V
10	<i>Streptopelia chinensis</i>	Spotted Dove	Sch-IV
11	<i>Passer domesticus</i>	House Sparrow	Sch-IV
12	<i>Egretta garzetta</i>	Little egret	Sch-IV
13	<i>Himantopus Himantopus</i>	Black Winged Stilt	Sch-IV
14	<i>Ceryle rudis</i>	Lesser Pied Kingfisher	Sch-IV
Reptiles			

1	<i>Naja naja</i>	India cobra	Sch-II
2	<i>Calotes versicolor</i>	Common garden lizard	Sch-IV
3	<i>Bangarus caeruleus</i>	Krait	Sch-IV
4	<i>Ptyas mucosus</i>	Rat snake	Sch-II
Amphibians			
1	<i>Rana hexadactyla</i>	Frog	Sch-IV
2	<i>Rana tigrine</i>	Bull frog	Sch-IV
3	<i>Bufo melanostictus</i>	Common Indian toad	Sch-IV
Mammals			
1	<i>Rattus sp</i>	Rat	Sch-V
2	<i>Lepus nigricollis</i>	Indian Hare	Sch-IV
3	<i>Funambulus palmarum</i>	Indian Palm squirrel	Sch-IV
4	<i>Rattus norvegicus</i>	Field mouse	Sch-IV
5	<i>Rusty spotted Cat</i>	Felis rubiginosa	Sch-IV
Insects			
1	<i>Danainae</i>	Milkweed butterfly	NL
2	<i>Apis cerana</i>	Indian honey bee	Sch-IV
3	<i>Ceratogomphus pictus</i>	Dragonfly	Sch-IV
4	<i>Hieroglyphus sp</i>	Grasshopper	NL
5	<i>Danaus chrysippus</i>	Tawny coster	Sch-IV
6	<i>Sympetrum fonscolombii</i>	Red-veined darter	NL
7	<i>Tirumala limniace</i>	Blue tiger	Sch-IV

The core zone of the area is patta land, No forest land is involved in the project area. There is no Wild Life Sanctuary or National Park within the study area of 10km. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area. Hence this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

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 08°55'01.77"N to 08°55'08.19"N and Longitude: 77°45'12.55"E to 77°45'16.91"E.

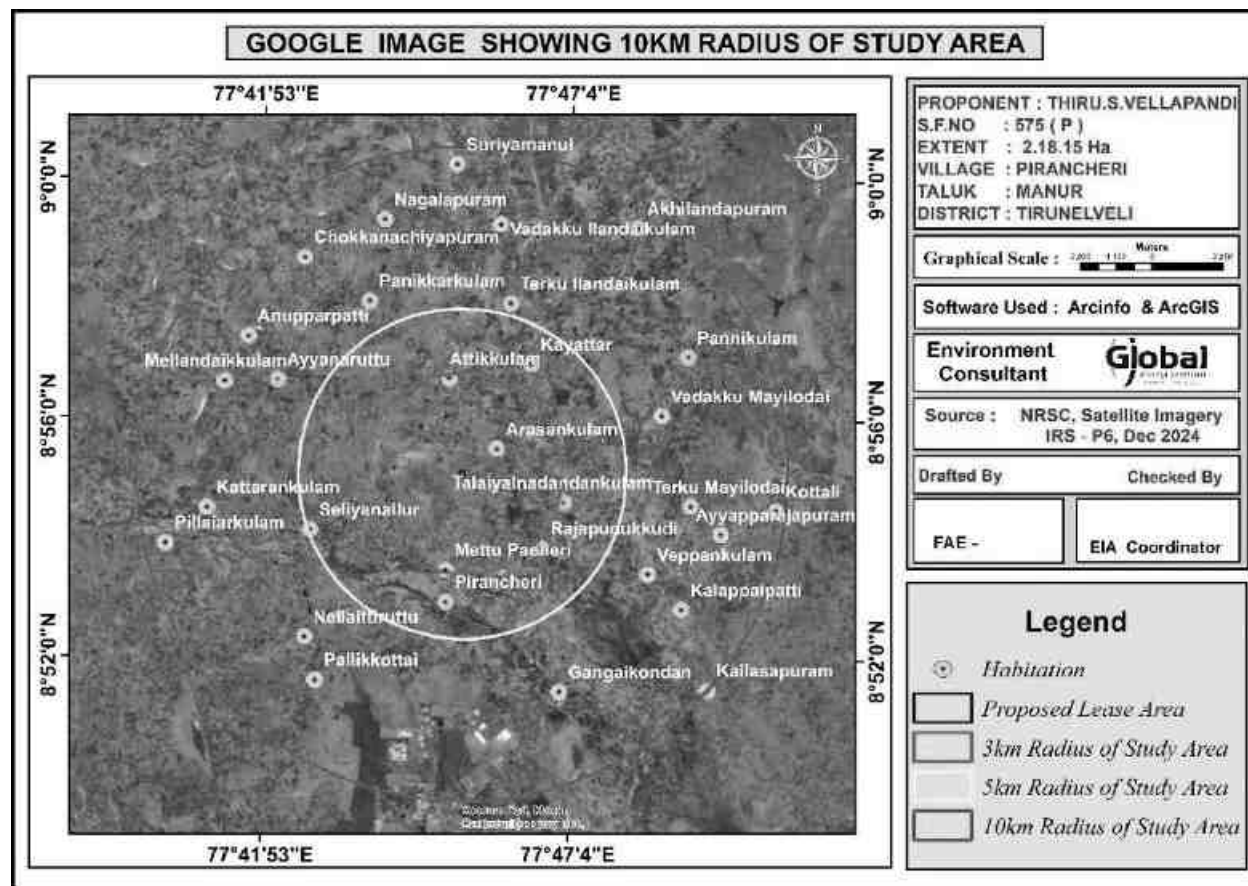


Figure No. 3.17: Remote Sensing Satellite Image

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

Methodology Adopted for the Land Use Study

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

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

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

Using the image elements such as color, tone, texture, size, shape and associated elements various landuse units are delineated following the categorization and nomenclature adopted for the national level landuse classification system as recommended by National Remote Sensing Centre (NRSC), Department of Space, Government of India. Some of the landuse units that are identified in the study area are listed in **Table No. 1** 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

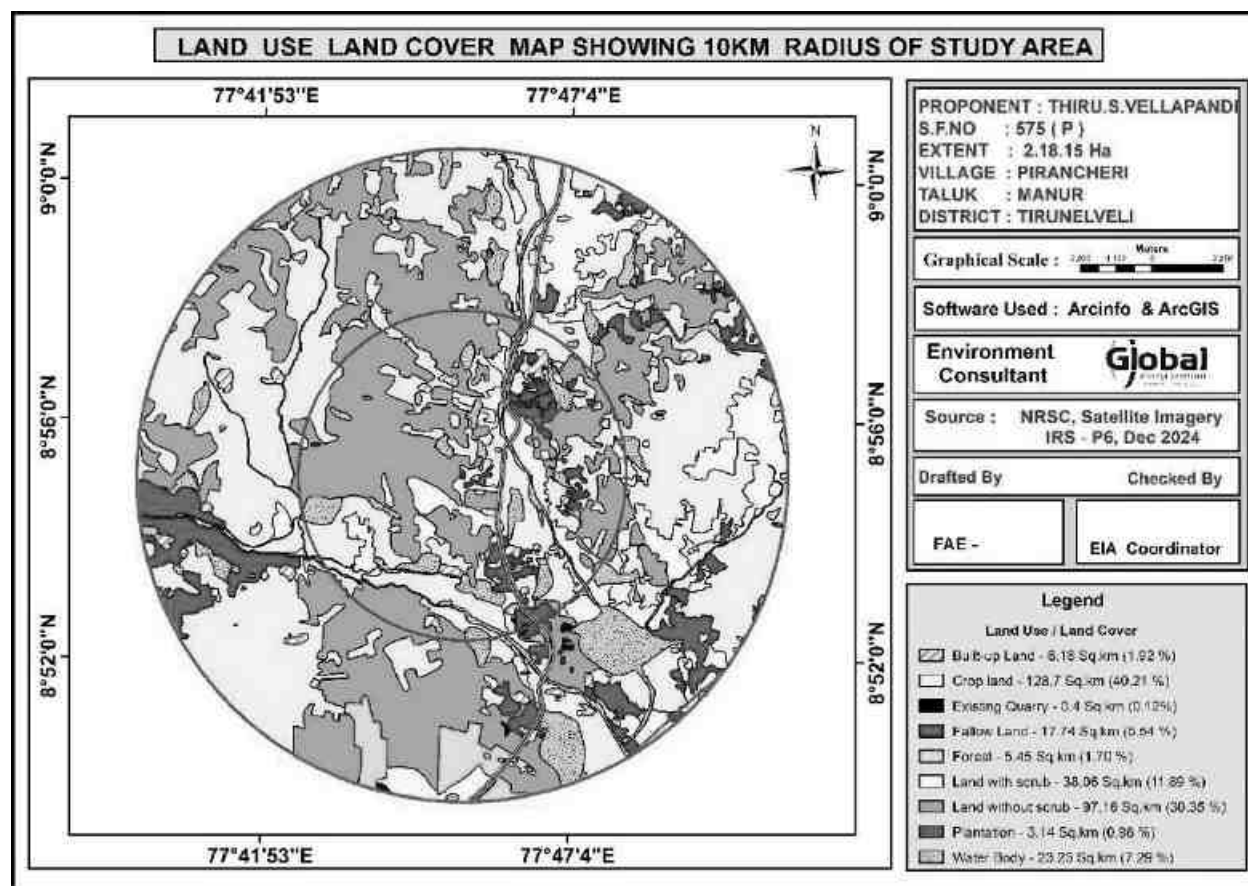
Land Use Pattern of 10 km Radial Buffer Area of Project Site

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 Pirancheri 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 land use 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 323.96 sq. km and spatial distribution of various LULC categories within buffer area are discussed below. The 5km and 10km radius land use map is shown above. The details are given below.

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



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

Built-up / Settlements

Settlements in the study area are generally small to medium size in stature and area scattered. Tirunelveli 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 48.38 sq. km representing 14.84 % of the study area and Industrial + Commercial area covers 9.47 sq. km with 2.9%.

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 144.5 Sq.km representing 44.33 % of the buffer area, plantation area covers 0.71 sq km with 0.22 %.

Wasteland

The last category of the land use 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 46.71 sq.km representing 14.33 % 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 18.44 sq.km representing 5.66 % 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.

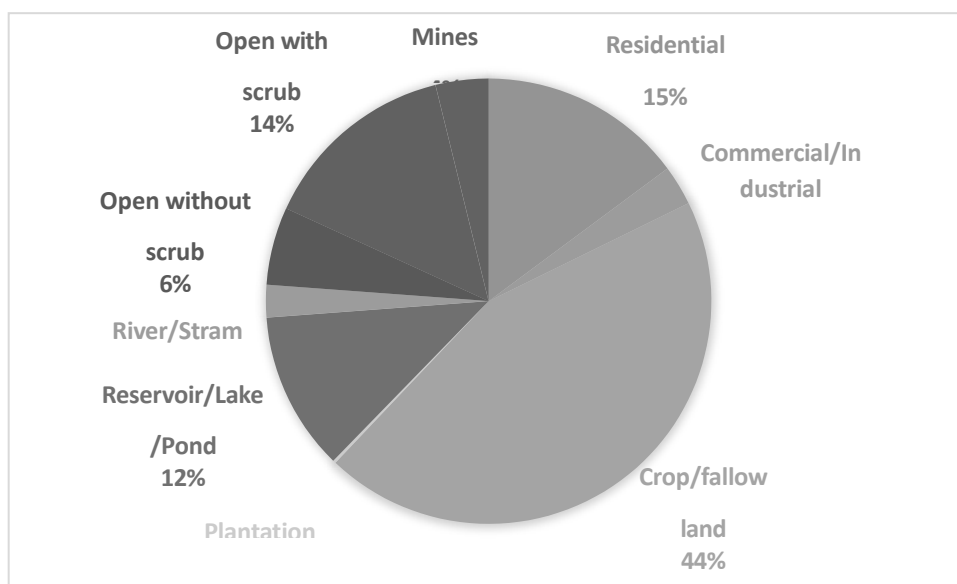
Most of the water bodies retain water for a shorter period after precipitation due to the soil constraint and hence go dry soon. Spatial extent of rivers, stream and water bodies is estimated at 45.28 sq.km and 13.89 %.

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 12.51 sq.km and 3.84 %.

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

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	57.85	17.75	Residential	48.38	14.84
				Commercial/Industrial	9.47	2.90
2	Agriculture	145.21	44.54	Crop/fallow land	144.5	44.33
3	Water bodies	35.96	11.17	Plantation	0.71	0.22
				Reservoir/Lake /Pond	35.56	11.53
4	Waste Land	65.15	19.98	River/Stram	7.68	2.36
				Open without scrub	18.44	5.66
5	Mines	7.28	2.26	Open with scrub	46.71	14.33
5	Others	12.51	3.84	Mines	12.51	3.84
Total		323.96	100		326	100



3.3.8 SOCIOECONOMIC ENVIRONMENT

The socio-economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained

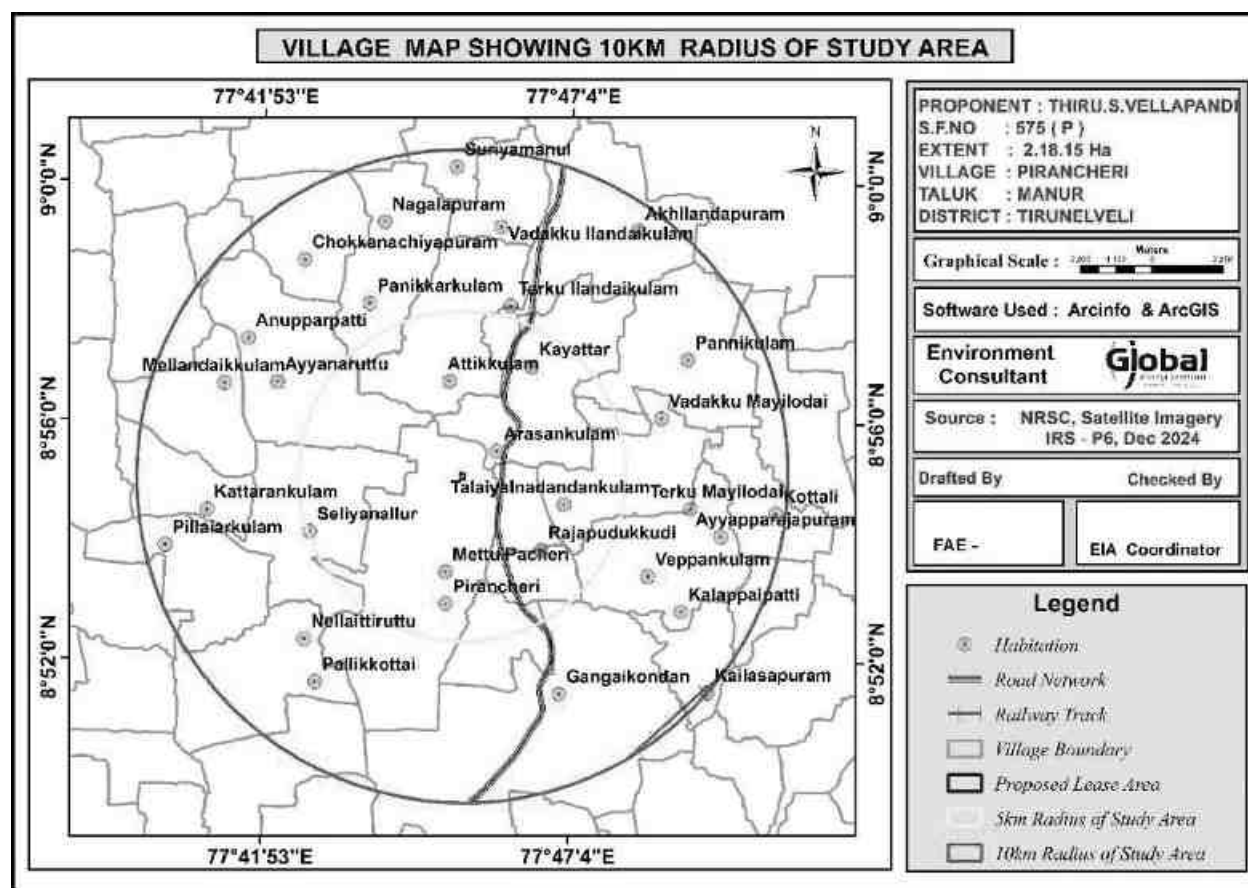
from Census 2011 is also used. The following data area collected from secondary data:

- Demographic pattern.
- Health pattern
- Occupational structure.

3.3.8.1 DETAILS OF VILLAGES

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

FIG 3.19 VILLAGE MAP OF THE STUDY AREA



DETAILS OF VILLAGES

The project is located in Manur Taluk, Tirunelveli District. The total population is 567825 which comprise of 280347 males and 287478 females. There are 29 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	Gangaikondan	1-5km	Tirunelveli	Tirunelveli	
2	Alaganeri				
3	Palamadai				
4	Kalk3urichi				
5	Kuppakurichi				
6	Pirancheri		Manur		
7	Thenkulam				
8	Chittar Chatram				
9	Thirumalaikolunthupura m				Palayamkottai
10	Alangaraperi				
11	Tirunelveli M Corp				
12	Udayaneri	Tirunelveli			
13	Kattalai Udayaneri				
14	Tirunelveli M Corp				
15	Naranammalpuram Tp				
16	Rajavallipuram				
17	Pallikkottai	Manur			
18	Mavadi				
19	Thalaiyuthu				
20	Nanchankulam				
21	Kansapuram		Palayamkottai		
22	Keelapattam				
23	Melapattam				
24	Maruthur				
25	Keelanatham				
26	Thiruthu				
27	Naduvakurichi				
28	Palayamchettikulam				
29	Udayarkulam				

Table 3.16 Population profile of the study area		
Particulars	No of Population	Percentage (%)
A. Population break-up by Gender		
Male Population	280347	49.37
Female Population	287478	50.63
Total	567825	100
B. Population break-up by Caste		
Scheduled Caste	88401	15.57
Scheduled Tribes	1509	0.27
Others	477915	84.17
Total	567825	100
C. Literacy Level		
Male Literate Population	234992	41
Female Literate Population	218866	39
Male Illiterate	45355	8
Female Illiterate	68612	12
Total	567825	100
D. Occupational structure		
Main workers	202425	-
Marginal workers	21032	-
Total Workers	223457	39
Total Non-workers	344368	61
Total	567825	100

The above table shows that the male and female population ratios are almost equal. Among the total population 0.27 % belong to Scheduled Tribes, 15.57 % are Scheduled Caste and the balance 84.17 % people belong to other castes. Among the total population, 80 % of the people are literate. Among the total population, 41% are literate males and 39% are literate females. This shows that the male literates are higher than the female literates. The results are plotted in figures below.

FIG 3.20 GENDER-WISE POPULATION DISTRIBUTION

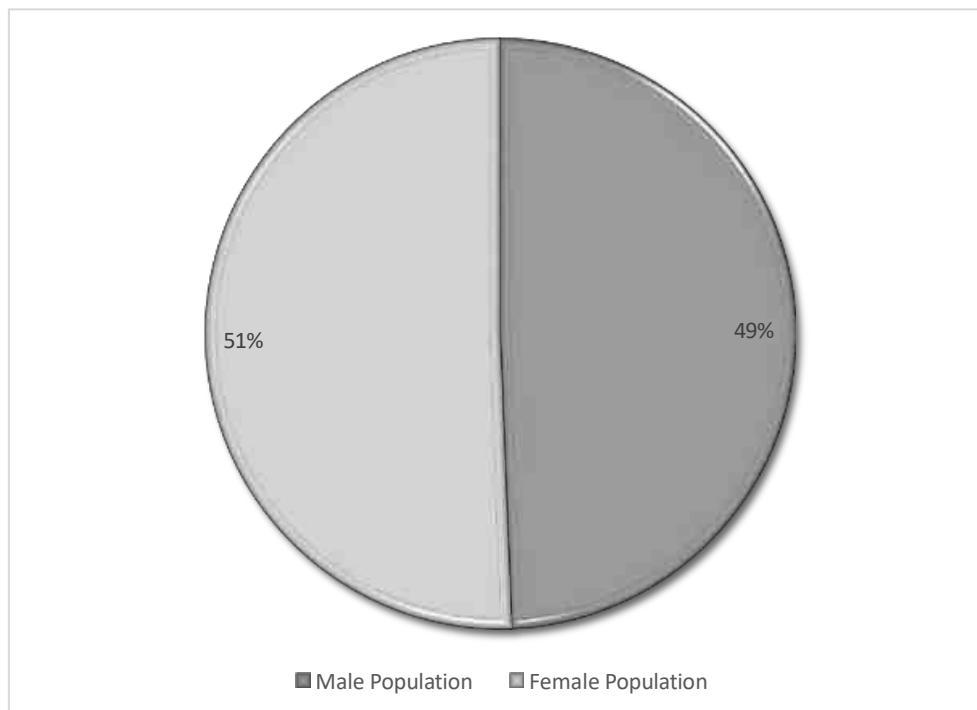


FIG 3.21 GENDER WISE LITERACY DISTRIBUTION

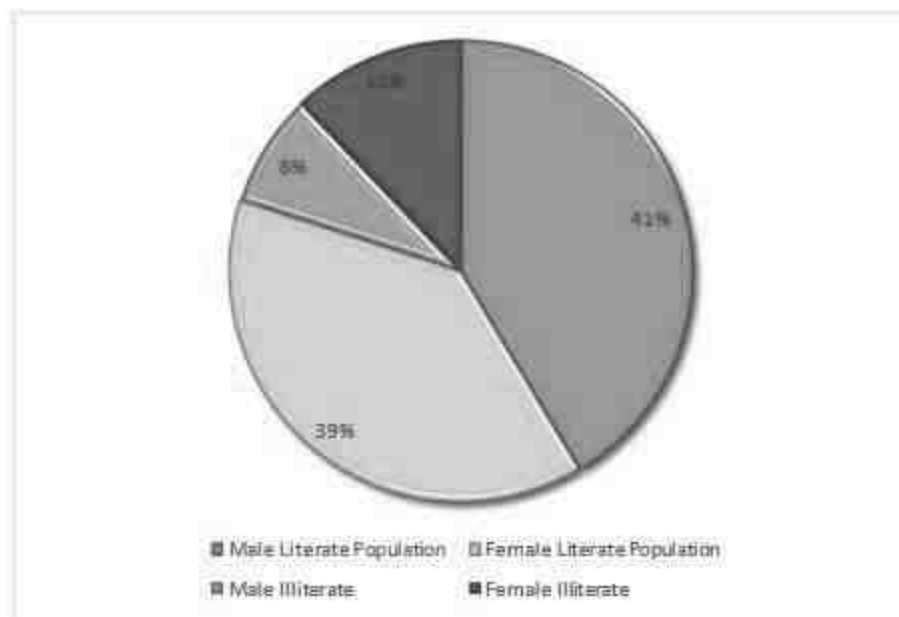
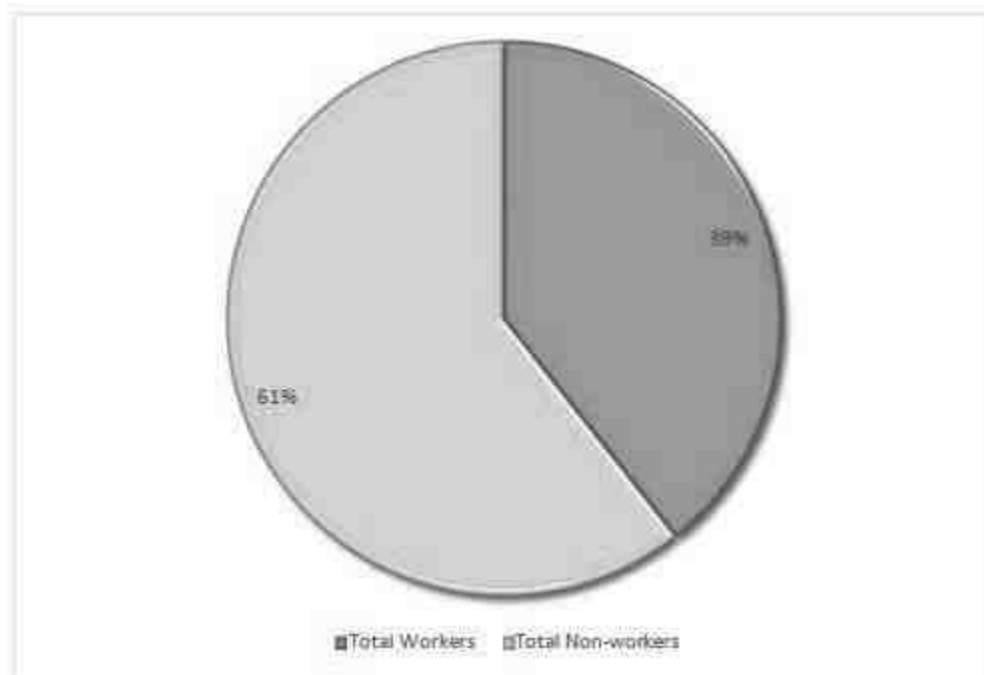


FIG 3.22 OCCUPATIONAL STRUCTURE WITHIN BUFFER ZONE



Infrastructure facilities in the study area

Education

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

S. No.	Particulars	Available in village (Nos)
1	Govt. Primary School	Tirunelveli -20
2	Govt. Middle School	20
3	Govt. Secondary School	15
4	Govt. Senior Secondary School	8
5	Govt. Arts and Science Degree College	39
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 38 Primary Schools functioning in these 20 rural villages. Among them 15 villages have 1 primary school, 5 villages have 2 primary schools & 2 villages have more than 2 primary school.

Healthcare

In the study area, the following facilities are available.

Table 3.18 Medical Infrastructure-10 km radius from proposed mine lease		
S.No.	Particulars	Available in village (Nos)
1	Community Health Centre	3
2	Primary Health Centre	2
3	Primary Health Sub Centre	12
4	Maternity And Child Welfare Centre	10
5	TB Clinic	4
6	Hospital Allopathic	0

Other Infrastructure

The other infrastructure facilities available are given below.

Table 3.19 Other Infrastructure-10 km radius from proposed mine lease		
S.No.	Particulars	Available in village
1	Tap Water-Treated	25
2	Covered Well	8
3	Hand Pump	5
4	Tube Wells/Borehole	11
5	Post office	4
6	Public bus services	18
7	Commercial Bank	2
8	Cooperative bank	7

Sample Survey

The expert visited 5 villages in the study area namely Piranjeri, Ithikulam, Kayathar, Terku Ilandaikulam, and Arasankulam villages. 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 center and Arasankulam. 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 Kayathar Village which is about 3.66 km from the lease area. Major schools with higher secondary and senior secondary schools are located in Arasankulam. The major Facilities like petrol pump stations, ATM facility are available in in Arasankulam Village.

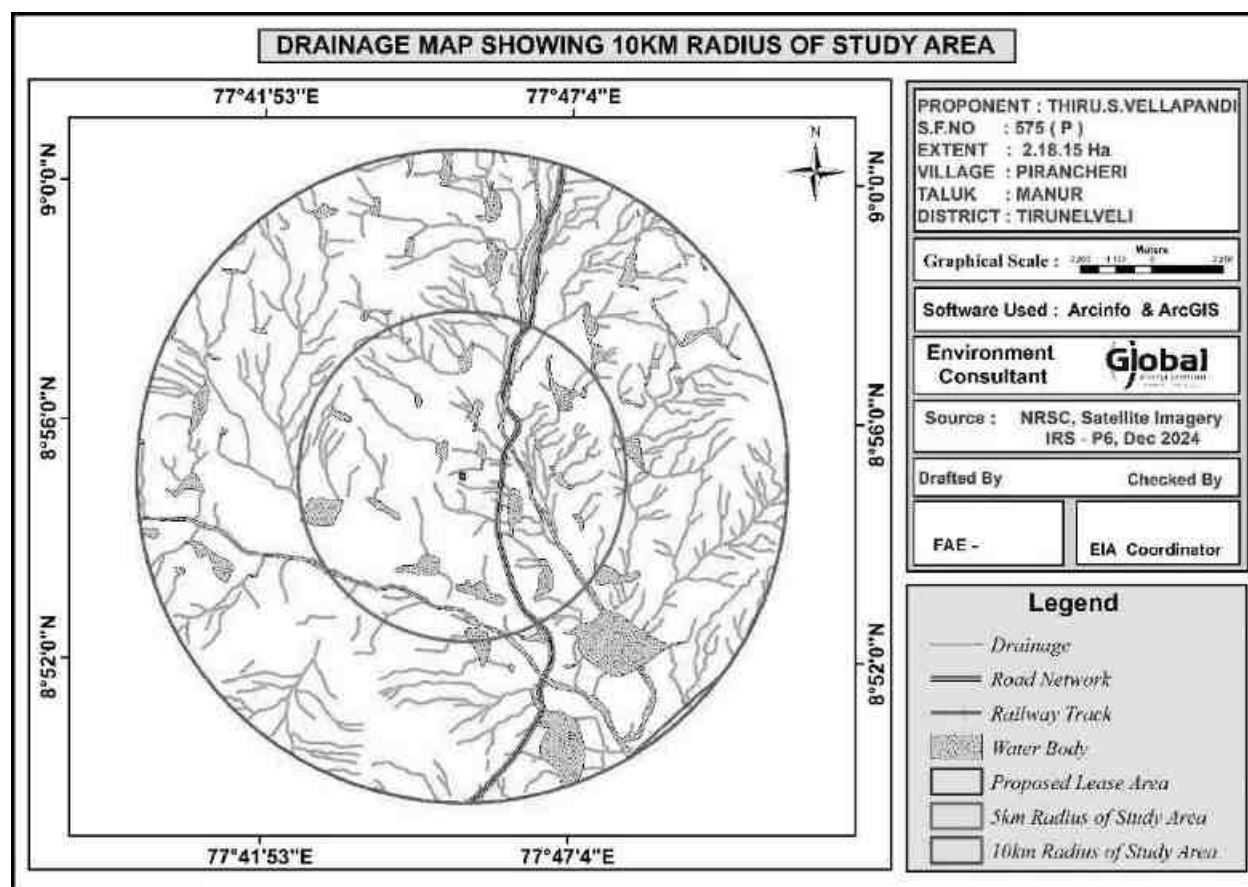
3.3.9 HYDROGEOLOGY OF THE STUDY AREA

There is Uppodai River is located at a distance of 1.62 m in NE direction and Pirancheri Canal – 2.94km (S) 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 Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State is considered to understand the nature of the general hydrogeological conditions of the surrounding proposed mine lease area.

FIGURE 3. 23 10 KILOMETER RADIUS OF THE DRAINAGE MAP



PHYSIOGRAPHY AND DRAINAGE

The area applied for quarry lease is 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 85m (maximum) from MSL. No major river is found nearby the lease-applied area. Water table in the area is around 65m BGL. The normal temperature varies between 24.4°C and 27.1°C at mean minimum, whereas the hottest climate experiences from March to May with mercury reaching 38.5°C at the highest. This District receives rain both in south west and north east monsoon. The average rainfall is about 824.75mm to 1104.8mm

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 3.23. There is Uppodai River is located at a distance of 1.62 m in NE direction of lease area of the proposed site.

GEOLOGY, GEOMORPHOLOGY AND SOIL

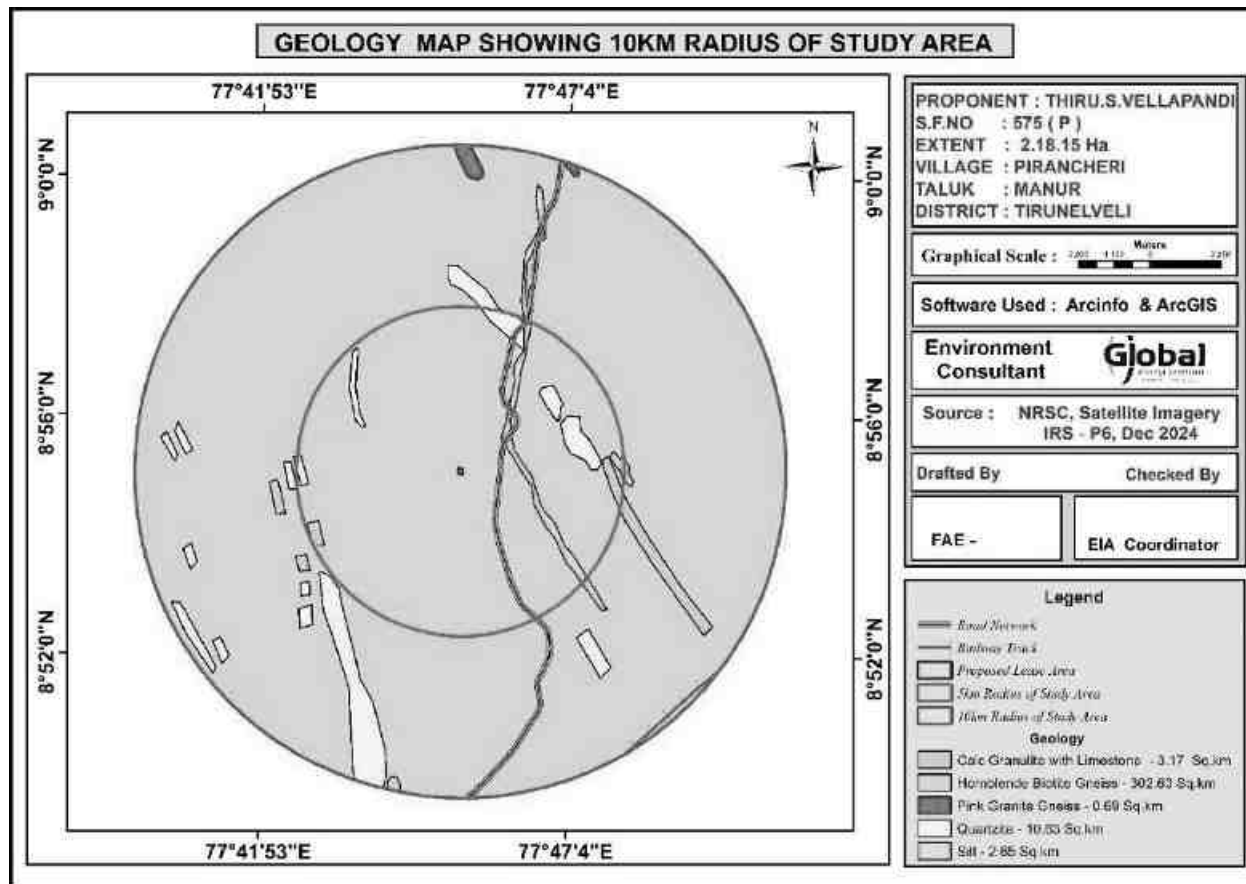
Geology:

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 SE60°.

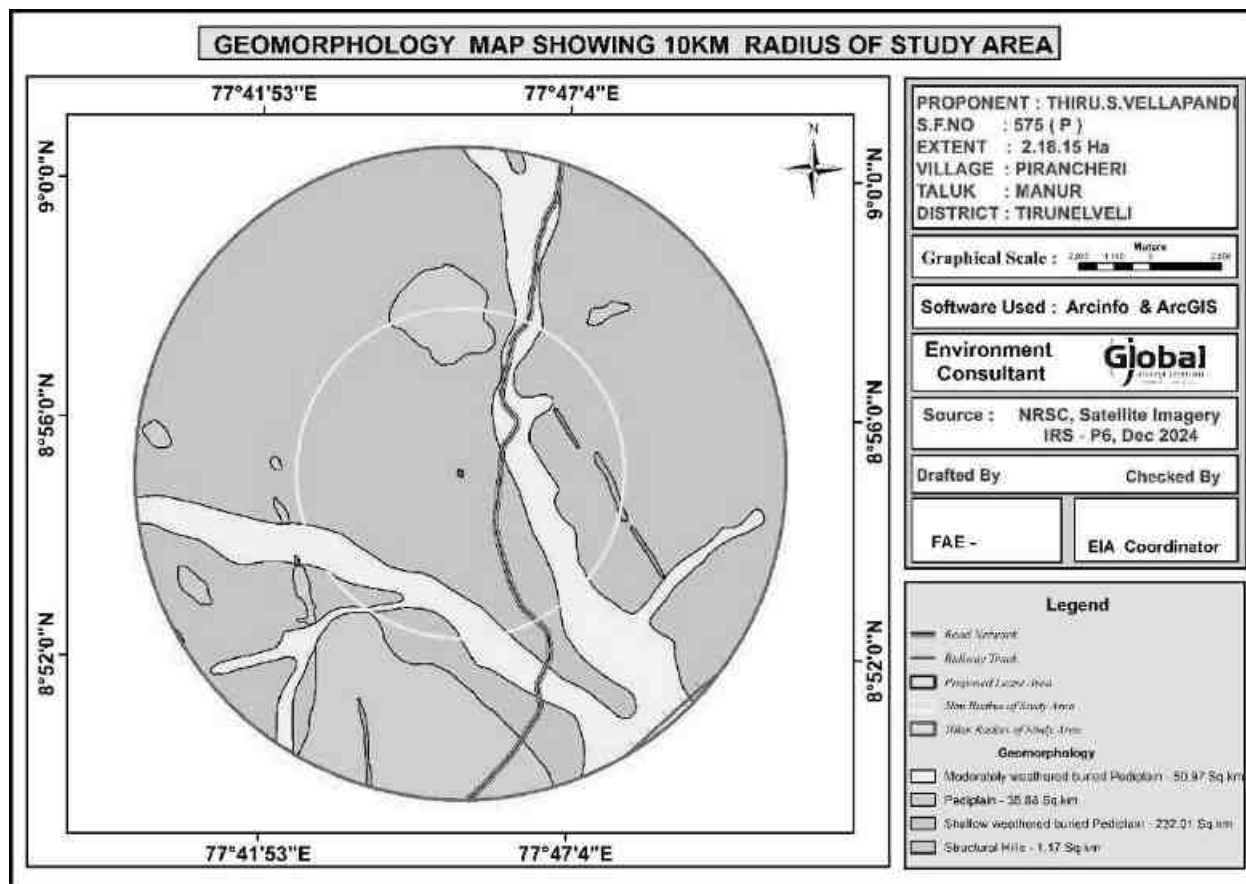
FIGURE 3. 24 10 KILOMETER RADIUS OF THE GEOLOGY MAP



Geomorphology:

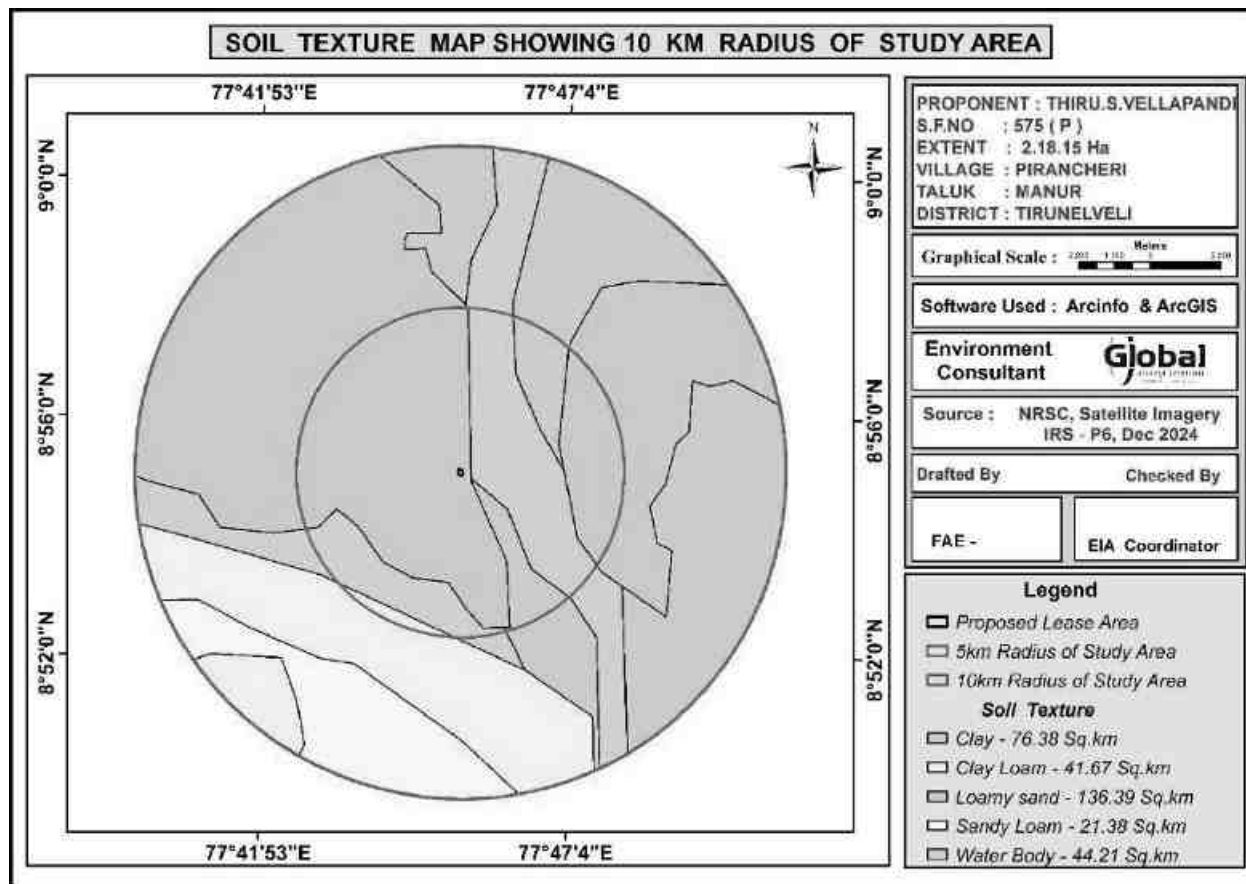
Tirunelveli district is bordered by Western Ghats (Ridge and valley complex) in the West. A major part of the district constitutes a plain terrain with a gentle slope toward East and Southeast, except for the hilly terrain in the west. The general elevation of the area varies from less than 10 to 1408 m AMSL (Tulukkapparai hill range). The prominent geomorphic units identified in the district through interpretation of Satellite imagery are Structural Hill, Bazada Zone, Valley Fill, Flood Plain, Pediment, Shallow buried pediment, Deep buried pediment and Coastal Plain.

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



Soil: The soil types in the study area are mostly Clay, loamy soil, loamy sand and sandy loamy soil (Figure 3.26.). loamy sand soil (136.39 sq.km) was distributed over the study area. Clay soil is found in north, east, and central part of the study area (76.38 sq.km). Clayey loam soil is found in western part of the study area (41.67 sq.km).

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



BELOW GROUND LEVEL (BGL)

Figure 3.27 & 3.28 shows the Non-Monsoon and Monsoon water level map of the study area.

FIGURE 3.27 NON-MONSOON WATER LEVEL MAP OF THE STUDY AREA

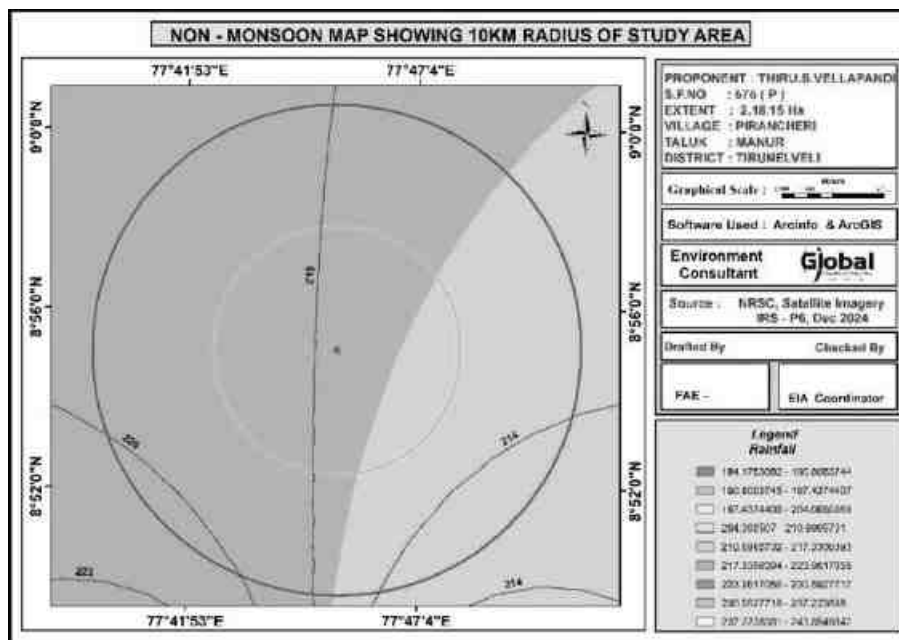
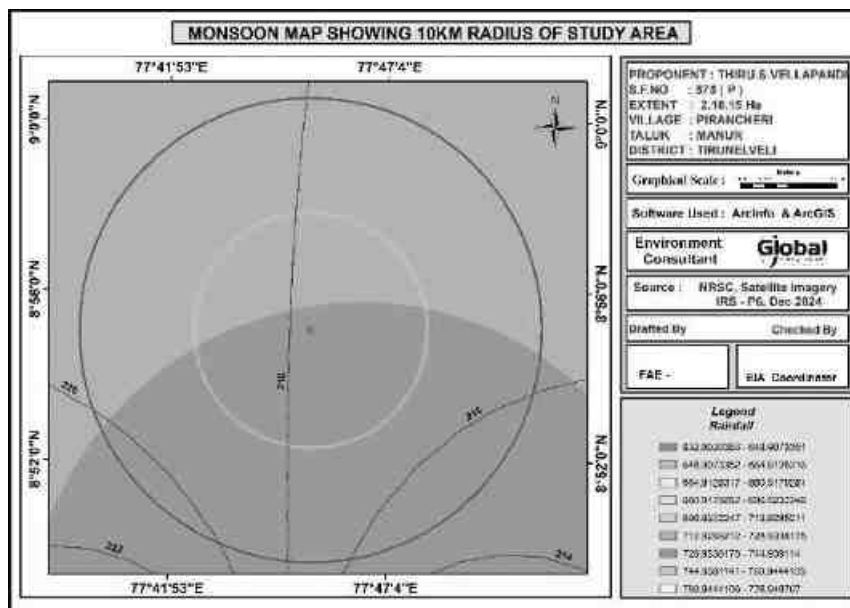


FIGURE 3.28 MONSOON WATER LEVEL MAP OF THE STUDY AREA



FIELD INVESTIGATION

There is tank is located at a distance of 480m in NE direction and 580m in NW and 1.35 km SE.

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 PROJECT.

This is a proposed Rough Stone Quarry & Gravel Quarry of S.F.No. 575 (P) over an extent of 2.18.15 Ha in Pirancheri Village, Manur Taluk, Tirunelveli 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 3,42,975 m³ of Rough Stone 33,966 m³ of gravel formation up to a depth of 47 m (BGL) for the period of 5 years. There is no stream/odai within the mine lease area.

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

The entire mine lease area is Patta land. The project area of 2.18.15 Ha boundary barrier except in eastern direction. It is proposed to be altered by effective quarrying operation such as excavation (1.70.0 Ha), Infrastructure (0.01.0), Road (0.01.0 Ha) and green belt will be developed in the safety zone of 0.46.15 Ha. The ultimate depth of quarrying is proposed with maximum depth of 47m 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 plain terrain 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><thead><tr><th>Land Use</th><th>Present Area (Hect)</th><th>Area in use during the quarrying period (Hect)</th></tr></thead><tbody><tr><td>Quarrying Pit</td><td>Nil</td><td>1.70.00</td></tr><tr><td>Infrastructure</td><td>Nil</td><td>0.01.00</td></tr><tr><td>Roads</td><td>Nil</td><td>0.01.00</td></tr><tr><td>Green Belt</td><td>Nil</td><td>0.46.15</td></tr><tr><td>Unutilized</td><td>2.18.15</td><td>Nil</td></tr><tr><td>Total</td><td>2.18.15</td><td>2.18.15</td></tr></tbody></table>	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)	Quarrying Pit	Nil	1.70.00	Infrastructure	Nil	0.01.00	Roads	Nil	0.01.00	Green Belt	Nil	0.46.15	Unutilized	2.18.15	Nil	Total	2.18.15	2.18.15	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 47 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><thead><tr><th>Land Use</th><th>Area in use during the quarrying period (Hect)</th></tr></thead><tbody><tr><td>Area left for water body</td><td>1.70.00</td></tr><tr><td>Green Belt</td><td>0.46.15</td></tr><tr><td>Remaining area</td><td>0.02.00</td></tr><tr><td>Total</td><td>2.18.15</td></tr></tbody></table> At the mine closure stage 1.70.00 Ha of lease area will be left as rain water harvesting pond 0.46.15 Ha will be developed with green belt. Greenbelt shall be developed around the mine lease area and the details has been given below. <table><thead><tr><th>Year</th><th>Species</th><th>No. of trees</th><th>Spacing</th><th>Survival</th></tr></thead><tbody><tr><td>I</td><td>Azadirachta indiaca</td><td>500</td><td>3m x 3m</td><td>80%</td></tr></tbody></table>	Land Use	Area in use during the quarrying period (Hect)	Area left for water body	1.70.00	Green Belt	0.46.15	Remaining area	0.02.00	Total	2.18.15	Year	Species	No. of trees	Spacing	Survival	I	Azadirachta indiaca	500	3m x 3m	80%
		Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)																																							
		Quarrying Pit	Nil	1.70.00																																							
		Infrastructure	Nil	0.01.00																																							
		Roads	Nil	0.01.00																																							
		Green Belt	Nil	0.46.15																																							
		Unutilized	2.18.15	Nil																																							
		Total	2.18.15	2.18.15																																							
		Land Use	Area in use during the quarrying period (Hect)																																								
		Area left for water body	1.70.00																																								
Green Belt	0.46.15																																										
Remaining area	0.02.00																																										
Total	2.18.15																																										
Year	Species	No. of trees	Spacing	Survival																																							
I	Azadirachta indiaca	500	3m x 3m	80%																																							

	The ultimate pit dimension of the mine lease area is given below. <table><tr><th colspan="4">Ultimate Pit dimension at the end of Mining plan Period</th></tr><tr><th>Pit No.</th><th>Length (max) (m)</th><th>Width (Avg) (m)</th><th>Depth (max) (m)</th></tr><tr><td>I</td><td>153</td><td>111</td><td>47 m Below ground level</td></tr></table> If mining is not done systematically it will lead to the dumping failure in the mining area.	Ultimate Pit dimension at the end of Mining plan Period				Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)	I	153	111	47 m Below ground level	<table><tr><td>II</td><td rowspan="4">The remaining years will be maintained</td><td>-</td><td rowspan="4"></td><td rowspan="4"></td></tr><tr><td>III</td><td>-</td></tr><tr><td>IV</td><td>-</td></tr><tr><td>V</td><td>-</td></tr><tr><td colspan="2">Total</td><td>500</td><td></td><td></td></tr></table> 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 45⁰ slope and with conventional 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.	II	The remaining years will be maintained	-			III	-	IV	-	V	-	Total		500		
Ultimate Pit dimension at the end of Mining plan Period																														
Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)																											
I	153	111	47 m Below ground level																											
II	The remaining years will be maintained	-																												
III		-																												
IV		-																												
V		-																												
Total		500																												
Drainage	Mine drainage is surface water or groundwater that drains from an active or abandoned mine. One of the adverse impacts of mine drainage is it will contaminate the ground water.	As per the approved mining plan the ultimate pit limit is 47m (BGL). The ground water table is reported as 65 m. In the proposed mining plan only 47m 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 47m below ground level and the nearby water table is 65m. 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 47m. 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.

- Tank - 480m (NE)
- Tank - 585m (NW)
- Tank – 1.35km (SE)
- Canal – 1.44km (NE)
- Uppodai River – 1.62km (NE)
- Pirancheri Canal – 2.94km (S)
- Chittar River – 3.73km (SW)
- Parakiramapandiyan Kulam – 5.6km (SE)

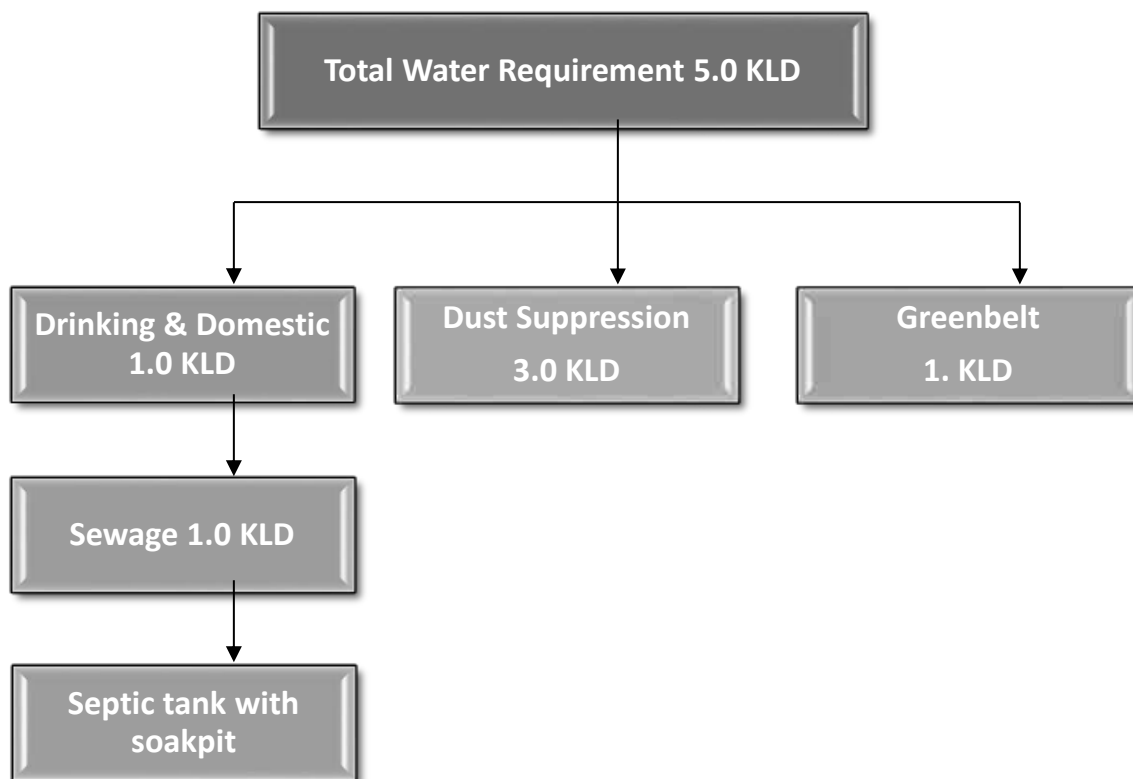
Water table is found at a depth of 65m.

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 1.0 KLD will be generated, for which a septic tank with soak pit will be set up. The water balance diagram is given below.

FIG 4.1 WATER BALANCE DIAGRAM



4.2.3 Impact on Ground Water

The mining activity is not likely to intersect ground water as the ground water table occurs at a depth of 65 m. The mining will go up to the maximum depth of 47 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 Tirunelveli District, Manur Taluk is given below.

TABLE 4.1 Ground Water Level Status in Tirunelveli 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	Tirunelveli	1,496.90	0.00	2,768.26	2,768.26	185	Over Exploited

Source: nwm.gov.in

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

4.2.4 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 0.46.15 Ha. Trees like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indica will be planted around the mine lease area. A total of 500 trees are planned to be planted. Spacing will be 3m x 3m.

FAUNA

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

Table 4.2 Impacts and mitigation measures for Fauna		
S.No.	Impact	Mitigation measure
1	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 and vehicle. Apart from these, there will be other activities associated viz transportation of mineral and waste, stocking facilities and dump management within the mine lease area that may contribute to pollution.

4.3.3 Air Emissions

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

4.3.4 Quantitative Estimation of Impacts on Air Environment

An attempt has been made to predict the incremental rise of various ground level concentrations above the baseline status in respect of air pollution due to proposed is 3,42,975m³ of Rough stone and 33,966 m³ of gravel formation 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 in homogeneity 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 3,42,975m³ of Rough stone and 33,966 m³ of gravel formation by the open-cast mechanized 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.

The maximum ground level concentration is estimated to be about $1.67 \mu\text{g}/\text{m}^3$ of PM_{2.5} & $2.99 \mu\text{g}/\text{m}^3$ of PM₁₀ within the mine area and surrounding cluster area $4.25 \mu\text{g}/\text{m}^3$ of PM_{2.5} & $8.02 \mu\text{g}/\text{m}^3$ of PM₁₀, where mining operations are being carried out. The impact of mining operations would be negligible beyond 0.5 km.

Figure – 4.2 represents the spatial distribution of the predicted ground level concentrations of PM_{2.5} due to emissions from mine.

4.3.9 Emission sources & Quantification

Various point and non-point sources of emissions from Proposed Rough Stone and Gravel Quarry of Thiru.S.Vellapandi is quantified and presented below:

FIG 4.2 Isopleth of GLC Prediction for PM_{2.5}

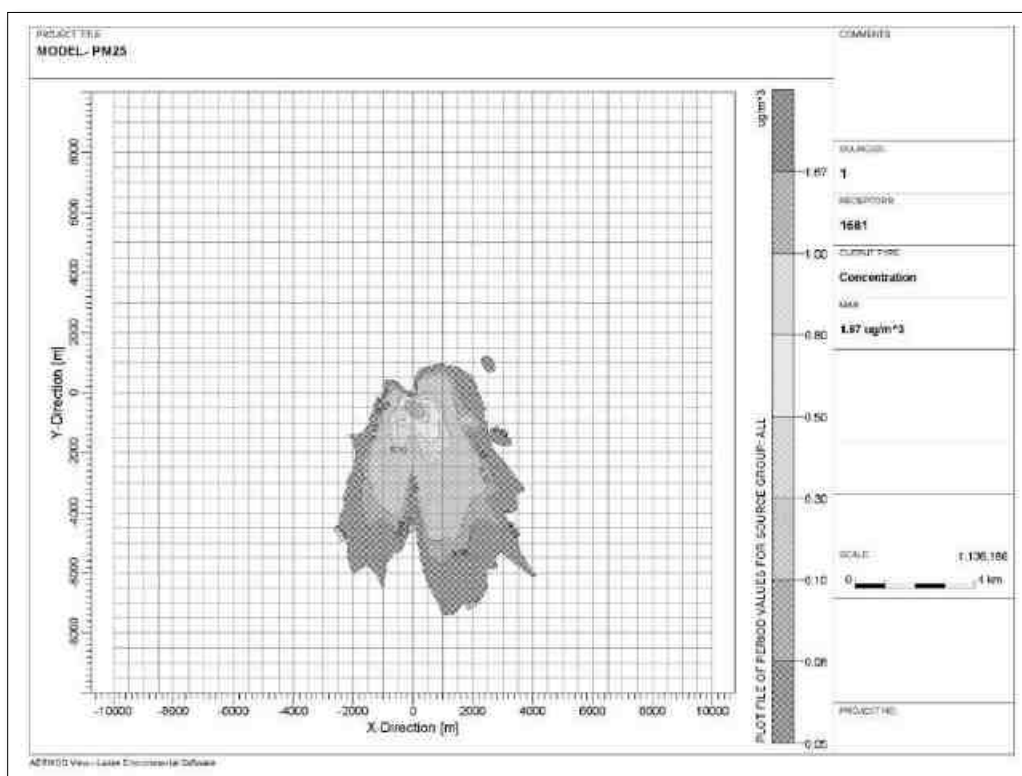


FIG 4.3 Isopleth of GLC Prediction for PM₁₀

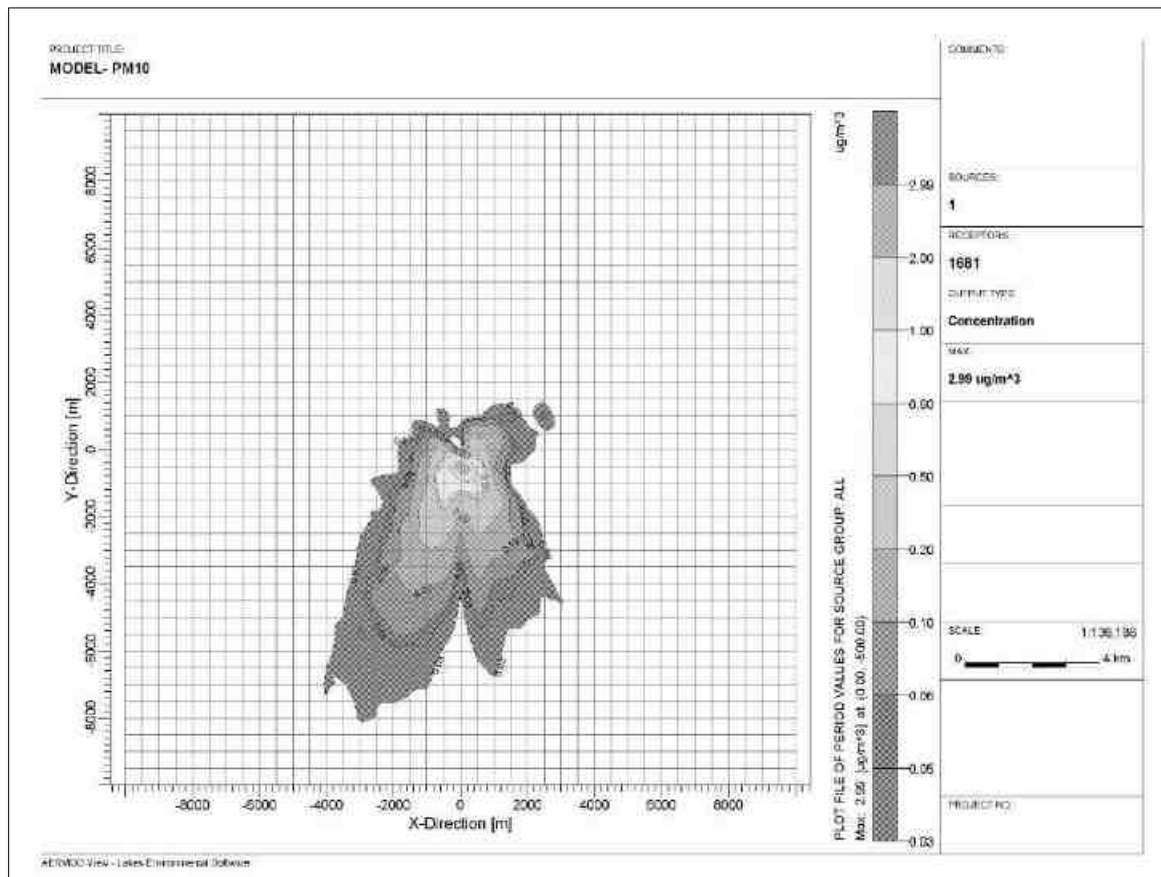


FIG 4.4 Isopleth of GLC Prediction –Cumulative for PM_{2.5}

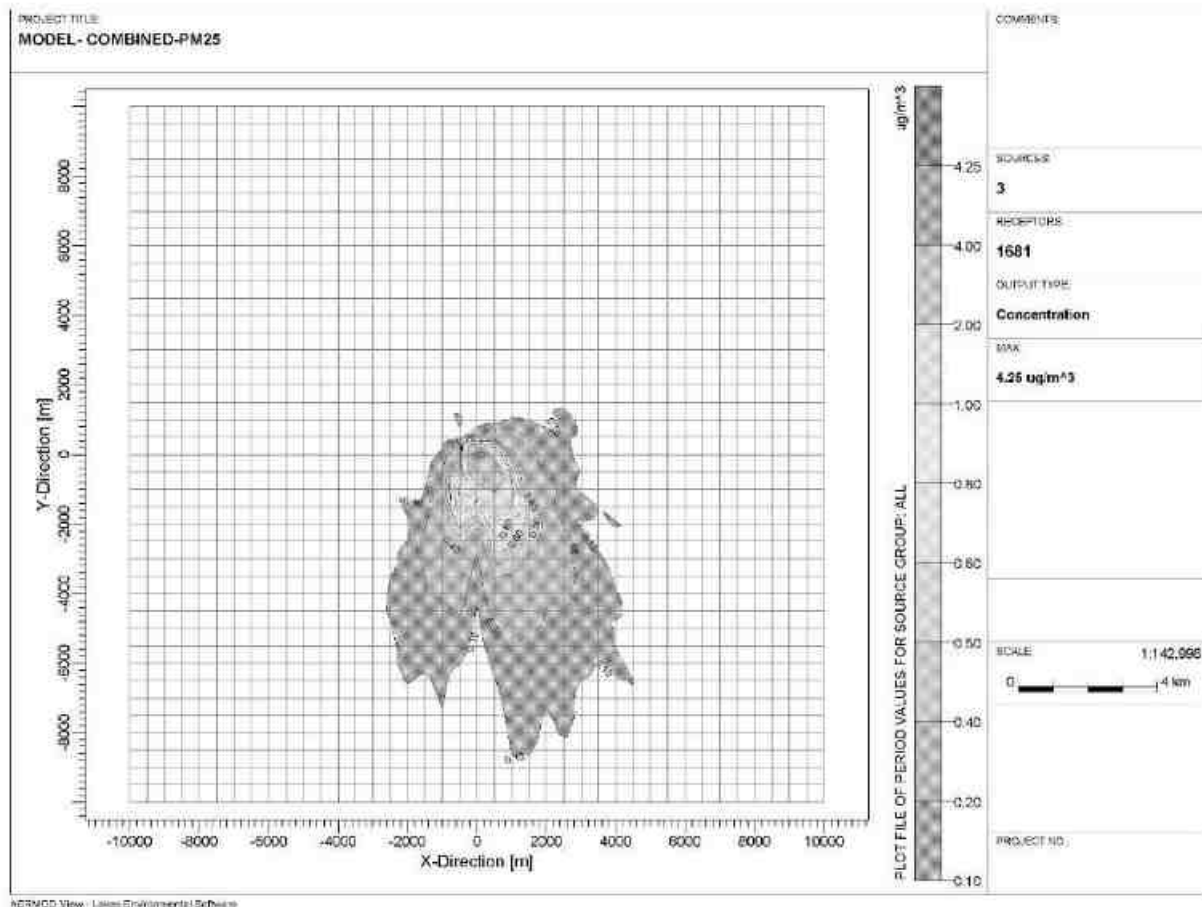
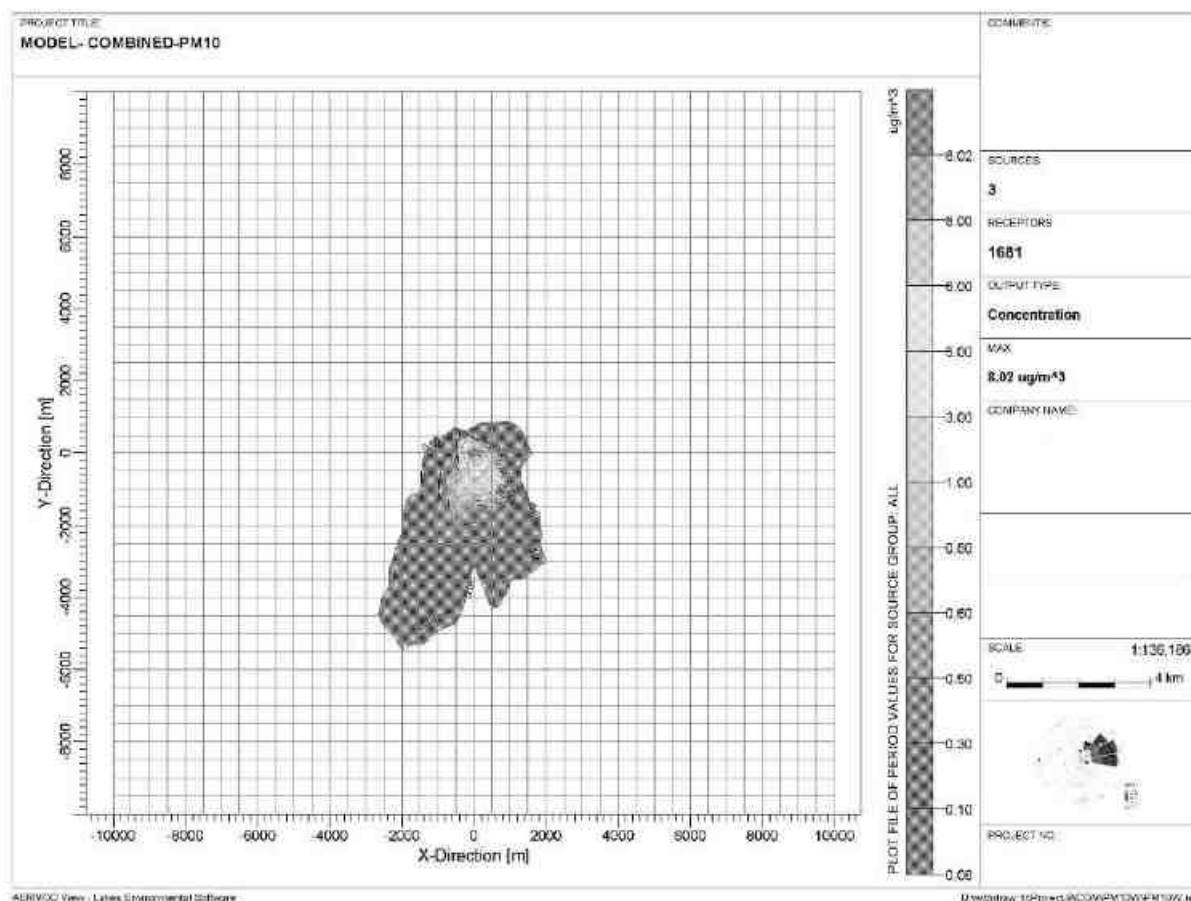


FIG 4.5 Isopleth of GLC Prediction –Cumulative for PM₁₀



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 to 4.8.

Table 4.3 Concentrations of PM _{2.5} after Project Implementation					
SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Project site	28.6	1.67	30.27	60
2	Pirancheri Village	24.15	1.00	25.15	
3	Ithikulam Village	19.8	0.80	20.6	
4	Kayathar Village	26.85	0.50	27.35	

5	Terku Ilandaikulam Village	23.05	0.30	23.35	
6	Arsankulam Village	23.15	0.10	23.25	

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

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Project site	28.6	4.25	32.85	60
2	Pirancheri Village	24.15	4.0	28.15	
3	Ithikulam Village	19.8	1.0	20.8	
4	Kayathar Village	26.85	0.80	27.65	
5	Terku Ilandaikulam Village	23.05	0.60	23.65	
6	Arsankulam Village	23.15	0.50	23.65	

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	63.1	2.99	66.09	100
2	Pirancheri Village	55	2.0	57.0	
3	Ithikulam Village	42.9	1.0	43.9	
4	Kayathar Village	60.15	0.60	60.75	
5	Terku Ilandaikulam Village	53.35	0.50	53.85	
6	Arsankulam Village	50.1	0.20	50.3	

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	54.35	8.02	62.37	100
2	Pirancheri Village	48.7	8.0	56.7	
3	Ithikulam Village	44.5	6.0	50.5	

4	Kayathar Village	49.35	5.0	54.35	
5	Terku Ilandaikulam Village	43.7	3.0	47.9	
6	Arsankulam Village	45.95	1.0	46.95	

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 50.3 µg/m³ to 66.9 µg/m³ and for PM_{2.5} are in the range of 20.6 µg/m³ to 30.27 µg/m³ and PM₁₀ are surrounding area range of 46.95 µg/m³ to 62.37 µg/m³ and for PM_{2.5} are in the range of 20.8 µg/m³ to 32.85 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.

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 Pirancheri Village, Ithikulam Village, Kayathar Village, Terku Ilandaikulam Village and Arsankulam Village, 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	44.8	38.0
2	Pirancheri Village	3.80 km, SW	46.9	38.1
3	Ithikulam Village	2.72 km, SW	45.6	38.9
4	Kayathar Village	3.66 km, NE	44.8	37.6
5	Terku Ilandaikulam Village	2.85 Km, NW	48.1	47.2
6	Arsankulam Village	1.33 Km, NE	47.2	39.0

The noise levels are within the MoEF & CC limits of 70 dB(A) in the working area and in the buffer areas, the values are below the limit of 75 dB(A). Since, the residential

area norm has been considered for all five locations mentioned above, during mining operation mine lease area will be considered as industrial area/quarry area for which DGMS norms 85 dB(A)/CPCB guidelines 75 dB(A).

4.4.3 Impact of Noise due to mining

- ✚ 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 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 project proponent has allocated the CER cost as 5.0 Lakhs.

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 26 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, Rheumatic 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

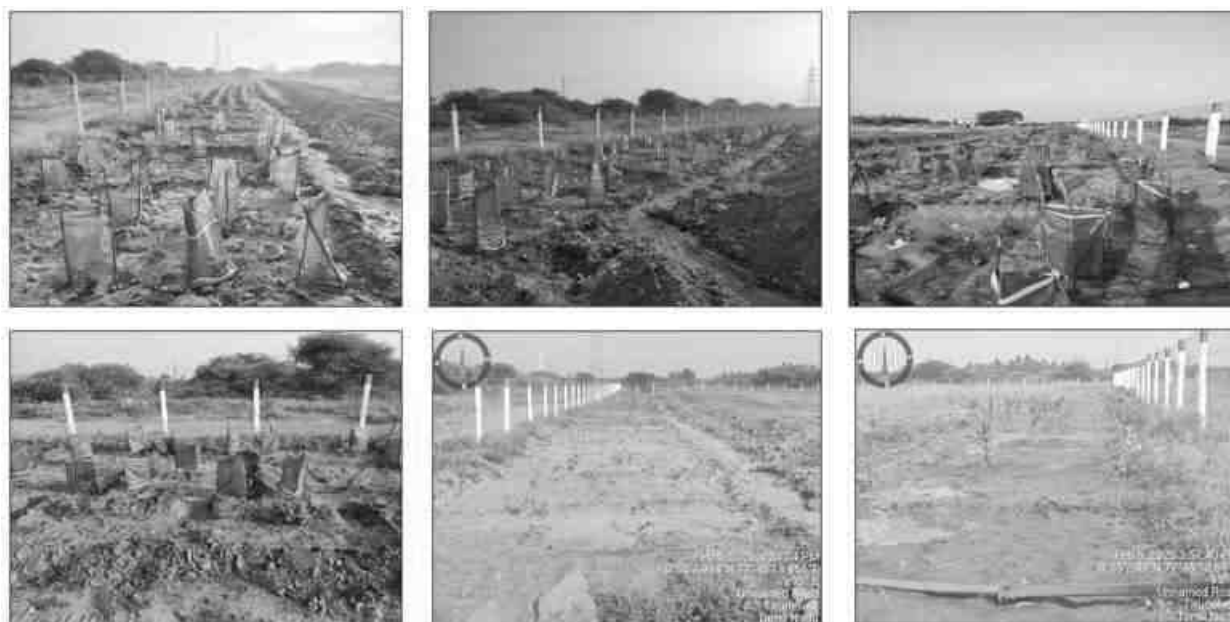
In this project the following management practices will be followed:

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 of as per the Hazardous waste (Trans-boundary Movement) Management Rules, 2016.

Plastic Waste

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

FIG 4.6 FENCING AND PLANTATIONS PHOTOGRAPHS



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, Tirunelveli vide Rc.No. 04/MIN-2/2023, Dated: 13.11.2024.

- 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, 3.12 a,b, 3.14 and 3.16

6.1.5 MEASUREMENT METHODOLOGY

(a) Ambient Air Quality

Ambient air quality will be monitored for SO₂, NO_x, PM₁₀ and PM_{2.5}. The instruments like high volume air samplers and Respirable dust samplers would be used for this

purpose. These parameters will be monitored as mentioned in the monitoring schedule previously.

(b) Water Quality

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

(c) Noise Monitoring

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

(d) Green Belt and Afforested Areas

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

(e) Socio-Economics

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

6.1.6 TECHNICAL ASPECTS OF MONITORING THE EFFECTIVENESS OF MITIGATION MEASURES

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

6.1.7 EMERGENCY PROCEDURES

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

6.1.8 REPORTS TO BE GENERATED

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

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

6.1.9 DETAILED BUDGET AND PROCUREMENT SCHEDULES

The budget planned for environmental monitoring is given below.

Table 6.3 - Environmental Management Plan Budget

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	0.11	0.11
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	5.00	0.25
	Muffle blasting – To control fly rocks during blasting	0.00	0.05
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	0.40	0.08
	No overloading of trucks/tippers/tractors	0.00	0.05

	Stone carrying trucks will be covered by tarpaulin	0.00	0.10
	Enforcing speed limits of 20 km/hr within ML area	0.08	0.01
	Regular monitoring of exhaust fumes as per RTO norms	0.00	0.05
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	0.00	0.44
	Installing wheel wash system near gate of quarry	0.20	0.05
Sub-Total (A)		5.79	1.18
Noise Environment	Provision for Portable blaster shed	0.30	0.02
Sub-Total (B)		0.30	0.02

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Waste Management	Waste management (Spent Oil, Grease etc.,)	0.20	0.10
	Installation of Dustbins	0.05	0.02
Sub-Total (C)		0.25	0.12
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	0.05	0.01
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	0.00	0.50
	Workers will be provided with Personal Protective Equipment's	0.26	0.03
	Health check up for workers will be provisioned	0.00	0.13
	First Aid facility Provision	0.00	0.02
	Signage & boards for safety precautions	0.05	0.01
	No parking will be provided on the transport routes. A separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	0.22	0.01
	Installation of CCTV cameras in the mines and mine entrance	0.15	0.02
Sub-Total (D)		0.73	0.73

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Mine Closure	Progressive Closure Activity Green belt development - 500 trees per one hectare - 200 trees inside lease area & 300 trees outside the lease area	0.46	0.09
Sub-Total (E)		0.46	0.09

PROPOSED ENVIRONMENTAL MANAGEMENT PLAN COST			
Total EMP Cost			
Sl. No	Mitigation Measure	Capital cost	Recurring Cost per Annum
A	Air Environment	5.79	1.18
B	Noise Environment	0.30	0.02
C	Waste Management	0.25	0.12
D	Implementation of EC, Mining Plan & DGMS Condition	0.73	0.73
E	Mine Closure	0.46	0.09
Grant Total (A+B+C+D+E)		7.53	2.14

Total EMP Cost for 5 years is 19.35 lakhs

i.e., Rs. 7.53 Lakhs of Capital Cost + Rs. 11.82 Lakhs of Recurring cost (For 5 Years)

Sl. No	YEAR	Recurring Cost (in lakhs) @ 5% escalation
1	YEAR 1	2.14
2	YEAR 2	2.25
3	YEAR 3	2.36
4	YEAR 4	2.48
5	YEAR 5	2.60
Total		11.82

CHAPTER 7

ADDITIONAL STUDIES

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

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

7.1 PUBLIC CONSULTATION

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

7.2 RISK ASSESSMENT & MANAGEMENT

(a) Objectives

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

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

The major hazards related to the mining activities are as follows

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

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

Table 7.1 Hazards and Precautionary measures		
S.No.	Hazard	Precautionary measures
1	Fire	Fire suppressants will be made available at mines office and explosive storage room.
2	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 500m Radius Cluster Mines Details

S.No	Name of the Quarry Owner	S.F. Nos, Village & Extent (Ha)	Lease Status	Remarks
a. Abandoned Quarry				
1	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No:781/1,782/2 & 783 1.92.0Ha	Proceedings No.M1/25662/2016, Dated: 05.03.2016 for a period of 5 years, 14.06.2016 to 13.06.2021	Abandoned
b. Existing Quarry				
1	Thiru.V.Perumal Selvam, S/o. Vellapandi, No.677, South Street, Vadakku Elathaikulam, Kayathar Taluk, Tuticorin District	Pirancheri Village S.F.No:784 1.83.5Ha	Proceedings No.M3/20350/2020, Dated: 06.01.2022 for a period of 10 years, 12.01.2022 to 11.01.2032	Existing
2	Thiru.P.Manoharan, S/o. Paul Thomas, No.5/52, Kanavilai Street,	Pirancheri Village S.F.No:594 2.49.0Ha	Proceedings No.M3/34899/2020, Dated: 21.09.2023	

	Avarikulam, Pazhavor, Radhapuram Taluk, Tirunelveli District		for a period of 5 years, 22.09.2023 to 21.09.2028	
c. Proposed Quarry				
1.	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No. 575(P) 2.18.15 Ha	-	Proposed

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

7.3.2 AIR QUALITY IMPACT PREDICTION FOR THE CLUSTER

The AERMOD atmospheric dispersion modeling (AERMOD Cloud remote version) is used for assessment of incremental Ground level concentration (GLC) for the cluster area. Area source model taken into consideration taking into consideration of wet drilling and loading of the cluster mines. Further line source model was taken into consideration for transportation through haul road. Baseline meteorological studies were conducted for the period of December 2024 to February 2025. The following sources are considered.

Emission sources & Quantification of the cluster area.

Various point and non-point sources of emissions from Proposed Rough Stone and Gravel Quarry of Thiru.S.Vellapandi is quantified and presented below:

FIG 7.1 Isopleth of GLC Prediction for PM_{2.5}

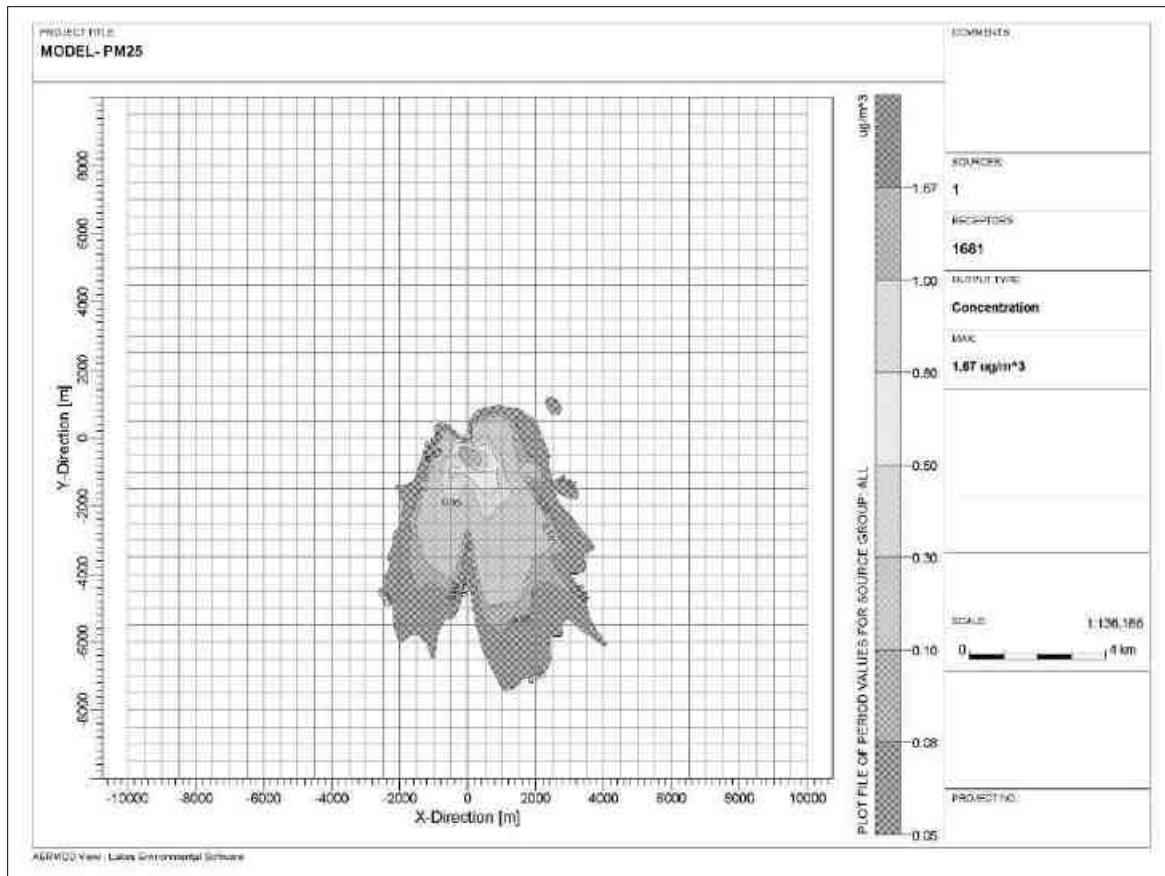


FIG 7.2 Isopleth of GLC Prediction for PM₁₀

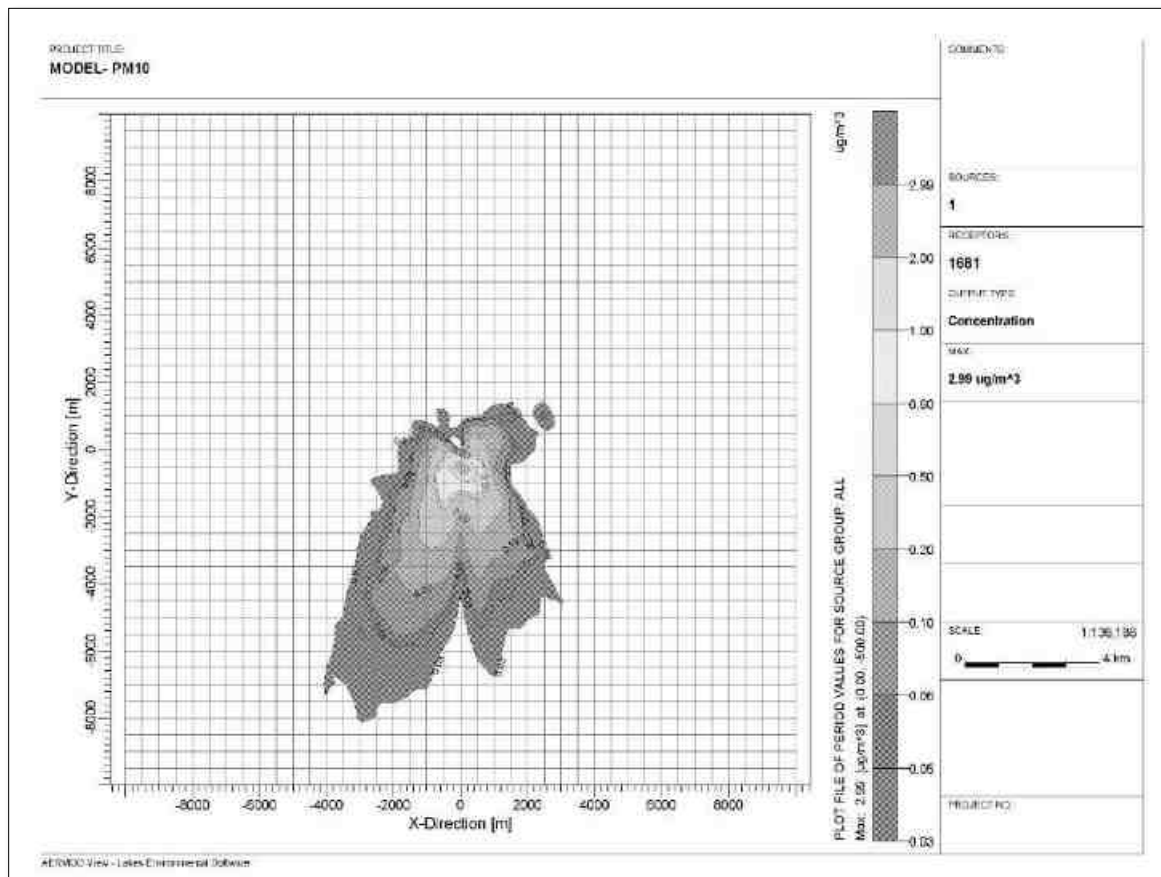


FIG 7.3 Isopleth of GLC Prediction –Cumulative for PM_{2.5}

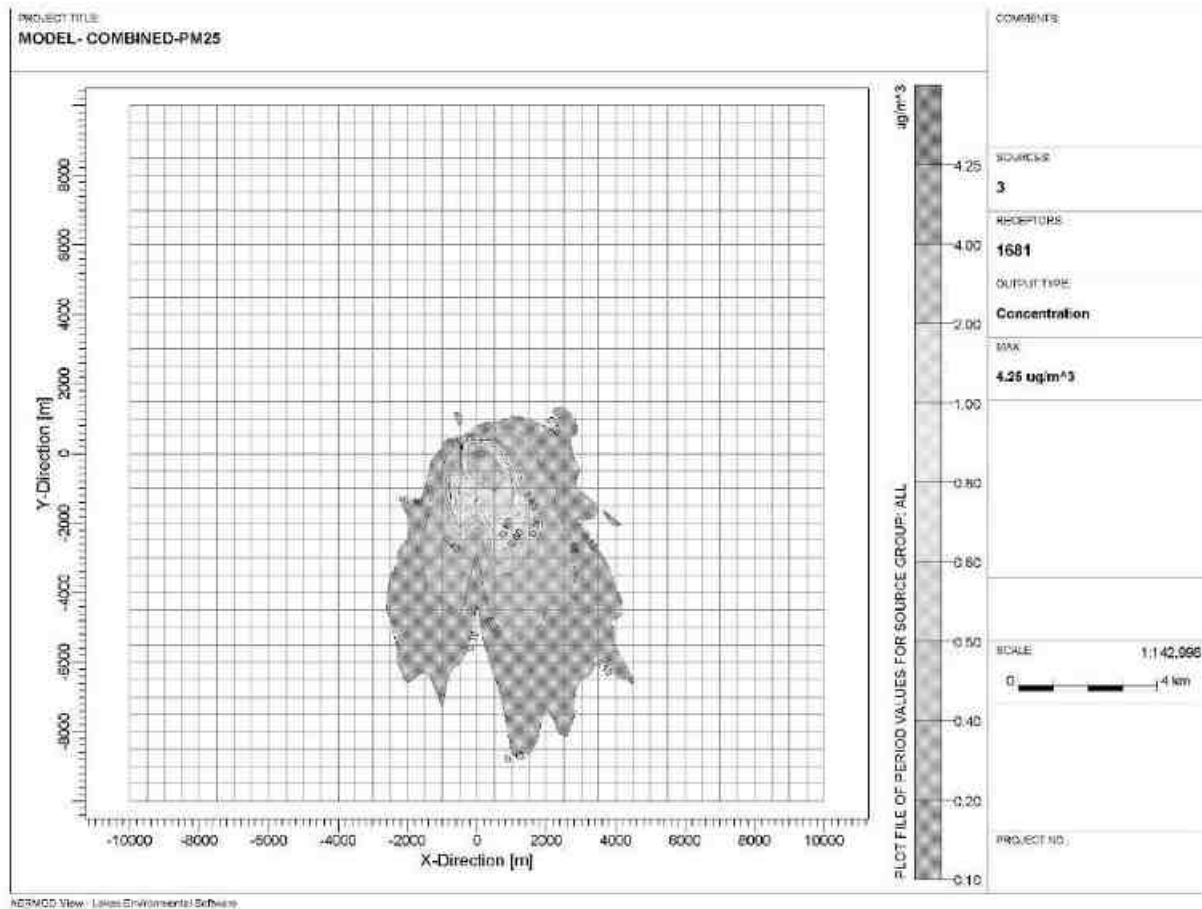
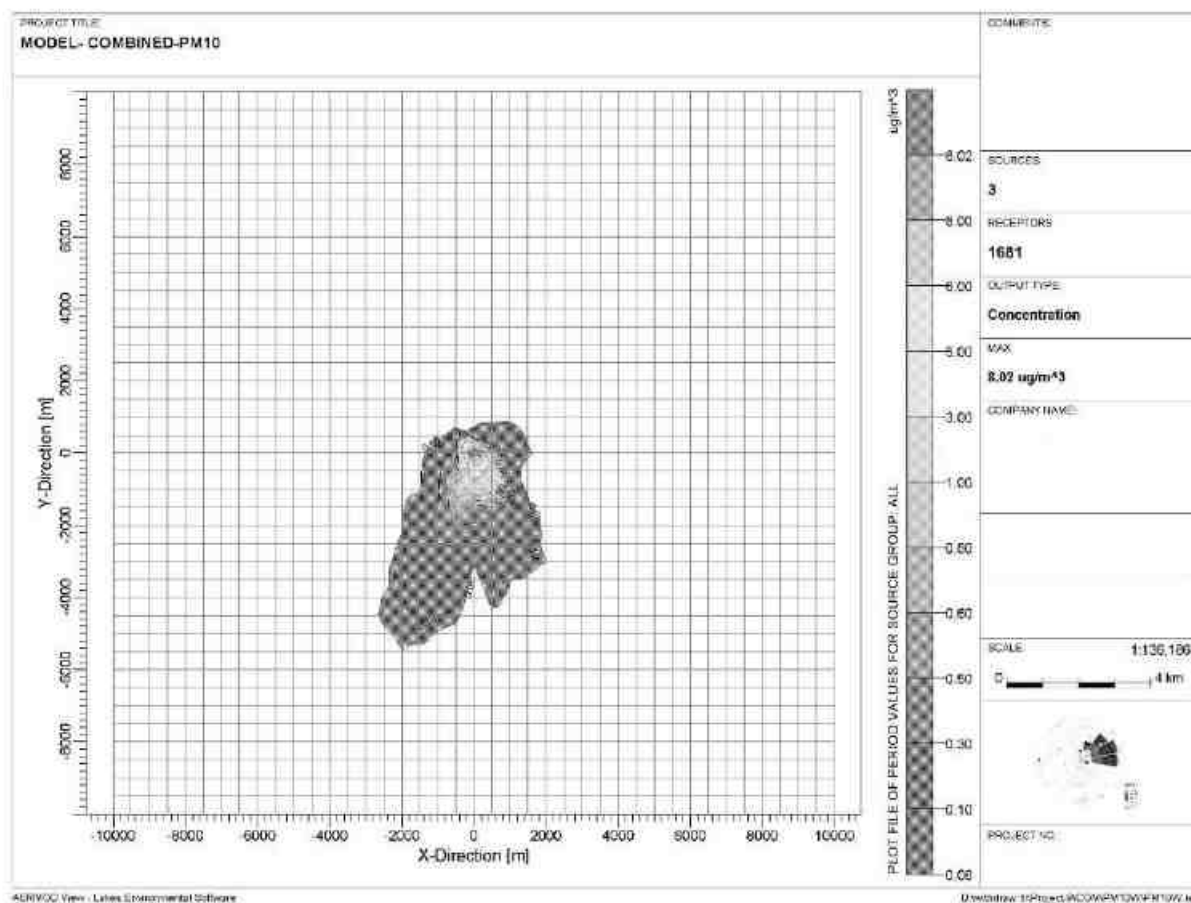


FIG 7.4 Isopleth of GLC Prediction –Cumulative for PM₁₀



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 – 7.3.

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 µg/m ³
1	Project site	28.6	1.67	30.27	60
2	Pirancheri Village	24.15	1.00	25.15	
3	Ithikulam Village	19.8	0.80	20.6	

4	Kayathar Village	26.85	0.50	27.35	
5	Terku Ilandaikulam Village	23.05	0.30	23.35	
6	Arsankulam Village	23.15	0.10	23.25	

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	28.6	4.25	32.85	60
2	Pirancheri Village	24.15	4.0	28.15	
3	Ithikulam Village	19.8	1.0	20.8	
4	Kayathar Village	26.85	0.80	27.65	
5	Terku Ilandaikulam Village	23.05	0.60	23.65	
6	Arsankulam Village	23.15	0.50	23.65	

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	63.1	2.99	66.09	100
2	Pirancheri Village	55	2.0	57.0	
3	Ithikulam Village	42.9	1.0	43.9	
4	Kayathar Village	60.15	0.60	60.75	
5	Terku Ilandaikulam Village	53.35	0.50	53.85	
6	Arsankulam Village	50.1	0.20	50.3	

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	54.35	8.02	62.37	100

2	Pirancheri Village	48.7	8.0	56.7	
3	Ithikulam Village	44.5	6.0	50.5	
4	Kayathar Village	49.35	5.0	54.35	
5	Terku Ilandaikulam Village	43.7	3.0	47.9	
6	Arsankulam Village	45.95	1.0	46.95	

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 50.3 µg/m³ to 66.9 µg/m³ and for PM_{2.5} are in the range of 20.6 µg/m³ to 30.27 µg/m³ and PM₁₀ are surrounding area range of 46.95 µg/m³ to 62.37 µg/m³ and for PM_{2.5} are in the range of 20.8 µg/m³ to 32.85 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:

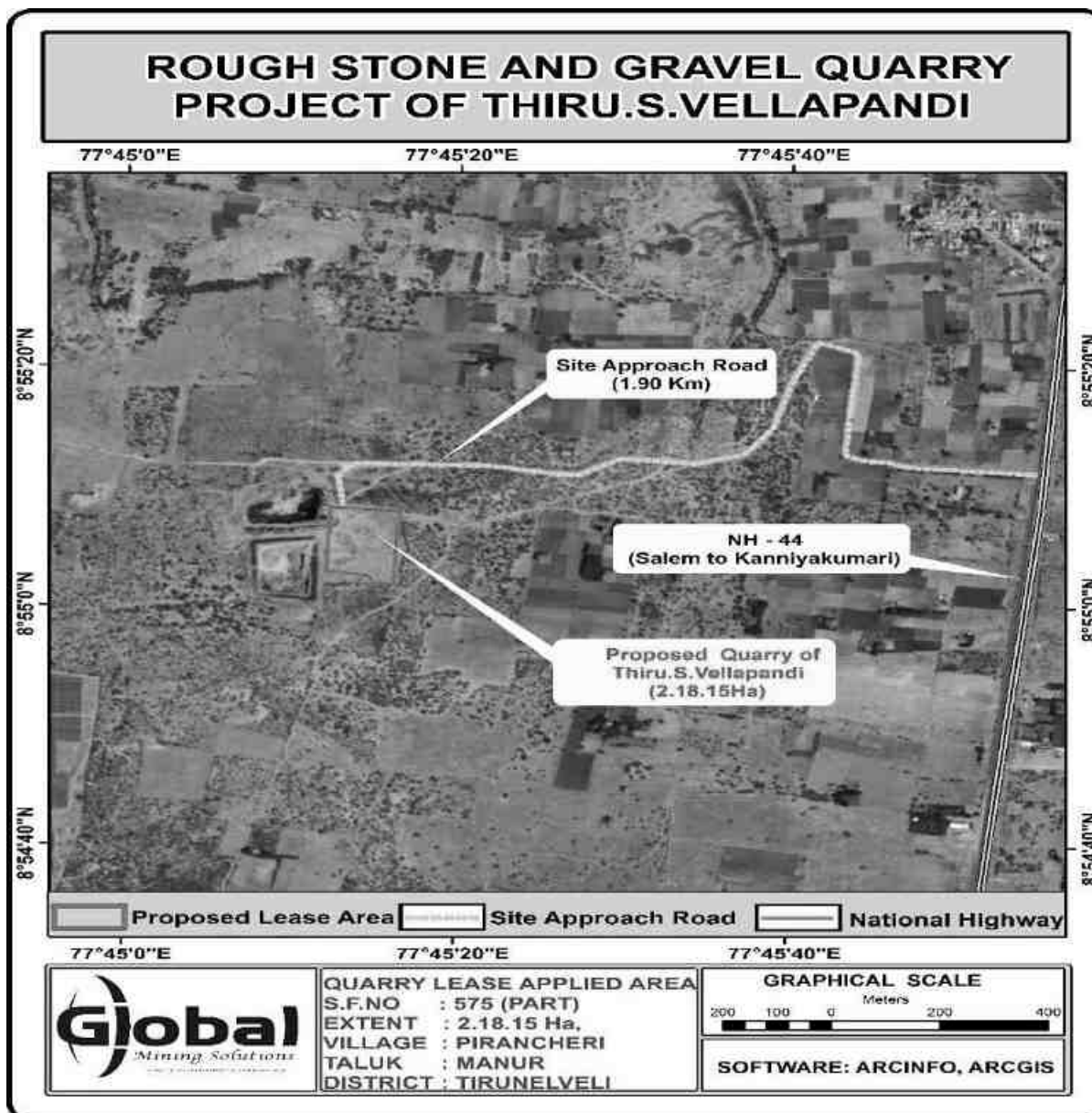


Table 7.6 – Impact on Traffic

TRAFFIC STUDY:						
ToR Condition			Study Details		Study Outcome / Action Plan	
Standard ToR – 1.32			Traffic Study		Follows	
Total Proposed Mineral Transportation of the Cluster Quarries:						
Quarry			Total Mineral Production in MT Per Day		No of Lorries per day	
P1(Thiru.S.Vellapandi - Proposed)			645		64	
P2 (Thiru.V.Perumal Selvam- Existing)			244		24	
P3 (Thiru.P.Manoharan- Existing)			813		81	
Total			1702		169	
Since two quarries already exist, it is part of the current traffic. The proposed projects will add 64 trips per day.						
Summary of Traffic Volume for the Cluster Area						
Route	Existing Traffic Survey in PCU	Incremental Traffic Survey due to project in PCU	Total Traffic Survey Volume	Hourly capacity in PCU as per IRC -1960 guidelines		
NH-44 Salem to kanyakumari	600	24	624	3000		
Modified Level of Service for the cluster area						
Sampling Location	Existing Volume (PCU/hr)	Existing Capacity Volume/ city ratio	Additional Volume (PCU/hr)	Modified Volume (PCU/hr)	Modified Volume/ Capacity ratio	Modified LOS
NH-44 Salem to kanyakumari	600	0.2	24	0.20	0.408	B*
B* - Stable traffi Flow						
Conclusion: The existing road capacity will be Stable traffi flow after adding dispatch of proposed cluster quarries.						

The proposed projects will bring 169 trips per day including cluster quarries. 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 Uppodai River is located at a distance of 1.62 km in NE direction and Pirancheri canal -2.94 km S 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 45° Slope is proposed. The depth of mining is proposed as 47m (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 47m (BGL) only, which will be achieved in 5 years. The ultimate pit dimension will be length 153 m x Width 111 m x Depth 47 m. 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.S.Vellapandi Minerals has proposed Rough stone and gravel quarry over an extent of 2.18.15 ha located at S.F.No. 575 (P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamilnadu 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.S.Vellapandi will create direct employment opportunity for 26 local people. The project proponent has allocated the CER cost as 5.0 Lakhs. it will be utilized as per the CER letter received from the competent authority,

8.4 OTHER TANGIBLE BENIFITS

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

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

CHAPTER 9

ENVIRONMENTAL COST BENEFIT ANALYSIS

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

As per the ToR points issued by SEIAA-TN vide ToR Identification No. TO24B0108TN5296961N, dated 02.03.2025 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.
	3.0 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 Tank located with in 500m radius Canal and Lake is located at a distance of 1.44 km & 1.62 km in NE direction. 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 47 m above ground level, Water table is found at a depth of 65 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 1.0 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 (7.5m) 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.

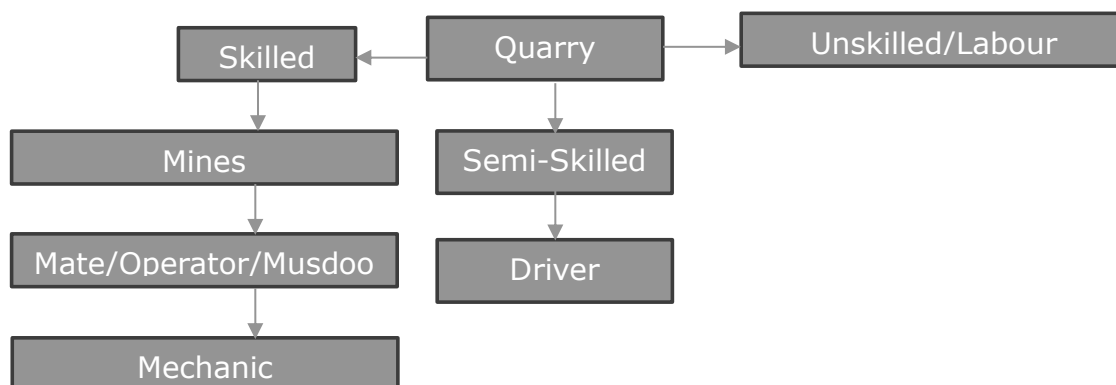
10.1.3 ADMINISTRATION AND TECHNICAL SETUP

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	10 Nos
Total			26 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 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

Activities	Mitigation Measure	Capital cost	Recurring num
Air Environment	Compaction, gradation and drainage on both sides	0.11	0.11
	Fixed Water Sprinkling Arrangements + Water water tankers	5.00	0.25
	Muffle blasting – To control fly rocks during blasting	0.00	0.05
	Wet drilling procedure / latest eco-friendly drill rate dust extractor unit	0.40	0.08
	No overloading of trucks/tippers/tractors	0.00	0.05
	Stone carrying trucks will be covered by tarpaulin	0.00	0.10
	Enforcing speed limits of 20 km/hr within ML area	0.08	0.01
	Regular monitoring of exhaust fumes as per RTO	0.00	0.05
	Regular sweeping and maintenance of approach about 200 m from ML Area	0.00	0.44
	Installing wheel wash system near gate of quarry	0.20	0.05
Sub-Total (A)		5.79	1.18
Noise Environment	Provision for Portable blaster shed	0.30	0.02
Sub-Total (B)		0.30	0.02
Waste Management	Waste management (Spent Oil, Grease etc.,)	0.20	0.10
	Installation of dust bins	0.05	0.02
Sub-Total (C)		0.25	0.12
Implementation of EC, Mining Plan & DGMS Condition Environment	Size 6' X 5' with blue background and white letters M Appendix II by the SEAC TN	0.05	0.01
	Air, Water, Noise and Soil Quality Sampling every 6 nce Report of EC Conditions	0.00	0.50
	Workers will be provided with Personal Protective	0.26	0.03
	Health checkup for workers will be provisioned	0.00	0.13
	First Aid facility Provision	0.00	0.02
	Signage & boards for safety precautions	0.05	0.01
	No parking will be provided on the transport ovision on the south side of the hill will be made s. Flaggers will be deployed for traffic	0.22	0.01
	Installation of CCTV cameras in the mines and	0.15	0.02
Sub-Total (E)		0.73	0.73

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Mine Closure	Progressive Closure Activity Green belt development - 500 trees per one hectare - 200 trees inside lease area & 300 trees outside the lease area	0.46	0.09
Sub-Total (E)		0.46	0.09

PROPOSED ENVIRONMENTAL MANAGEMENT PLAN COST			
Total EMP Cost			
Sl. No	Mitigation Measure	Capital cost	Recurring Cost per Annum
A	Air Environment	5.79	1.18
B	Noise Environment	0.30	0.02
C	Waste Management	0.25	0.12
D	Implementation of EC, Mining Plan & DGMS Condition	0.73	0.73
E	Mine Closure	0.46	0.09
Grant Total (A+B+C+D+E)		7.53	2.14

Total EMP Cost for 5 years is 19.35 lakhs

i.e., Rs. 7.53 Lakhs of Capital Cost + Rs. 11.82 Lakhs of Recurring cost (For 5 Years)

Sl. No	YEAR	Recurring Cost (in lakhs) @ 5% escalation
1	YEAR 1	2.14
2	YEAR 2	2.25
3	YEAR 3	2.36
4	YEAR 4	2.48
5	YEAR 5	2.60
Total		11.82

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 19.35 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.S.Vellapandi has obtained Precise Area communication letter from the Assistant Director, Department of Geology and Mining, Tirunelveli to quarry out 3,42,975 m³ of Rough Stone and 33,966 m³ of Gravel formation. Over an extent of 2.18.15 ha., located at the Survey No. S.F.No. 575(P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Rough Stone and Gravel Quarry of Thiru.S.Vellapandi 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 was approved vide ToR Identification No. TO24B0108TN5296961N (F.No. 11692), dated 02.03.2025. This report has been prepared in line with the approved TOR for production of maximum excavation of 3,42,975m³ of Rough Stone and 33,966m³ Gravel.

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal Mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone and Gravel
4.	Type of Lease	Fresh
5.	Extent of the lease	2.18.15 Ha
6.	Proposed depth of Mining for 5 years	47m (BGL)
7.	Ultimate Pit Depth	47m (BGL)
8.	Method of Mining	Opencast method of - mechanized mining
9.	Life of the Mines	5 Years
10.	Proposed Environmental Clearance	5 Years
11.	Proposed production quantity for 5 years (upto 47m BGL)	3,42,975m ³ of Rough Stone,

		33,966m ³ of Gravel formation
12.	Mineable reserves (upto 47m BGL)	3,42,975m ³ of Rough Stone, 33,966m ³ of Gravel formation

The proposed lessee Thiru.S.Vellapandi 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**.

11.1.1 LOCATION

The proposed project site is located in Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu and its Latitude : 08°55'01.77"N to 08°55'08.19"N and Longitude: 77°45'12.55"E to 77°45'16.91"E. with Survey of India Topo Sheet No. 58- H/13. 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 area applied for quarry lease is 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 85m (maximum) from MSL.

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 47m below ground level. The geological reserves are estimated to be 9,79,200m³ of Rough stone, 43,520m³ of gravel. The mineable reserve calculated by deducting 7.5m safety distance and bench loss. The mineable reserves 3,42,975m³ of Rough Stone, 33,966m³ of Gravel which will be recovered at the rate of 100% recovery upto a depth of 47 m Below ground level for the period of five years.

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 45° 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.

S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	New
3	Category	B1
4	Nature of mineral	Minor mineral
5	Production	5 years
6	Life	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel for five years.
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 10 (1 + 9)
9	Ultimate pit depth	47 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.

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.
2	Power requirement	All the equipment will be diesel operated. No electricity is needed for mining operation
3	Manpower requirement	26 Nos

4	Financial requirement	Rs.1,01,93,900/- (Including operational + Fixed Asset + EMP cost +CER).
5	Funds for Socio economic development	The project proponent has allocated the CER cost as 5.0 Lakhs.

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,	Water bodies	Distance	Direction
		Tank	480m	NE
		Tank	585m	NW
		Tank	1.35m	SE
		Canal	1.44 km	NE
		Uppodai River	1.1 km	NE
		Pirancheri Canal	2.94 km	S
		Chittar River	3.73 Km	SW
		Parakiramapandiyan Kulam	5.6 Km	SE
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests, Sanctuary	Talaiyuttu R.F – 7.30km (SW) Gangaikondan R.F – 7.80km (S) Gangaikondan Spotted deer Sanctuary – 9.21km (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	Manur – 12.85km (SW)
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Manur – 12.85km (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 have been carried out in 6 locations and the results are given below.

Table 11.2: Details Of Ambient Air Quality Monitoring Locations

S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Project site	Core Zone	8°55'5.22"N 77°45'15.86"E
2	AAQ 2	Pirancheri Village	3.80 km, SW	8°53'36.12"N 77°43'50.68"E
3	AAQ 3	Ithikulam Village	2.72 km, SW	8°54'10.91"N 77°44'7.03"E
4	AAQ 4	Kayathar Village	3.66 km, NE	8°56'45.83"N 77°46'21.51"E
5	AAQ 5	Terku Ilandaikulam Village	2.85 Km, NW	8°56'31.07"N 77°44'35.48"E
6	AAQ6	Arsankulam Village	1.33 Km, NE	8°55'31.75"N 77°45'51.91"E

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

Station ID	Min	Max	Avg.
Particulate matter PM-2.5 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	25.7	31.5	28.6
AAQ-2	20.9	27.4	24.15
AAQ-3	16.0	23.6	19.8
AAQ-4	22.2	31.5	26.85
AAQ-5	20.2	25.9	23.05
AAQ-6	19.3	27.0	23.15
CPCB NAAQS 2009 for PM 2.5 - 60 $\mu\text{g}/\text{m}^3$			
Particulate matter PM-10 ($\mu\text{g}/\text{m}^3$)			
AAQ-1	56.3	69.9	63.1
AAQ-2	50.0	60.0	55
AAQ-3	35.6	50.2	42.9
AAQ-4	51.9	68.4	60.15
AAQ-5	50.0	56.7	53.35
AAQ-6	42.0	58.2	50.1
CPCB NAAQS 2009 for PM 10 - 100 $\mu\text{g}/\text{m}^3$			
Sulphur Di-oxide as SO₂ ($\mu\text{g}/\text{m}^3$)			
AAQ-1	3.5	5.5	4.5
AAQ-2	3.2	5.6	4.4
AAQ-3	3.1	6.2	4.65
AAQ-4	5.6	11.3	8.45
AAQ-5	3.0	5.8	4.4
AAQ-6	2.9	5.1	4
CPCB NAAQS 2009 for SO₂ - 80 $\mu\text{g}/\text{m}^3$			
Oxide of Nitrogen as NO₂ ($\mu\text{g}/\text{m}^3$)			

Station ID	Min	Max	Avg.
AAQ-1	7.4	11.1	9.25
AAQ-2	6.7	10.1	8.4
AAQ-3	6.4	9.6	8
AAQ-4	8.1	11.9	10
AAQ-5	7.1	10.8	8.95
AAQ-6	6.7	10.3	8.5
CPCB NAAQS 2009 for NO₂ – 80 µg/m³			

11.2.2 WATER ENVIRONMENT

Table 11.3 Results of Ground Water sampling Analysis in 6 locations							IS:10500: 2012	
	W1	W2	W3	W4	W5	W6	Desira ble	Permiss ible
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreea ble	Agreeab le
Turbidity	<1.0	<1.0	<1	<1	<1	<1	Agreea ble	Agreeab le
pH at 25 °C	7.49	7.53	7.79	8.06	7.38	7.05	6.5 - 8.5	No Relaxati on
Electrical Conductivity	1605	507.3	961.7	1099	634.5	1126	1	5
Total Dissolved Solids	963	304	577	659	380	675	500	2000
Total hardness as CaCO ₃	331	192	398	407	314	422	1	15
Calcium as Ca	58.2	50.4	66.9	81.7	66.5	91.7	200	600
Magnesium as Mg	37.9	10.05	44.92	46.1	30.4	39.3	200	600
Calcium as CaCO ₃	143	102	127	153	134	209	75	200
Magnesium as CaCO ₃	170	85.6	257	236	165	202		
Total alkalinity as CaCO ₃	308	186	231	307	207	308		
Chloride as Cl-	307	43.2	108	82.1	45.8	143	250	1000
Free Residual chlorine as Cl-	BDL(D.L- 0.2)	BDL(D.L- 0.2)	BDL(D.L- 0.2)	BDL(D.L- 0.2)	BDL(D.L- 0.2)	BDL(D.L- 0.2)	30	100
Sulphates as SO ₄ ²⁻	251	43.1	137	150	65.1	84.7	45	No Relaxati on
Iron as Fe	0.08	0.04	0.07	0.03	0.02	0.05	200	400
Nitrate as NO ₃	3.52	3.18	2.81	2.08	6.04	4.13	1	No Relaxati on
Fluoride as F	0.45	0.28	0.19	0.35	0.41	0.84	0.1	0.3

Manganese as Mn	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL(D.L-0.05)	Not Specified	Not Specified

All the values were found to be within permissible limits

11.2.3 NOISE ENVIRONMENT

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

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	44.8	38.0	75	70
2	Pirancheri Village	46.9	38.1		
3	Ithikulam Village	45.6	38.9		
4	Kayathar Village	44.8	37.6		
5	Terku Ilandaikulam Village	48.1	47.2		
6	Arsankulam Village	47.2	39.0		

11.2.4 SOIL ENVIRONMENT

Soil samples are collected from 6 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
1	pH at 25 °C	-	7.29	7.08	6.82	7.75	6.71	7.66
2	Electrical Conductivity	µmhos/cm	108.6	98.05	110.8	95.86	102.7	123.6
3	Dry matter content	%	93.97	95.54	94.08	95.99	94.86	96.91
4	Water Content	%	6.03	4.46	5.92	4.01	5.14	3.09
5	Organic Matter	%	1.98	1.35	1.66	1.24	1.53	1.94
6	Soil texture	-	SILT LOAM	SILT LOAM	SILT LOAM	Sandy Clay loam	SILT LOAM	Sandy Clay loam
7	Grain Size Distribution	%						
	i. Sand		38.54	35.25	40.97	46.12	36.34	45.76
8	ii. Silt		55.29	56.12	50.02	25.44	52.36	26.68
9	iii. Clay	%	6.17	8.63	9.01	28.44	11.3	27.56

10	Phosphorous as P	mg/kg	1.08	0.98	1.41	0.98	1.16	1.54
11	Sodium as Na	mg/kg	198	201	237	381	247	409
12	Potassium as K	mg/kg	703	597	519	607	549	618
13	Nitrogen and Nitrogenous Compounds	mg/kg	699	553	636	421	591	511
14	Total Soluble Sulphate	%	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)
15	Porosity	%	36	33	35	34	36	30
16	Water Holding Capacity	Inches/foot	17.9	17.4	20.1	18.9	18.3	20.3

11.2.5 BIOLOGICAL ENVIRONMENT

FLORA

For measuring the extent of flora present in the study area, the area is divided into 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Field survey is done. Erukku, Aavarai and Nayuruvi are found in lease area. In the buffer zone, common trees like Neem Vealli Vealan, 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.

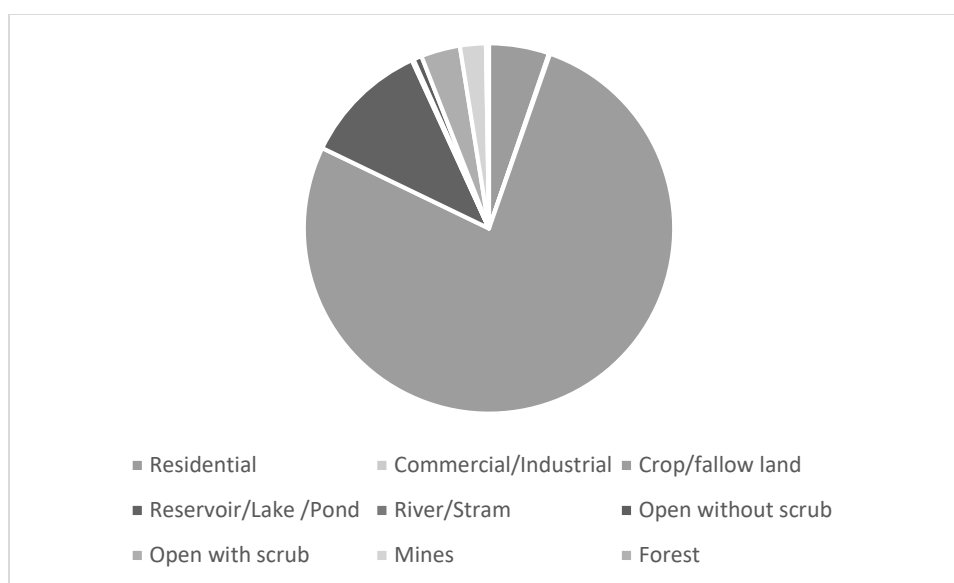
11.2.6 LAND USE

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

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



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 project is located in Manur Taluk, Tirunelveli District. The total population is 567825 which comprise of 280347 males and 287478 females. There are 29 rural villages and one urban area in the study area.

11.2.8 HYDROGEOLOGY OF THE LEASE AREA

There is Uppodai River is located at a distance of 1.62 m in NE direction and Pirancheri Canal – 2.94km (S) of lease area. The hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

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 47 m 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 47 m BGL. Other than quarrying of minerals, no other change will be done since there is no dumping. 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 0.46.15 Ha. Trees like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indica will be planted around the mine lease area. A total of 500 trees are planned to be planted. Spacing will be 3m x 3m.

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 47m (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 7.5HP Motor. The quality of water is expected to be potable. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water can also be used for plantation purposes

The major water bodies found in the buffer zone are.

Water bodies	Distance	Direction
Tank	480m	NE
Tank	585m	NW
Tank	1.35m	SE
Canal	1.44 km	NE
Uppodai River	1.1 km	NE
Pirancheri Canal	2.94 km	S
Chittar River	3.73 Km	SW
Parakiramapandiyan Kulam	5.6 Km	SE

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

11.2.11 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.

11.2.12 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 10m and 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.

11.2.13 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 90 dB(A) for an exposure period of 8 hours.

✚ Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.

✚ Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus, which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing

Mitigation measures

✚ As the distance between the source and receptor increases, the noise level also decreases. Hence, there will be a natural attenuation

✚ The proposed has planned to develop green belt in the periphery of the lease area, which diminishes sound volume by dampening them.

✚ All the equipment/machinery/trucks involved will be properly maintained to control noise generation

✚ Conducting regular health checkups for employees involved

✚ Employees will be made to work on shifts to reduce their exposure time

✚ Providing earplugs to all employees

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

11.2.14 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 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

- ✚ 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

11.2.15 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 Rs.5,00,000 for CER activities. This amount will be subjected to change after public hearing.

11.2.16 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, Rheumatic 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.

11.2.17 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 19.35 Lakhs is allocated.

11.2.18 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 26 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, the project proponent has allocated the CER cost as 5.0 Lakhs.
- 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 **19.35 lakhs** for the five 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

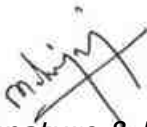
DISCLOSURE OF CONSULTANTS

Global Mining Solutions is a NABET Accredited EIA consultant as per NABET certificate NABET/EIA/23-26/SA 0241. 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 2.18.15 Ha, while total cluster area of 6.50.65 Ha at Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State.

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

EIA Coordinator Name: M. Manikandan


Signature & Date

Period of involvement: 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.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

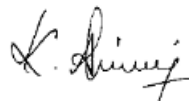
S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and Date
1	AP	Dhanalakshmi Ramanathan	Assessment of existing air quality, Impact of the project on ambient air and suggested mitigation measures for air pollution. <u>Period: December 2024 to February 2025.</u>	R. Dhanal
2	WP	Abirami Kaliaperumal	Assessment of existing water quality, impact of the project on surface and ground water quality, suggested mitigation measures for minimizing the impact. <u>Period: 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>	N. 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	T. Srilatha

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

			the dust. Suggesting suitable mitigation measures. <u>Period: December 2024 to 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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

TM- EC

S.No	Name of TM (EC)	Sector (s) proposed	Approved (to work under)	Period of involvement	Type of work	Signature
1.	Abirami Kaliyaperumal	1	Manikandan Manickam	Period: October 2024 to December 2024	Associated with EIA Coordinator in overall preparation of Draft EIA/EMP report.	

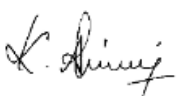
TM- FAE:

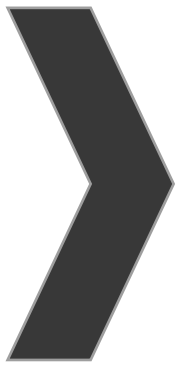
S. No	Name of TM (FAE)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	Kamaraj S	LU	Srilatha Thiruveedhula	Involved in Final EIA Report a Team Member In overall EIA Preparation	Associated with Experts in preparing Land use map based on satellite imagery, Land use classification and analysis, Impact prediction on surrounding land environment.	
		HG	Ashok Kumar Rajagopal	Period: October 2024 to December 2024	Associated with Experts in studying hydrogeological pattern of study area, Studying ground water and the impact of the project on ground water	
2	B.J.Sampatkkumar	SE	Saraswathy K	Period: October 2024 to December 2024	Assisted by the Expert in preparation of socio-economic report.	
		SC	Shishupal Singh	Period: October 2024 to December 2024	Assisted by the Expert in interpretation of soil sampling and their quality involved in the project.	
3	Mownica Balaji	NV	Dhanalakshmi Ramanathan	Period: October 2024 to	Associated with the expert team in suggesting control	

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

				December 2024	measures for noise and Ground Vibration.	
		AP	Dhanalakshmi Ramanathan		Associated with expert team in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	Mowmisa.B
4	Balasubramani G	NV	Dhanalakshmi Ramanathan	Period: October 2024 to December 2024	Associated with the expert in selection of base line monitoring stations, Review of Noise quality results, Review of emission sources – drilling, blasting, excavation and transportation, Identification of impacts on environment, identification of remedial measures and input to EIA preparation	
		Geo	Valliappan Meyyappan		Associated with the expert in preparing Geological map.	
5	Suresh Mani	LU	Srilatha Thiruveedhula	Period: October 2024 to December 2024	Associated with Experts in preparing Land use map based on satellite imagery, Land use classification and analysis, Impact prediction on surrounding land environment.	
		HG	Ashok Kumar Rajagopal		Associated with Experts in studying hydro-geology pattern of study area, studying water and the impact of the project on ground water.	
6	Asan Ali S	NV	Srilatha Thiruveedhula	Period: October 2024 to December 2024	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	S. Asan ali

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.S.VELLAPANDI, S.F.No. 575 (P) OVER AN EXTENT OF 2.18.15 Ha., IN PIRANCHERI VILLAGE, MANUR TALUK, TIRUNELVELI DISTRICT, TAMIL NADU STATE.

					blasting practice in the mines.	
		Geo	Valliappan Meyyappan		Associated with the Qualified Person & Experts in preparing Geological map, assessing stability of quarry slope faces and dump, management plan for mine stability and after use of mining quarry and geological features of the area during mine plan preparation.	
7	Prabu M	Geo	Valliappan Meyyappan	<i>Period: October 2024 to December 2024</i>	Associated with Experts and involved in Field Investigations, Mapping /Geo-referencing	
8	Abirami Kaliyaperumal	RH	S V Prashant	<i>Period: October 2024 to December 2024</i>	Involved with Expert team and involved in identification of Risk / Hazards and Safety Measures for various activity	
9	Dhanalakshmi Ramanathan	AQ	Srilatha Thiruveedhula	<i>Period: October 2024 to December 2024</i>	Involved with Expert team and involved in calculating air emission values using Meteorological data and Providing inputs for running modelling (ISCT3, AERMOD).	
10	Manikandan Manickam	AP	Ramados N	<i>Period: October 2024 to December 2024</i>	Associated with expert team in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	
		WP	Abirami Kaliyaperumal		Associated with Identification of the source of water, impact and suggesting suitable mitigation measures for water pollution	



ANNEXURE-1



File No: 11692
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA),
TAMIL NADU)



Dated 02/03/2025



To,

Thiru.S.Vellapandi
S/o.Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District, Tirunelveli ,
TIRUNELVELI, TAMIL NADU, Tirunelveli , 628952
svellapandi89@gmail.com

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

Sir/Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for Proposed Rough Stone and Gravel Quarry lease over an extent of 2.18.15Ha at SF.No.575(P) Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu by Thiru.S.Vellapandi – 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/515351/2024, Dated: 28/12/2024.

2. Your application submitted for Terms of Reference dated: 20.01.2025.

3. Minutes of the 532nd SEAC Meeting held on 13.02.2025.

4. Minutes of the 798th authority meeting held on 26.02.2025.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24B0108TN5296961N
(ii) File No.	11692
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Rough Stone and Gravel Quarry of Thiru.S.Vellapandi
(viii) Name of Company/Organization	VELLAPANDI
(ix) Location of Project (District, State)	TIRUNELVELI, TAMIL NADU
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

1.In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were

submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.

2.The above-mentioned proposal has been considered by SEIAA in the meeting held on 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.S.Vellapandi under the provisions of EIA Notification, 2006 and as amended thereof.

5.The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.

6.The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

7.This issues with the approval of the Competent Authority.

8.The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OM No. J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Principal Secretary to Government, Environment, Climate Change and Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. The Chairperson, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi - 110 003.
6. The District Collector, Tirunelveli District.
7. Stock File.

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seiaa Specific Conditions:

S. No	Terms of Reference
1.1	After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 3,42,975m³ of Rough Stone & 33,966m³ of gravel with an ultimate depth of mining is 47m BGL as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & the conditions mentioned in Annexure of this minutes. 1.The concerns of public hearing with respect to impact of mining on water bodies and agriculture should be obtained and addressed in the EMP with financial allocation.

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. Given that the high-tension line is situated at distances of 235m (East), 370m (East), 340m (East), 470m (East), 288m (Northeast), 490m (North), 485m (Southwest), 370m (Southwest), 425m (Southwest), and 455m (South), the PP must obtain a NoC from the relevant authority in accordance with the Electricity Act. 3. As there is a solar power plant at a distance of 530m, the PP shall provide comprehensive details about the plant and the potential implications of the mining activity. 4. The Boundary pillars to be erected as per the mine rules and the evidence should be submitted along with the EIA report. 5. The PP should explore the possibility of transporting the quarry material through closed trucks. 6. The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report. 7. 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. 8. 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. 9. The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report. 10. 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. 11. The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included ripping (or) any other non-explosive ground breaking techniques, loading & hauling on the surrounding village and structures. 12. The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report. 13. The PP shall furnish the details of transportation through the trucks supported with hydraulic operated covers while passing through the village/highway in order to avoid the spillage of material & dust pollution. 14. The PP shall prepare a conceptual action plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed.

3. Seac Standard Conditions

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

S. No	Terms of Reference
	issued by the AD/DD mines? 14. Quantity of minerals mined out. · Highest production achieved in any one year · Detail of approved depth of mining. · Actual depth of the mining achieved earlier. · Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act' 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters 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,

S. No	Terms of Reference
	clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered. 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. 28. Impact on local transport infrastructure due to the Project should be indicated. 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible. 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner. 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner 34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 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

S. No	Terms of Reference
	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> - 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. - The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., - The 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. - 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. - 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. - 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. - The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. - 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> - Impact on surrounding agricultural fields around the proposed mining Area. - Impact on soil flora & vegetation around the project site. - 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. - The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. - Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. - The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. <u>Forests</u> - The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. - The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. - The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. - The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.

S. No	Terms of Reference
	<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. 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

S. No	Terms of Reference
	proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. Others 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

Standard Terms of Reference for (Mining of minerals)

1.

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

S. No	Terms of Reference
	ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study 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

S. No	Terms of Reference
	periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-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

S. No	Terms of Reference
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from State Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the 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

S. No	Terms of Reference
1.37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for 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:-

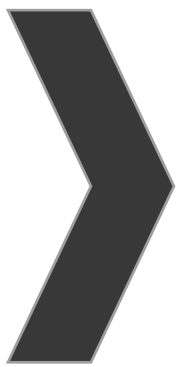
The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

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

அனுப்புநர்

திரு.அபாலமுருகன், எம்.எஸ்.சி. எம்.பி.ஏ.,
உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
திருநெல்வேலி.

பெறுநர்

திரு.சுவெள்ளப்பாண்டி,
த/பெ.சுப்பையா,
64A, தெற்கு தெரு
வடக்கு இலந்தைகுளம்,
தூத்துக்குடி மாவட்டம்

ANNEXURE



அய்யா,

ந.க.எண். எம்2/04/2023

நாள். 04.10.2024

பொருள்: கனிமம் மற்றும் சுரங்கம் - சிறுவகை கனிமம் சாதாரண கற்கள் மற்றும் கிராவல் - திருநெல்வேலி மாவட்டம் - மானூர் வட்டம் - பிராஞ்சேரி கிராமம் - புல எண். 575(பகுதி) -ல் 2.18.15 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் கனிமம் வெட்டி எடுக்க குத்தகை உரிமம் வழங்க கோரி திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவர் விண்ணப்பம் செய்தது - வருவாய் கோட்டாட்சியர் அறிக்கை வரப்பெற்றது - குத்தகை உரிமம் வழங்குவது தொடர்பாக குத்தகை தேற்ற பரப்பு (Precise Area Communication)நிர்ணயித்தல் - தொடர்பாக.

- பார்வை:**
1. அரசாணை (Ms) எண். 169, தொழில் (எம்.எம்.சி.1) துறை, நாள். 04.08.2020.
 2. திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா, வடக்கு இலந்தைகுளம், தூத்துக்குடி மாவட்டம் என்பவரது விண்ணப்பம் நாள். 30.12.2022.
 3. இணை இயக்குநர்/ உதவி இயக்குநர்(பொ) புவியியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி அவர்களின் கடிதம் ந.க.எண். எம்2/04/2022, நாள். 10.01.2023.
 4. திருநெல்வேலி, வருவாய் கோட்டாட்சித்தலைவர் அவர்களின் அறிக்கை ந.க.எண். அ7/160/2023, நாள். 08.07.2024. கிடைக்கப்பெற்றது. 31.07.2024.
 5. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி அவர்களின் புலத்தணிக்கை அறிக்கை நாள். 30.09.2024.

தூத்துக்குடி மாவட்டம், வடக்கு இலந்தைகுளம், 64A, தெற்கு தெரு என்ற முகவரியை சேர்ந்த திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவர் திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிராஞ்சேரி கிராமம், பட்டா புல எண். 575 -ல் பரப்பு 2.59.5 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க ஆண்டுகளுக்கு 1959-ம் வருடத்திய தரிநாடு சிறுகனிம சலுகை விதிகள் பிரிவு 19(1)-ன் படி குவாரி குத்தகை உரிமம் வழங்கக்கோரி விண்ணப்பம் செய்ததையடுத்து

மேற்படி விண்ணப்பம் மீது விசாரணை மேற்கொண்டு அறிக்கை அனுப்புவதில் வருவாய் கோட்டாட்சியர், திருநெல்வேலி அவர்களுக்கு பார்வை மன்றக் காணும் இவ்வலுவலக கடிதம் அனுப்பப்பட்டது.



2. பார்வை 4-ல் காணும் திருநெல்வேலி, வருவாய் கோட்டாட்சியர் அவர்களின் அறிக்கையில் விண்ணப்பம் தொடர்பாக மானூர் வருவாய் வட்டாட்சியர் அறிக்கை சமர்ப்பித்துள்ளதாக தெரிவித்து அவ்வறிக்கையில் விண்ணப்ப புலம் ஆனது விண்ணப்பதாரர் திரு.வெள்ளப்பாண்டி, த/பெ.சுப்பையா பெயரில் தனிப்பட்டவாக உள்ளது எனவும், விண்ணப்ப புல எண்ணிற்காக வழிப்பாதை 693/2 அரசு புறம்போக்கு வண்டிப்பாதை ராஜாபுதுக்குடி மானங்காத்தான் வண்டிப்பாதை, விண்ணப்பதாரருக்கு சொந்தமான புல எண். 693/3 பட்டா எண். 3157 பரப்பு 1.03.50 ஹெக்டேரில் உள்ள இடம் மற்றும் பட்டா புல எண். 777 (1.74.0) மற்றும் 778 (1.52.0) ஆகிய புலங்கள் M/s. RAK Consultants என்ற நிறுவனத்திற்கு பாத்தியப்பட்ட இடத்தில் பாதையாக பயன்படுத்த மனுதாரர் பாதை ஒப்பந்தம் ஆவணம் செய்துள்ளார் எனவும், மனுதாரருக்கு சொந்தமான புல எண். 780 (2.14.0) மற்றும் 781/1 (0.19.50) எனவும், பட்டா புல எண். 784 (2.13.50) திரு.பெருமாள்செல்வம் என்பவருக்கு சொந்தமான நிலத்தில் பாதையாக பயன்படுத்த ஒப்பந்தம் செய்யப்பட்டுள்ளது எனவும், விண்ணப்ப புல எண்ணில் கல்குவாரி அமைக்க அ1 அறிவிப்பு பிரசுரம் செய்யப்பட்டதில் பொதுமக்கள் ஆட்சேபணை ஏதும் இல்லை எனவும், வாக்குமூலம் பெறப்பட்டுள்ளது எனவும், விண்ணப்ப புல எண் குடியிருப்பிலிருந்து 300 மீட்டர் தொலைவிற்கு அப்பால் உள்ளது எனவும், விண்ணப்ப புல எண்ணிலிருந்து 50 மீட்டர் தொலைவிற்குள் இருப்புபாதை, சாலை, மின் இணைப்புகள், குளம், ஓடை, கால்வாய் போன்றவை இல்லை எனவும், விண்ணப்ப புல எண்ணிலிருந்து 500 மீட்டர் தொலைவிற்குள் கோயில், மததி, புராதான சின்னங்கள், நினைவுச் சின்னங்கள் மற்றும் இடுகாடு போன்றவை இல்லை எனவும், விண்ணப்ப புலமானது மாண்பும உச்ச நீதிமன்ற தீர்ப்பின் அடிப்படையில் PACL நிறுவனத்திற்கு பாத்தியப்பட்டுள்ளதாக உத்தரவிடப்பட்டுள்ள சொத்தின் பட்டியலில் இல்லை எனவும், விண்ணப்ப புலமானது தடையாணை புத்தகத்தில் இல்லை எனவும், அரசு வகைக்கு சிறப்பு ஒதுக்கீடு செய்யப்படவில்லை எனவும், விண்ணப்ப புலத்தில் நீர்நிலைகள், நிலவியல் ஓடைகள் ஏதுமில்லை எனவும், விண்ணப்ப புலத்தில் பழைய கற்குடைவு ஏதும் இல்லை எனவும், விண்ணப்பதாரரிடமிருந்து வருவாய் வசூல் சட்டத்தின்படி வசூலிக்கப்பட வேண்டிய நிலுவைத்தொகை மற்றும் கனிம பாக்கி ஏதும் இல்லை எனவும், விண்ணப்ப புலத்திலிருந்து 12 கிலோ மீட்டருக்கு அப்பால் மான் சரணாலயம் உள்ளது எனவும், பாதுகாப்பு இடைவெளி உள்ளது எனவும், விண்ணப்ப புலமானது

யல உயிர் சரணாலயம் மற்றும் தேசிய பூங்கா சூழலியல் அதிர்வு தாங்கு மண்டலத்திற்குட்படவில்லை எனவும், விண்ணப்பப் படித்தின் நான்கு பாகங்கள் பின்வருமாறு தெரிவிக்கப்பட்டுள்ளது.



வடக்கு	கிழக்கு	தெற்கு	
புல எண். 576/1 புன்செய் நிலம்	புல எண். 574 புன்செய் நிலம்	புல எண். 554 புன்செய் நிலம்	புல எண். 783 மற்றும் 784 புன்செய் நிலம்

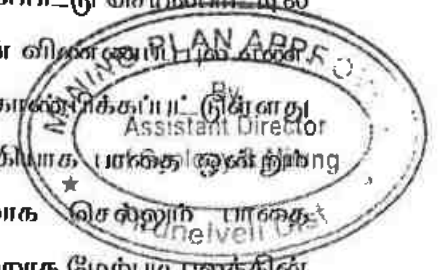
மேலும் விண்ணப்பதாரரின் விண்ணப்ப புல எண். 575-க்கு மேற்கு ஓரமாக புலப்படத்தில் பாதை விளக்கியாக காண்பிக்கப்பட்டுள்ளது எனவும், விண்ணப்ப புலத்தின் ஊடே வண்டிப்பாதை விளக்கியாக பாதை ஒன்றும் புலப்படத்தில் காண்பிக்கப்பட்டுள்ளது எனவும், மேற்கு எல்லை ஓரமாக செல்லும் பாதை விளக்கியை தவிர்த்தும், ஊடே செல்லும் பாதை விளக்கிக்கு மாற்றாக மேற்படி புலத்தின் தெற்கு எல்லையில் ஓரமாக பாதையாக காண்பித்து மீதமுள்ள புலங்களுக்கு மனுதாரர் குத்தகை உரிமம் கோரியுள்ளார் எனவும், எனவே மேற்படி புலத்தின் மொத்த பரப்பு 2.59.30-ல் மேற்படி பாதையாக காண்பிக்கப்பட்டுள்ள நிலத்தின் பரப்பு 0.41.35 நீங்கலாக மீதமுள்ள பரப்பு 2.18.15-ல் சாதாரண கற்கள் வெட்டி எடுக்க திரு.வெள்ளப்பாண்டி என்பவருக்கு குத்தகை உரிமம் வழங்க பரிந்துரை செய்து மானூர் வட்டாட்சியர் அறிக்கை செய்துள்ளார் எனவும், மேற்படி வட்டாட்சியர் அறிக்கை மற்றும் ஆவணங்களை பரிசீலனை செய்ததில், மானூர் வட்டம், பிராகுசேரி கிராமம், புல எண். 575-ல் 2.59.5 ஹெக்டேர் நிலத்தில் கற்குவாரி அமைக்க விண்ணப்பத்தில், மேற்படி புல எண் விண்ணப்பதாரர் பெயரில் பட்டா எண். 711-ல் உள்ளது எனவும், அதற்கான ஆவணமாக வில்லங்கச் சான்று, அடங்கல் நகல்கள் இணைக்கப்பட்டுள்ளது எனவும், வழிப்பாதைக்கான தேர்வு செய்யப்பட்ட புல எண்களில் விண்ணப்பதாரருக்கு சொந்தமான புல எண் போக திரு.பெருமாள் செல்வம் மற்றும் M/s.RAK Consultants என்ற நிறுவனத்திற்கு சொந்தமான புல எண்களின் வழியாக கனிம பொருட்களை கொண்டு செல்வதற்கு பதிவு செய்யப்படாத ஒப்பந்த நகல் இணைக்கப்பட்டுள்ளது எனவும், மேற்கண்ட வட்டாட்சியர் பரிந்துரையின்படி, விண்ணப்ப புலம் 20.06.2024 அன்று மண்டல துணை வட்டாட்சியர், வட்ட துணை ஆய்வாளர் மற்றும் கிராம நிர்வாக அலுவலர் ஆகியோருடன் புலத்தணிக்கை மேற்கொள்ளப்பட்டது எனவும், பிரஸ்தாப புலம் பார்வையிடப்பட்டதில், புலத்தினை சுற்றி காற்றாலை இருந்து அகற்றப்பட்டுள்ளது எனவும், தற்போது சமதளமாக உள்ளது எனவும், மேற்பரப்பு மண் பகுதியாகவும், 3 அடி கீழே பாதை பகுதியாகவும் உள்ளது எனவும், அருகில் உள்ள புலங்கள் கல்குவாரி புலங்களாக உள்ளது எனவும், புலத்தின் அருகில் உயர் அழுத்த மின்கம்பி ஏதும் செல்லவில்லை எனவும், எனவே வட்டாட்சியரின் பரிந்துரை அறிக்கை,

ஆவணங்கள் மற்றும் புலத்தணிக்கையின் அடிப்படையில் மானூர் வட்டம், கிராமம், பட்டா புல எண். 575-ல் மொத்தம் 2.59.50 ஹெக்டேர் பரப்பில் 2.18.15 ஹெக்டேர் பரப்பில் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க குத்தகை உரிமம் வழங்க பரிந்துரை நியமனமுதலாக இத்துடன் வட்டாட்சியர் அறிக்கை, புலத்தணிக்கை அறிக்கை மற்றும் ஆவணங்கள் இணைத்து அனுப்பியுள்ளதாகவும் தெரிவித்துள்ளார்.



3. பார்வை 5-ல் காணும் திருநெல்வேலி மாவட்டம், புனியியல் மற்றும் சுரங்கத்துறை, உதவி புனியியலாளர் அவர்களால் 30.09.2024 அன்று விண்ணப்பிக்கப்பட்ட புலத்தை தனிவருவாய் ஆய்வாளர் (கனிமம்) அவருடன் கள ஆய்வு செய்ததாக தெரிவித்து அறிக்கை சமர்ப்பித்துள்ளார். அவ்வறிக்கையில் குத்தகை உரிமம் வழங்க அனுமதி கோரிய திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிரஞ்சேரி கிராமம், புல எண். 575-ல் 2.59.5 ஹெக்டேர் பரப்பில் உள்ள நிலமானது மேற்படி கிராம பட்டா எண். 711-ன் படி மனுதாரர் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா தேவர் என்பவர் பெயரில் தனிப்பட்டவாக தாக்கலாகியுள்ளது எனவும், மேற்படி புலத்தினை தணிக்கை செய்ததில் விண்ணப்பித்த புலமானது சமதளமாக உள்ளது எனவும், மேற்படி புலத்தில் உள்ள பாறைகள் சார்னகைட் வகையை சார்ந்தது எனவும், இவை சாதாரண கற்கள், ஜல்லி, எம்-சாண்ட் ஆகியவை தயாரிக்க உகந்த பாறைகள் ஆகும் எனவும், விண்ணப்ப புலத்தில் சுமார் 2 மீட்டர் ஆழம் வரை கிராவல் / சுரள் காணப்படுகிறது எனவும், விண்ணப்பித்த புலத்திலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட வீட்டு மனைகள், நத்தம், குடியிருப்புகள் ஏதுமில்லை எனவும், மேற்படி புலத்திலிருந்து 50 மீட்டர் தொலைவில் நெடுஞ்சாலை, இருப்புப்பாதை, சுடுகாடு மற்றும் இடுகாடு ஏதும் இல்லை எனவும், விலை உயர்ந்த மரங்களோ, காப்பு காடுகளோ இல்லை எனவும், விண்ணப்ப புலத்தின் மேற்கு திசையில் புல எண். 783/1-ல் மனுதாரர் திரு.வெள்ளப்பாண்டி என்பவருக்கு திருநெல்வேலி மாவட்ட ஆட்சித்தலைவர் அவர்களின் செயல்முறை ஆணை எண். எம்1/25662/2016, நாள். 05.03.2016-ன் படி 1.92.0 ஹெக்டேர் பரப்பளவில் வழங்கப்பட்டு தற்போது கைவிடப்பட்ட நிலையில் உள்ள குவாரியும், புல எண். 784-ல் திரு.பெருமாள் செல்வம் என்பவருக்கு திருநெல்வேலி, புனியியல் மற்றும் செயல்முறை, உதவி இயக்குநர் அவர்களின் செயல்முறை ஆணை எண்.எம்3/20350/2020, நாள். 06.01.2022-ன் படி வழங்கப்பட்ட செயல்பாட்டில் உள்ள கல்குவாரி அமைந்துள்ளது எனவும், மேலும் விண்ணப்பித்த புலத்திலிருந்து ஏறத்தாழ 330 மீட்டர் தொலைவில் புல எண். 594-ல் திருமணோகரன் என்பவருக்கு திருநெல்வேலி மாவட்ட, புனியியல் மற்றும் சுரங்கத்துறை, இணை இயக்குநர்/உதவி இயக்குநர் அவர்களின் செயல்முறை

ஆணை எண்.எம்3/34899/2020, நாள். 21.09.2023 ன் படி வழங்கப்பட்டு செயல்பாட்டில் உள்ள குவாரியும் அமைந்துள்ளது எனவும், விண்ணப்பதாரரின் விண்ணப்பம் எண் 575-க்கு மேற்கு ஓரமாக புலப்படத்தில் பாதை விளக்கியாக காண்பிக்கப்பட்டுள்ளது மற்றும் விண்ணப்ப புலத்தின் ஊடே வண்டிப்பாதை விளக்கியாக, பாதை ஒன்றிங் காண்பிக்கப்பட்டுள்ளது என்பதால் மேற்கு எல்லை ஓரமாக செல்லும் பாதை விளக்கியை தவிர்த்து ஊடே செல்லும் பாதை விளக்கிக்கு மாற்றாக மேற்படி புலத்தின் தெற்கு எல்லையில் ஓரமாக பாதையாக காண்பித்து நீதமுள்ள பரப்பிற்கு குத்தகை உரிமம் விண்ணப்பதாரரால் கோரப்பட்டது.



எனவே வருவாய் கோட்டாட்சியர், திருநெல்வேலி அவர்களின் பரிந்துரை அறிக்கை, விண்ணப்பதாரரின் கோரிக்கை மற்றும் கள ஆய்வின் அடிப்படையில் குவாரி குத்தகை உரிமம் வழங்க அனுமதி கோரிய திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிராஞ்சேரி கிராமம், புல எண். 575-ல் மொத்தம் 259.50 ஹெக்டேர் பரப்பில் 218.15 ஹெக்டேர் பரப்பில் மட்டும் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959, விதி 19(1) மற்றும் 20-ன் படி விண்ணப்பதாரர் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவருக்கு கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு குத்தகை உரிமம் வழங்கலாம் என பரிந்துரைத்து அறிக்கை செய்துள்ளார்கள்.

நிபந்தனைகள்

1. அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி அமைத்து குவாரி பணிகள் மேற்கொள்ளப்பட வேண்டும்.
2. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக்கூடாது.
3. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள் கம்பிவேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்யப்பட வேண்டும்.
6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.

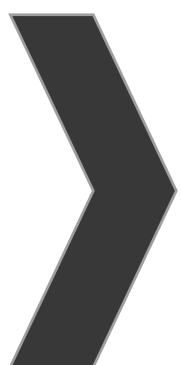
5. சான்றிதழ் பெறப்பட்ட போர்மேன், ஷொப்பாளர் மற்றும் கரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்ப்பட்ட வேண்டும்.
6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், திருநெல்வேலி சென்னை அலுவலகங்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
7. பாறைகளை தகர்க்க கைத்துளைப்பாளர்களை கொண்டு பாறைகளை துளையிட்டு குறைவான ஷொப்பாளருட்கள் பயன்படுத்த வேண்டும்.



மேலும் இவ்விதழிப்பு கிடைக்கப்பெற்ற 90 நாட்களுக்குள் மேற்சொன்ன பந்தனைகளையும் குறிக்கும் வகையில் வரைவு சுரங்கத்திட்ட அறிக்கை தயார் செய்து உதவி இயக்குநர், புனிமியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி அலுவலகமும் ஒப்புதல் பெற சமர்ப்பிக்குமாறு அறிவுறுத்தப்படுகிறது.

[Handwritten Signature]
உதவி இயக்குநர்,
புனிமியல் மற்றும் சுரங்கத்துறை,
திருநெல்வேலி.

[Handwritten Signature]
671024



ANNEXURE-3

From

Thiru.A.Balamurugan, M.Sc, MBA.,
Assistant Director,
Geology and Mining,
Tirunelveli.

To

Thiru.S.Vellapandi,
S/o.Subbaiya,
64A, South Street,
Vadaku Elanthaikulam,
Thoothukudi District.

Rc.No.04/MIN-2/2023**dated.13.11.2024****Sir,**

Sub: Mines and Minerals - Roughstone and Gravel -
Tirunelveli District - Manur Taluk - Prancheri
Village - SF. No. 575(P) - 2.59.5 hectares -
Quarry lease application preferred by
Thiru.S.Vellapandi for the grant of lease to
quarry roughstone and gravel - Precise Area
communicated to over an extent of 2.18.15
hectares of patta lands in SF. No. 575(P) - Mining
plan submitted - Approval accorded - Reg.

- Ref :**
1. Quarry lease application preferred by
Thiru.S.Vellapandi, S/o.Subbaiya, 64A,
South Street, Vadaku Elanthaikulam,
Thoothukudi District, dated. 30.12.2022.
 2. Precise Area Communication letter in Rc.
No.04/MIN-2/2023, dated. 04.10.2024.
 3. Letter received from the applicant
Thiru.S.Vellapandi, S/o.Subbaiya, dated.
30.10.2024.

Thiru.S.Vellapandi, S/o.Subbaiya, 64A, South Street, Vadaku
Elanthaikulam, Thoothukudi has applied for the grant of lease to
quarry Roughstone and Gravel over an extent of 2.59.5 hectares of
patta land in SF. No. 575 of Prancheri Village, Manur Taluk,

Tirunelveli District for a period of 5 years under Rule 19(1) & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2. Based on the recommendations of the Revenue Divisional Officer, Tirunelveli, the Joint Director/Assistant Director(i/c) of Geology and Mining, Tirunelveli and the Assistant Geologist of Geology and Mining, Tirunelveli, the application of Thiru.S.Vellapandi, S/o.Subbaiya for the grant of lease to quarry roughstone and gravel in the subject area was considered as the area available for the grant of lease for a period of 5 years. Accordingly precise area was communicated for an extent of 2.18.15 hectares of patta land in SF. No. 575(P) of Prancheri Village, Manur Taluk, Tirunelveli District vide reference 2nd cited.

3. In response to the precise area communication, the applicant has submitted three copies of draft Mining Plan duly prepared by a Qualified Person and requested for approval of the same vide reference 3rd cited.

4. The draft Mining Plan submitted in respect of the area communicated as precise area has been verified with reference to field conditions. All the conditions stipulated in the precise area communication have been incorporated in the Mining Plan. The required safety distance of 7.5 meters to the adjacent patta lands have been clearly demarcated.

5. The applicant has proposed quarry 3,42,975 cbm of Rough Stone and 33,966 cbm of gravel upto a depth of 47 meters below ground level during the 5 years period. The year wise production of Roughstone and Gravel are given below;

Year	Proposed Production of Rough stone (in cbm)	Proposed Production of Gravel (in cbm)
1 year	65625	28416
2 year	69500	5550
3 year	69350	0
4 year	70400	0
5 year	68100	0
Total	342975	33966

7. In exercise of the powers vested under sub rule (2) and (5) of Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959, I hereby approve the mining plan, in respect of an extent of 2.18.15 hectares of land in SF. No. 575(P) for a period of five years subject to the following conditions:-

- i. The Mining Plan is approved without prejudice to any other order or direction from any court of contempt jurisdiction.
- ii. 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.
- iii. The approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals

(Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Indian Explosives Act, 1884 (Central Act IV of 1884) and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

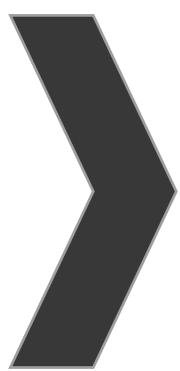
- iv. Quarrying operations should be carried out in accordance with the Approved Mining Plan.
- v. The applicant is entitled for production of 3,42,975 cbm of Roughstone, 33,966 cbm of Gravel upto a depth of 47 meters below ground level for a period of 5 years as per the Mining Plan.
- vi. A safety distance of 7.5 meters shall be provided for the adjacent patta lands.
- vii. No hindrance shall be caused to the adjacent patta land and the public.
- viii. Before commencing quarrying operation in the area granted on lease, Wire fencing should be made all along the boundary of the leased area.
- ix. Scientific and systematic quarrying shall be carried out.
- x. Mining Engineer/ Foreman, Licensed Blaster should be appointed to supervise quarrying operations.
- xi. Opening notice may be given to the Director General of Mines Safety, Chennai Region.
- xii. In order to break rock formation minimum explosive shall be used.
- xiii. Environmental Clearance shall be obtained from the State Level Environment Impact Assessment Authority, Chennai.

6. As directed in the reference 2nd cited, you are hereby requested obtained and produce Environmental Clearance to be obtained from the State Level Environment Impact Assessment Authority (SEIAA), Chennai as per Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 for grant of quarry lease, in respect of the precise area communicated.

Encl: Approved Mining plan.


**Assistant Director,
Geology and Mining,
Tirunelveli.**


13/11/24



APPROVAL MINING PLAN

MINING PLAN FOR PIRANCHERI 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 : TIRUNELVELI
TALUK : MANUR
VILLAGE : PIRANCHERI
S.F.NO : 575(P)
EXTENT : 2.18.15Ha

ECO-FRIENDLY



SUSTAINABILITY



SAFETY



FOR

APPLICANT

Thiru.S.Vellapandi,
S/o.Subbaiya,
No. 64A, South Street,
Vadakku Ilandaikulam,
Thoothukudi District.

PREPARED BY

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



(PPE)



S.Vellapandi,
S/o.Subbaiya,
No. 64A, South Street,
Vadakku Ilandaikulam,
Thoothukudi District.

CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 2.18.15hectares of Patta lands in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli 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, Tirunelveli District to make further correspondence regarding modifications of the Mining Plan with the said Qualified Person on this following address.

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

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

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

Signature of the Applicant

S.Vellapandi

Place: Thoothukudi
Date: 08.10.2024

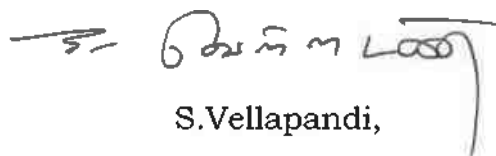
S.Vellapandi,
S/o.Subbaiya,
No. 64A, South Street,
Vadakku Ilandaikulam,
Thoothukudi District.



DECLARATION

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 2.18.15hectares of Patta lands in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli 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


S.Vellapandi,

Place: Thoothukudi

Date: 08.10.2024

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

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin-636 455.

Mobile:97502 23535 & 94446 54520.



CERTIFICATE

This is to certify that, the provisions of 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 2.18.15hectares of Patta lands in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State applied by Thiru.S.Vellapandi, for fresh quarry lease.

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

Certified

Signature of Qualified Person.


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

Qualified Person

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

Place: Salem

Date: 09.10.2024



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

Qualified Person

No.93/36E2, Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin-636 455.

Mobile:97502 23535 & 94446 54520.

CERTIFICATE

Certified that, in preparation of Mining Plan for **Rough Stone and Gravel** quarry over an extent of 2.18.15hectares of Patta lands in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State for Thiru.S.Vellapandi, covers all the provisions of Mines Act, Rules, and Regulations etc made there under and whenever specific permission are required, the applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Certified

Signature of Qualified Person.


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

Qualified Person

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

Place: Salem

Date: 09.10.2024

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 2.18.15hectares of Patta land in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli District, by Thiru.S.Vellapandi, for a period of Five years. Since the Mining Plan is prepared as per the provisions contained in Rule 15(1) (a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016, the same may be approved by the Competent Authority.


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

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

Place: Salem

Date: 09.10.2024



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	10
6.0	Blasting	14
7.0	Mine Drainage	15
8.0	Other Permanent Structures	16
9.0	Employment Potentials & Welfare Measures	17
10.0	Environment Management Plan	19
11.0	Mine Closure Plan	22
12.0	Any Other Details Intend to furnish by the Applicant	23



Annexure

S. No.	Description	
1.0	Precise Area Communication letter issued by the Assistant Director, Department of Geology and Mining,	I
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 and Geological Plan & Sections	III
8.0	Mineable Plan & Sections	IV
9.0	Yearwise Development, Production Plan & Sections	V
10.0	Conceptual Plan & Sections	VI



MINING PLAN FOR MINOR MINERALS

ROUGH STONE AND GRAVEL

Over an extent of 2.18.15 hectares of Patta land in S.F.No. 575(P) of Pirancheri Village, Manur Taluk, Tirunelveli 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.S.Vellapandi, S/o.Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District.
2. The application was processed by the Assistant Director, Department of Geology and Mining, Tirunelveli, and passed an order vide Rc.No.M2/04/2023 dated 04.10.2024 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 2.18.15 hectares of Patta lands in S.F.No.575(P) of Pirancheri Village, Manur Taluk, Tirunelveli District of Tamil Nadu State for a period of five 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 shall be maintained to adjoining patta lands while quarrying operation.
 - b) The applicant should not cause any hindrance to the public and adjacent lands while carrying out quarrying operations.



- c) Barbed wire fencing should be erected all along the boundary of the lease granted area before quarrying operation.
 - d) Quarrying operation should be done proper scientific method only.
 - e) The applicant will engage should have valid certified persons (Mines Manager, Foreman, Mate).
 - f) Before the quarrying operation applicant should intimate to the Director of Mines safety, Chennai.
 - g) The applicant should use jackhammer and mild explosive during blasting in quarry.
4. Geological Resources is estimated at 9,79,200m³ of Rough stone and 43,520m³ of gravel formation and Mineable Reserves is estimated at 3,42,975m³ of Rough Stone and 33,966m³ 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. Production Schedule is proposed production of 3,42,975m³ of Rough Stone and 33,966m³ of gravel formation for the period of 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 7.3Km radius.
 - ii) There is no interstate boundary around 10Kms radius.



- iii) There is no wild life animal sanctuary within 9.2Km 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	:	Pirancheri																														
b.	Name of the Panchayat Union	:	Manur																														
c.	The proposed total Movable Reserves	:	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation																														
d.	The proposed quantity of reserves (level of production) for five years to be mined is(Recoverable reserves)	:	3,42,975m ³ of Rough Stone, 33,966m ³ of gravel formation																														
e.	Total extent of the area	:	2.18.15Ha																														
f.	Proposed Period of mining	:	Five years																														
g.	Existing depth	:	It is fresh quarry lease applied area																														
h.	Proposed Depth of mining	:	47m (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. 16,08,900/- Rs. 61,50,000/- Rs. 5,50,000/- Total Project cost(A+B+C) = Rs. 83,08,900/-																														
l.	The area applied for lease is bounded by Six corners and the coordinates are clearly marked in plate no II.																																
	<table border="1"> <thead> <tr> <th rowspan="2">Corners</th><th colspan="2">Co-ordinates</th><th rowspan="2">Distance between the corners</th></tr> <tr> <th>Latitude</th><th>Longitude</th></tr> </thead> <tbody> <tr> <td>1</td><td>08° 55' 02.93"N</td><td>77° 45' 12.55"E</td><td>1-2 = 162.0m</td></tr> <tr> <td>2</td><td>08° 55' 08.19"N</td><td>77° 45' 12.78"E</td><td>2-3 = 126.8m</td></tr> <tr> <td>3</td><td>08° 55' 07.89"N</td><td>77° 45' 16.91"E</td><td>3-4 = 188.4m</td></tr> <tr> <td>4</td><td>08° 55' 01.77"N</td><td>77° 45' 16.58"E</td><td>4-5 = 37.4m</td></tr> <tr> <td>5</td><td>08° 55' 01.92"N</td><td>77° 45' 15.36"E</td><td>5-6 = 20.0m</td></tr> <tr> <td>6</td><td>08° 55' 02.50"N</td><td>77° 45' 15.08"E</td><td>6-1 = 78.4m</td></tr> </tbody> </table>			Corners	Co-ordinates		Distance between the corners	Latitude	Longitude	1	08° 55' 02.93"N	77° 45' 12.55"E	1-2 = 162.0m	2	08° 55' 08.19"N	77° 45' 12.78"E	2-3 = 126.8m	3	08° 55' 07.89"N	77° 45' 16.91"E	3-4 = 188.4m	4	08° 55' 01.77"N	77° 45' 16.58"E	4-5 = 37.4m	5	08° 55' 01.92"N	77° 45' 15.36"E	5-6 = 20.0m	6	08° 55' 02.50"N	77° 45' 15.08"E	6-1 = 78.4m
Corners	Co-ordinates		Distance between the corners																														
	Latitude	Longitude																															
1	08° 55' 02.93"N	77° 45' 12.55"E	1-2 = 162.0m																														
2	08° 55' 08.19"N	77° 45' 12.78"E	2-3 = 126.8m																														
3	08° 55' 07.89"N	77° 45' 16.91"E	3-4 = 188.4m																														
4	08° 55' 01.77"N	77° 45' 16.58"E	4-5 = 37.4m																														
5	08° 55' 01.92"N	77° 45' 15.36"E	5-6 = 20.0m																														
6	08° 55' 02.50"N	77° 45' 15.08"E	6-1 = 78.4m																														



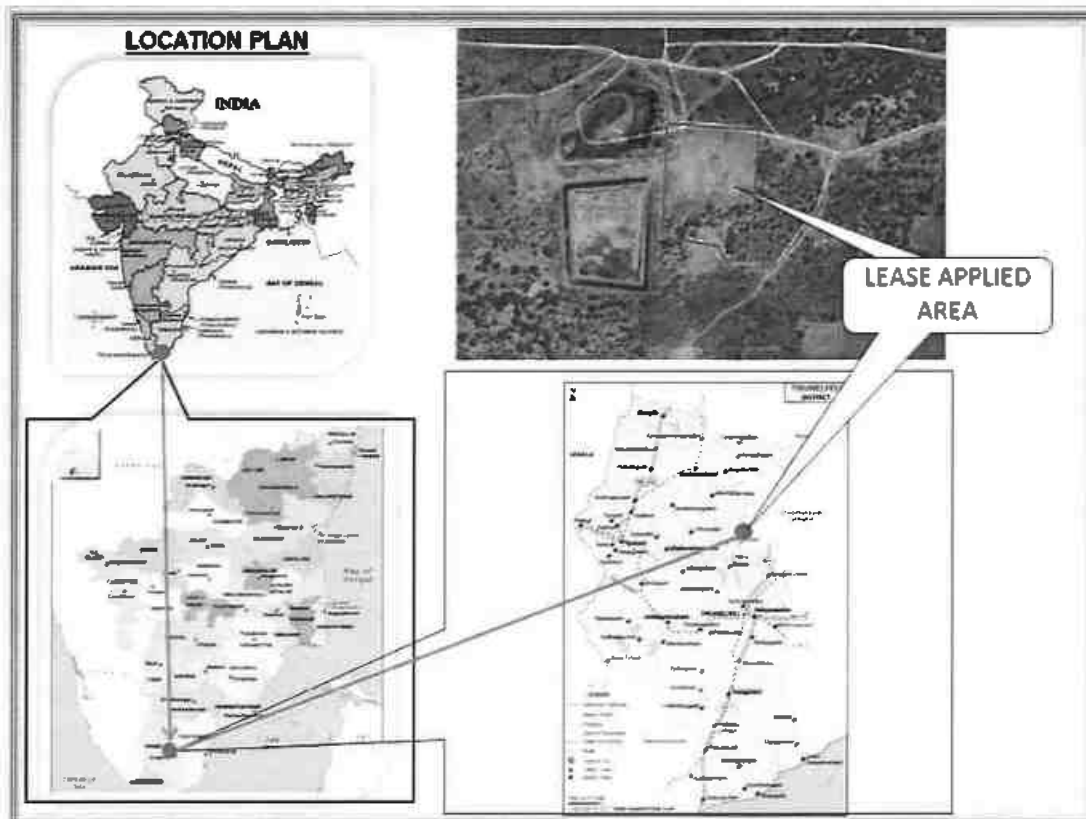
2.0 General Information:

2.1	a.	Name of the Applicant	:	Thiru.S.Vellapandi,
	b.	Address of the Applicant with phone No and e-mail id if any	:	S/o.Subbaiya, No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District. Pin code-628 952. Cell No.: 94431 51261
	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, Tirunelveli, Rc.No. M2/04/2023 dated 04.10.2024.
	c.	Period of permission / lease granted	:	The Assistant Director, Department of Geology and Mining, Tirunelveli, has grant of lease period for five 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 : 08°55'01.77"N to 08°55'08.19"N Longitude : 77°45'12.55"E to 77°45'16.91"E
2	Toposheet Number	58 H/13
3	The altitude of the area	85m (MSL)
4	Extent	2.18.15Ha
5	Survey No	575(P)
6	Village	Pirancheri
7	Taluk	Manur
8	District	Tirunelveli
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 no.711, Please refer Annexure No: IV.
c.	Toposheet No. with Latitude and Longitude	:	Topo Sheet No: 58 H/13 Latitude : 08°55'01.77"N to 08°55'08.19"N Longitude : 77°45'12.55"E to 77°45'16.91"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 Terku Ilandaikulam – Arasankulam village road on Northern side of the area. The Nearest Railway line is Tirunelveli – Thoothukudi line which is about 9.8km on the Southeastern side of the area.

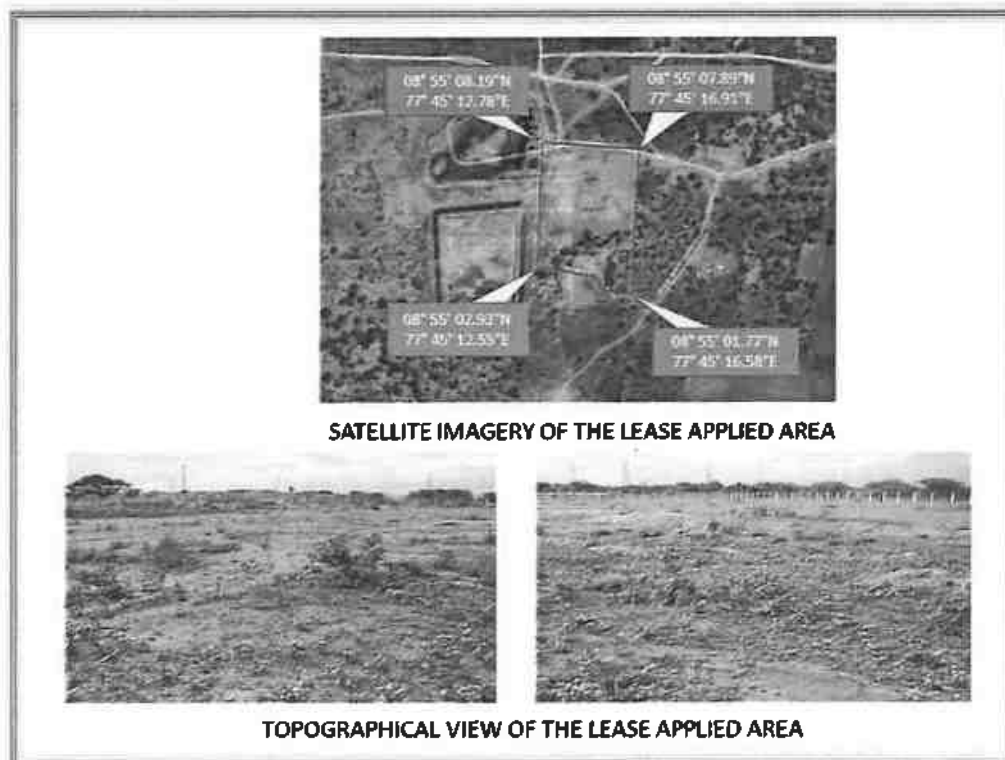


Fig. Location of the lease Applied Area



PART - A

4.0 Geology and Mineral Reserves:

4.1	a.	Topography	: ➤ The area applied for quarry lease is 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 85m (maximum) from MSL. ➤ No major river is found nearby the lease applied area. ➤ Water table is found at a depth of 65m in summer and 62m 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 SE60°. 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
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. Two sections have been drawn, one section drawn length wise as (X-Y) and another one section drawn width wise as (A-B) 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 47m below ground level only. availability of resources is given below.

Table No-1

Section	length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Gravel formation in m ³	Geological Resources of Rough stone in m ³
XY-AB	170	128	2	43520	43520	
	170	128	45	979200		979200
	Total				43520	979200

Gravel Formation : 43,520m³

The Geological Resources of Rough stone : 9,79,200m³



b. Mineable Reserve

The mineable reserve calculated by deducting 7.5m 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	153	111	2	33966	33966	
	II	147	105	5	77175		77175
	III	137	95	5	65075		65075
	IV	127	85	5	53975		53975
	V	117	75	5	43875		43875
	VI	107	65	5	34775		34775
	VII	97	55	5	26675		26675
	VIII	87	45	5	19575		19575
	IX	77	35	5	13475		13475
	X	67	25	5	8375		8375
Total						33966	342975

The mineable reserve is computed as 3,42,975m³ of Rough stone and 33,966m³ of Gravel formation upto a depth of 47m 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 is proposed. 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 is proposed.
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	128	111	2	28416	28416	
		II	125	105	5	65625		65625
Total							28416	65625
II	XY-AB	I	25	111	2	5550	5550	
		II	22	105	5	11550		11550
		III	122	95	5	57950		57950
Total							5550	69500
III	XY-AB	III	15	95	5	7125		7125
		IV	127	85	5	53975		53975
		V	22	75	5	8250		8250
Total								69350
IV	XY-AB	V	95	75	5	35625		35625
		VI	107	65	5	34775		34775
Total								70400
V	XY-AB	VII	97	55	5	26675		26675
		VIII	87	45	5	19575		19575
		IX	77	35	5	13475		13475
		X	67	25	5	8375		8375
Total								68100
Grand Total							33966	342975

The applicant has proposed to carry out 3,42,975m³ of Rough stone and 33,966m³ of Gravel formation upto a depth of 47m below ground level for the period of five years.

5.5		Machineries to be used							
	a.	Drilling			:	It is proposed to use following machineries for quarrying rough stone			
		S.No	Type	Nos	Dia Hole mm	Make	Motive power		
		1	Jack hammer	4	32	Atlas Copco	Compressed air		
		2	Compressor	1	-	Atlas Capco	Diesel Drive		
	b.	Loading			:	Excavator of 0.90m ³ bucket capacity (with Rock breaker attachment) (1No).			



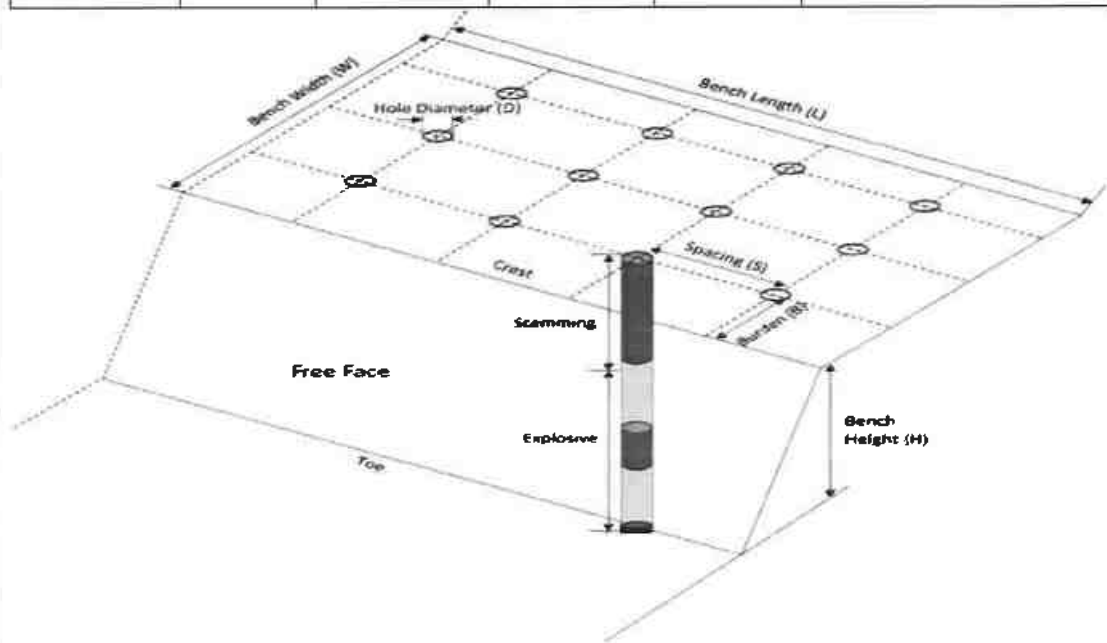
	c.	Transportation	:	Tipper 4Nos (5/10Ts) capacity. *												
5.6		Disposal of Overburden	:	The overburden in the form of Gravel, after the excavation gravel will be directly loaded into tipper to the needy buyers for road project and construction works for filling and leveling of low lying areas.												
5.7		Brief Note on Conceptual Mining Plan for the entire lease period	:	Conceptual Mining Plan is prepared with an object of five 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 given as under, <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>153</td><td>111</td><td>47</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	153	111	47
Ultimate Pit dimension (M) end of Mining plan Period																
Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)													
I	153	111	47													



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 border="1"> <tr> <td>Number of holes</td> <td>: 198</td> </tr> <tr> <td>Powder factor</td> <td>: 6Ts/Kg of explosives</td> </tr> <tr> <td>Total explosive required</td> <td>: 99Kg 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	: 198	Powder factor	: 6Ts/Kg of explosives	Total explosive required	: 99Kg slurry explosives	Charge / hole	: 0.5Kg	Blasting time	: 12-2 Pm
Number of holes	: 198											
Powder factor	: 6Ts/Kg of explosives											
Total explosive required	: 99Kg 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 65m below ground level. In the proposed mining plan only 47m 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										



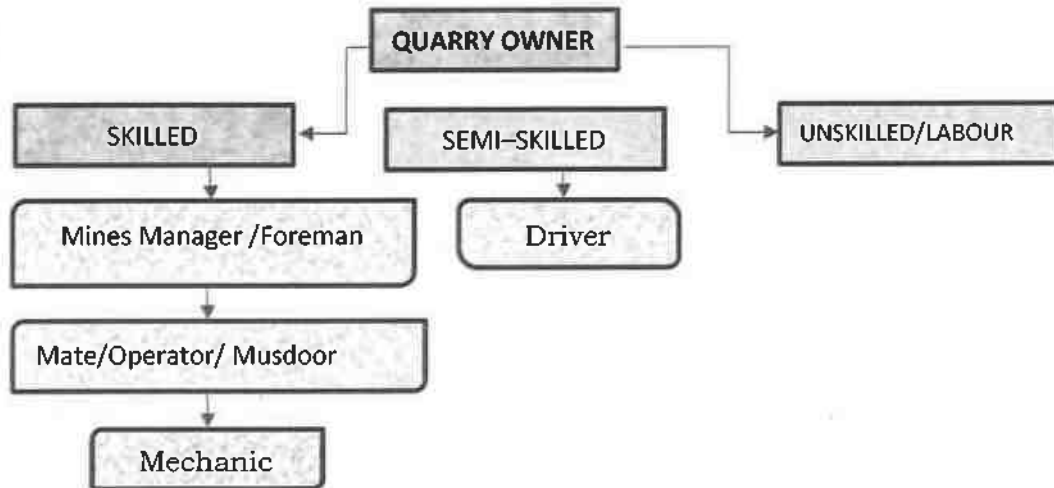
8.0 Other Permanent Structures:		
8.1	Habitations / Village	: There are no habitations within a radius of 300m.
8.2	Power lines (HT/LT)	: There is no Power lines (HT/LT) within a radius of 50m.
8.3	Water bodies (River, Pond, Lake, Odai, Channel etc)	: There is Tank situated on Northeastern side of the area and is 470m away from the area.
8.4	Archaeological / Historical Monuments	: There are no Archeological/ Historical Monuments within a radius of 300m.
8.5	Road (NH, SH, Village Road etc)	: The National Highway (NH-44) Salem-Kanniyakumari is about 1.2km on eastern side of the area. The State Highway (SH-41) Tirunelveli - Sankarankovil is about 11.5Km on western 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



9.0 Employment Potential & Welfare Measures:

9.1 Employment Potential (Management & Supervisory personal)

The proposed organization chart



1.	Skilled	Mines Manager	1 No.
		Foreman / Mate	2 No.
		Operator	8 No.
		Mechanic	1 No.
2.	Semi-skilled	Driver	4 No.
3.	Unskilled	Labours	10Nos
Total =			26Nos

Allowing 10% absentee, the no. of men of roll will be around 23.

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.**

9.2 Welfare Measures

a.	Drinking Water	:	Packaged drinking water is available from the nearby approved water vendors in Rajapudhukudi village which is about 2.5Km on Southeastern 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 3.5Km (NE) in Kayathar 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.		



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 47m below ground level for the proposed mining plan period. 3. Fluctuation of Water table in this area is in between 65m and 62m 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-4 <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>1.</td><td>Quarrying Pit</td><td>Nil</td><td>1.70.00</td></tr> <tr> <td>2.</td><td>Infrastructure</td><td>Nil</td><td>0.01.00</td></tr> <tr> <td>3.</td><td>Roads</td><td>Nil</td><td>0.01.00</td></tr> <tr> <td>4.</td><td>Green Belt</td><td>Nil</td><td>0.46.15</td></tr> <tr> <td>5.</td><td>Unutilized</td><td>2.18.15</td><td>Nil</td></tr> <tr> <td></td><td>Total =</td><td>2.18.15</td><td>2.18.15</td></tr> </tbody> </table>	Sl. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)	1.	Quarrying Pit	Nil	1.70.00	2.	Infrastructure	Nil	0.01.00	3.	Roads	Nil	0.01.00	4.	Green Belt	Nil	0.46.15	5.	Unutilized	2.18.15	Nil		Total =	2.18.15	2.18.15
Sl. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)																												
1.	Quarrying Pit	Nil	1.70.00																												
2.	Infrastructure	Nil	0.01.00																												
3.	Roads	Nil	0.01.00																												
4.	Green Belt	Nil	0.46.15																												
5.	Unutilized	2.18.15	Nil																												
	Total =	2.18.15	2.18.15																												
10.2	Water Regime	:	Water table in this area is noticed at a depth of 65m and presently, in the proposed mining plan only 47m 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.																												



10.5	Human Settlement	: The nearest habitations with the population is given as under.	
Table No-5			
S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Arasankulam	1.2km - NE	300
2.	Terku Ilandaikulam	2.7Km - NW	400
3.	Rajapudhukudi	2.5Km-SE	1000
4.	Ithikulam	2.4Km -SW	400
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.	



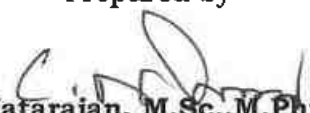
10.9	Proposal for Waste Management	:	There is no waste anticipated in this rough stone quarry operation.
10.10	Proposal of Reclamation of Land affected during mining activities and at the end of mining.	:	In the proposed mining plan 47m (below ground level) depth has been envisaged as workable depth for safe & economic mining during the lease period. Hence, after quarry reaches ultimate pit limit (for this lease period) of 47m 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 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 4615Sqm area is proposed to use under afforestation by planting 554nos 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.III.
10.12	Proposed Financial Estimate / Budget for (EMP) Environment Management		
	A.Fixed Asset Cost:		
	1. Land Cost	:	Rs. 13,08,900
	(600000/1Ha)=	:	
	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. 16,08,900/-
	B. Operational Cost:		
	1. Machineries	:	Rs.60,00,000-
	2. Fencing cost	:	Rs. 1,50,000
	Total	:	Rs.61,50,000/-



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 : 09.10.2024

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

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

Letter No. 4 / M 2 / 2023

Dated 04.10.2024


Assistant Director
Dept. of Geology and Mining
Tirunelveli - 9

அனுப்புநர்

திரு.அபாலமுருகன், எம்.எஸ்.சி. எம்.பி.ஏ.,
உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
திருநெல்வேலி.

பெறுநர்

திரு.சுவெள்ளப்பாண்டி,
த/பெ.சுப்பையா,
64A, தெற்கு தெரு
வடக்கு இலந்தைகுளம்,
தூத்துக்குடி மாவட்டம்

ANNEXURE



அய்யா,

ந.க.எண். எம்2/04/2023

நாள். 04.10.2024

பொருள்: கனிமம் மற்றும் சுரங்கம் - சிறுவகை கனிமம் சாதாரண கற்கள் மற்றும் கிராவல் - திருநெல்வேலி மாவட்டம் - மானூர் வட்டம் - பிராஞ்சேரி கிராமம் - புல எண். 575(பகுதி) - ல் 2.18.15 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் கனிமம் வெட்டி எடுக்க குத்தகை உரிமம் வழங்க கோரி திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவர் விண்ணப்பம் செய்தது - வருவாய் கோட்டாட்சியர் அறிக்கை வரப்பெற்றது - குத்தகை உரிமம் வழங்குவது தொடர்பாக குத்தகை தேற்ற பரப்பு (Precise Area Communication)நிர்ணயித்தல் - தொடர்பாக.

- பார்வை:**
1. அரசாணை (Ms) எண். 169, தொழில் (எம்.எம்.சி.1) துறை, நாள். 04.08.2020.
 2. திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா, வடக்கு இலந்தைகுளம், தூத்துக்குடி மாவட்டம் என்பவரது விண்ணப்பம் நாள். 30.12.2022.
 3. இணை இயக்குநர்/ உதவி இயக்குநர்(பொ) புவியியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி அவர்களின் கடிதம் ந.க.எண். எம்2/04/2022, நாள். 10.01.2023.
 4. திருநெல்வேலி, வருவாய் கோட்டாட்சித்தலைவர் அவர்களின் அறிக்கை ந.க.எண். அ7/160/2023, நாள். 08.07.2024. கிடைக்கப்பெற்றது. 31.07.2024.
 5. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி அவர்களின் புலத்தணிக்கை அறிக்கை நாள். 30.09.2024.

தூத்துக்குடி மாவட்டம், வடக்கு இலந்தைகுளம், 64A, தெற்கு தெரு என்ற முகவரியை சேர்ந்த திரு.சுவெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவர் திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிராஞ்சேரி கிராமம், பட்டா புல எண். 575 -ல் பரப்பு 2.59.5 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க ஆண்டுகளுக்கு 1959-ம் வருடத்திய தரிநாடு சிறுகனிம சலுகை விதிகள் பிரிவு 19(1)-ன் படி குவாரி குத்தகை உரிமம் வழங்கக்கோரி விண்ணப்பம் செய்ததையடுத்து

மேற்படி விண்ணப்பம் மீது விசாரணை மேற்கொண்டு அறிக்கை அனுப்புவதில் வருவாய் கோட்டாட்சியர், திருநெல்வேலி அவர்களுக்கு பார்வை மன்றக் காணும் இவ்வலுவலக கடிதம் அனுப்பப்பட்டது.



2. பார்வை 4-ல் காணும் திருநெல்வேலி, வருவாய் கோட்டாட்சியர் அவர்களின் அறிக்கையில் விண்ணப்பம் தொடர்பாக மானூர் வருவாய் வட்டாட்சியர் அறிக்கை சமர்ப்பித்துள்ளதாக தெரிவித்து அவ்வறிக்கையில் விண்ணப்ப புலம் ஆனது விண்ணப்பதாரர் திரு.வெள்ளப்பாண்டி, த/பெ.சுப்பையா பெயரில் தனிப்பட்டவாக உள்ளது எனவும், விண்ணப்ப புல எண்ணிற்காக வழிப்பாதை 693/2 அரசு புறம்போக்கு வண்டிப்பாதை ராஜாபுதுக்குடி மானங்காத்தான் வண்டிப்பாதை, விண்ணப்பதாரருக்கு சொந்தமான புல எண். 693/3 பட்டா எண். 3157 பரப்பு 1.03.50 ஹெக்டேரில் உள்ள இடம் மற்றும் பட்டா புல எண். 777 (1.74.0) மற்றும் 778 (1.52.0) ஆகிய புலங்கள் M/s. RAK Consultants என்ற நிறுவனத்திற்கு பாத்தியப்பட்ட இடத்தில் பாதையாக பயன்படுத்த மனுதாரர் பாதை ஒப்பந்தம் ஆவணம் செய்துள்ளார் எனவும், மனுதாரருக்கு சொந்தமான புல எண். 780 (2.14.0) மற்றும் 781/1 (0.19.50) எனவும், பட்டா புல எண். 784 (2.13.50) திரு.பெருமாள்செல்வம் என்பவருக்கு சொந்தமான நிலத்தில் பாதையாக பயன்படுத்த ஒப்பந்தம் செய்யப்பட்டுள்ளது எனவும், விண்ணப்ப புல எண்ணில் கல்குவாரி அமைக்க அ1 அறிவிப்பு பிரசுரம் செய்யப்பட்டதில் பொதுமக்கள் ஆட்சேபணை ஏதும் இல்லை எனவும், வாக்குமூலம் பெறப்பட்டுள்ளது எனவும், விண்ணப்ப புல எண் குடியிருப்பிலிருந்து 300 மீட்டர் தொலைவிற்கு அப்பால் உள்ளது எனவும், விண்ணப்ப புல எண்ணிலிருந்து 50 மீட்டர் தொலைவிற்குள் இருப்புபாதை, சாலை, மின் இணைப்புகள், குளம், ஓடை, கால்வாய் போன்றவை இல்லை எனவும், விண்ணப்ப புல எண்ணிலிருந்து 500 மீட்டர் தொலைவிற்குள் கோயில், மததி, புராதான சின்னங்கள், நினைவுச் சின்னங்கள் மற்றும் இடுகாடு போன்றவை இல்லை எனவும், விண்ணப்ப புலமானது மாண்பும உச்ச நீதிமன்ற தீர்ப்பின் அடிப்படையில் PACL நிறுவனத்திற்கு பாத்தியப்பட்டுள்ளதாக உத்தரவிடப்பட்டுள்ள சொத்தின் பட்டியலில் இல்லை எனவும், விண்ணப்ப புலமானது தடையாணை புத்தகத்தில் இல்லை எனவும், அரசு வகைக்கு சிறப்பு ஒதுக்கீடு செய்யப்படவில்லை எனவும், விண்ணப்ப புலத்தில் நீர்நிலைகள், நிலவியல் ஓடைகள் ஏதுமில்லை எனவும், விண்ணப்ப புலத்தில் பழைய கற்குடைவு ஏதும் இல்லை எனவும், விண்ணப்பதாரரிடமிருந்து வருவாய் வசூல் சட்டத்தின்படி வசூலிக்கப்பட வேண்டிய நிலுவைத்தொகை மற்றும் கனிம பாக்கி ஏதும் இல்லை எனவும், விண்ணப்ப புலத்திலிருந்து 12 கிலோ மீட்டருக்கு அப்பால் மான் சரணாலயம் உள்ளது எனவும், பாதுகாப்பு இடைவெளி உள்ளது எனவும், விண்ணப்ப புலமானது

யல உயிர் சரணாலயம் மற்றும் தேசிய பூங்கா சூழலியல் அதிர்வு தாங்கு மண்டலத்திற்குட்படவில்லை எனவும், விண்ணப்ப புலத்தின் நான்கு பகுதிகள் பின்வருமாறு தெரிவிக்கப்பட்டுள்ளது.



வடக்கு	கிழக்கு	தெற்கு	
புல எண். 576/1 புன்செய் நிலம்	புல எண். 574 புன்செய் நிலம்	புல எண். 554 புன்செய் நிலம்	புல எண். 783 மற்றும் 784 புன்செய் நிலம்

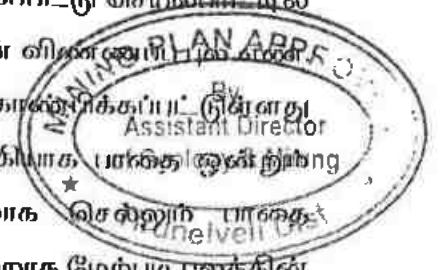
மேலும் விண்ணப்பதாரரின் விண்ணப்ப புல எண். 575-க்கு மேற்கு ஓரமாக புலப்படத்தில் பாதை விளக்கியாக காண்பிக்கப்பட்டுள்ளது எனவும், விண்ணப்ப புலத்தின் ஊடே வண்டிப்பாதை விளக்கியாக பாதை ஒன்றும் புலப்படத்தில் காண்பிக்கப்பட்டுள்ளது எனவும், மேற்கு எல்லை ஓரமாக செல்லும் பாதை விளக்கியை தவிர்த்தும், ஊடே செல்லும் பாதை விளக்கிக்கு மாற்றாக மேற்படி புலத்தின் தெற்கு எல்லையில் ஓரமாக பாதையாக காண்பித்து மீதமுள்ள புலங்களுக்கு மனுதாரர் குத்தகை உரிமம் கோரியுள்ளார் எனவும், எனவே மேற்படி புலத்தின் மொத்த பரப்பு 2.59.30-ல் மேற்படி பாதையாக காண்பிக்கப்பட்டுள்ள நிலத்தின் பரப்பு 0.41.35 நீங்கலாக மீதமுள்ள பரப்பு 2.18.15-ல் சாதாரண கற்கள் வெட்டி எடுக்க திரு.வெள்ளப்பாண்டி என்பவருக்கு குத்தகை உரிமம் வழங்க பரிந்துரை செய்து மானூர் வட்டாட்சியர் அறிக்கை செய்துள்ளார் எனவும், மேற்படி வட்டாட்சியர் அறிக்கை மற்றும் ஆவணங்களை பரிசீலனை செய்ததில், மானூர் வட்டம், பிராகுசேரி கிராமம், புல எண். 575-ல் 2.59.5 ஹெக்டேர் நிலத்தில் கற்குவாரி அமைக்க விண்ணப்பத்தில், மேற்படி புல எண் விண்ணப்பதாரர் பெயரில் பட்டா எண். 711-ல் உள்ளது எனவும், அதற்கான ஆவணமாக வில்லங்கச் சான்று, அடங்கல் நகல்கள் இணைக்கப்பட்டுள்ளது எனவும், வழிப்பாதைக்கான தேர்வு செய்யப்பட்ட புல எண்களில் விண்ணப்பதாரருக்கு சொந்தமான புல எண் போக திரு.பெருமாள் செல்வம் மற்றும் M/s.RAK Consultants என்ற நிறுவனத்திற்கு சொந்தமான புல எண்களின் வழியாக கனிம பொருட்களை கொண்டு செல்வதற்கு பதிவு செய்யப்படாத ஒப்பந்த நகல் இணைக்கப்பட்டுள்ளது எனவும், மேற்கண்ட வட்டாட்சியர் பரிந்துரையின்படி, விண்ணப்ப புலம் 20.06.2024 அன்று மண்டல துணை வட்டாட்சியர், வட்ட துணை ஆய்வாளர் மற்றும் கிராம நிர்வாக அலுவலர் ஆகியோருடன் புலத்தணிக்கை மேற்கொள்ளப்பட்டது எனவும், பிரஸ்தாப புலம் பார்வையிடப்பட்டதில், புலத்தினை சுற்றி காற்றாலை இருந்து அகற்றப்பட்டுள்ளது எனவும், தற்போது சமதளமாக உள்ளது எனவும், மேற்பரப்பு மண் பகுதியாகவும், 3 அடி கீழே பாதை பகுதியாகவும் உள்ளது எனவும், அருகில் உள்ள புலங்கள் கல்குவாரி புலங்களாக உள்ளது எனவும், புலத்தின் அருகில் உயர் அழுத்த மின்கம்பி ஏதும் செல்லவில்லை எனவும், எனவே வட்டாட்சியரின் பரிந்துரை அறிக்கை,

ஆவணங்கள் மற்றும் புலத்தணிக்கையின் அடிப்படையில் மானூர் வட்டம், கிராமம், பட்டா புல எண். 575-ல் மொத்தம் 2.59.50 ஹெக்டேர் பரப்பில் 2.18.15 ஹெக்டேர் பரப்பில் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க குத்தகை உரிமம் வழங்க பரிந்துரை நியமனமுதலாக இத்துடன் வட்டாட்சியர் அறிக்கை, புலத்தணிக்கை அறிக்கை மற்றும் ஆவணங்கள் இணைத்து அனுப்பியுள்ளதாகவும் தெரிவித்துள்ளார்.



3. பார்வை 5-ல் காணும் திருநெல்வேலி மாவட்டம், புனியியல் மற்றும் சுரங்கத்துறை, உதவி புனியியலாளர் அவர்களால் 30.09.2024 அன்று விண்ணப்பிக்கப்பட்ட புலத்தை தனிவருவாய் ஆய்வாளர் (கனிமம்) அவருடன் கள ஆய்வு செய்ததாக தெரிவித்து அறிக்கை சமர்ப்பித்துள்ளார். அவ்வறிக்கையில் குத்தகை உரிமம் வழங்க அனுமதி கோரிய திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிரஞ்சேரி கிராமம், புல எண். 575-ல் 2.59.5 ஹெக்டேர் பரப்பில் உள்ள நிலமானது மேற்படி கிராம பட்டா எண். 711-ன் படி மனுதாரர் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா தேவர் என்பவர் பெயரில் தனிப்பட்டவாக தாக்கலாகியுள்ளது எனவும், மேற்படி புலத்தினை தணிக்கை செய்ததில் விண்ணப்பித்த புலமானது சமதளமாக உள்ளது எனவும், மேற்படி புலத்தில் உள்ள பாறைகள் சார்னகைட் வகையை சார்ந்தது எனவும், இவை சாதாரண கற்கள், ஜல்லி, எம்-சாண்ட் ஆகியவை தயாரிக்க உகந்த பாறைகள் ஆகும் எனவும், விண்ணப்ப புலத்தில் சுமார் 2 மீட்டர் ஆழம் வரை கிராவல் / சுரள் காணப்படுகிறது எனவும், விண்ணப்பித்த புலத்திலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட வீட்டு மனைகள், நத்தம், குடியிருப்புகள் ஏதுமில்லை எனவும், மேற்படி புலத்திலிருந்து 50 மீட்டர் தொலைவில் நெடுஞ்சாலை, இருப்புப்பாதை, சுடுகாடு மற்றும் இடுகாடு ஏதும் இல்லை எனவும், விலை உயர்ந்த மரங்களோ, காப்பு காடுகளோ இல்லை எனவும், விண்ணப்ப புலத்தின் மேற்கு திசையில் புல எண். 783/1-ல் மனுதாரர் திரு.வெள்ளப்பாண்டி என்பவருக்கு திருநெல்வேலி மாவட்ட ஆட்சித்தலைவர் அவர்களின் செயல்முறை ஆணை எண். எம்1/25662/2016, நாள். 05.03.2016-ன் படி 1.92.0 ஹெக்டேர் பரப்பளவில் வழங்கப்பட்டு தற்போது கைவிடப்பட்ட நிலையில் உள்ள குவாரியும், புல எண். 784-ல் திரு.பெருமாள் செல்வம் என்பவருக்கு திருநெல்வேலி, புனியியல் மற்றும் செயல்முறை, உதவி இயக்குநர் அவர்களின் செயல்முறை ஆணை எண்.எம்3/20350/2020, நாள். 06.01.2022-ன் படி வழங்கப்பட்ட செயல்பாட்டில் உள்ள கல்குவாரி அமைந்துள்ளது எனவும், மேலும் விண்ணப்பித்த புலத்திலிருந்து ஏறத்தாழ 330 மீட்டர் தொலைவில் புல எண். 594-ல் திருமணோகரன் என்பவருக்கு திருநெல்வேலி மாவட்ட, புனியியல் மற்றும் சுரங்கத்துறை, இணை இயக்குநர்/உதவி இயக்குநர் அவர்களின் செயல்முறை

ஆணை எண்.எம்3/34899/2020, நாள். 21.09.2023 ன் படி வழங்கப்பட்டு செயல்பாட்டில் உள்ள குவாரியும் அமைந்துள்ளது எனவும், விண்ணப்பதாரரின் விண்ணப்பம் எண் 575-க்கு மேற்கு ஓரமாக புலப்படத்தில் பாதை விளக்கியாக காண்பிக்கப்பட்டுள்ளது மற்றும் விண்ணப்ப புலத்தின் ஊடே வண்டிப்பாதை விளக்கியாக பாதை ஒன்றும் காண்பிக்கப்பட்டுள்ளது என்பதால் மேற்கு எல்லை ஓரமாக செல்லும் பாதை விளக்கியை தவிர்த்து ஊடே செல்லும் பாதை விளக்கிக்கு மாற்றாக மேற்படி புலத்தின் தெற்கு எல்லையில் ஓரமாக பாதையாக காண்பித்து நீதமுள்ள பரப்பிற்கு குத்தகை உரிமம் விண்ணப்பதாரரால் கோரப்பட்டது.



எனவே வருவாய் கோட்டாட்சியர், திருநெல்வேலி அவர்களின் பரிந்துரை அறிக்கை, விண்ணப்பதாரரின் கோரிக்கை மற்றும் கள ஆய்வின் அடிப்படையில் குவாரி குத்தகை உரிமம் வழங்க அனுமதி கோரிய திருநெல்வேலி மாவட்டம், மானூர் வட்டம், பிராஞ்சேரி கிராமம், புல எண். 575-ல் மொத்தம் 259.50 ஹெக்டேர் பரப்பில் 218.15 ஹெக்டேர் பரப்பில் மட்டும் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959, விதி 19(1) மற்றும் 20-ன் படி விண்ணப்பதாரர் திரு.ச.வெள்ளப்பாண்டி, த/பெ.சுப்பையா என்பவருக்கு கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு குத்தகை உரிமம் வழங்கலாம் என பரிந்துரைத்து அறிக்கை செய்துள்ளார்கள்.

நிபந்தனைகள்

1. அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி அமைத்து குவாரி பணிகள் மேற்கொள்ளப்பட வேண்டும்.
2. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக்கூடாது.
3. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள் கம்பிவேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்யப்பட வேண்டும்.
6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.

5. சான்றிதழ் பெறப்பட்ட போர்மேன், ஷொப்பாளர் மற்றும் கரங்கு
மேலாளர் மூலம் முறையே குவாரிப்பணி செய்ப்பட்ட வேண்டும்.



6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர்
சென்னை அலுவலகங்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.

7. பாறைகளை தகர்க்க கைத்துளைப்பாளர்களை கொண்டு பாறைகளை
துளையிட்டு குறைவான ஷொப்பாளருட்கள் பயன்படுத்த வேண்டும்.

மேலும் இவ்விறவிப்பு கிடைக்கப்பெற்ற 90 நாட்களுக்குள் மேற்சொன்ன
பந்தனைகளையும் குறிக்கும் வகையில் வரைவு சுரங்கத்திட்ட அறிக்கை தயார்
செய்து உதவி இயக்குநர், புனிமியல் மற்றும் சுரங்கத்துறை, திருநெல்வேலி
அலுவலகமும் ஒப்புதல் பெற சமர்ப்பிக்குமாறு அறிவுறுத்தப்படுகிறது.

[Handwritten Signature]
உதவி இயக்குநர்,
புனிமியல் மற்றும் சுரங்கத்துறை,
திருநெல்வேலி.

[Handwritten Signature]
671024

வட்ட சார ஆய்வாளர்
மாணார்

ANNEXURE



583

684

594

593

592

591

585

586

587

584

690

685

583

582

581

580

686

687

689

688

576

577

578

579

783

575

300 M

779

782

574

573

572

571

781

784

554

555

556

780

785

553

552

551

550

5

788

787

786

516

512

520

549

522

521

519

518

515

514

513

794

792

793

789

90

791

294

522

LEASE APPLIED AREA





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : திருநெல்வேலி

வட்டம் : மானூர்

வருவாய் கிராமம் : பிராஞ்சேரி

பட்டா எண் : 711

உரிமையாளர்கள் பெயர்

1. வடக்கு இலந்தைகுளம் சுப்பையா தேவர்

மகன் வெள்ளப்பாண்டி

சா.நா.ப.

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
575 ✓	-	2 - 59.50	1.62	--	--	--	--	---- -- 28-03-2001
648	1A	0 - 16.50	0.15	--	--	--	--	---- -- 19-10-2001
648	1B	0 - 5.50	0.06	--	--	--	--	---- -- 19-10-2001
648	1C	0 - 15.50	0.13	--	--	--	--	---- -- 19-10-2001
662	3	0 - 62.00	0.57	--	--	--	--	---- -- 19-10-2001
669	-	3 - 13.00	2.88	--	--	--	--	---- -- 19-10-2001
687	1	0 - 35.00	0.32	--	--	--	--	---- -- 16-05-2003
687	3	0 - 76.00	0.70	--	--	--	--	---- -- 16-05-2003
		7 - 83.00	6.43					

குறிப்பு2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 29/14/010/00711/80059 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 28-12-2022 அன்று 12:50:04 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

ANNEXURE

By
கிராமத் துறை
Assistent Director
வட்டம்
of Ecology & Mining

முதல் கோதம்

Mirunelveli Dist

திருநாளை

மாதுள்

முதல் பாகம்

சாகுபடி
யாளரின்
பெயர்.

(1)	நில அளவை எண்.	
(2)	உட்பிரிவு எண்.	
(3)	பரப்பு.	
(4)	தீர்வை.	
(5)	ஒரு போகம் அல்லது இரு போகம்.	
(6)	கைப்பற்று தாரகூடைய பெயரும் எண்ணும் அல்லது அனுபோக தாரகூடைய பெயர்.	
(7)	நிலத்தின் எந்த பகுதி யாவது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதா.	
(8)	எந்த மசத்தத்தில் பயிர் செய்யப்பட்டது எந்த மசத்தில் அறுவடை செய்யப்பட்டது.	
(9)	பயிரின் பெயர்.	
(10)	பயிராளர் / அறுவடை யாளர் பரப்பு.	
(11)	உண்மையான பாய்ச்சல் ஆதாரம்.	
(12)	விளைச்சல் அளவு விழுக்காடு.	

சு - 2005 162 711.

09/08/2000

12/08/2000

10, பிராஞ்சேரி
மாணா வயம்

380/27RF III A-10-20,00,000 Cps.-GBP.-MDU.-7-2021.

ANNEXURE

கி. எண். 10 பிராஞ்சேரி.



2	3	4	5	6	7	8	9	10			
566	9	566-9	ர	பு	...	8-5	7	0 62	0 14.0	0 09	319 ச. குருசாமித் கோனார்.
								1 58.0	1 12		
567	1	567-1	ர	பு	...	8-5	7	0 62	1 32.5	0 32	22 ஏ.ஜே. அப்பா சாமி.
	2	-2	அ	புற	...	...	...	...	0 01.0	...	 வண்டிப் பாதை.
	3	-3	ர	பு	...	8-5	7	0 62	0 01.5	0 06	22 ஏ.ஜே. அப்பா சாமி.
								1 35.0	0 88		
568	1	568-1	ர	பு	...	8-5	7	0 62	0 05.0	0 06	22 ஏ.ஜே. அப்பா சாமி.
	2	-2	அ	புற	...	...	...	...	0 04.5	...	 வண்டிப் பாதை.
	3	-3	ர	பு	...	8-5	7	0 62	0 82.5	0 50	22 ஏ.ஜே. அப்பா சாமி.
								0 92.0	0 56		
569	...	569	ர	பு	...	8-5	7	0 62	1 33.0	0 81	2275 ச. மலையாண்டி கோனார் மற்றும் ஐந்து பேர்களும்.*
570	...	570	ர	பு	...	8-5	7	0 62	3 82.0	2 37	22 ஏ.ஜே. அப்பா சாமி.
571	...	571	ர	பு	...	8-5	7	0 62	2 46.0	1 50	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள். சதுரக் கிணறு.
572	...	572	ர	பு	...	8-5	7	0 62	3 05.0	1 88	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள்.
573	...	573	ர	பு	...	8-5	7	0 62	0 88.5	0 56	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள்.
574	...	574	ர	பு	...	8-5	8	62	1 98.5	1 25	22 ஏ.ஜே. அப்பா சாமி.
575	...	575	ர	பு	...	8-5	7	0 62	2 59.5	1 62	711 செ. செயது ஸ்ரீபதி ராவுத்தர்.

12

*. விவரப்பட்டியலைப் பார்க்கவும்.

கிராம நிர்வாக அலுவலர்
10, பிராஞ்சேரி
மாணார் வட்டம்



இந்திய அரசாங்கம்
Unique Identification Authority of India

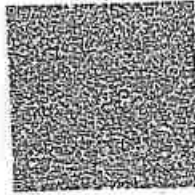
பதிவேட்டு எண் / Enrolment No.: 2192/50497/06165

To
வெள்ளப்பாண்டி
Vellapandi
S/O Subbaiyadevar V
House No 64A
SOUTH STREET
Vadakku Ilandaikulam
Theerkkullandaikulam
Theothukkudi Tamil Nadu - 628952
9443151261

Generation Date: 05/07/2019

Signature

Digitally signed by
Vellapandi Subbaiyadevar V
DN: cn=Vellapandi Subbaiyadevar V,
o=Unique Identification Authority of India,
c=IN



QR Code with photograph

உங்கள் ஆதார் எண் / Your Aadhaar No. :

3718 8917 5068

VID : 9114 2343 6115 4876

எனது ஆதார், எனது அடையாளம்



இந்திய அரசாங்கம்
GOVERNMENT OF INDIA



வெள்ளப்பாண்டி
Vellapandi
பிறந்த நாள்/DOB: 25/04/1956
ஆண் / MALE

3718 8917 5068

VID : 9114 2343 6115 4876

எனது ஆதார், எனது அடையாளம்



Government of India



தகவல்

- ஆதார் அடையாளத்திற்கான சான்று, ரூபியரிமைக்கு அவ்வ.
- அடையாள சான்றை ஆன்லைன் ஆதரங்கேஷன் மூலமாகப் பெறவும்.
- இது எலக்ட்ரானிக் செயல்முறை மூலம் தயாரிக்கப்பட்ட கடிதமாகும்.

INFORMATION

- Aadhaar is a proof of Identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

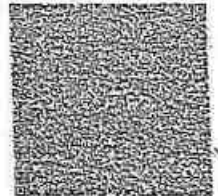
- ஆதார் நாடு முழுவதிலும் செல்லுபடியாகும்.
- வருங்காலத்தில் அரசு மற்றும் அரசு சாரா சேவைகளை பயன்படுத்திக் கொள்ள ஆதார் உதவிகரமாக இருக்கும்.
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.



இந்திய அரசாங்கம்
GOVERNMENT OF INDIA

முகவரி:
S/O Subbaiyadevar V, வீட்டு எண் 64A,
தெற்கு தெரு, வடக்கு இலந்தைகூடம்,
தாதுகூடு,
தமிழ் நாடு - 628952

Address:
S/O Subbaiyadevar V, House No 64A,
SOUTH STREET, Vadakku Ilandaikulam,
Theothukkudi,
Tamil Nadu - 628952



3718 8917 5068

VID : 9114 2343 6115 4876

QR Code with photograph

CHETTINAD CEMENT CORPORATION LTD.

(Regd. Office: RANI SEETHAI HALL BUILDING IV & V FLOORS, 603, ANNA SALAI, MADRAS 600001.)
WORKS OFFICE: PULIYUR.

ANNEXURE



21144
PHONE 22744 KARUR
21745
TELEGRAM "CEMENT" Puliyur C.F.
Telex: 0456-215.
STD Code: 04324

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

22nd September, 1987.

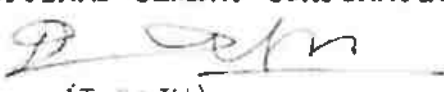
CERTIFICATE.

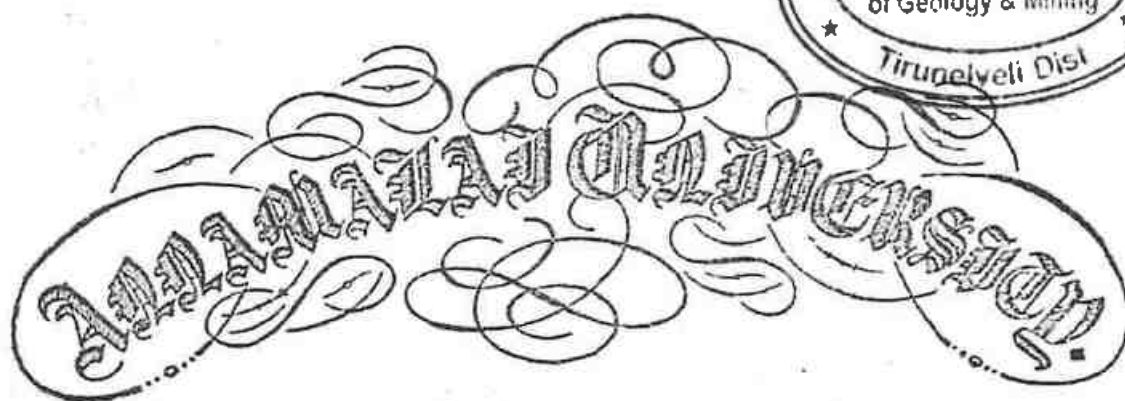
This is to certify that Mr.C.Natarajan has been working as a Geologist from 14-12-1979 to till date. He has been incharge of supervision of day to day functions in respect of Exploration, Preparation of Geological Plans & Sections, Preparation of Mines Plans, and Quality control and other allied mining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

<u>Name of the Pit.</u>	<u>Average Raising/day.</u>
1. Alambadi Pit.	- 1,700 T.
2. Mallapuram Pit.	- 900 T.
3. Karikkali Pit.	- 150 T.
Total.	- 2,750 T.

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

for CHETTINAD CEMENT CORPORATION LTD.,


(T.RAJU).
Mines Manager & Dy. General Manager.



Faculty of Science

The Senate of the Annamalai University hereby makes known that E. 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.

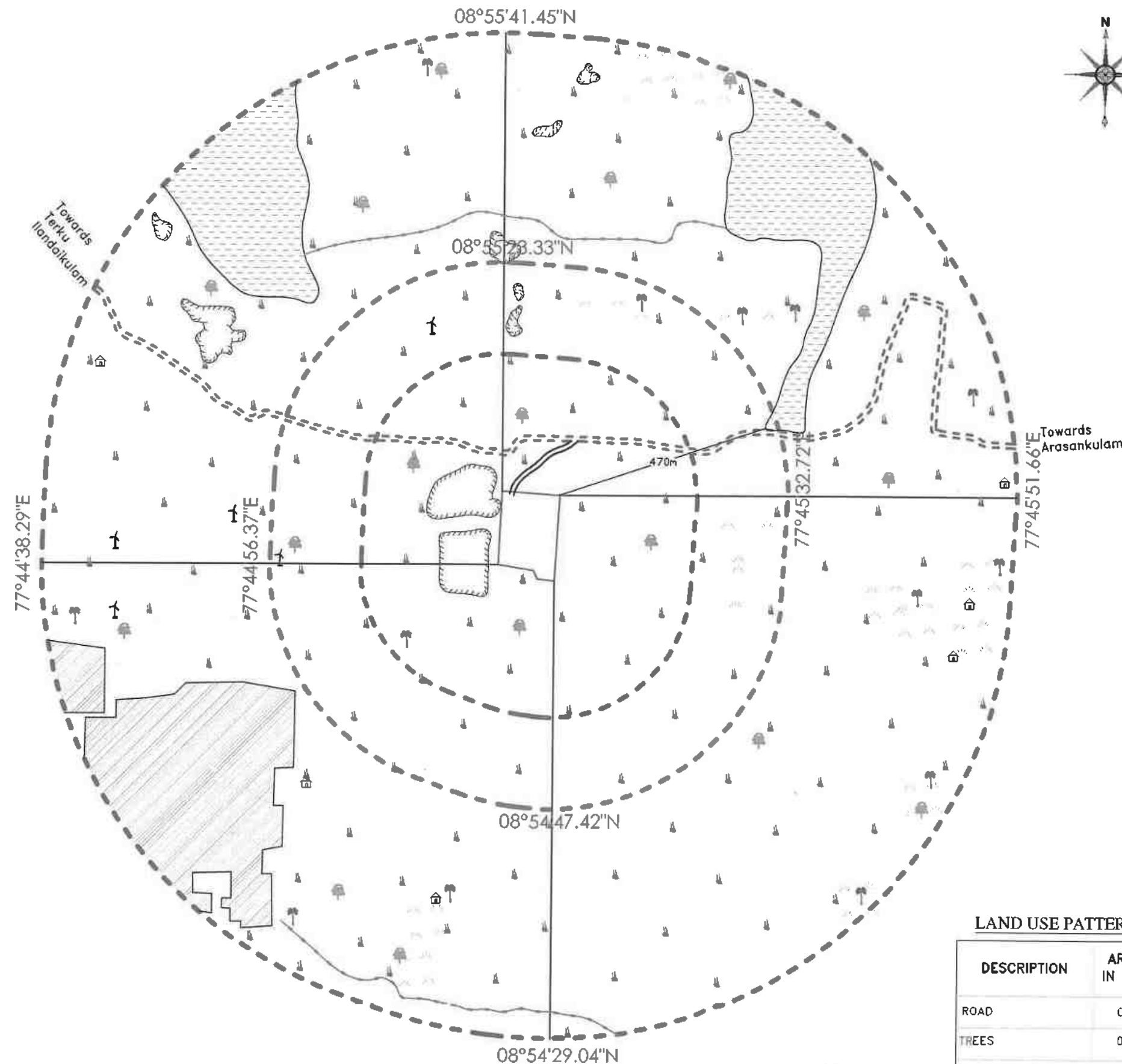
8th December, 1976.

N. Chandrasekha
Vice-Chancellor.

PLATE NO: 1A
DATE OF SURVEY : 08.10.2024

APPLICANT:
THIRU.S.VELLAPANDI,
S/o.SUBBAIYA,
No.64A, SOUTH STREET,
VADAKKU ILANDAICULAM,
THOOTHUKUDI DISTRICT

QUARRY LEASE APPLIED AREA:
S.F.NO : 575(PART)
EXTENT : 2.18.15Ha.
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.



INDEX

TOPO SHEET NO : 58 H/ 13

LATITUDE : 08°55'01.77"N to 08°55'08.19"N

LONGITUDE : 77°45'12.55"E to 77°45'16.91"E

Q.LEASE APPLIED AREA	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
CART TRACK	
BARREN LAND	
TREES	
SEASONAL AGRICULTURE	
QUARRY PIT	
TANK	
HABITATIONS	
ODAI	
WIND MILL	
SOLAR PLANT	

LAND USE PATTERN

DESCRIPTION	AREA IN (%)
ROAD	03
TREES	06
BARREN LAND	68
HABITATIONS	03
AGRICUTURE LAND	06
SOLAR PLANT	14

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

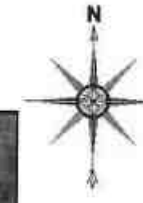


PLATE NO: 1B
DATE OF SURVEY : 08.10.2024

APPLICANT:
 THIRU S. VELLAPANDI,
 S/o SUBBAIYA,
 No.64A, SOUTH STREET,
 VADAKKU ILANDAICULAM,
 THOOTHUKUDI DISTRICT.

QUARRY LEASE APPLIED AREA:
 S.F.NO : 575(PART)
 EXTENT : 2.18.15Ha,
 VILLAGE : PIRANCHERI
 TALUK : MANUR,
 DISTRICT : TIRUNELVELI.

INDEX
 TOPO SHEET NO : 58 H/ 13
 LATITUDE : 08°55'01.77"N to 08°55'08.19"N
 LONGITUDE : 77°45'12.55"E to 77°45'16.91"E

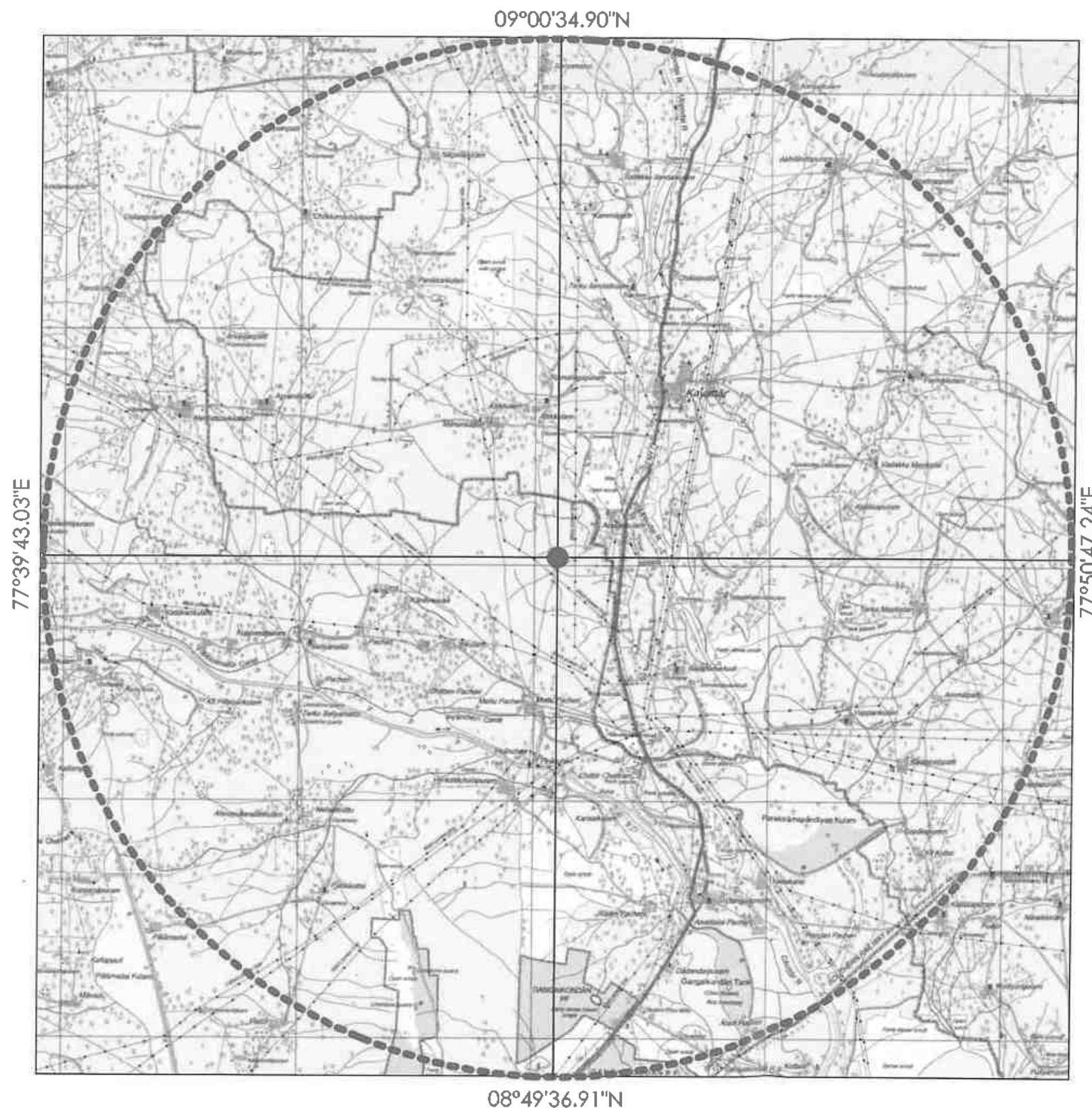
- Q.LEASE APPLIED AREA ☐
- 300M RADIUS ☐
- 500M RADIUS ☐
- 1KM RADIUS ☐
- APPROACH ROAD ☐
- CART TRACK ☐

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

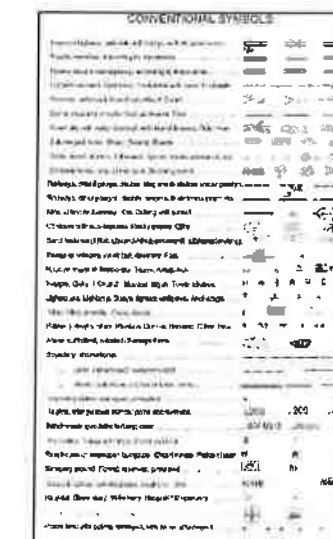


THIRU.S.VELLAPANDI ★
S/o.SUBBAIYA,
No.64A, SOUTH STREET,
VADAKKU ILANDAikulam,
THOOTHUKUDI DISTRICT.

S.F.NO : 575(PART)
EXTENT : 2.18.15Ha,
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.

LONGITUDE :77°45'12.55"E to 77°45'16.91"E

10KM RADIUS



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

● **Kayathar**

Athikulam

●Terku llandaikulam

**Towards
Ayyanaruthu**

Arasankulom

Towards
Tunnelville!



PLATE NO: 89

DATE ASSISTANT DIRECTOR 2024

of Geology & Mining
APPLICANT:

~~KURITS, VETAPANDI.~~

~~Subaru/veli Div~~

No. 64A, SOUTH STREET,

VADAKKULANDA KULAM,

QUARRY LEASE APPLIED AREA:

S.F.NO : 575(PART)

EXTENT : 2.18.15Ha,

VILLAGE : PIRANCHERI

TALUK : MANUR,

DISTRICT : TIRUNELVELI.

INDEX

Q. LEASE APPLIED AREA

APPROACH ROAD

CART TRACK

PANCHAYAT ROAD

NATIONAL HIGHWAY

HABITATIONS

KEY PLAN

Not To Scale

PREPARED BY:

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

GOVERNMENT

CNATARAJAN, M.Sc.M.Phil.

QUALIFIED PERSON

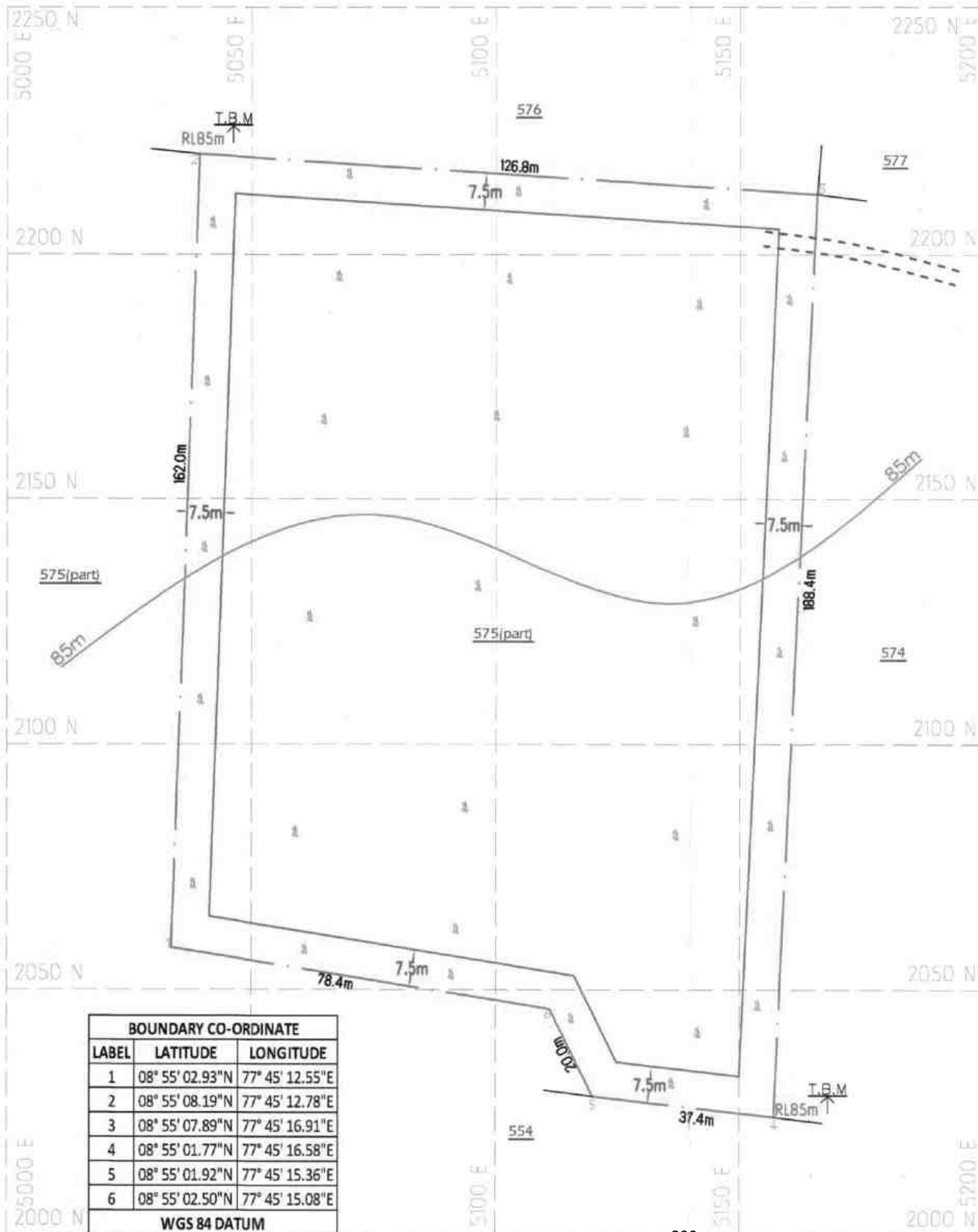


PLATE NO-II

DATE OF SURVEY : 08.10.2024

APPLICANT:

THIRU S. VELLAPANDI,
S/o SUBBAIYA,
No. 64A, SOUTH STREET,
VADAKKULANDA KULAM,
THOOTHUKUDI DISTRICT.

QUARRY LEASE APPLIED AREA:

S.F.NO : 575(PART)
EXTENT : 2.18.15Ha,
VILLAGE : PIRANCHERI
TALUK : MANUR.
DISTRICT : TIRUNELVELI.

INDEX

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

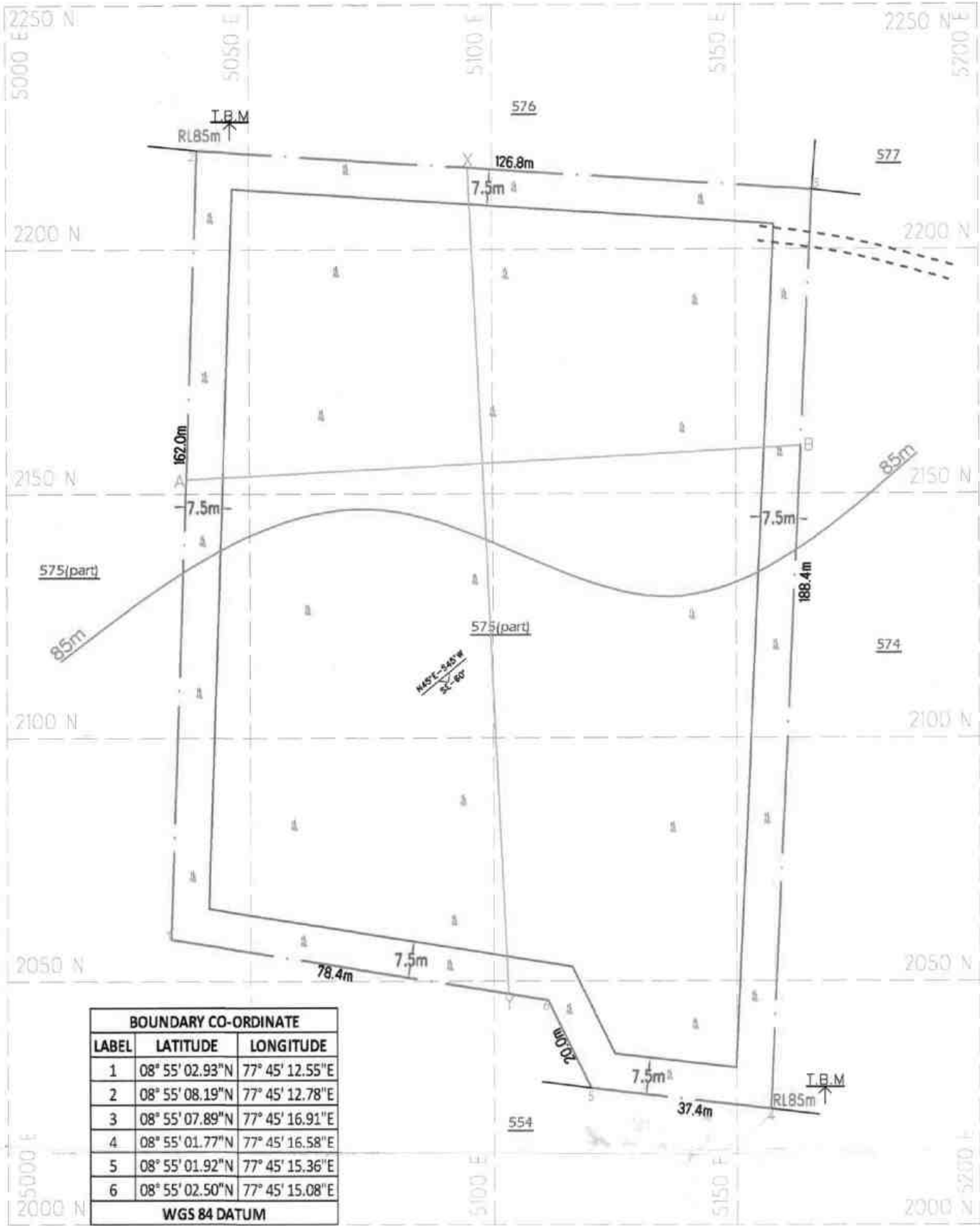
QUARRY LEASE & SURFACE PLAN

SCALE 1 : 1000

PREPARED BY:

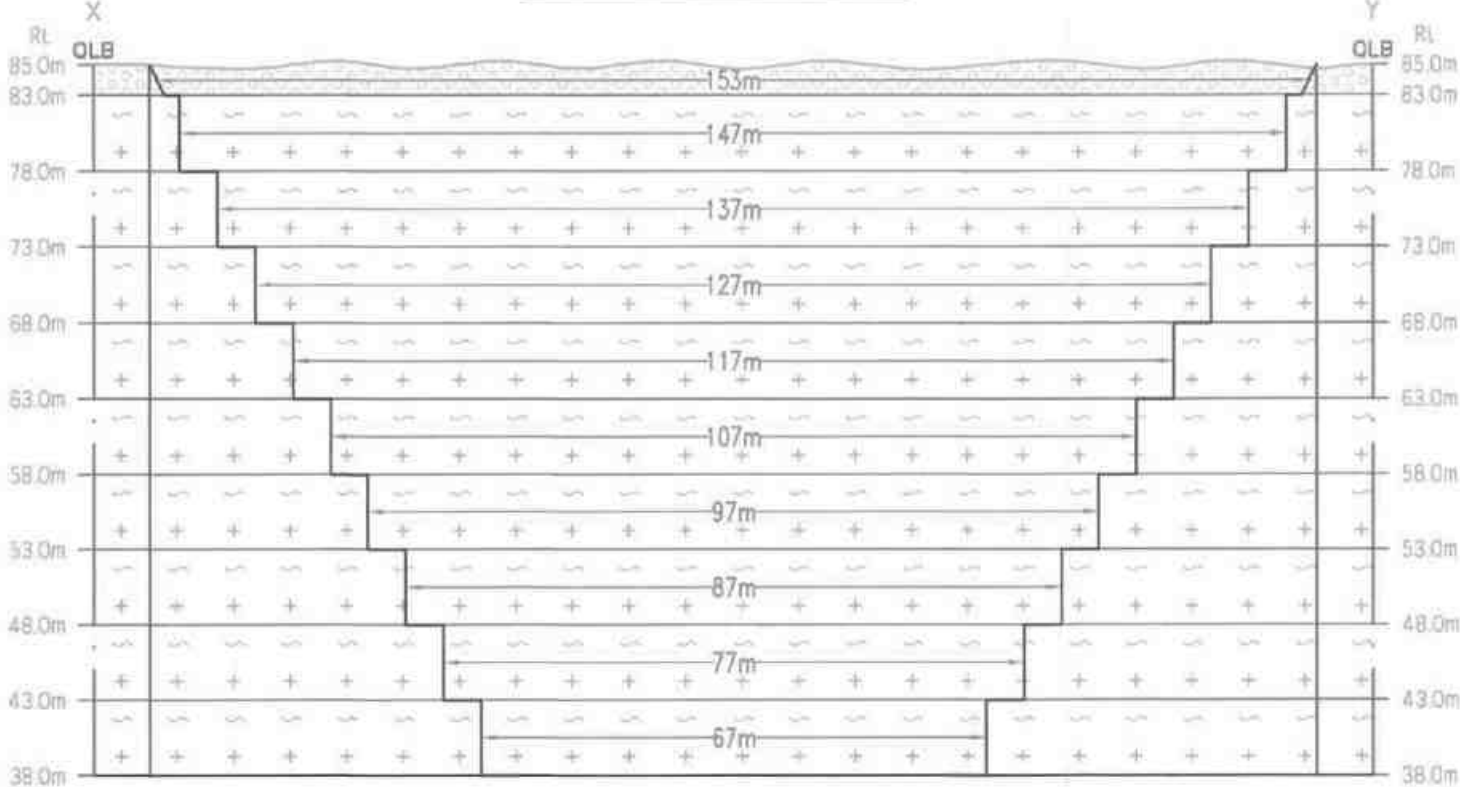
THIS IS TO CERTIFY THAT THE INFORMATION
IN THIS PLATE IS TRUE AND CORRECT TO
THE BEST OF MY KNOWLEDGE BASED UPON
THE LEASE MAP AUTHENTICATED BY STATE
GOVERNMENT


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



BOUNDARY CO-ORDINATE		
LABEL	LATITUDE	LONGITUDE
1	08° 55' 02.93"N	77° 45' 12.55"E
2	08° 55' 08.19"N	77° 45' 12.78"E
3	08° 55' 07.89"N	77° 45' 16.91"E
4	08° 55' 01.77"N	77° 45' 16.58"E
5	08° 55' 01.92"N	77° 45' 15.36"E
6	08° 55' 02.50"N	77° 45' 15.08"E
WGS 84 DATUM		

SECTION ALONG X-Y



SECTION ALONG A-B

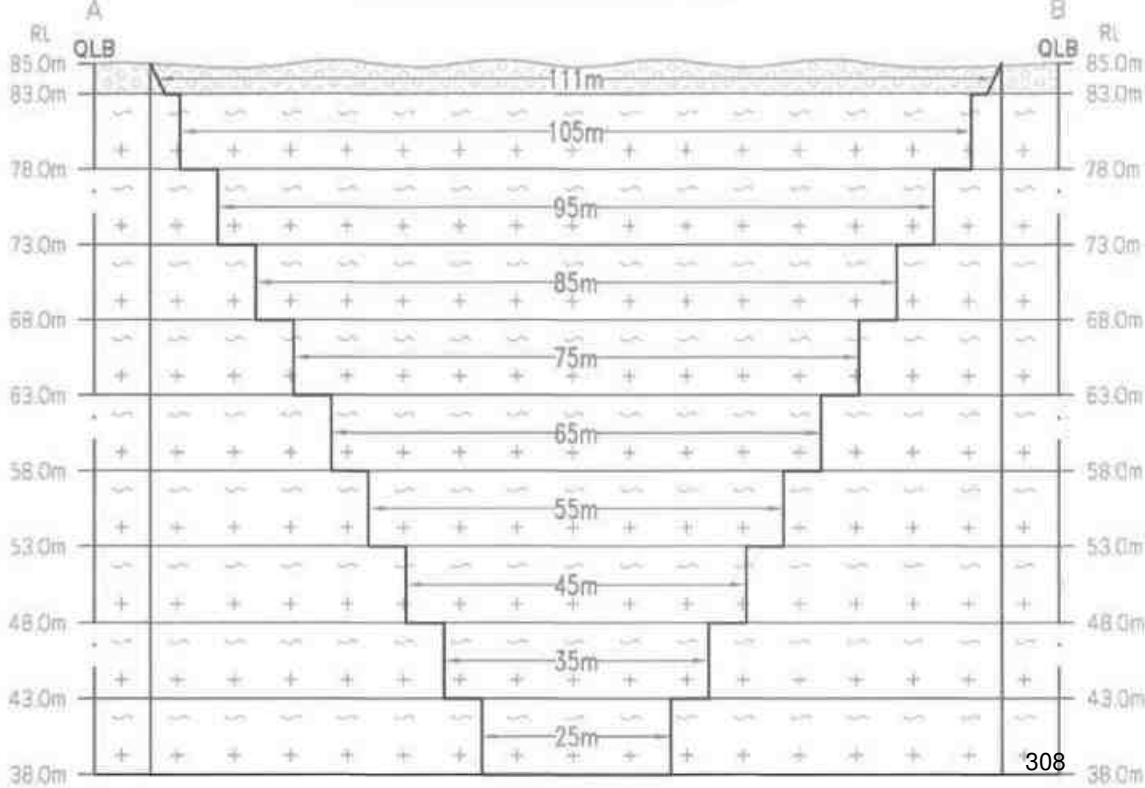
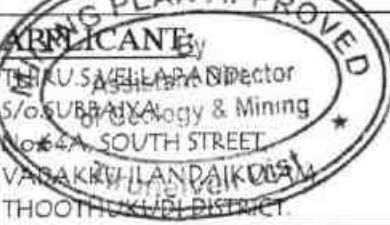


PLATE NO-IV
DATE OF SURVEY :08.10.2024



QUARRY LEASE APPLIED AREA:
S.F.NO : 575(PART)
EXTENT : 2.18.15Ha,
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.

INDEX

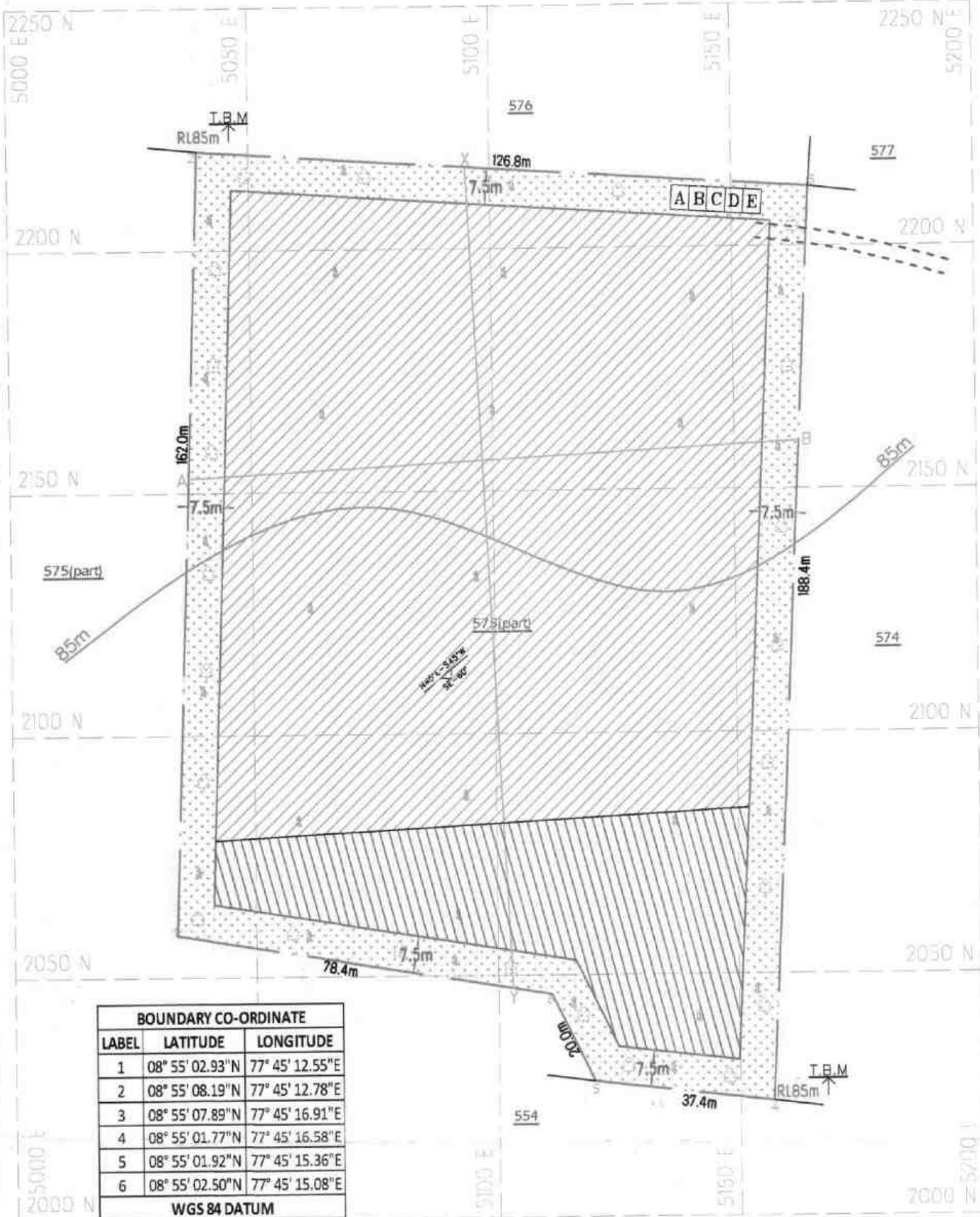
- Q.L.APPLIED BOUNDARY
- 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- CONTOUR
- SCRUB
- GRAVEL
- ROUGH STONE
- STRIKE & DIP

**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

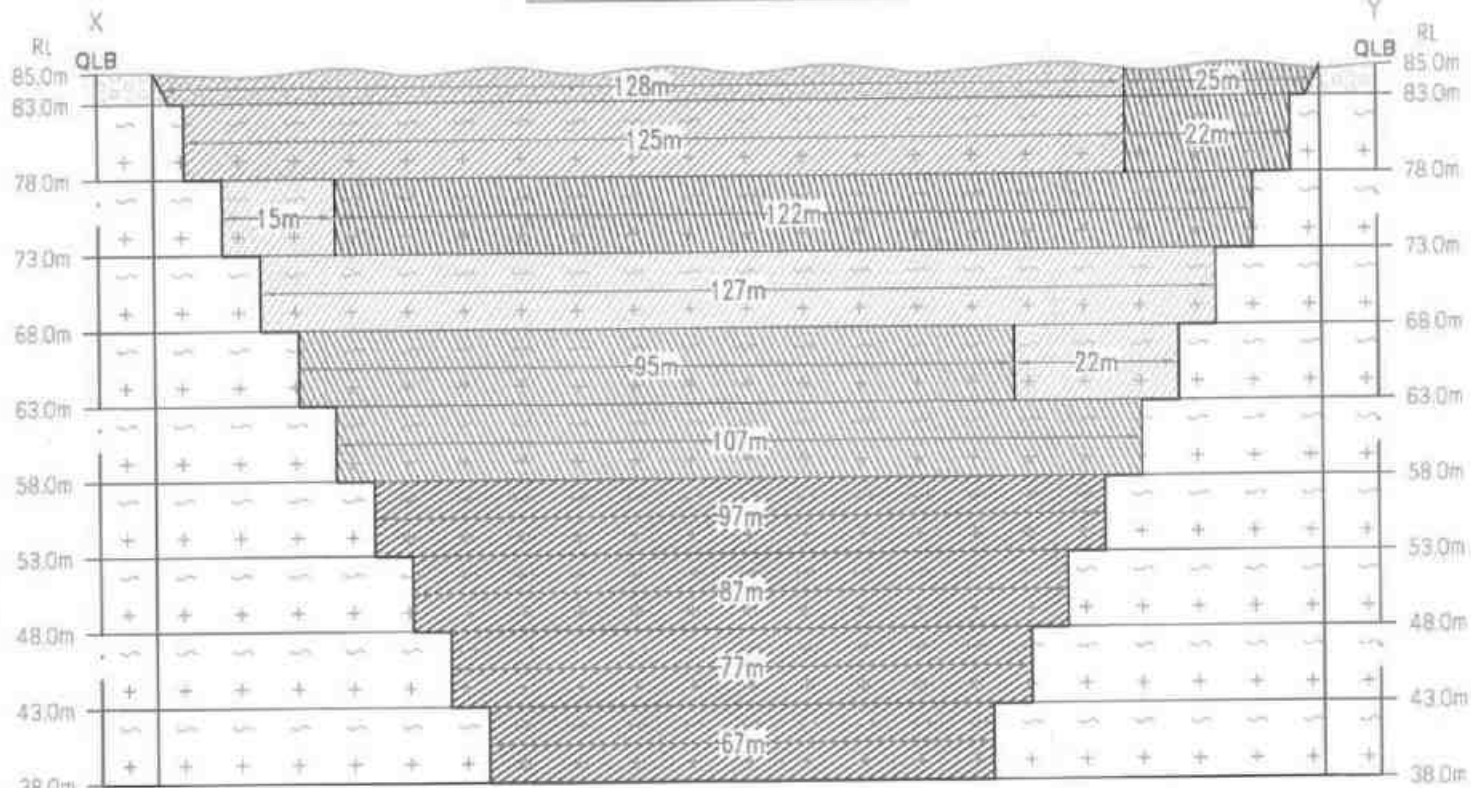


1st yr Proposed area to be Quarried	
2nd yr Proposed area to be Quarried	
3rd yr Proposed area to be Quarried	
4th yr Proposed area to be Quarried	
5th yr Proposed area to be Quarried	

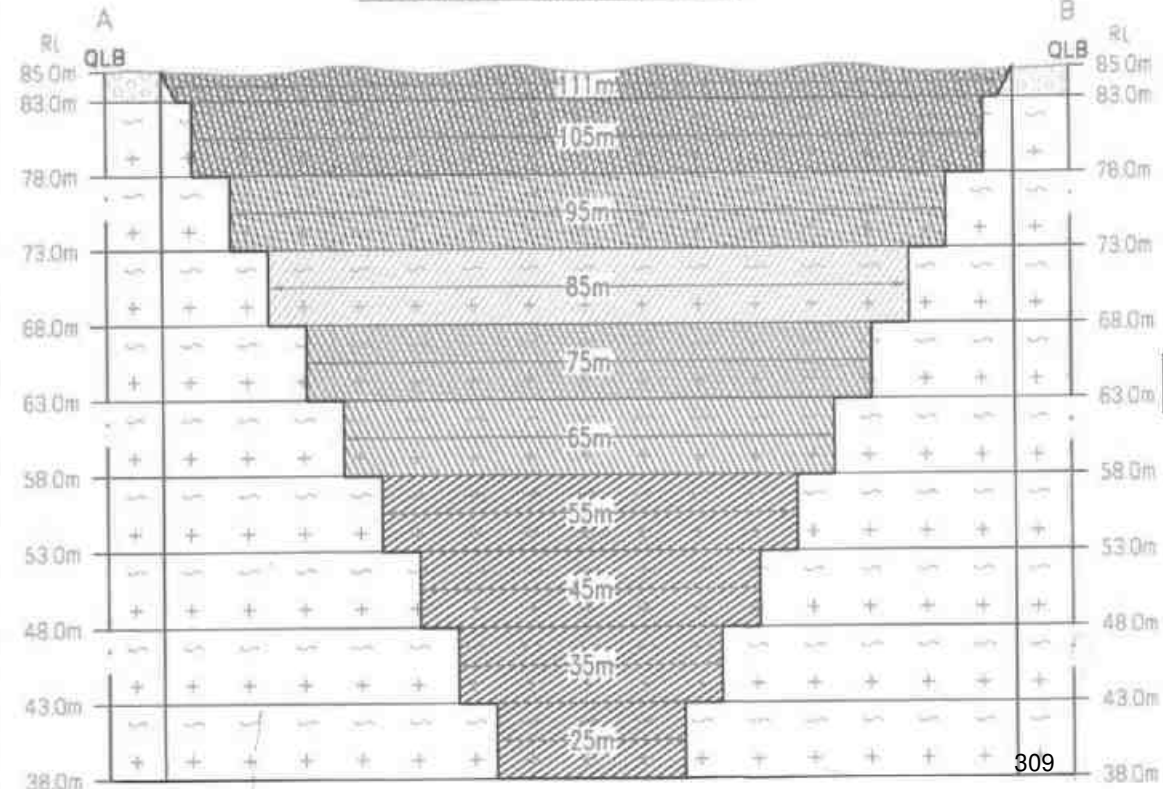
PRESENT & POST LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Ha)	AREA AT THE END OF THIS QUARRYING PERIOD (Ha)
AREA UNDER QUARRYING	NII	1.70.00
INFRASTRUCTURE	NII	0.01.00
ROADS	NII	0.01.00
GREEN BELT	NII	0.46.15
UN-UTILIZED AREA	2.18.15	NII
GRAND TOTAL	2.18.15	2.18.15

SECTION ALONG X-Y



SECTION ALONG A-B

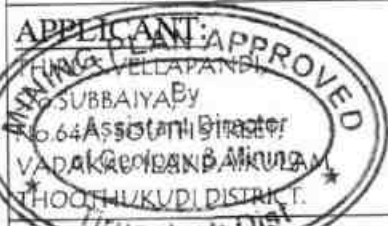


Proposed area to be Planted

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

PLATE NO-V

DATE OF SURVEY : 08.10.2024



QUARRY LEASE APPLIED AREA:

S.F.NO : 575(PART)
EXTENT : 2.18.15Ha,
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.

INDEX

Q.L.APPLIED BOUNDARY	
7.5m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
GRAVEL	
ROUGH STONE	
STRIKE & DIP	

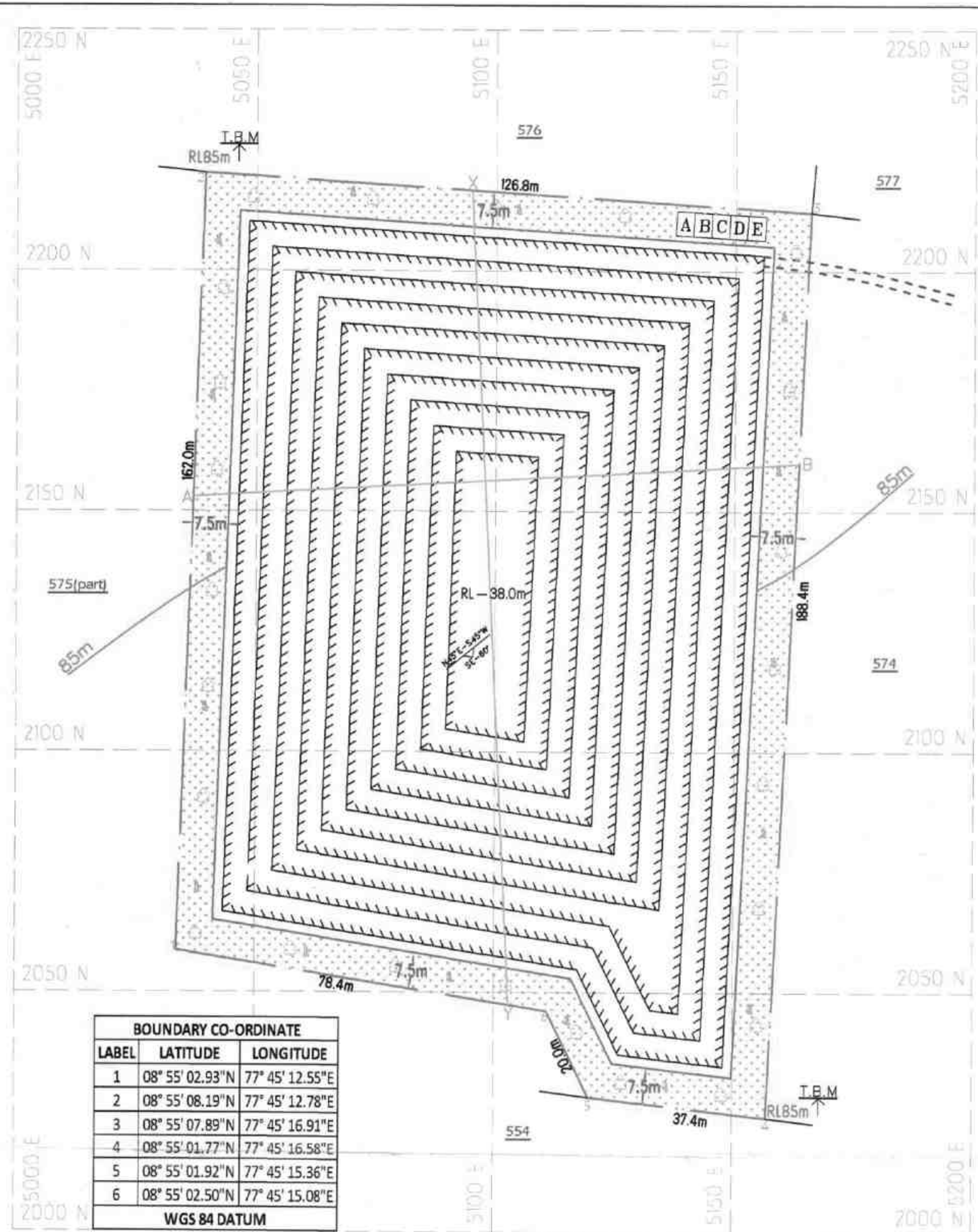
YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS

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

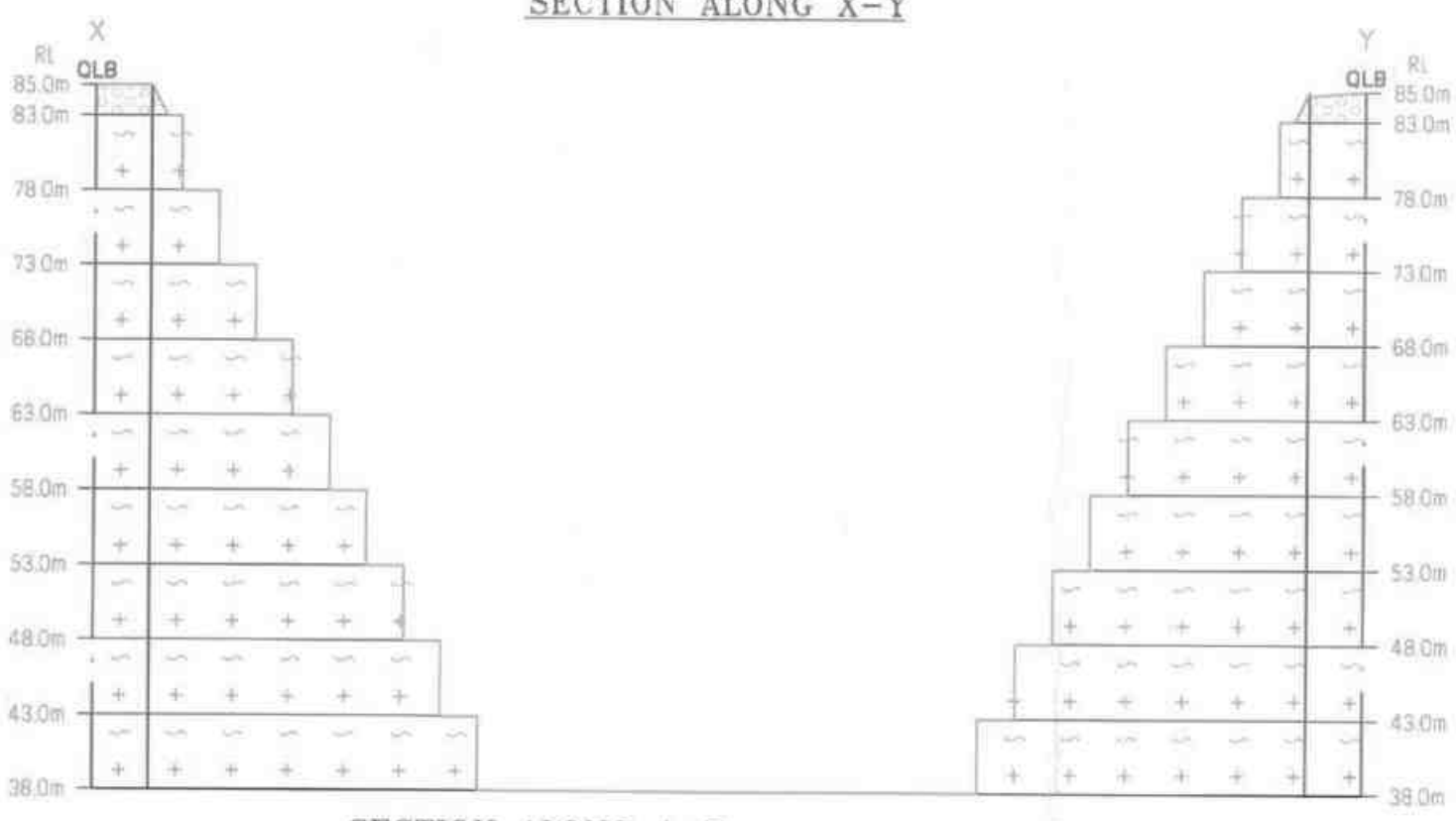
C. NATARAJAN, M.Sc., M.Phil.,
QUALIFIED PERSON



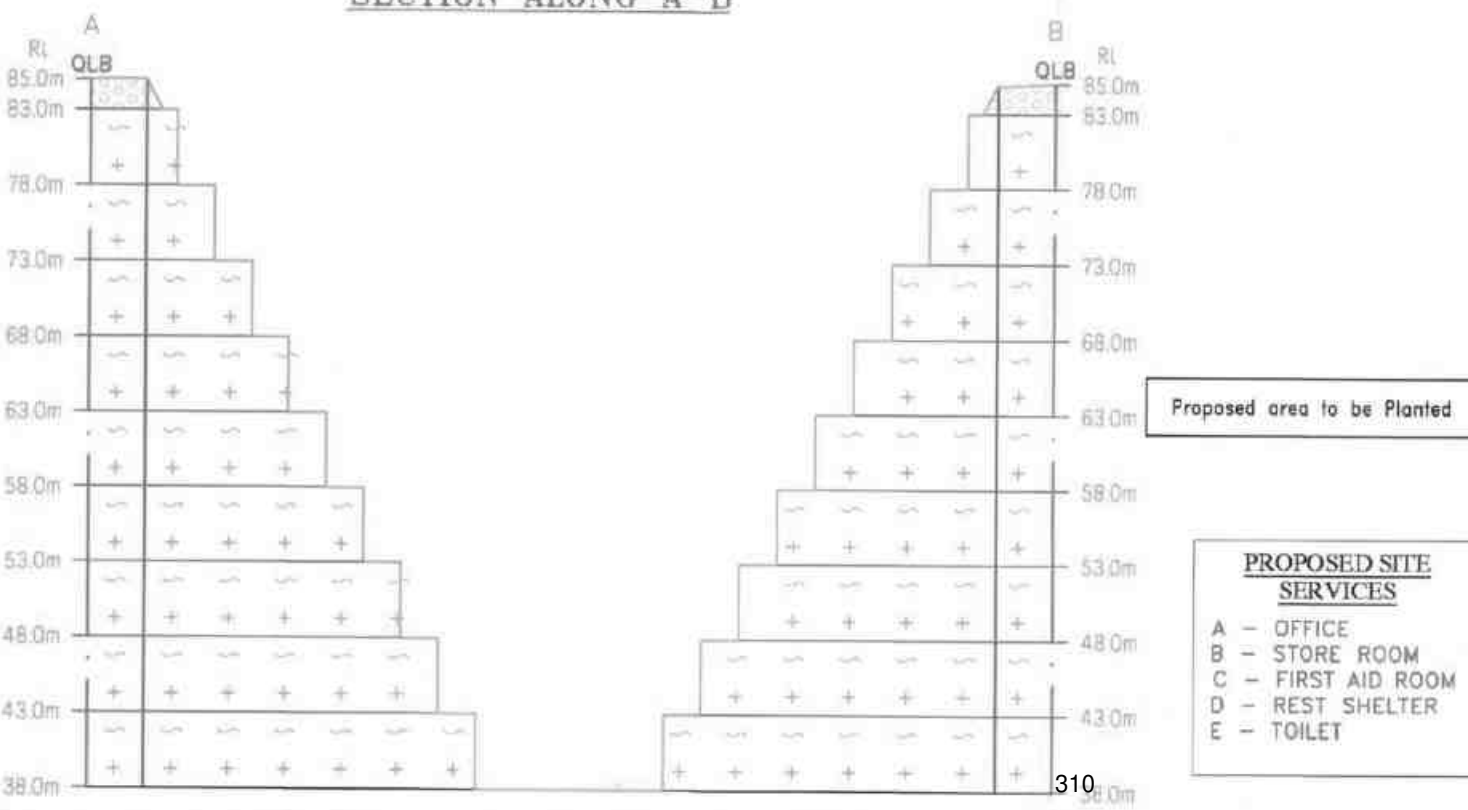
BOUNDARY CO-ORDINATE		
LABEL	LATITUDE	LONGITUDE
1	08° 55' 02.93"N	77° 45' 12.55"E
2	08° 55' 08.19"N	77° 45' 12.78"E
3	08° 55' 07.89"N	77° 45' 16.91"E
4	08° 55' 01.77"N	77° 45' 16.58"E
5	08° 55' 01.92"N	77° 45' 15.36"E
6	08° 55' 02.50"N	77° 45' 15.08"E
WGS 84 DATUM		

ULTIMATE PIT DIMENSION
L153m(Max)X111m(Avg)XD47m(Max)

SECTION ALONG X-Y



SECTION ALONG A-B



Proposed area to be Planted

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

PLATE NO-VI

DATE OF SURVEY : 08.10.2024

APPLICANT APPROVED

THIRU VELLAPANDI,
S/O. S. BABAYYA,
No. 64A, SOUTH STREET,
VADAKKULANDA KULAM,
THOOTHUKUDI DISTRICT,
TIRUNELVELI DIST.

QUARRY LEASE APPLIED AREA:

S.F.NO : 575(PART)
EXTENT : 2.18.15Ha.
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.

INDEX

Q.L.APPLIED BOUNDARY	---
7.5m SAFETY DISTANCE	---
TEMPORARY BENCH MARK	T.B.M
APPROACH ROAD	---
CONTOUR	---
SCRUB	---
GRAVEL	---
ROUGH STONE	---
STRIKE & DIP	---
PROPOSED QUARRY PIT	---

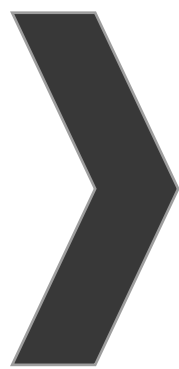
CONCEPTUAL PLAN & SECTIONS

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



ANNEXURE-4

From

Thiru.A.Balamurugan, M.Sc, MBA.,
Assistant Director,
Geology and Mining,
Tirunelveli.

To

Thiru.S.Vellapandi,
S/o.Subbaiya,
64A, South Street,
Vadaku Elanthaikulam,
Thoothukudi District.

Rc.No. 04/MIN-2/2023**dated.13.11.2024****Sir,**

Sub: Mines and Minerals - Roughstone and Gravel - Tirunelveli District - Manur Taluk - Prancheri Village - SF. No. 575(P) - 2.59.5 hectares - Quarry lease application preferred by Thiru.S.Vellapandi for the grant of lease to quarry roughstone and gravel - Precise Area communicated to over an extent of 2.18.15 hectares of patta lands in SF. No. 575(P) - mining plan approved - Certain Particulars requested - for obtaining Environmental Clearance - furnished - reg.

- Ref:**
1. Quarry lease application preferred by Thiru.S.Vellapandi, S/o.Subbaiya, 64A, South Street, Vadaku Elanthaikulam, Thoothukudi District, dated. 30.12.2022.
 2. Precise Area Communication letter in Rc. No.04/MIN-2/2023, dated.04.10.2024.
 3. Letter received from the applicant Thiru.S.Vellapandi, S/o.Subbaiya, dated. 30.10.2024.
 4. Mining Plan Approval letter No. 04/MIN-2/2023, dated.13.11.2024.

Thiru.S.Vellapandi, S/o.Subbaiya, 64A, South Street, Vadaku Elanthaikulam, Thoothukudi District has applied for the grant of lease to quarry Roughstone and Gravel over an extent of 2.59.5 hectares of patta land in SF. No. 575 of Prancheri Village, Manur Taluk, Tirunelveli District for a period of 5 years under Rule 19(1) & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2. Based on the recommendations of the Revenue Divisional Officer, Tirunelveli, the Joint Director/Assistant Director(i/c) of Geology and Mining, Tirunelveli and the Assistant Geologist of Geology and Mining, Tirunelveli, the application of Thiru.S.Vellapandi, S/o.Subbaiya for the grant of lease to quarry roughstone and gravel in the subject area was considered as the area available for the grant of lease for a period of 5 years. Accordingly precise area was communicated for an extent of 2.18.15 hectares of patta land in SF. No. 575(P) of Prancheri Village, Manur Taluk, Tirunelveli District vide reference 2nd cited.

3. The Mining Plan submitted by the lessee, Thiru.S.Vellapandi, S/o.Subbaiya for quarrying roughstone has been approved vide this office letter No. 04/MIN-2/2023, dated.13.11.2024 for obtaining Environmental Clearance as per the newly introduced Rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959.

4. In the reference 3rd cited, Thiru.S.Vellapandi, S/o.Subbaiya has requested to furnish certain particulars such as existing / proposed / abandoned mines within a radial distance of 500 meters from the periphery of the existing mining lease hold area for obtaining environmental clearance from the State Level Environment Impact Assessment Authority, Chennai.

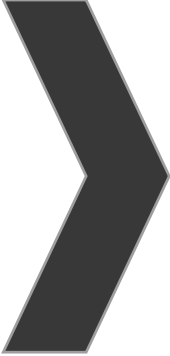
5. The details of quarry leases falling within a radial distance of 500 meters from the subject leasehold area are furnished below:-

Sl. No	Name of the Lessee	Village & SF. No.	Extent -hects	Lease status
1. Existing quarries				
1.	Thiru.V.Perumal Selvam, S/o.Vellapandi, 677, South Street, Vadaku Elanthaikulam, Kayathar Taluk, Tuticorin District.	Prancheri (V), SF. No. 784	1.83.5	Proceedings No. M3/20350/2020, dt.06.01.2022 for a period of 10 years from 12.01.2022 to 11.01.2032

2.	Thiru.P.Manokaran, S/o.Paul Thamos, 5/52, Kanavilai Street, Avaraikulam, Pazhavor, Radhapuram Taluk, Tirunelveli District.	Prancheri (V), SF. No.594	2.49.0	Proceedings No. M3/34899/2020, dt.21.09.2023 for a period of 5 years from 22.09.2023 to 21.09.2028
Total			4.32.5	
2. Abandoned quarries				
1.	Thiru.S.Vellapandi, Mainroad, Kayathar.	Prancheri (v) & SF. No. 781/1, 782/2 & 783	1.92.0	Proceeding No. M1/25662/2016, dt.05.03.2016 for a period 5 years from 14.06.2016 to 13.06.2021.
3. proposed quarries				
1.	Thiru.S.Vellapandi, S/o.Subbaiah, 64A, South Street, Vadaku Elanthaikulam, Thoothukudi District.	Prancheri (V), SF. No.575(P)	2.18.15	Proposed Quarry
Total extent of proposed quarries			2.18.15	

[Signature]
Assistant Director,
Geology and Mining,
Tirunelveli.

[Signature]
13/11/24



ANNEXURE-5

**TOPOGRAPHICAL VIEW OF PIRANCHERI ROUGH STONE & GRAVEL
QUARRY**



NAME OF THE APPLICANT : S.VELLAPANDI
DISTRICT : TIRUNELVELI
TALUK : MANUR
VILLAGE : PIRANCHERI
S.F.NO : 575(P)
EXTENT : 2.18.15Ha

VAO SIGN & SEAL 17024.
சிராம நிர்வாக அலுவலர்
21. பிராஞ்சேரி
மானூர் வட்டம்

Place: PIRANCHERI
Date: 03/12/2024.

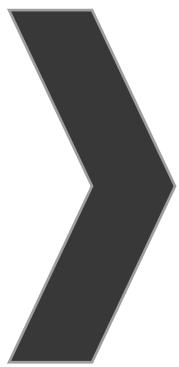
[Handwritten signature]

சான்ற

திருநெல்வேலி அலுவலகம், மானூர் வட்டம்.
புறநாடு காவல், முக்கியப் பண ரீதி 575-ன்
2. 59.5 ரூபாய் பண ரீதி 711 உட்க்கி அங்கத்தினர்
சமீபமாக அங்கு டாக்ஸ் மெக்ஸிமம்மன் ரீதியில் பணம்
உள்ளது. மேலும் பண ரீதி 575-ன் 2.59.5 ரெக்டரி
2.18.15 ரெக்டரி பரப்பில் இவ்விதம் உண்மை
உண்மையில் பிழைப்புகள். மேலும் இவ்விதம் உண்மை
உண்மையில் பிழைப்புகள் உட்க்கி கிடைக்கின்றன.
மேலும் கிடைக்கின்றன. மேலும் பண ரீதி 575-ன்
சமீபமாக பிழைப்புகள் கிடைக்கின்றன. உண்மையில்
மேலும் பிழைப்புகள் கிடைக்கின்றன. மேலும் பண ரீதி
கிடைக்கின்றன மேலும் கிடைக்கின்றன ரீதியில் உண்மையில்
உண்மையில் உண்மையில்.

மேலும்
21/12/2024
கிராம நிர்வாக அலுவலர்
21. பிராஞ்சேரி
மானூர் வட்டம்

— வெள்ளை —



ANNEXURE-6

வட்ட சார ஆய்வாளர்
மாணார்

ANNEXURE



583

684

594

593

592

591

585

586

587

584

690

685

583

582

581

580

686

687

689

688

576

577

578

579

783

575

300 M

779

782

574

573

572

571

781

784

554

555

556

780

785

553

552

551

550

5

788

787

786

516

51

LEASE APPLIED AREA

520

549

522

521

522

792

514

515

518

519

794

513

791

320

90

789



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : திருநெல்வேலி

வட்டம் : மானூர்

வருவாய் கிராமம் : பிராஞ்சேரி

பட்டா எண் : 711

உரிமையாளர்கள் பெயர்

1. வடக்கு இலந்தைகுளம் சுப்பையா தேவர்

மகன் வெள்ளப்பாண்டி

10/1

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
575 ✓	-	2 - 59.50	1.62	--	--	--	--	---- -- 28-03-2001
648	1A	0 - 16.50	0.15	--	--	--	--	---- -- 19-10-2001
648	1B	0 - 5.50	0.06	--	--	--	--	---- -- 19-10-2001
648	1C	0 - 15.50	0.13	--	--	--	--	---- -- 19-10-2001
662	3	0 - 62.00	0.57	--	--	--	--	---- -- 19-10-2001
669	-	3 - 13.00	2.88	--	--	--	--	---- -- 19-10-2001
687	1	0 - 35.00	0.32	--	--	--	--	---- -- 16-05-2003
687	3	0 - 76.00	0.70	--	--	--	--	---- -- 16-05-2003
		7 - 83.00	6.43					

குறிப்பு2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 29/14/010/00711/80059 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 28-12-2022 அன்று 12:50:04 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

ANNEXURE

By
கிராமத் துறைத்
வட்டம்
முதல் கோதம்

MINING PLAN APPROV
Assessing Dist
Tamil Nadu
Kanyakumari Dist

திருநாளை

மாதுள்

முதல் பாகம்

சாதுபடி
யாளரின்
பெயர்.

(1)	நில அளவை எண்.	
(2)	உட்பிரிவு எண்.	
(3)	பரப்பு.	
(4)	தீர்வை.	
(5)	ஒரு போகம் அல்லது இரு போகம்.	
(6)	கைப்பற்று தாரகூடைய பெயரும் எண்ணும் அல்லது அனுபோக தாரகூடைய பெயர்.	
(7)	நிலத்தின் எந்த பகுதி யாவது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதா.	
(8)	எந்த மசத்தத்தில் பயிர் செய்யப்பட்டது எந்த மசத்தில் அறுவடை செய்யப்பட்டது.	
(9)	பயிரின் பெயர்.	
(10)	பயிராளர் / அறுவடை யாளர் பரப்பு.	
(11)	உண்மையான பாய்ச்சல் ஆதாரம்.	
(12)	விளைச்சல் அளவு விழுக்காடு.	

380/27RF III A-10-20,00,000 Cps.-GBP.-MDU.-7-2021.

கி. எண். 10 பிராஞ்சேரி.



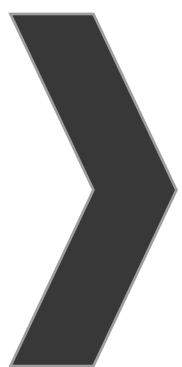
சு.பை.	தெ. ஏர்ஸ்	சு.பை.		
566	9	566-9	ர	பு
			...	...
			8-5	7
			0 62	0 14.0
			0 09	319 ச. குருசாமித் கோனார்.
			1 58.0	1 12
567	1	567-1	ர	பு
			...	...
			8-5	7
			0 62	1 32.5
			0 82	22 ஏ.ஜே. அப்பா சாமி.
	2	-2	அ	புற
			...	...
			...	...
			0 01.0	...
			...	...
	3	-3	ர	பு
			...	...
			8-5	7
			0 62	0 01.5
			0 06	22 ஏ.ஜே. அப்பா சாமி.
			1 35.0	0 88
568	1	568-1	ர	பு
			...	...
			8-5	7
			0 62	0 05.0
			0 06	22 ஏ.ஜே. அப்பா சாமி.
	2	-2	அ	புற
			...	...
			...	...
			0 04.5	...
			...	...
	3	-3	ர	பு
			...	...
			8-5	7
			0 62	0 82.5
			0 50	22 ஏ.ஜே. அப்பா சாமி.
			0 92.0	0 56
569	...	569	ர	பு
			...	...
			8-5	7
			0 62	1 33.0
			0 81	2275 ச. மலையாண்டி கோனார் மற்றும் ஐந்து பேர்களுக்கும்.
570	...	570	ர	பு
			...	...
			8-5	7
			0 62	3 82.0
			2 37	22 ஏ.ஜே. அப்பா சாமி.
571	...	571	ர	பு
			...	...
			8-5	7
			0 62	2 46.0
			1 50	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள்.
572	...	572	ர	பு
			...	...
			8-5	7
			0 62	3 05.0
			1 88	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள்.
573	...	573	ர	பு
			...	...
			8-5	7
			0 62	0 88.5
			0 56	1275 சீனிவெள்ளாள புரம் வெ. லட்சுமி யம்மாள்.
574	...	574	ர	பு
			...	...
			8-5	8
			62	1 98.5
			1 25	22 ஏ.ஜே. அப்பா சாமி.
575	...	575	ர	பு
			...	...
			8-5	7
			0 62	2 59.5
			1 62	711 செ. செயது ஸ்ரீபதி ராவுத்தர்.

*. விவரப்பட்டியலைப் பார்க்கவும்.

கிராம நிர்வாக அலுவலர்

10, பிராஞ்சேரி

மாணவர் வட்டம்



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/24/4822	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4822	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	62.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4823	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-4823	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	51.5	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	3.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4824	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4824	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	59.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4825	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-4825	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	49.2	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	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4826	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-4826	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	39.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.8	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4827	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4827	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	54.7	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	6.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4828	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

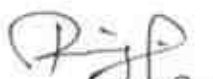
Sample Location	A3-ITHIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4828	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	35.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	16.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.1	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4829	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4829	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	57.6	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	7.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4830	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

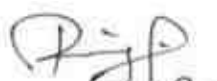
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4830	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	47.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4831	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

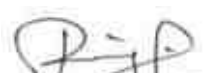
Sample Location	A6-ARSANKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4831	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	44.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.8	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4832	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-4832	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	52.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4833	Report Date.	16.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

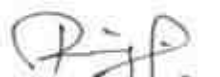
Sample Location	A6-ARSANKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4833	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	47.9	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	4.3	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4880	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

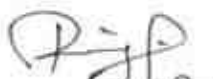
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4880	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	47.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.6	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4881	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-4881	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	54.5	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	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4882	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

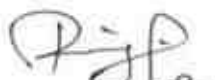
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4882	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	52.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	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

Verified 



END OF THE REPORT

Authorized Signatory

S. BALAMURUGAN
Asst. 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/24/4883	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-4883	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	58.2	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	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4884	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-4884	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	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	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4885	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4885	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	48.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4886	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-4886	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	42.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4887	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4887	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	52.4	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	6.6	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4888	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-NEAR 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-4888	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	57.8	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	4.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4889	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-METTUPATTI 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-4889	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	54.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4890	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-NEAR 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-4890	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	54.6	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	4.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4891	Report Date.	23.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-METTUPATTI 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-4891	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	58.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	26.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4938	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

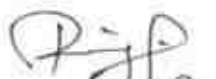
Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4938	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	56.5	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	3.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4939	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-4939	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	47.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4940	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4940	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	59.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4941	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-4941	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	49.6	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	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4942	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-4942	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	39.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	3.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4943	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4943	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	58.6	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	8.1	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4944	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-4944	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	44.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4945	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-4945	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	55.3	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	6.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4946	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-4946	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	56.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4947	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-4947	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	47.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4948	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-4948	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	52.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.7	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/24/4949	Report Date.	30.12.2024

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-4949	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	42.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	2.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.4	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



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0015	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0015	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	53.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.8	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0016	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0016	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	54.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	24.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0017	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0017	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	52.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0018	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0018	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	57.8	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	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0019	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0019	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	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	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0020	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0020	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	49.0	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	5.6	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0021	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0021	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	41.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.1	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



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0022	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0022	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	51.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0023	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0023	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	56.3	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	4.1	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0024	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0024	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	60.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.4	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	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

Verified

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0025	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0025	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	54.9	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	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.3	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0026	Report Date.	06.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0026	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	56.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.8	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0043	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

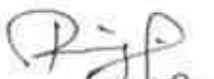
Sample Location	A1-PROPOSED MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0043	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	67.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.5	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	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0044	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0044	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	46.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	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



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0045	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0045	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	62.9	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	4.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0046	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0046	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	48.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.9	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0047	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0047	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	38.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0048	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0048	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	59.0	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	7.9	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0049	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

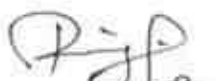
Sample Location	A3-Palamukkal Village
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0049	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	43.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.4	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	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0050	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0050	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	54.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0051	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0051	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	44.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.1	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0052	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0052	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	51.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.8	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0053	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0053	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	49.3	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	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0054	Report Date.	13.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
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-0054	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	46.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0071	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0071	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	47.8	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	3.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0072	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0072	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	56.2	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	5.1	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0073	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0073	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	51.5	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	5.8	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0074	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0074	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	51.3	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	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0075	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0075	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	41.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0076	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0076	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	59.0	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	9.0	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0077	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0077	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	50.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	6.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0078	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0078	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	55.1	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	7.4	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0079

Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0079	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	59.7	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	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0080	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0080	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	58.8	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	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0081	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0081	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	57.6	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	3.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0082	Report Date.	20.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0082	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	54.2	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	4.5	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0099	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

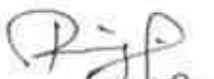
Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0099	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	69.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.9	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0100	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0100	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	45.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.7	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0101	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0101	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	65.5	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	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0102	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0102	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	48.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0103	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0103	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	42.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0104	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

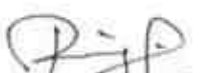
Sample Location	A4-KAYATHUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0104	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	62.6	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	28.8	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	11.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0105	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0105	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	37.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	17.0	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.4	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0106	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

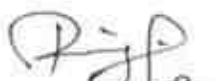
Sample Location	A4-KAYATHUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0106	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	68.4	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	11.3	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0107	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

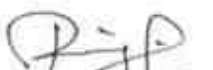
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0107	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	53.6	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	5.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0108	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0108	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	42.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	19.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.4	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



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0109	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0109	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	48.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.3	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.7	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0110	Report Date.	27.01.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0110	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	44.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0127	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0127	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	53.3	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	5.6	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0128	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0128	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	55.1	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	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0129	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0129	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	46.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0130	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0130	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	58.8	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	5.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0131	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0131	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	53.6	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	6.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0132	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0132	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	59.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.9	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0133	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0133	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	48.9	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	4.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0134	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0134	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	57.0	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	7.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0135	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0135	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	62.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0136	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0136	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	59.5	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	5.3	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0137	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

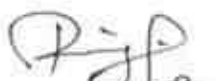
Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0137	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	65.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0138	Report Date.	06.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0138	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	56.0	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	4.7	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0155	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

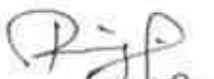
Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0155	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	68.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	32.1	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	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0156	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0156	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	47.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.2	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0157	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0157	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	64.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.4	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0158	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0158	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	50.0	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	4.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0159	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0159	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	48.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0160	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0160	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	59.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	8.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0161	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

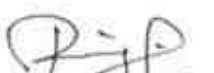
Sample Location	A3-ITHIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0161	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	45.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.9	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0162	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0162	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	66.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	10.4	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0163	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

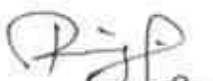
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0163	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	50.0	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	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0164	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0164	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	46.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	21.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.3	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0165	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0165	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	45.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.7	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0166	Report Date.	10.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0166	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	43.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0183	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0183	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	50.8	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	5.7	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0184	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0184	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	54.9	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	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0185	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0185	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	46.8	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	4.3	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0186	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0186	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	49.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.3	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0187	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0187	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	50.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0188	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0188	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	66.9	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	9.1	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0189	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0189	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	46.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.7	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.8	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0190	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0190	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	68.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.4	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	13.5	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0191	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0191	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	56.5	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	5.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0192	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0192	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	59.5	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	4.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0193	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0193	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	62.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	29.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0194	Report Date.	17.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0194	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	55.7	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	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0211	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0211	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	59.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	27.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0212	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0212	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	51.8	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0213	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0213	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	57.3	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	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0214	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

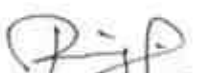
Sample Location	A2-PIRANCHERI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0214	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	55.2	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	5.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0215	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0215	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	52.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0216	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

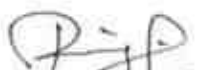
Sample Location	A4-KAYATHUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0216	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	57.6	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	8.0	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0217	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0217	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	49.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.8	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0218	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0218	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	56.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	7.5	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0219	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0219	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	45.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	20.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0220	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0220	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	49.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.5	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0221	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0221	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	50.0	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	4.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL – Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0222	Report Date.	24.02.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0222	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	51.5	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.6	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.6	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0254	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

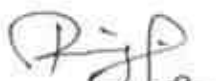
Sample Location	A5- TERKU ILANDAIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0254	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	55.0	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	5.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0255	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-ARSANKULAM 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-0255	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	58.2	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	4.9	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0256	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A5- TERKU ILANDAIKULAM 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-0256	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	50.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	22.9	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.1	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.6	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0257	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

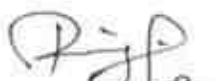
Sample Location	A6-ARSANKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0257	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	54.7	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	25.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	3.7	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0258	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A3-ITHIKULAM 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-0258	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	40.2	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	18.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	7.1	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



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0259	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0259	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	70.0	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	10.8	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0260	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

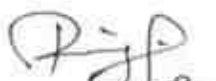
Sample Location	A3-ITHIKULAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0260	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	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	6.0	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m ³	BDL (D.L – 1.1)	-

Remarks: Limits: *National Ambient air quality standards from CPCB. BDL- Below detectable limit. DL –Detectable limit

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0261	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-KAYATHUR 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-0261	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	66.3	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	30.5	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	13.0	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0262	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0262	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	63.7	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	5.0	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0263	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0263	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	50.9	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	23.2	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.2	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	8.3	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0264	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-PROJECT SITE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-0264	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	66.1	100
2	Particulate Matter less than 2.5micron size (PM _{2.5})	IS 5182 (Part 24):2019	µg/m ³	31.1	60
3	Sulphur dioxide (SO ₂)	IS:5182: Part 02:2001	µg/m ³	4.5	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	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


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0265	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-PIRANCHERI 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-0265	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	53.2	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	3.4	80
4	Nitrogen Dioxide (NO ₂)	IS:5182: Part 06:2006	µg/m ³	6.9	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

Verified



END OF THE REPORT

Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0266

Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W1-PROJECT SITE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0266	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	-	7.49	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1605	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	963	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	331	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	58.2	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	37.9	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	143	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	170	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	308	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	307	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

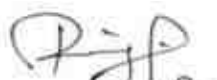
Report No.	SARL/25/0266

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	251	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.08	0.3
16	Nitrate (as NO ₃)	IS 3025 (Part 34): 1988	mg/L	3.52	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
S. BALAMURUGAN
Asst. 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/25/0267

Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W2-PIRANCHERI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0267	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	-	7.53	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	507.3	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	304	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	192	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	50.4	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	10.05	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	102	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	85.6	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	186	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	43.2	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/25/0267

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	43.1	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	3.18	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.28	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
S. BALAMURUGAN
Asst. 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/25/0268	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W3-ITHIKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0268	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	-	7.79	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	961.7	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	577	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	398	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	66.9	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	44.92	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	127	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	257	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	231	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	108	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

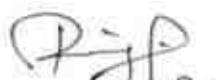
Report No.	SARL/25/0268

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	137	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.07	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.81	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.19	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
S. BALAMURUGAN
Asst. 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/25/0269

Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W4-KAYATHUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0269	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	-	8.06	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1099	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	659	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	407	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	81.7	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	46.1	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	153	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	236	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	307	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	82.1	1000

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/25/0269

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	150	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.03	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.08	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.35	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
S. BALAMURUGAN
Asst. 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/25/0270

Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W5- TERKU ILANDAIKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0270	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	-	7.38	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	634.5	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	380	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	314	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	66.5	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	30.4	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	134	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	165	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	207	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	45.8	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

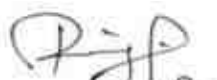
Report No.	SARL/25/0270

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	65.1	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.02	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	6.04	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.41	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
S. BALAMURUGAN
Asst. 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/25/0271

Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	W6-ARSANKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0271	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	-	7.05	6.50-8.50
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	1126	-
B.	Chemical parameters				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	675	2000
6	Total hardness (as CaCO3)	APHA 24th Edition 2340 C: 2023	mg/L	422	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	91.7	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	39.3	100
9	Calcium Hardness (as CaCO3)	APHA 24th Edition 3500 Ca B: 2023	mg/L	209	-
10	Magnesium Hardness (as CaCO3)	APHA 24th Edition 3500 Mg B: 2023	mg/L	202	-
11	Total alkalinity (as CaCO3)	APHA 24th Edition 2320 B: 2023	mg/L	308	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	143	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/25/0271

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	84.7	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.05	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	4.13	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.84	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
S. BALAMURUGAN
Asst. 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/25/0272	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	SW1-Ilanthaikulam pond water

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0272	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
A.				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	7.58
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	154.7
B.	Chemical parameters			
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	92
6	Total hardness (as CaCO ₃)	APHA 24th Edition 2340 C: 2023	mg/L	76.3
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	11.8
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	1.32
9	Calcium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Ca B: 2023	mg/L	64.1
10	Magnesium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Mg B: 2023	mg/L	5.07
11	Total alkalinity (as CaCO ₃)	APHA 24th Edition 2320 B: 2023	mg/L	46.5
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	35.8



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/25/0272

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL (D.L - 0.2)
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	5.82
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.11
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	BDL(D.L-1.0)
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.13
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL(D.L-0.05)
19	Chemical Oxygen Demand	APHA 24th Edition 5220 B: 2023	mg/L	BDL (D.L - 4.0)
20	Bio Chemical Oxygen Demand 3 Days at 27°C	IS 3025 (Part 44): 1993	mg/L	BDL (D.L - 2.0)
21	Total Suspended Solids	APHA 24th Edition 2540 D: 2023	mg/L	BDL (D.L - 5.0)
22	Dissolved Oxygen	IS 3025 (Part 38): 1989	mg/L	5.82

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
S. BALAMURUGAN
Asst. 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/25/0273	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	WATER
Sample Mark	SW2-RIVER WATER (NEAR BY KAYATHAR)

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-0273	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
A.				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable
2	Turbidity	APHA 24 th Edition 2130 B: 2023	NTU	<1.0
3	pH at 25 °C	APHA 24 th Edition 4500 – H+ B: 2023	-	8.31
4	Electrical Conductivity	APHA 24 th Edition 2510 B: 2023	(µS/cm)	456.3
B.	Chemical parameters			
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	273
6	Total hardness (as CaCO ₃)	APHA 24th Edition 2340 C: 2023	mg/L	99.8
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	28.1
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	6.99
9	Calcium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Ca B: 2023	mg/L	70.2
10	Magnesium Hardness (as CaCO ₃)	APHA 24th Edition 3500 Mg B: 2023	mg/L	28.8
11	Total alkalinity (as CaCO ₃)	APHA 24th Edition 2320 B: 2023	mg/L	68.9
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	137



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/25/0273

Report Date.	10.03.2025

Sl. No	Parameters	Protocol	Unit	Result
13	Free Residual chlorine	APHA 24th Edition 4500 Cl- B: 2023	mg/L	BDL(D.L-0.2)
14	Sulphate as (SO42-)	APHA 24th Edition 4500 SO42- E: 2023	mg/L	31.6
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.13
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	BDL(D.L-1.0)
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.22
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL(D.L-0.05)
19	Chemical Oxygen Demand	APHA 24th Edition 5220 B: 2023	mg/L	BDL (D.L - 4.0)
20	Bio Chemical Oxygen Demand 3 Days at 27°C	IS 3025 (Part 44): 1993	mg/L	BDL (D.L - 2.0)
21	Total Suspended Solids	APHA 24th Edition 2540 D: 2023	mg/L	BDL (D.L - 5.0)
22	Dissolved Oxygen	IS 3025 (Part 38): 1989	mg/L	BDL(D.L-0.2)

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
S. BALAMURUGAN
Asst. 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/25/0274	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State		
Sample Description	SOIL		
Sample Mark	S1-PROJECT SITE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0274	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	-	7.29
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	108.6
3	Dry matter content	IS 15106: 2002	%	93.97
4	Water Content	IS 15106: 2002	%	6.03
5	Organic Matter	IS 2720: Part 22: 1972	%	1.98
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	699
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	38.54
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	55.29
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	6.17
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.08
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	198
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	703
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	%	17.9
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	36

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0275	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	SOIL
Sample Mark	S2-PIRANCHERI VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0275	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	98.05
3	Dry matter content	IS 15106: 2002	%	95.54
4	Water Content	IS 15106: 2002	%	4.46
5	Organic Matter	IS 2720: Part 22: 1972	%	1.35
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	553
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	35.25
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	56.12
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	8.63
	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	0.98
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	201
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	597
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	%	17.4
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	33

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0276	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	SOIL
Sample Mark	S3-ITHIKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0276	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	-	6.82
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	110.8
3	Dry matter content	IS 15106: 2002	%	94.08
4	Water Content	IS 15106: 2002	%	5.92
5	Organic Matter	IS 2720: Part 22: 1972	%	1.66
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	636
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	40.97
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	50.02
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	9.01
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.41
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	237
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	519
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	%	20.1
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	35

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0277	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	SOIL
Sample Mark	S4-KAYATHUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0277	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	-	7.75
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	95.86
3	Dry matter content	IS 15106: 2002	%	95.99
4	Water Content	IS 15106: 2002	%	4.01
5	Organic Matter	IS 2720: Part 22: 1972	%	1.24
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	421
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	Sandy Clay loam
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	46.12
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	25.44
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	28.44
	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	0.98
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	381
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	607
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	%	18.9
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	34

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0278

Report Date.	10.03.2025

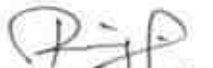
Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	SOIL
Sample Mark	S5- TERKU ILANDAIAKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0278	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	-	6.71
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	102.7
3	Dry matter content	IS 15106: 2002	%	94.86
4	Water Content	IS 15106: 2002	%	5.14
5	Organic Matter	IS 2720: Part 22: 1972	%	1.53
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	591
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	36.34
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	52.36
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	11.3
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.16
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	247
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	549
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	%	18.3
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	36

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0279	Report Date.	10.03.2025

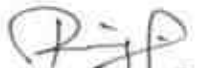
Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	SOIL
Sample Mark	S6-ARSANKULAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-0279	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	-	7.66
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	123.6
3	Dry matter content	IS 15106: 2002	%	96.91
4	Water Content	IS 15106: 2002	%	3.09
5	Organic Matter	IS 2720: Part 22: 1972	%	1.94
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	511
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	Sandy Clay loam
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	45.76
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	26.68
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	27.56
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.54
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	409
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	618
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	%	20.3
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	30

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd


Verified




Authorized Signatory
S. BALAMURUGAN
Asst. 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/25/0280	Report Date.	10.03.2025

Customer Name & Address	Rough Stone And Gravel Quarry Of Thiru.S.Vellapandi, Extent Of 2.18.15hectares, Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State
Sample Description	NOISE LEVEL DATA

Customer Reference	As per work order	Sampling Method	SARL/IOP/023
Sample Reference No	SARL/NO/CHE-0280	Date of Monitoring	22.02.2025/ 23.02.2025
Sample Collected by	LABORATORY		

Time in hrs	N1	N2	N3	N4	N5	N6
06.00	39.9	36.5	38.2	40.3	36.2	37.0
07.00	43.2	43.6	41.9	47.9	40.1	45.6
08.00	45.5	49.5	43.6	45.6	44.8	47.8
09.00	47.0	51.0	47.0	48.6	48.7	51.3
10.00	48.4	46.8	48.5	39.3	51.9	47.6
11.00	43.4	51.3	45.8	42.9	48.0	52.0
12.00	45.5	44.0	47.2	45.5	46.8	44.8
13.00	44.0	46.4	48.9	43.7	48.1	45.7
14.00	45.7	49.5	46.1	46.8	51.3	50.1
15.00	43.2	47.2	43.1	41.8	52.0	47.6
16.00	45.7	48.6	48.0	44.1	50.1	49.1
17.00	42.0	43.7	42.8	46.8	48.7	43.2
18.00	41.2	40.3	46.5	45.9	46.4	42.0
19.00	43.1	41.1	44.4	42.0	45.3	40.2
20.00	46.3	38.7	40.9	40.2	44.2	39.8
21.00	44.5	41.0	43.7	39.8	42.4	43.7
22.00	38.9	37.5	40.4	31.9	39.0	37.9
23.00	40.7	35.6	40.8	38.0	37.3	36.2
24.00	36.1	38.0	37.6	37.2	38.7	40.1
01.00	37.9	36.4	39.2	36.4	36.1	38.3
02.00	34.9	38.2	37.0	40.1	39.4	37.4
03.00	37.0	39.7	39.2	36.4	38.3	40.7
04.00	35.9	36.1	38.3	38.0	40.0	36.4
05.00	39.3	40.9	37.2	38.9	39.5	41.5



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/25/0280

Report Date.	10.03.2025

	N1	N2	N3	N4	N5	N6
DAY EQUIVALENT	44.8	46.9	45.6	44.8	48.1	47.2
NIGHT EQUIVALENT	38.0	38.1	38.9	37.6	38.7	39.0
DAY & NIGHT EQUIVALENT	43.5	45.4	44.3	43.4	46.6	45.8

Remarks:

LOCATIONS:

N1-PROJECT SITE

N2-PIRANCHERI VILLAGE

N3-ITHIKULAM VILLAGE

N4-KAYATHUR VILLAGE

N5- TERKU ILANDAIKULAM VILLAGE

N6-ARSANKULAM VILLAGE

For Shrient Analytical and Research Labs Pvt. Ltd


Verified



END OF THE REPORT


Authorized Signatory
S. BALAMURUGAN
Asst. Technical Manager

Please Contact:

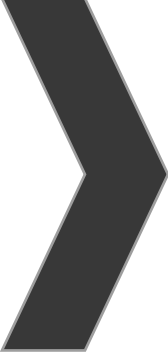
For any Technical Issues & Complaints: vimalnath@shrientanalytical.com

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



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.

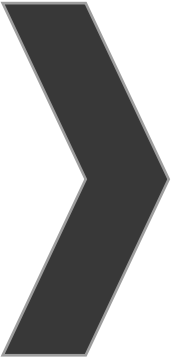
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: SHRIENT ANALYTICAL AND RESEARCH LABS PRIVATE LIMITED

Signed for and on behalf of NABL

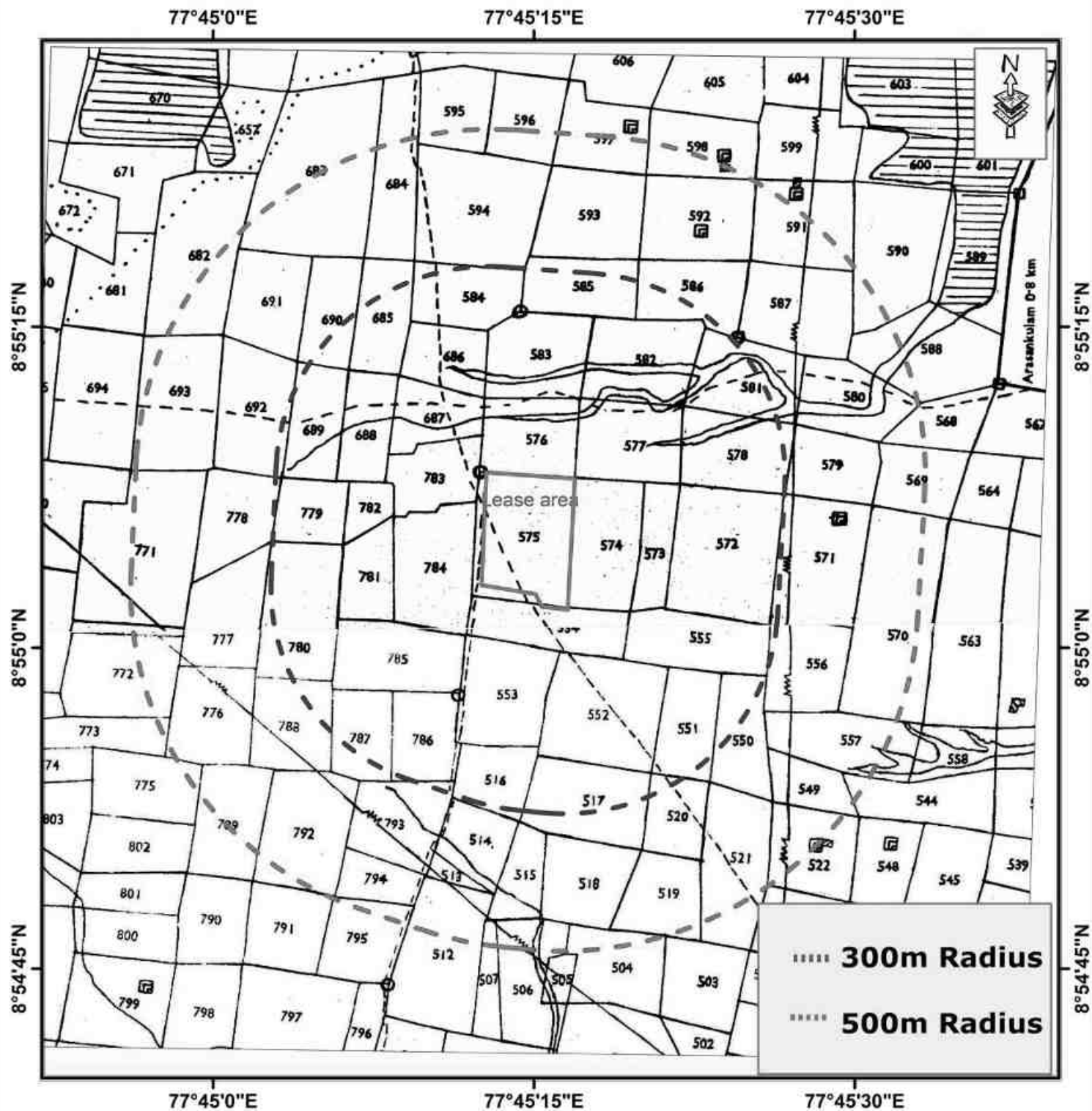


N. Venkateswaran
Chief Executive Officer



ANNEXURE-9

ROUGH STONE AND GRAVEL QUARRY PROJECT OF THIRU.S.VELLAPANDI



EIA CONSULTANT



QUARRY LEASE APPLIED AREA:

S.F.NO : 575(PART)

EXTENT : 2.18.15Ha,

VILLAGE : PIRANCHERI

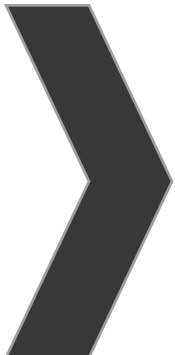
TALUK : MANUR,

DISTRICT : TIRUNELVELI

GRAPHICAL SCALE

0 50 100 200 300 400 Meters

SOFTWARE: ARCINFO, ARCGIS



ANNEXURE-10

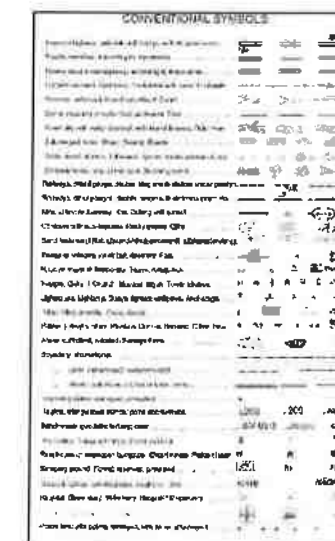


THIRU.S.VELLAPANDI ★
S/o.SUBBAIYA,
No.64A, SOUTH STREET,
VADAKKU ILANDA IKULAM,
THOOTHUKUDI DISTRICT.

S.F.NO : 575(PART)
EXTENT : 2.18.15Ha,
VILLAGE : PIRANCHERI
TALUK : MANUR,
DISTRICT : TIRUNELVELI.

LONGITUDE :77°45'12.55"E to 77°45'16.91"E

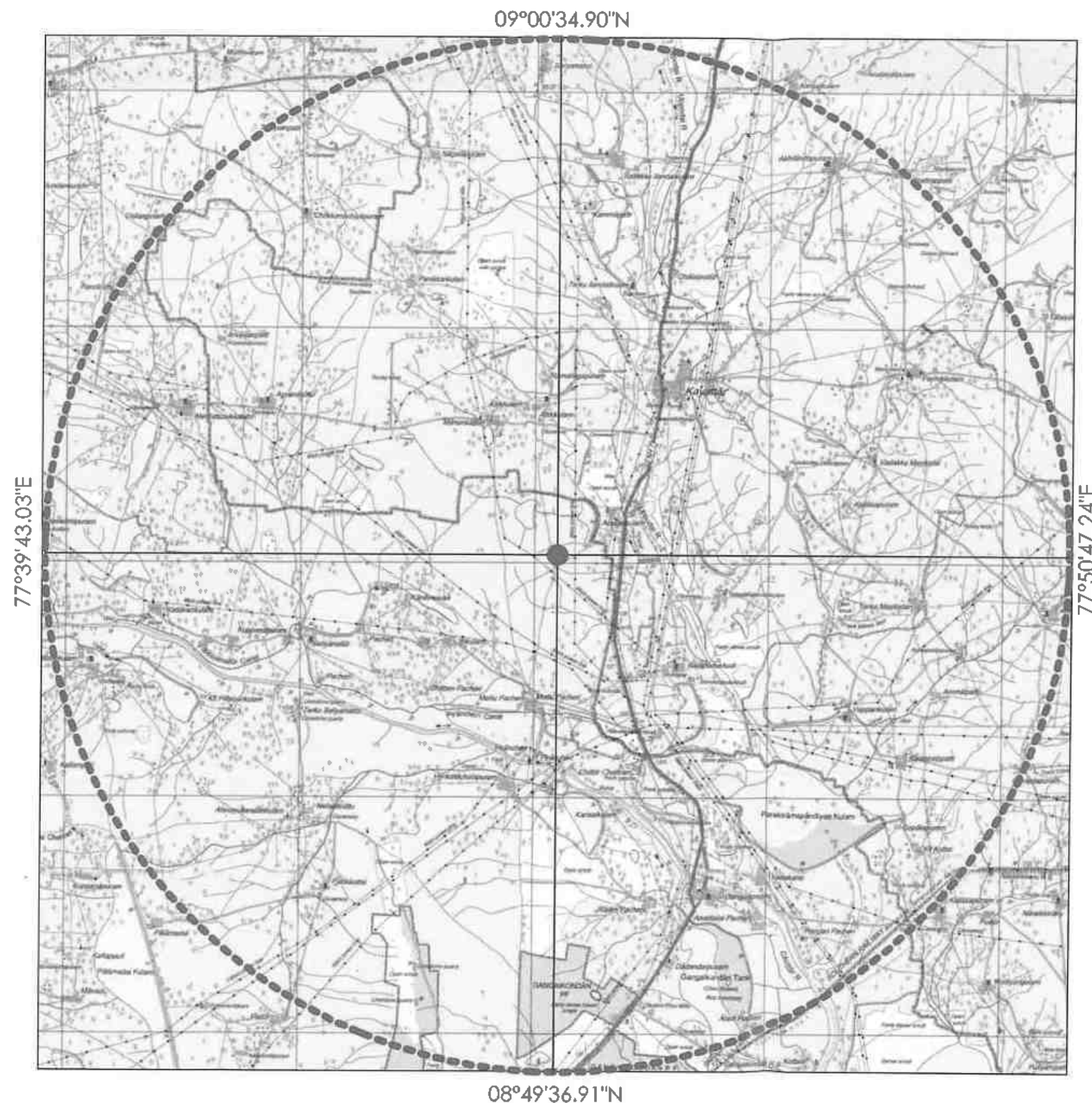
10KM RADIUS

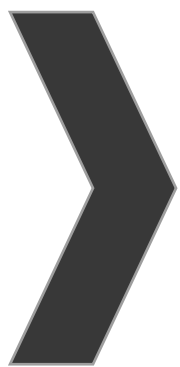


SCALE- 1:100000

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





ANNEXURE-11



தமிழ்நாடு தமிழ்நாடு TAMILNADU

16.12.2024

Woo
EK 048581

S. Vellapandi

AFFIDAVIT TO SEIAA - TAMIL NADU

4. கோள் (6) துறைமுக. அ.த.அ.

அ.த.அ. எண்: 6206-14/91

I, S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadakku Ilankulam, Thoothukudi District - 628 952, I have applying for Environmental Clearance to SEIAA - Tamil Nadu for my proposed Rough Stone and Gravel Quarry lease over an extent of 2.18.15 Ha located at the S.F.No. 575 (P) of Pirancheri Village, Manur Taluk, Tirunelveli District, Tamil Nadu State, do hereby solemnly declare and sincerely affirm that;

1. None of the following features are located within a 10 km radius from the proposed quarry site;
 - a. Protected areas notified under the Wildlife (Protection) Act, 1972 (NBWL).
 - b. Wild Life Sanctuary:
Gangaikondan Spotted Deer Sanctuary - 9.21km (S)
 - c. Critically polluted areas as notified by the central pollution control board constituted under Water (Prevention and Control of Pollution) Act 1974.



ச. வெல்பாண்டி

2. My proposal for Corporate Environment Responsibility (CER) activities is given as follows;

PROPOSED CER ACTIVITIES	PROJECT COST (INR)	CER COST 2.0% OF PROJECT COST (INR)
To implement various social development activities for the nearby Government school	83,08,900/-	1,66,178/-
Revised CER budget allotted	5,00,000/-	

I assure you that, I will complete the above proposed Corporate Environment Responsibility (CER) activities before the commencement of the quarrying operations.

3. Details of quarries located within a 500m radius from the applied mine lease area:

S.No	Name of the Quarry Owner	S.F. Nos, Village & Extent (Ha)	Lease Status	Remarks
a. Abandoned Quarry				
1	Thiru.S.Vellapandi, S/o. Subbaiya, No.64A, South Street, Vadaku Ilandaikulam, Thoothukudi District	Pirancheri Village S.F.No:781/1,782/2 & 783 1.92.0Ha	Proceedings No.M1/25662/2016, Dated: 05.03.2016 for a period of 5 years, 14.06.2016 to 13.06.2021	Abandoned
b. Existing Quarry				
1	Thiru.V.Perumal Selvam, S/o. Vellapandi, No.677, South Street, Vadaku Elathaikulam, Kayathar Taluk, Tuticorin District	Pirancheri Village S.F.No:784 1.83.5Ha	Proceedings No.M3/20350/2020, Dated: 06.01.2022 for a period of 10 years, 12.01.2022 to 11.01.2032	Existing
2	Thiru.P.Manoharan, S/o. Paul Thomas, No.5/52, Kanavilai Street, Avarikulam, Pazhavor, Radhapuram Taluk, Tirunelveli District	Pirancheri Village S.F.No:594 2.49.0Ha	Proceedings No.M3/34899/2020, Dated: 21.09.2023 for a period of 5 years, 22.09.2023 to 21.09.2028	
c. Proposed Quarry				
1.	Thiru.S.Vellapandi, S/o. Subbaiya,	Pirancheri Village S.F.No. 575(P)	-	Proposed



[Handwritten Signature]

No.64A, South Street, Vadakku Ilandaikulam, Thoothukudi District	2.18.15 Ha		

The total lease within the 500m radius (Proposed + Existing) (1no + 2nos) works out to 6.50.65Ha including this lease area.

4. There will be no hindrance/disturbance due to the proposed quarrying activities to the people living nearby my proposed quarry site.
5. There are no approved habitations within a 300m radius from the periphery of my proposed quarry lease.
6. I assure you that the greenbelt will be developed and maintained before commencing the quarrying operations as proposed in the EC application.
7. I assure you that the required life insurance policy for the employees engaged in the quarrying operations will be taken without fail.
8. The existing main road connecting the quarry road will be maintained in good condition and it will be utilized for the mineral transportation.
9. I assure you that I will not engage any child for labor in the quarrying operations and I am aware that engaging child labor is punishable under the law.
10. Personnel Protective Equipment (PPE) will be provided to all the employees engaged in the quarrying operations.
11. No permanent structures, such as temples, etc., are located within a 300 meter radius of the periphery of our quarry.
12. I will erect the wire fence with barbed wires all around the periphery of the quarry lease before the commencement of mining activities.
13. The mining operations will be carried out in a systematic and scientific manner by employing a qualified statutory person as per the requirement of the Mines Act, Mines Rules, and other Guidelines issued by Govt.
14. I will inform DGMS before the commencement of mining activities.



[Handwritten signature]

15. To the best of our knowledge, I ensure to do the social and environmental commitments as mentioned in the mining plan.

Notary Sign & Seal

Lessee Sign

[Handwritten signature]

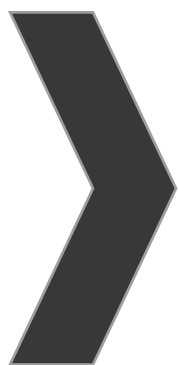
S.Vellapandi

[Handwritten signature]
29/12/2024
15/12/2024
K.SITHESWARAN, BL.,
Advocate & Notary Public
Opp. BDO Office, Omalur (Tk),
SALEM (Dt)-636 455.
Regn. No: 10987/2015,
Cell: 94435 16211



[Handwritten signature]

168



ANNEXURE-12



ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளி,

மேட்டுப்பிராஞ்சேரி.

பிரான்சேர் ஊராட்சி மற்றும், கங்கைகொண்டான் அஞ்சல்
மாளூர் ஒன்றியம், திருநெல்வேலி மாவட்டம் - 627 352.

செல் : 97861 77302, 94869 60306.

தேதி: 02.12.2024

அனுப்பநர் :

தலைமை ஆசிரியர்,
ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளி,
மேட்டுப்பிராஞ்சேரி,
மாணாந் ஒன்றியம்,
திருநெல்வேலி மாவட்டம்.

பெறுநர் :

சு. வெள்ளையாணாது அங்கீகரிக்க,

64/A, தெற்குத்தெரு,
வடக்கு இலத்திரத்தூண்டம்,
துரத்தூங்குடி மாவட்டம்.

பெருமதிப்பிற்குரிய ஜியா,

தங்கனது குவர்ட் நியுவனத்தின் மூலம்
ரங்கனது பள்ளிக்கு தலைமை ஆசிரியர் கட்டிடம்
கட்டுவதற்கும், அங்கீகரிக்கக் கொண்டு சூத்திரம் செய்து
நிலுவதற்கும் ஆறியாடு செய்து தருவதற்கு அவரை
தெய்யம்பாது பணியுடன் கோடுக் கொள்கிறேன்.
நன்றி,



2. தங்கன் உத்தரவுகள்,
HEADMASTER
Panchayat Union Middle School,
Mettu Pirancheri, Manur Uni
TIRUNELVELI - 627 352
02/12/2024

505