

**Application Forms**  
**(Executive Summary & Draft EIA Report)**  
for obtaining  
**Environmental Clearance under EIA Notification -2006**

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part)  
over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu  
State (Cluster Area: 21.25.0 Ha)*

(Sector No. 1(a) Sector No.1 as per NABET) Category of the Project: B1 Cluster Mining

ToR identification No. TO25B0106TN5559039N

Baseline Monitoring Period – December 2024 to February 2025

<b>Applicant Details</b>	<b>M/s. TAMIN</b> M/s. TAMIN, No.31, Kamarajar Salai, Chepauk, Chennai – 600 005	<b>Consultant Details</b>	<b>M/s. Global Mining Solutions</b> Plot No. 6, SF NO. 13/2, A2, VS City, RC Chettypatty, Kottamettupatty, Omalur, Salem, Tamil Nadu – 636 455
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NABET ACCREDITATION NO – NABET/EIA/2326/IA 0110  
NABL CERTIFICATE NO. TC – 12339 (M/s. Shrient Analytical and Research Labs Pvt Ltd)



## UNDERTAKING BY PROJECT PROPONENT

## UNDERTAKING

I hereby, undertake that the Environmental Impact Assessment (EIA) Report for the Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State and the report is line with compliance with Terms of Reference (ToR) issued by SEIAA, Tamil Nadu vide ToR Identification No. TO25B0106TN5559039N dated 11.03.2025. I, hereby assure that all the information and data provided in the EIA report is accurate, true and correct and owns the responsibility of the same.

Date:

Place: Karur

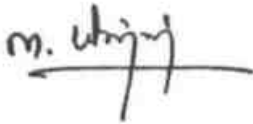
**M/s. Tamil Nadu Minerals Limited**

## UNDERTAKING BY EIA CONSULTANT

## UNDERTAKING

I, Mr. Manikandan Manickam, EIA Co-ordinator for sector 1 confirms that this Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State has been prepared by **M/s. Global Mining Solutions**.

I also confirm that I shall be fully accountable for any miss-leading information mentioned in this report.

Signature: 

Name: Manikandan Manickam

Designation: EIA Co-Ordinator

Name of the EIA Consultant organization: M/s. Global Mining Solutions, Salem.

NABET Certificate No.: NABET/EIA/2326/IA 0110

Date:

Place:

# NABET ACCREDITATION CERTIFICATE



**National Accreditation Board  
for Education and Training**



**Certificate of Accreditation**

**Global Mining Solutions**

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

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

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

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

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



Sr. Director, NABET  
Date: March 31, 2023

Certificate No.  
NABET/EIA/2326/IA 0110

Valid up to  
January 4, 2026

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



## DECLARATION OF EXPERTS



**Declaration by Experts contributing to the EIA of Proposed Mining of Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.**

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



**EIA Coordinator:** Manikandan Manickam





**Signature and Date:**

**Period of involvement:** December 2024 – 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

**Functional area experts:**

S. No.	Functional areas	Name of the expert/s	Involvement (Period and task)	Signature and date
1.	AP	Dhanalakshmi Ramanathan	1. Selection of Baseline Monitoring stations based on the wind direction 2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area 3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact Period: Dec 24 to Feb 25	
2.	WP	Abirami Kaliaperumal	1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied 2. Interpretation of baseline data collected 3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project 4. Preparation of suitable and appropriate mitigation plan	

			Period: Dec 24 to Feb 25	
3.	SHW	Ramadoss N	<ol style="list-style-type: none"> <li>1. Identification of nature of solid waste generated</li> <li>2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the per capita basis. Identification of impacts of SHW on Environment</li> <li>3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated</li> </ol>	
			Period: Dec 24 to Feb 25	
4.	SE	Sarasvathy K	<ol style="list-style-type: none"> <li>1. Primary data collection through the census questionnaire</li> <li>2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report.</li> <li>3. Impact assessment &amp; proposing suitable mitigation plan</li> <li>4. CSR budget allocation by discussing with the local body and allotting the same for need based activity.</li> </ol>	
			Period: Dec 24 to Feb 25	
5.	EB	Saravanan S	<ol style="list-style-type: none"> <li>1. Primary data collection through field survey and sheet observation for ecology and biodiversity</li> <li>2. Secondary Collection through various authenticated sources</li> <li>3. Prediction of anticipated impacts and suggesting appropriate mitigation measures.</li> </ol>	
			Period: Dec 24 to Feb 25	
6.	HG	Ravinthiran N	<ol style="list-style-type: none"> <li>1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures</li> <li>2. Determination of groundwater use pattern, development of rainwater harvesting program.</li> <li>3. Storm water management through garland drainage system.</li> </ol>	
			Period: Dec 24 to Feb 25	
7.	GEO	Valliappan Meyyappan	Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use	

			<p>pattern, development of rainwater harvesting program.</p> <p>Period: Dec 24 to Feb 25</p>	
8.	SC	Shisupal Sing	<ol style="list-style-type: none"> <li>1. Interpretation of baseline report</li> <li>2. Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.</li> </ol> <p>Period: Dec 24 to Feb 25</p>	<i>Shisupal Singh.</i>
9.	AQ	Srilatha Thiruveedhula	<ol style="list-style-type: none"> <li>1. Collection of Meteorological data for the baseline study period</li> <li>2. Plotting wind rose plot and thereby selecting the monitoring locations based on the wind pattern</li> <li>3. Estimation of sources of air emissions and air quality modelling is done</li> <li>4. Interpretation of the results obtained</li> <li>5. Identification of the impacts and suggesting suitable mitigation measures.</li> </ol> <p>Period: Dec 24 to Feb 25</p>	<i>T Srilatha</i>
10.	NV	Dhanalakshmi Ramanathan	<ol style="list-style-type: none"> <li>1. Selection of monitoring locations</li> <li>2. Interpretation of baseline data</li> <li>3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures</li> </ol> <p>Period: Dec 24 to Feb 25</p>	<i>R. Dhananjay</i>
11.	LU	Srilatha Thiruveedhula	<ol style="list-style-type: none"> <li>1. Collection of Remote sensing satellite data to study the land use pattern.</li> <li>2. Primary field survey and limited field verification for land categorization in the study area</li> <li>3. Preparation of Land use map using Satellite data for 10km radius around the project site.</li> </ol> <p>Period: Dec 24 to Feb 25</p>	<i>T Srilatha</i>
12.	RH	S.V. Prashant	<ol style="list-style-type: none"> <li>1. Identification of the risk</li> <li>2. Interpreting consequence contours</li> <li>3. Suggesting risk mitigation measures</li> </ol> <p>Period: Dec 24 to Feb 25</p>	<i>S. Prashant</i>

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

I, Prabhu, hereby, confirm that the above-mentioned experts prepared the EIA report of Proposed Mining of Multicolor Granite Quarry over an extent of 10.12 Ha in Naganur Village, Kulithalai Taluk, Karur District. I also confirm that the consultant organization shall be fully accountable for any mis-leading information mentioned in this statement.

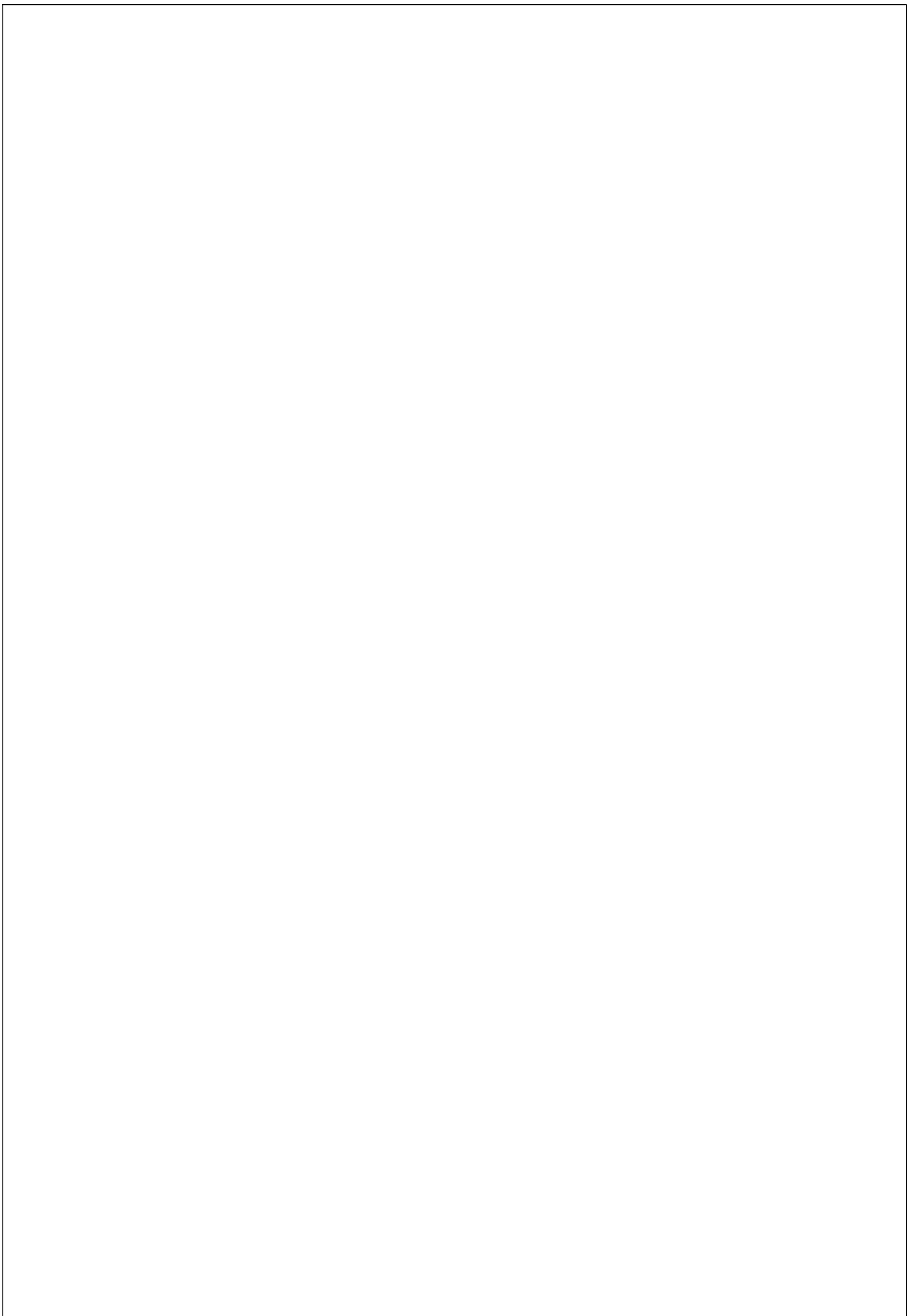
  
**Signature:**

**Name:**

**Designation:**

**Name of the EIA consultant organization:**

**NABET Certificate No. & Issue Date:**



# EIA REPORT



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## **1 INTRODUCTION**

### **1.1 Preamble**

Environment Impact Assessment (EIA) is a process used to identify the environmental, social & economic impacts of a project prior to decision making. It seeks to anticipate environmental effects early in the planning and design process, identify strategies to mitigate negative effects, adapt projects to the local environment, and provide the proponent with the predicted choices. Economic and environmental benefits can be obtained through the use of EIA. The project's overall time and cost can be reduced by taking into account environmental effects, including prediction and mitigation, early benefits in project design, environmental protection, and optimal resource utilization.

### **1.2 General Information on Mining of Minerals**

There is good quality of hard rocks which are particularly available at Kulithalai and Aravakurichi Taluks. But the rocks available at Thogamalai, Naganur, Kalugur and Porunthalur of Kulithalai Taluk are of export worthy and they are being operated for the extraction of granite block both by M/s.TAMIN and private companies. Calc-Gneiss (called as colonial white occurs in Pitchampatti Village of Karur Taluk are of export worthy quality.

(Source: District Survey Report - Karur)

### **1.3 Purpose of the report**

The proposed Quarry of M/s. TAMIN is a Government Land. The proposed is an existing quarry operated by M/s. TAMIN by executing the lease deed vide G.O. Ms No. 14 Industries (MME1) Department, dated 27.01.2005, for the 20 years lease period 27.01.2005 – 26.01.2025. Subsequently, TAMIN has applied for the renewal of the lease and obtained Precise area communications vide GoTN, Natural Resources (MME.1) Department, Letter No.6168728/MME.1/2023-1, dated 24.05.2024 and mining plan for this project was approved by Commissioner of Geology and Mining, Guindy, Chennai vide Rc.No.5811/MM2/2023 dated 31.01.2025. The proposal is for the production of 7,20,887 m<sup>3</sup> of Multi Colour Granite, in which the Saleable Multi Colour Granite @25% of recovery is 1,80,221.75 m<sup>3</sup> and Granite Waste is 5,40,665.25 m<sup>3</sup>.

The area of the proposed mine is 10.12.00 Ha> 5.00 Ha. In this regard, Form-I and Pre-Feasibility Report has been submitted and the ToR was granted by the SEIAA vide ToR Identification No. TO25B0106TN5559039N. The copy of the ToR is enclosed as Annexure - 1. The proposal for ToR was considered by the State Expert Appraisal Committee in its 534<sup>th</sup> meeting held on 20.02.2025 for prescribing Terms of Reference (ToR) for preparation of the Environmental Impact Assessment (EIA) report.

The purpose of the EIA study is to assess the baseline environmental conditions and to anticipate the possible environmental impacts during operation of the project, thereby suggesting appropriate mitigation measures to control the same. The EIA report has been prepared in line with the Terms of Reference issued by SEIAA vide ToR Identification No. TO25B0106TN5559039N.

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

1.4 Identification of the project and project proponent

1.4.1 About the Project:

The applicant M/s. TAMIN, proposed to quarry for the period of twenty years in Government land over an area of 10.12.00 Ha located in S. F. No. 120(Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State. The area is already operated by M/s. TAMIN from 27.01.2005 – 26.01.2025 and subsequently renewed the lease and obtained Precise Area Communication. The copy of the land documents is enclosed as Annexure - 6. The copy of the Precise area communication letter received from the Commissioner of Geology and Mining, Guindy, Chennai is enclosed as Annexure – 2.

1.4.2 About the Project Proponent:

Table 1-1 Details of Project Proponent

Name of the Project Proponent	M/s. Tamil Nadu Minerals Limited
Communication Address	No.31, Kamarajar Salai, Chepauk, Chennai – 600 005
Contact No.	044-2989 2018
Email - ID	<a href="mailto:tamin@tamingranites.com">tamin@tamingranites.com</a>

1.5 Brief description of nature, size and location of the project

Table 1-2 Salient Features of the project

S. No.	Particulars	Description
1.	Nature	Mining of Multicolor Granite
2.	Location	S. F. No. 120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.
3.	Size (Extent)	10.12.00 Ha
4.	Project Cost	Rs. 914.44 lakhs

1.6 Details of Quarries within cluster area of 500m radius

The details of the quarries within 500 m radius are given below:

Table 1-3 Details of Quarry within 500m radius

Sl. No	Name of the Quarry Owner	S.F. Nos & Village	Lease Period	Area
a.	Lease Expired Quarries - Nil			
b.	Abandoned Quarries - Nil			
c.	Existing quarries			

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

1.	Thiru.M. Gandhi S/o. Masanam Karuttupatti Village, Andipatti Taluk	135/1A, 136/1A, 136/2 Naganur Village, Kulithalai Taluk	25.12.2008 to 24.12.2028	2.93.00 Ha
2	Tvl. TAMIN Ltd., 31 Kamarajar Salai Chepauk, Chennai – 5	120 (Part) Naganur Village, Kulithalai Taluk	06.03.2023 to 05.03.2043	10.12.00 Ha
3	M/s. P.R.P Exports, Tberkkutheru Village, Melur, Madurai District	149/3B (Part), 150/Part Naganur Village, Kulithalai Taluk	17.12.2008 to 16.12.2028	1.83.00 Ha
4	M/s. P.R.P Exports, Tberkkutheru Village, Melur, Madurai District	123/4, 134/1 Naganur Village, Kulithalai Taluk	17.12.2008 to 16.12.2028	1.95.00 Ha
5	M/s. G.V. Granites 19G Main Road, Thogamalai, Kulithalai Taluk, Karur District	160/2B, 160/5A, 160/5C, 449/1B Naganur Village, Kulithalai Taluk	21.09.2004 to 20.09.2024	1.39.00 Ha
6	M/s. P.R.P Exports Velu Complex, Madurai Main Road, Melur Madurai Dt	149/1B1(P), 149/3A1(P), 149/3B(P), 150(P) Naganur Village, Kulithalai Taluk	08.06.2005 to 07.06.2025	2.01.50 Ha
7	Thiru.M. Singaram 21/B, Chathiram St, Thogamalai, Kulithalai Taluk	148/1F2(P), 160/2A1, 160/3, 160/4	06.07.2007 to 05.07.2027	1.01.50
<b>Total Area Under Cluster</b>			<b>21.25.00 Ha</b>	

The total lease within the 500m radius works out to 21.25.00 Ha including this lease area and one existing quarry.

1.7 Details of Statutory approvals

- Precise Area Communication:

The precise area was granted by GoTN, Natural Resources (MME.1) Department, Letter issued vide No.6168728/MME.1/2023-1, dated 24.05.2024. The letter copy enclosed as Annexure – 2.

- Mining Plan Approval Letter

Mine plan for this project was approved by Commissioner of Geology and Mining, Guindy, Chennai vide Rc.No.5811/MM2/2023 dated 31.01.2025. The copy of the letter along with approved mining plan is enclosed as Annexure – 3

- 500 m radius quarry features

The project proponent has obtained an official letter from the Assistant Director, Department of Geology and Mining, Karur, vide Rc.No.435/Mines/2016 dated 06.02.2024. The copy of the letter is enclosed as Annexure - 4

- Land document of the proposed lease area

It is a Government Poramboke Land and TAMIN has obtained Tender. The copy of FMB, Adangal, A-Register is enclosed as Annexure - 6.

#### 1.8 EIA process

**Screening:** Screening is the first stage of the EIA process. In this stage, the State level Expert Appraisal Committee (SEAC) examined the application of EC made by the proponent in Form 1 through online (Proposal No. SIA/TN/MIN/523023/2025) and decided that the project requires detailed environmental studies for the preparation of EIA report.

Therefore, the proponent submitted application for Terms of Reference (ToR) on 07.02.2025

**Scoping:** The proposal was placed in the 534<sup>th</sup> meeting of SEAC on 20.02.2025. Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) to SEIAA and SEIAA recommended ToR in its 800<sup>th</sup> meeting dated 04.03.2025 & 05.03.2025.

**Public Consultation:** In this stage, an application along with the draft of EIA and EMP report will be made to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing ensuring public participation at the project site or in its close proximity in the district. During public hearing, an opportunity will be given to the people living nearby the project site to express their opinions about the impact of the proposed project on the environment. The outcome of the public hearing meeting will be updated in the final EIA report for appraisal.

**Appraisal:** In this stage, an application along with final EIA report including the outcome of the public consultations will be made to the SEIAA. The application thus made will be scrutinized by the SEAC. Then, the SEAC will make recommendations to grant EC or reject the application to the SEIAA.

#### 1.9 Terms of Reference (ToR)

SEAC framed a comprehensive ToR based on the project information provided in Form I, PFR and issued ToR vide ToR Identification No. TO25B0106TN5559039N. The copy of the ToR is enclosed as Annexure - 1.

#### 1.10 Scope of the EIA Study:

The main scope of the EIA study is to quantify the cumulative impact of the quarries in the cluster on the study area and formulate the effective mitigation measures for each individual lease. A detailed account of the emission sources, emissions control equipment, background air quality levels, meteorological measurements, dispersion model and all other aspects of pollution like sewage, and dust generation has been provided in this report. The baseline monitoring study has been carried out during the period of December 2024 – February

2025 for various environmental components such as land, soil, air, water, noise, ecology, etc. to assess the anticipated impacts of the cluster quarry projects on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project. The sampling methodologies for the various environmental parameters required for the study, frequency of sampling, method of sample analysis, etc., are given in Chapter 3.

#### 1.11 Post Environmental Clearance Monitoring

##### 1.11.1 Methodology adopted

Post project monitoring will be carried out as per conditions stipulated in environmental clearance letter issued by SEIAA, consent issued by SPCB as well as according to CPCB guidelines. The lease area is considered as core zone and the area lying within 10 km radius from the lease boundary is considered as buffer zone, where some impacts may be observed on physical and biological environment. In the buffer zone slight impact may be observed and that too is occasional.

Table 1-4 Post Environmental Clearance Monitoring

<b>S. No.</b>	<b>Description</b>	<b>Frequency of monitoring</b>
1.	Ambient Air Quality Monitoring	Quarterly /Half-yearly
2.	Water Level & Water Quality Monitoring (Both Surface and Ground Water)	Quarterly /Half-yearly
3.	Noise Level Monitoring	Quarterly /Half-yearly
4.	Soil Quality Monitoring	Quarterly /Half-yearly
5.	Medical check-up	Quarterly /Half-yearly

#### 1.12 Structure of the EIA Report

The generic structure of the EIA Report is prepared as per the Technical EIA Guidance Manual for Mining of Minerals.

## **2 PROJECT DESCRIPTION**

### **2.1 Type of the project**

M/s. TAMIN Ltd proposes to set up a Multicolor Granite Quarry at S. F. No. 120 (Part) over an extent of 10.12.00 Ha in Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State. As per EIA Notification, 2006 and its subsequent amendments, project comes under category B1 & schedule 1(a) under item 1 as the area is 10.12.00 Ha >5 Ha. As per approved Mining Plan, the proposed production 1,80,221.75 m<sup>3</sup> of Multicolor Granite and 5,40,665.25 m<sup>3</sup> of waste for the period of twenty years by opencast mechanized mining. The project will be appraised at state level by State Environment Impact Assessment Authority, Tamil Nadu. Environment Clearance study will involve preparation of draft EIA report on the basis of baseline & impact assessment study is carried out. Also, before appraisal, under 7(III) of EIA notification 2006, the project involves the Public Consultation and the same will be conducted under SPCB (TN) in Karur District.

### **2.2 Need for the project**

Granite, in general, has its importance all over the world, in the construction industry, in the form of flooring, table tops, kitchen slabs, monuments, decoration purposes, etc. The granite dimensional stone material by virtue of its pleasing colour and texture and its best ability to take polishing and appealing look in polished product has attracted the consumers in the building construction and interior decoration industries. The major essentiality of building stone is based on its extraordinary compressive strength and durability (among the hardest, dimensional & structural stones) and it is having high tolerance towards the vagaries of nature. In construction activities, these are being used because of its hardness & density, durability and strength craft. The proposed mining project will accomplish its requirement for the construction of buildings, bridges, paving, monuments and many other exterior projects. Polished slabs and tiles are usually used in countertops, flooring, retaining walls and landscaping around a center fountain/ pond, staircase and many other design elements (residential and commercial applications). It is also known as the maintenance-free stone. The employment opportunities are being created in connection with the quarrying activities and the local people are being employed for the non -technical activities under the direction of mining engineers and supervisors. The domestic market capabilities have also been explored in recent periods. Bulk quantity of the blocks is produced and exported as raw blocks and some quantity is being processed at TAMIN's Granite polishing units and exported as value added finished products. The earning source in the targeted area is limited, most of the people in and around the area depend upon the seasonal agriculture and much of the people migrate to nearby towns where good industries and factories are growing up.

### **2.3 Project Location**

#### *2.3.1 Location of the project site*

The proposed quarry is located at S.F. Nos. S. F. No. 120 (Part) over an extent of 10.12.00 Ha in Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State. The mining area is located in 10° 44' 18.4452"N to 10° 44' 37.8367"N & 78° 23' 44.1074"E to 78°24'03.2847"E. The location of the project is given below in Figure 2-1.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

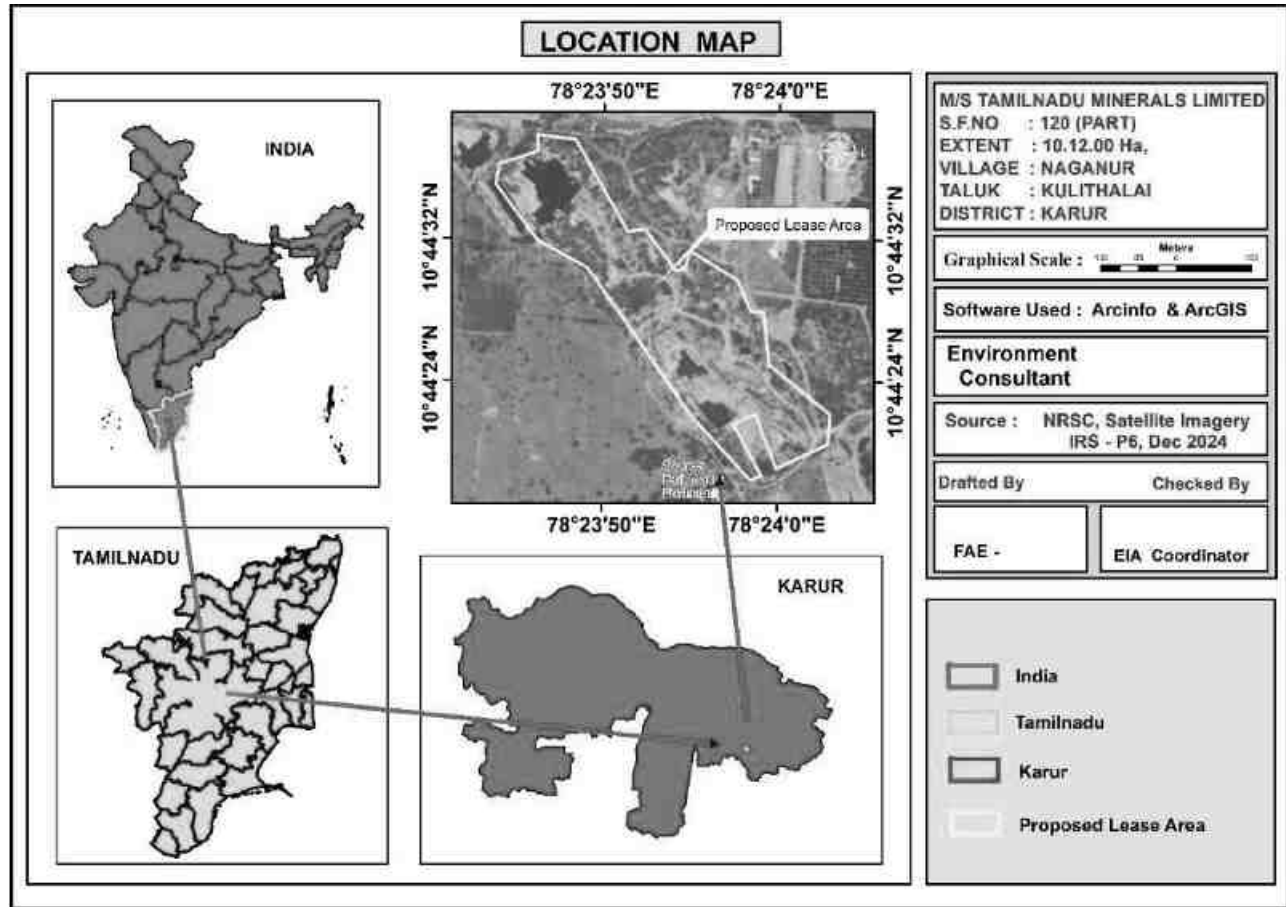


Figure 2-1 Project Location

The project boundary co-ordinates are shown below:



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

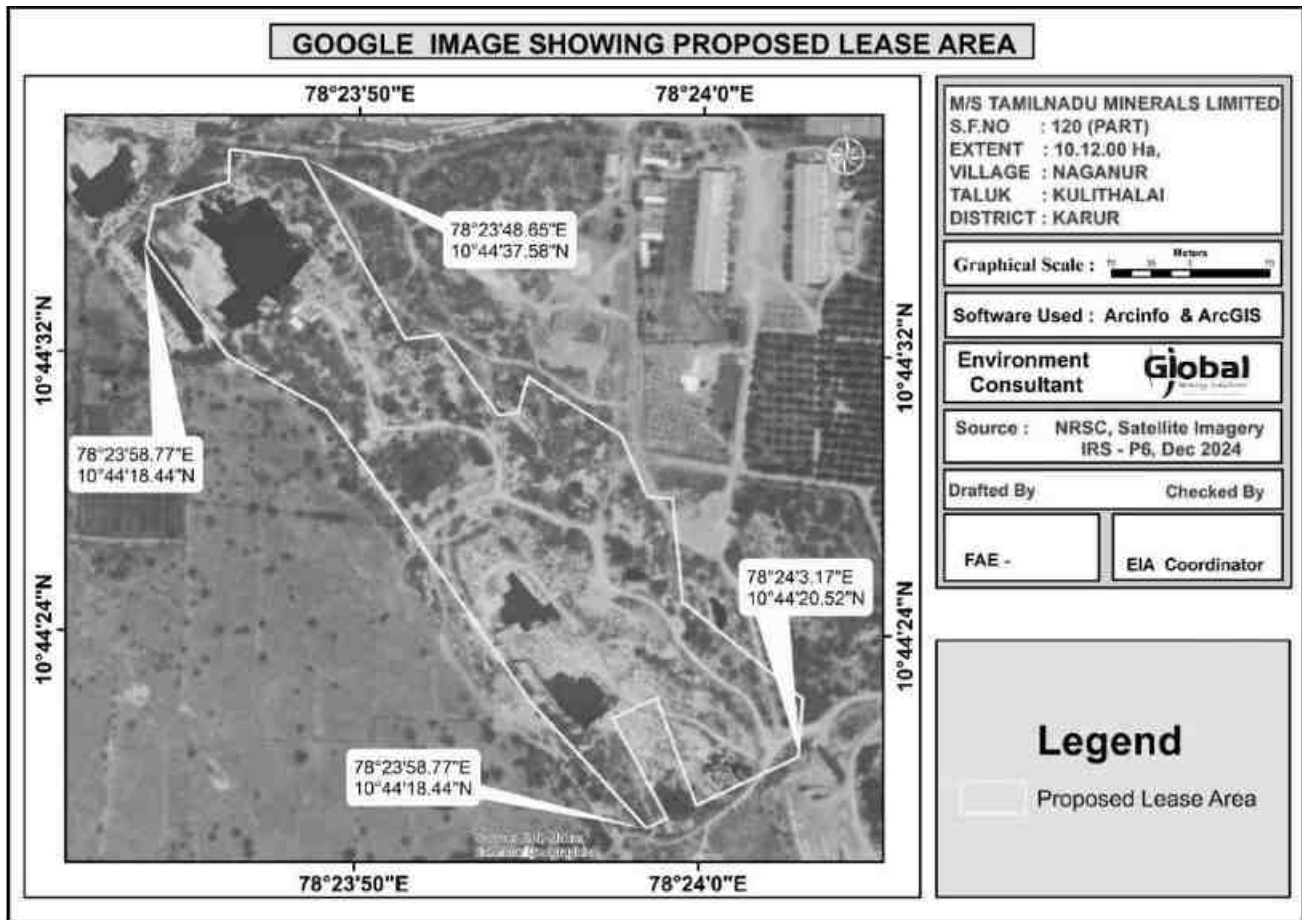


Figure 2-2 Boundary Co-ordinates of the Project

The site photographs of the project site are shown below



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

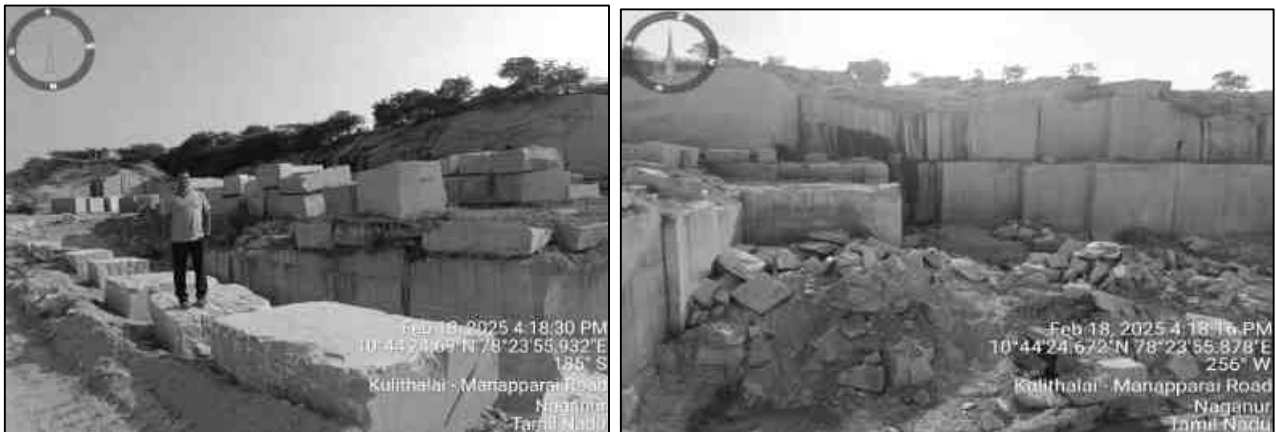


Figure 2-3 Site Photographs

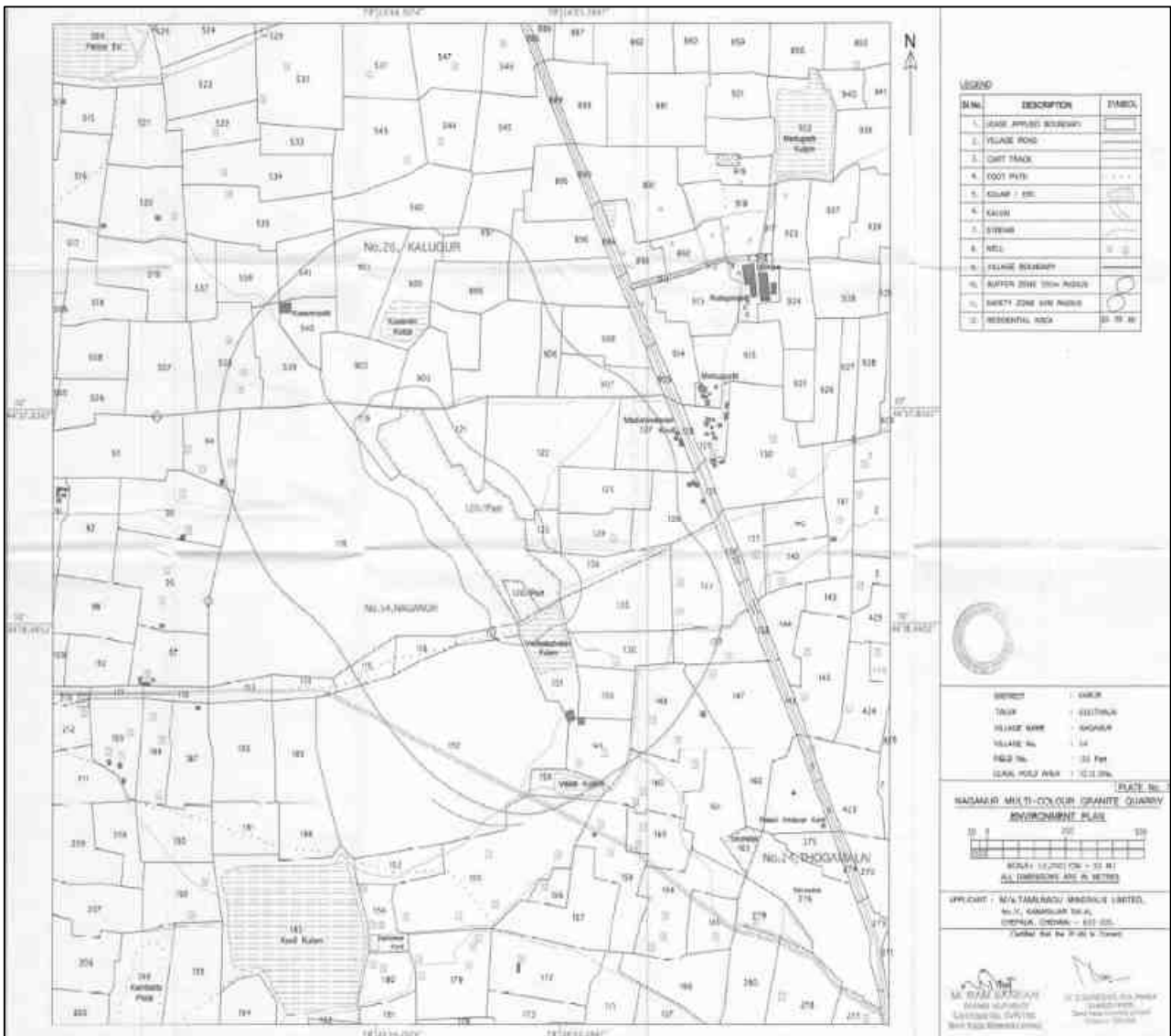


Figure 2-4 Village Map

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

### 2.3.2 Site Connectivity

The proposed site is located near Mettupatti Village (300m, SW) and is accessible from SH 71 – Kulithalai – Manapparai Road (515m, E). The site is located near NH-83 Tiruchirappalli – Dindigul Road, which is located at a distance of 12.1 km (SE).



Figure 2-5 Site Connectivity

The details of site connectivity is shown below:

Table 2-1 Site Connectivity

S. No.	Particulars	Details
1.	Nearest Highway	SH-71-Kulithalai – Manapparai Road (515m, E) (NH-83) Tiruchirappalli – Dindigul (12.1 km, SE)
2.	Nearest Railway Station	Samudram – 14 km, SE
3.	Nearest Airport	Tiruchirappalli – 33.6 km, SE
4.	Nearest Port	Thoothukudi -220 km, SW
5.	Nearest Village	Mettupatti – 300m, SW

The salient features of the project site are given below:

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Table 2-2 Salient features of the project site

S. No.	Particulars	Details
1.	Proponent Name	M/s. Tamil Nadu Minerals Limited
2.	Proposed project	Multicolor Granite of M/s. Tamil Nadu Minerals Limited
3.	Extent	10.12.00 Ha and the cluster area within 500 m radius including the proposed mine is 21.25.00 Ha > 5 Ha
4.	Location	S.F. Nos. 120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State
5.	Co-ordinates of the project site	Latitude: 10° 44' 18.4452"N to 10° 44' 37.8367"N Longitude: 78° 23' 44.1074"E to 78°24'03.2847"E
6.	Topography	Plain Terrain
7.	Site Elevation above MSL	≈ 93 m from above MSL
8.	Topo Sheet No.	57 J/5 & 6
9.	Minerals of Mine	Multicolor Granite
10.	Proposed production in m <sup>3</sup>	<u>Total Run off Mines – 7,20,887 m<sup>3</sup></u> Saleable Multicolour granite is 1,80,221.75 m <sup>3</sup> and Waste is 5,40,665.25 m <sup>3</sup> – 20 years <u>Total Run off Mines – 1,80,220 m<sup>3</sup></u> Saleable Multicolour granite is 45,055 m <sup>3</sup> and Waste is 1,35,165 m <sup>3</sup> – First 5 Years
11.	Ultimate Depth of mining	58m (BGL)
12.	Method of Mining	Opencast Mining with a bench height of 10m and bench width of 10m is proposed
13.	Drilling/Blasting	Drilling and controlled Blasting is proposed
14.	No. of Working days	300 Days
15.	Water requirement & Source	9.5 kLD and will be sourced from local vendors
16.	Manpower	40 Nos.
17.	Project Cost	Rs. 914.44 lakhs
18.	Mining Plan Approval	Commissioner of Geology and Mining, Guindy, Chennai vide Rc.No.5811/MM2/2023 dated 31.01.2025
19.	Safety Zone	0.42.5 Ha will be maintained as safety zone and tree saplings will be planted in this area
20.	Ground water level	58 m BGL

The detailed Environmental Settings of the project is detailed below in Table 2-3

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Table 2-3 Environmental Settings of the project

<b>S. No.</b>	<b>Particulars</b>	<b>Details</b>
1.	Nearest Highway	SH-71-Kulithalai – Manapparai Road (515m, E) (NH-83) Tiruchirappalli – Dindigul (12.1 km, SE)
2.	Nearest Railway Station	Samudram – 14 km, SE
3.	Nearest Airport	Tiruchirappalli – 33.6 km, SE
4.	Nearest Port	Thoothukudi -220 km, SW
5.	Nearest Village	Mettupatti – 300m, SW
6.	Water bodies	<ul style="list-style-type: none"> <li>• Odai – 480 m (S)</li> <li>• Venkatachalam Kulam – Adjoining the M.L Area (S)</li> <li>• Kusavan Kuttai – 255 m (NE)</li> <li>• Vellai kulam – 460 m (S)</li> <li>• Kalugur Tank – 1.30 km (NW)</li> </ul>
7.	Reserved Forest	Veeramalai R.F – 2.80 km (SW) Naganur R.F – 3.10 km (SW)
8.	Eco Sensitive Zone and Wildlife Sanctuary (Notified)	Nil within 10km Radius Kadavur Slender Loris Sanctuary- 20.80Km (SW)
9.	Archaeological important places	Nil within 10 km radius
10.	Defense Installations	Nil within 10 km radius
11.	Nearest Port	Nil within 10 km radius
12.	Seismic Zone	Nil within 10 km radius

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

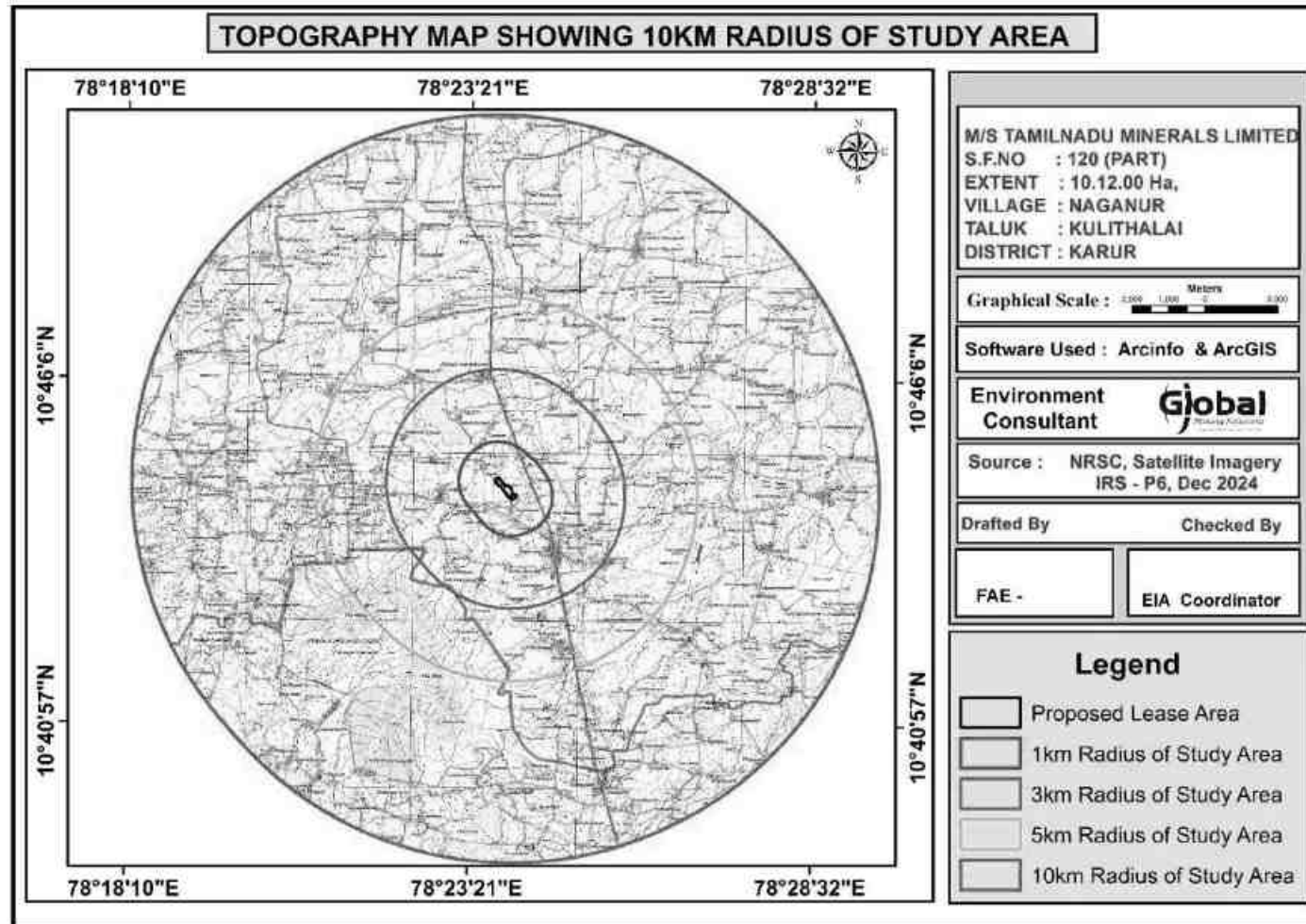


Figure 2-6 10 km Radius TOPO Map

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

2.4 Leasehold Area

The proposed ML area is a Government Poramboke Land and TAMIN has obtained Tender. The copy of the FMB, Adangal, and A-Register is enclosed as Annexure - 6. There is no human settlement within 500m radius. The surface plan of the project is shown below:

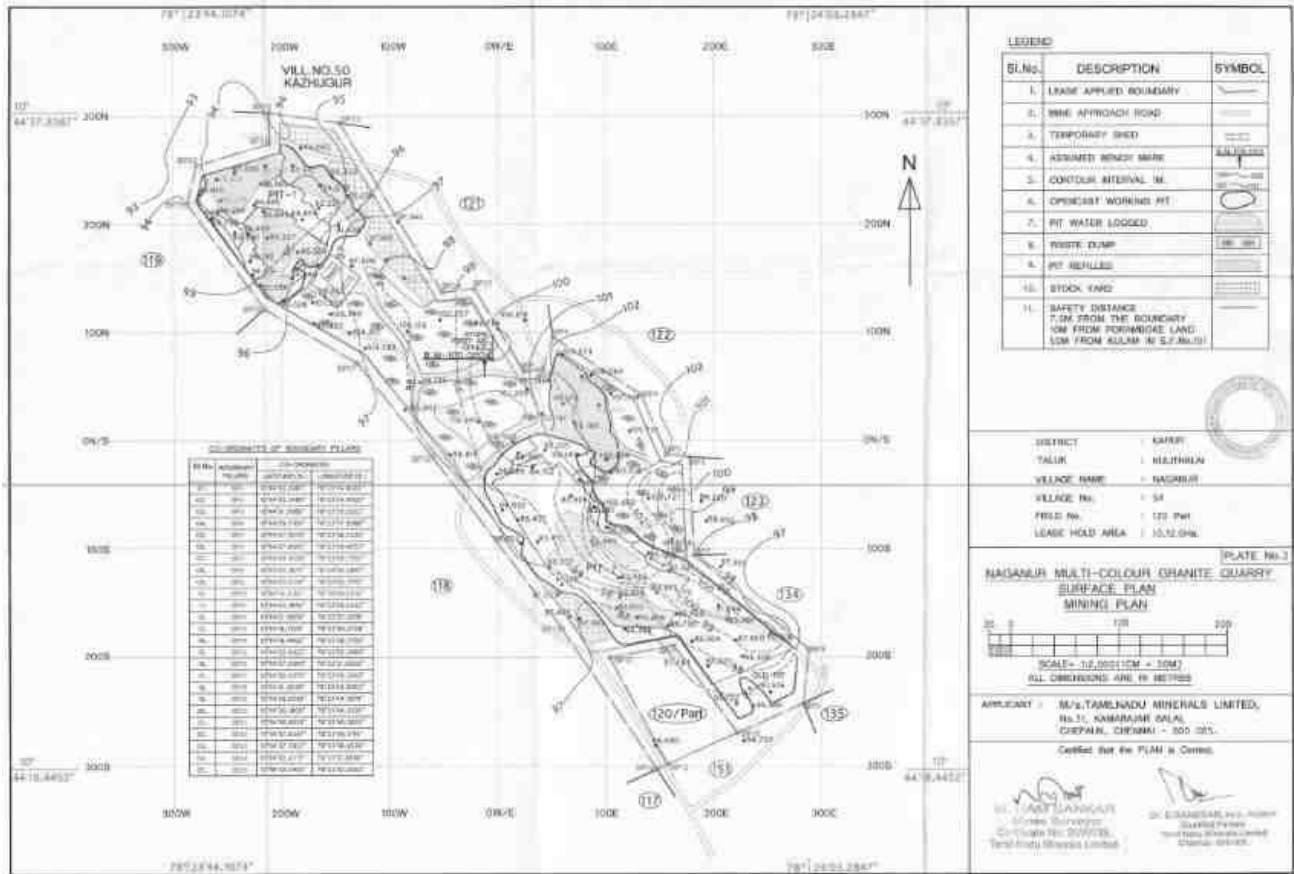


Figure 2-7 Surface plan of the project area

2.5 Land Use Pattern

The land use pattern of the project site is given below

Table 2-4 Land use pattern of the mine area

Sl. No	Land Use	Present Area (Ha)	Area at conceptual stage (Ha)
1.	Area under mining	4.15.50	8.12.00
2.	Old Pit	0.25.00	0.25.00
3.	Waste Dump	2.53.00	-
4.	Infrastructure	0.12.00	0.12.00

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

5.	Mineral Stock Yard	0.53.50	-
6.	Roads	0.31.50	0.10.50
7.	Afforestation	0.23.50	0.42.50
8.	Unutilized	1.98.00	1.10.00
<b>Total</b>		<b>10.12.00</b>	<b>10.12.00</b>

## 2.6 Geology

### 2.6.1 Regional Geology

The entire district can be classified into hard rock and sedimentary formations. Hard Rock Formation: - More than 90 percent of the district is underlain by hard rock of Archaean age. The gneissic type of formation is the major formation among the various types of hard rocks. Charnockite occurs in this district as pockets in Karur and Aravakurichi taluk. Quartzites which are resistant to weathering are also seen as patches in Charnockite and gneissic varieties and the above rock types. Sedimentary Formation: - Recent alluvial deposits such as sand, silt, clay, gravel etc. which are transported sediments by river are found on either side of Cauvery River in Karur, Krishnarayapuram and Kulithalai blocks. These formations are overlying the hard rock.

Migmatite Complex is represented by hornblende-biotite gneiss, granitic gneiss and pink migmatite. This Complex is a group of banded felsic rocks of varying mineralogical composition that are formed due to the influx of quartzofeldspathic material into high grade metamorphic rocks. Two types of migmatite are seen in the Karur district, one is grey and the other is pink. Next to charnockite, migmatite gneiss is the second most extensive rock. The migmatite gneiss consists of quartz, k- feldspar, plagioclase, hornblende and biotite in varying proportions.

Intrusive igneous rocks are seen in the area are meta-gabbro and anorthosites as for example around Kadavur and Aravakurichi. Meta gabbro is coarse grained, dark grey, mainly comprising pyroxene, amphibole and plagioclase. Anorthosite is pale pink to light brown, medium to coarse grained rock essentially made up of plagioclase with a small amount of pyroxene and amphibole. Quartz and pegmatite veins are of restricted areal extent. Minor bodies of younger granite are exposed in the area east of Aravakurichi.

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



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

### 2.6.2 Regional Geology

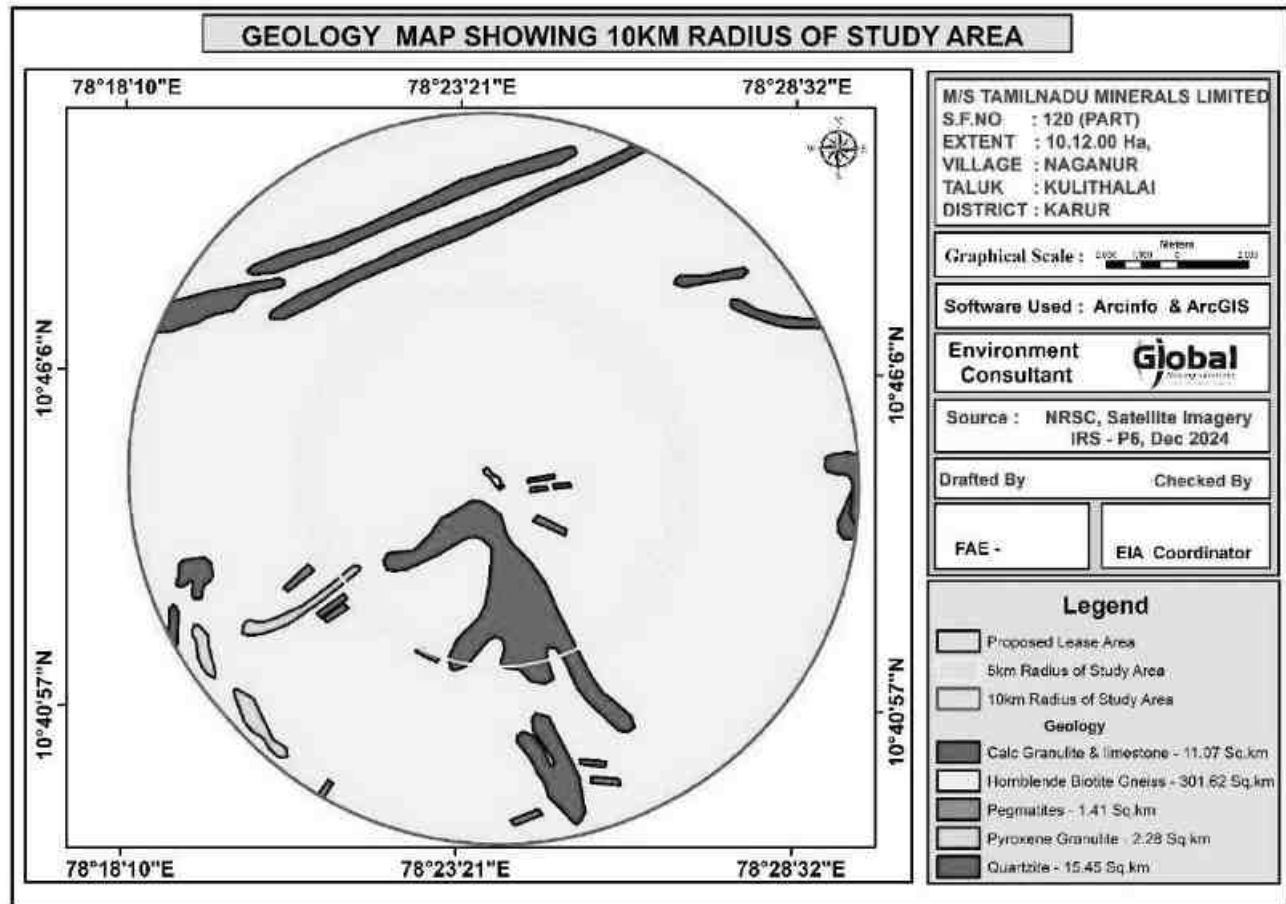


Figure 2-8 Geology map of the study area

The geology map of the study area reveals that the area is predominately covered with Hornblende Boitite Gnesis (301.62 Sq.km) and the remaining area is covered Calc Granulite & Limestone (11.07 Sq.km), Pegmatites (1.41 Sq.km), Pyroxene Granulite (2.28 Sq.km) and Quartzite (15.45 Sq.km). No exploration was carried out.

### 2.7 Details of Mining

The proposed activity is the extraction of Multicolor Granite by open cast mechanized mining method over an extent of 10.12.0 Ha. The details of mining are presented below

Table 2-5 Details of Mining

S. No.	Particulars	Details
1.	Method of mining	Open Cast Mechanised
2.	Geological Reserves	63,60,307 m <sup>3</sup>
3.	Mineable Reserves	36,18,453 m <sup>3</sup>

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

		Saleable Multicolour granite @25% Recovery is 9,04,613 m <sup>3</sup> Granite waste is about 27,13,840 m <sup>3</sup> .
4.	Proposed Production	<u>Total Run off Mines – 7,20,887 m<sup>3</sup></u> Saleable Multicolour granite is 1,80,221.75 m <sup>3</sup> and Waste is 5,40,665.25 m <sup>3</sup> – 20 years <u>Total Run off Mines – 1,80,220 m<sup>3</sup></u> Saleable Multicolour granite is 45,055 m <sup>3</sup> and Waste is 1,35,165 m <sup>3</sup> – First 5 Years
5.	Bench Details	Bench Height of 10m and Bench Width of 10m is proposed.

The details of geological and mineable reserves in the lease area have been provided below in the subsequent sub section.

#### 2.7.1 Estimation of Reserves

The Geological and Recoverable reserves are estimated by Cross Sectional method.

#### 2.7.2 Geological Reserves

The quarrying is restricted up to a depth of 58m BGL. The details of the available geological reserve are given below.

Table 2-6 Geological Reserve

S. No.	Geological Reserves (m <sup>3</sup> )	Run off Mines (m <sup>3</sup> )	Mineable saleable Granite Reserves (@25% recovery)	Granite Waste @ 75% Recovery
1	63,60,307	36,18,453	9,04,613	27,13,840

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

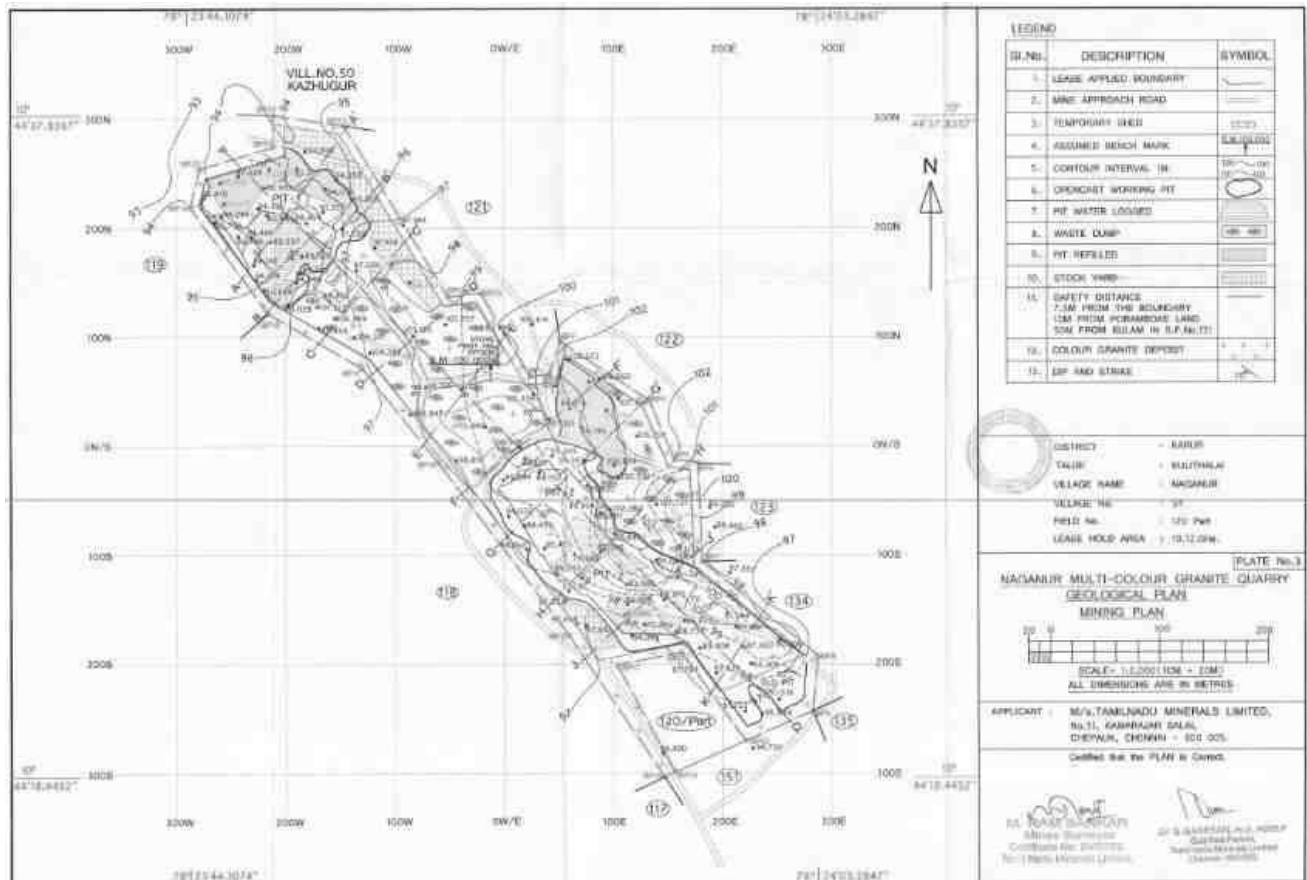


Figure 2-9 Available Geological Reserves

2.7.3 Year-wise Production Plan

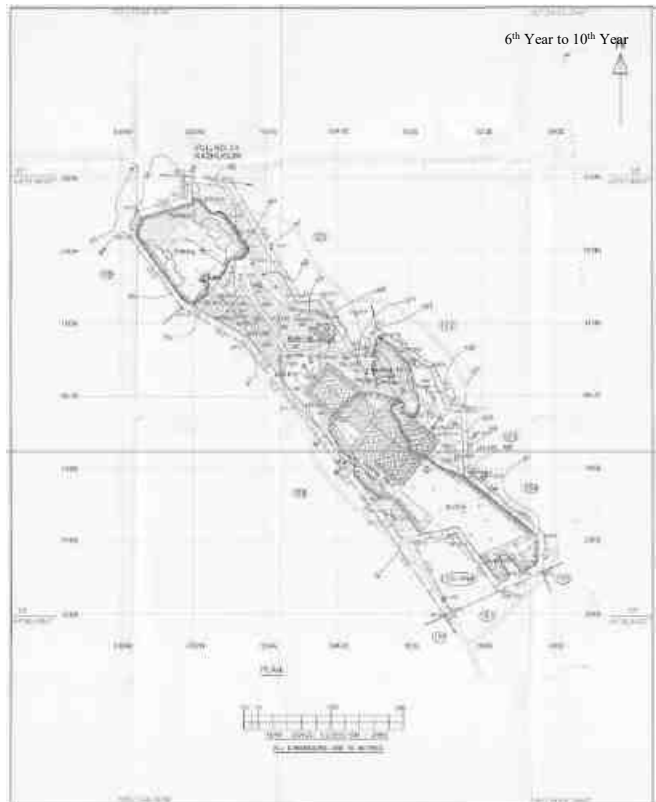
Sl. No	Description	Details
1.	Production quantity (upto ultimate depth of 58.00m below ground level for a period of 20 years)	Total Run off Mines – 7,20,887 m <sup>3</sup>  <b>Saleable Multicolour granite is 1,80,221.75 m<sup>3</sup> and Waste is 5,40,665.25 m<sup>3</sup></b>
2.	Waste Generated & its management	The granite waste will be dumped within the Lease as per approved mining plan.
3.	Ultimate Pit Depth	58m BGL
4.	Proposed Environmental Clearance Period	20 years

The production of minerals for twenty years as per the mining plan is given Table

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

Table 2-7 Year-wise Production Details

S. No.	Year	Runoff Mines (m <sup>3</sup> )	Saleable Multicolour Granite (@25% recovery)	Granite Waste @ 75% Recovery
1	1-5	1,80,220	45,055	1,35,165
2	5-10	1,80,218	45,054.50	1,35,163.50
3	10-15	1,80,191	45,047.75	1,35,143.25
4	15-20	1,80,258	45,064.50	1,35,193.50
<b>Total</b>		<b>7,20,887</b>	<b>1,80,221.75</b>	<b>5,40,665.25</b>



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

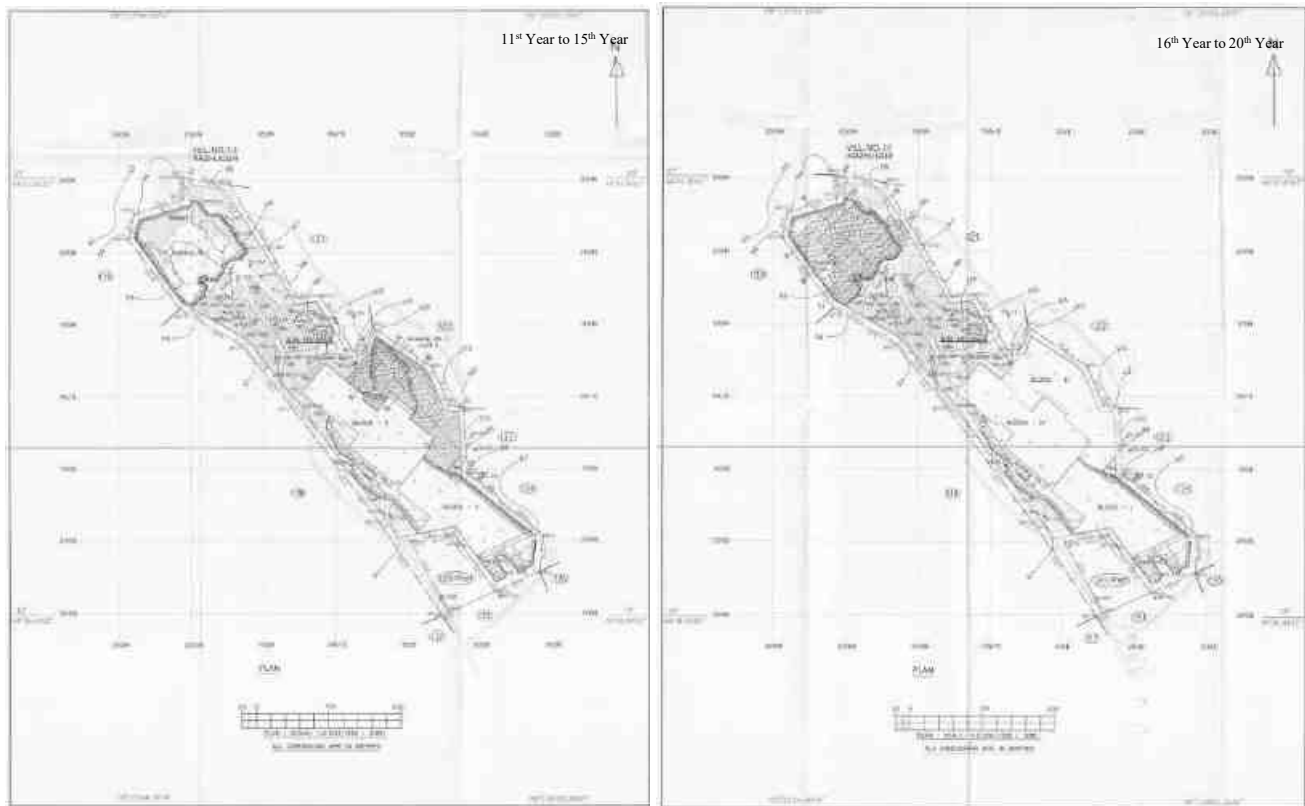


Figure 2-10 Year-Wise Production Plan

#### 2.7.4 Conceptual Plan

Conceptual Mining Plan is prepared with an object of twenty 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. The ultimate pit dimension is given below:

Sl. No.	Ultimate Pit Dimensions at Top (m)		Ultimate Pit Dimensions at Bottom (m)		Depth (Avg) in(m)
	Length	Width	Length	Width	
1	680.012	136.50	620.002	66.77	58 BGL

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

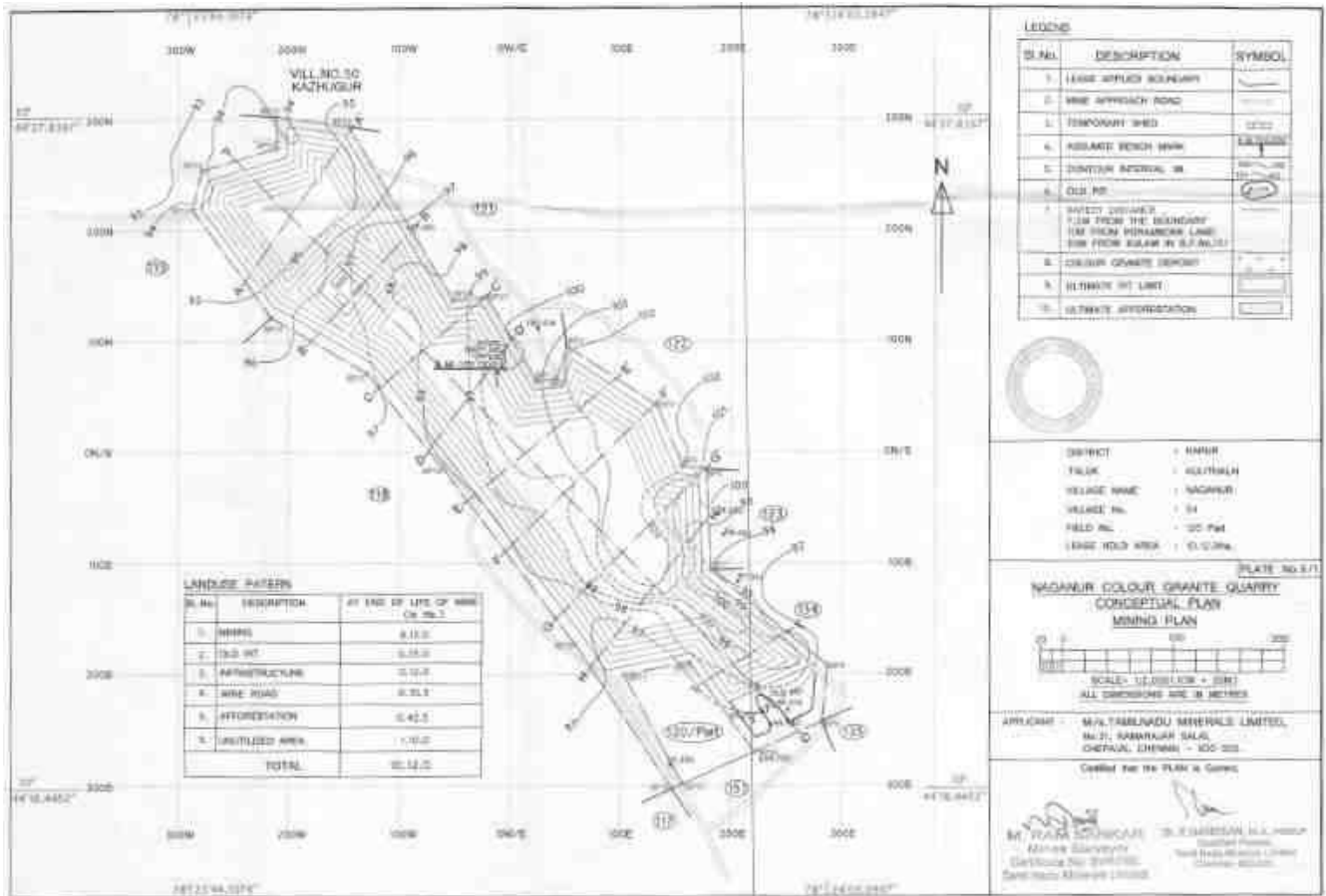


Figure 2-11 Conceptual Plan & Sections

## 2.8 Type of Mining

The proposed mining project is an opencast method of mechanized mining with 10.0m height 10.0m width of the bench.

### 2.8.1 Waste and Sub-grade Mineral Management

The dumps will be maintained not exceeding 5m Height and the angle of slope of dumps will be at 45° from horizontal.

The waste dump has been earmarked and the same is shown in mining plan.

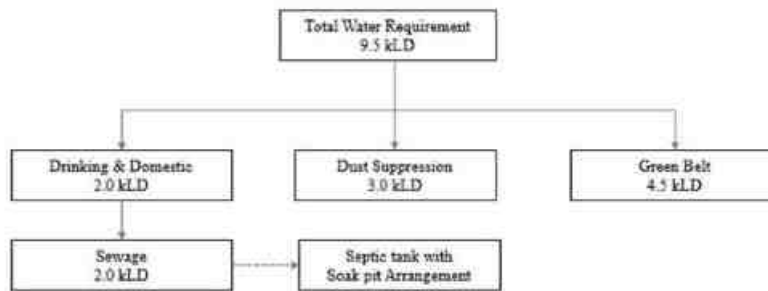
### 2.8.2 Measures to minimize und vibration due to blasting

The quarrying operation is being carried out by semi-mechanised method with deployment of HEMM for development and production activities. Dust will be suppressed by adopting wet drilling method and water sprinkling in the haul road. As expansion rock breaking powder is using for splitting rock the noise level will be reduced. As TAMIN is using Milli Second Delay Detonator (MSDD) for blasting, the vibration observed in this quarry is negligible.

2.9 General Features

2.9.1 Water requirement

The total water requirement would be 9.5 kLD, which will be sourced from Local vendors. Out of 9.5 kLD, 2 kLD will be used for Drinking and Domestic purpose, 3.0 kLD will be used for Dust Suppression and remaining 4.5 kLD will be used for Green Belt. The water balance chart is shown below:

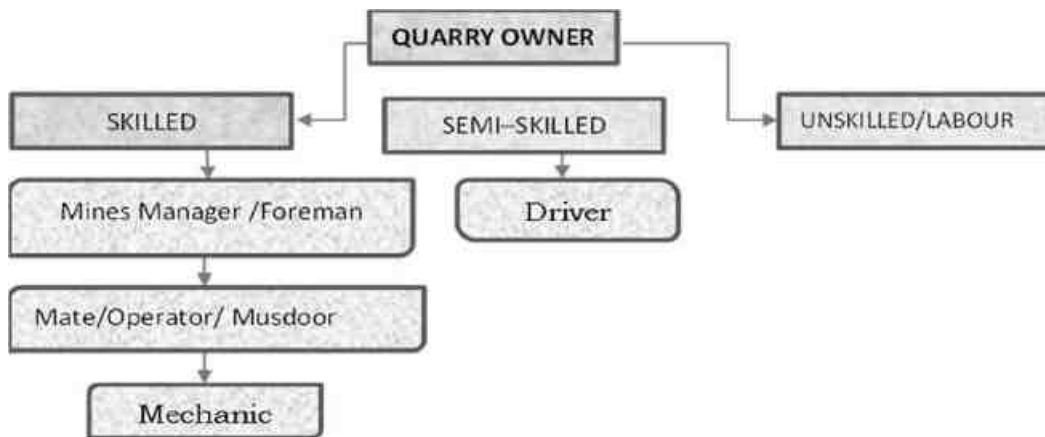


2.9.2 Surface drainage pattern

In an open cast mining project, the nearby streams may experience high siltation. The contours decide the runoff pattern of catchment area. It also indicates erosion potential. These may have significant impacts on water resources. However, in absence of any perennial drainage in the vicinity of mine and flat terrain having not higher than first order drain, the impact on water regime, with appropriate mitigation measures as mentioned, is likely to insignificant.

2.9.3 Manpower Requirement

The total manpower required is 40 Nos. The details of the manpower requirement are detailed below



2.9.4 Green Belt

As per SEAC norms, PP have to plant 5,000 Saplings (500\*10.12 Ha =5060 ≈ 5000). The afforestation area of 0.42.50 Ha will be maintained as green belt area. This area will be planted with local Species of 400 Nos. of saplings, remaining 4600 saplings will be planted outside the lease such as at project surrounding schools, temples, road sides, etc. In the conceptual stage internal road and office area will be planted with local species.

Table 2-8 Green Belt development Plan

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

S.No.	Block	Species	No. of trees	Spacing	Survival
1	I	Pongamia pinnata,	100	3m x 3m	87%
2	II	Syzigium cumini, Albizia lebbeck, Thespesia	100		
3	III	populnea, Bauhinia	100		
4	IV	racemose, Cassia siamea, Azadirachta indica	100		
<b>Total</b>			<b>400</b>		

The layout showing green belt plan is shown below

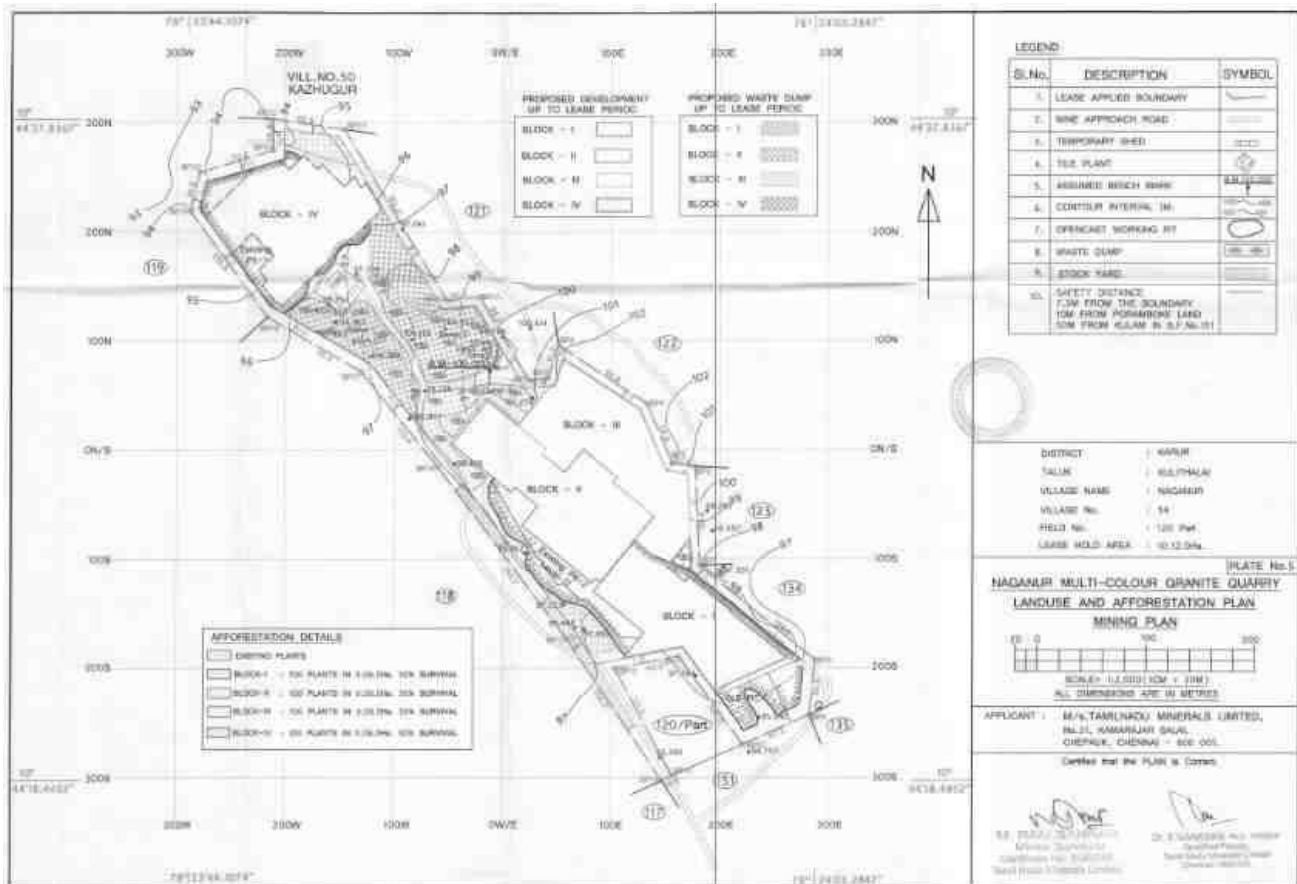


Figure 2-12 Green Belt Layout

### 2.9.5 Energy Requirement

All the equipment will be diesel-operated. No electricity is needed for mining operations.

### 2.9.6 Vehicular Traffic Density

The proposed quarry is located in Naganur village.

The vehicular traffic survey will be carried out in the route through which mined out minerals are transported. Within 500 m radius, there are seven existing quarries including this proposal. The No. of trips per day for carrying the mine out mineral for this project is 8 Nos. Traffic Survey is conducted in SH 71.



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.



Figure 2-13 Traffic Study Point

### Methodology

#### Vehicle Count

The vehicles passing through the road (in both ways) were counted separately for 24 hours at the one elected location from 0600 hrs to 0600 hrs next day continuously. Category wise vehicle counting has been done continuously and recorded in the traffic volume count on hourly basis under respective categories.

#### Categorization of Traffic

The engine driven vehicles were categorized into various heads viz. two wheelers, three wheelers, four wheelers and trucks/bus. The level of service is given below. (Source: Recommended Design Service Volumes (PCUs per hour), IRC)

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

Level of Service	General Operating conditions	Range of V/C
A	Free flow (traffic flows at or above speed limit and motorists have complete mobility between lanes)	<0.30
B	Reasonable flow (slightly more congested, with some maneuverability)	0.3 – 0.47
C	Stable flow (more congested than B, loads close to capacity)	0.48 – 0.68
D	Approaching unstable flow (speeds are somewhat reduced, example: busy corridor during middle of a weekday, or a functional urban highway during rush hour)	0.69 – 0.88
E	Unstable flow (flow becomes irregular, speed varies widely and rarely reaches speed limit)	0.88 - 1.00
F	Forced or breakdown flow (a constant traffic jam)	>1.00

Table 2-9 Summary on Traffic Volume

Route	Existing Traffic Survey in PCU	Incremental Traffic Survey due to project	Total traffic survey volume	Hourly capacity in PCU as per IRC -1960 guidelines
SH 71	127	8	0.11	1500

Table 2-10 Modified Level of service

Route	Existing Volume PCU/hr	Existing V/C Ratio	Additional Volume PCU/hr	Modified Volume PCU/hr	Modified V/C ratio	Modified LOS
SH 71	127	0.11	8	0.05	0.16	A*

### 2.9.7 Project Requirements

Table 2-11 Project Requirements

S. No.	Nature of requirement	Description
1.	Water requirement	The total water requirement would be 9.5 kLD, which will be sourced from Local vendors. Out of 9.5 kLD, 2 kLD will be used for Drinking and Domestic purpose, 3.0 kLD will be used for Dust Suppression and remaining 4.5 kLD will be used for Green Belt. The water balance chart is shown below:

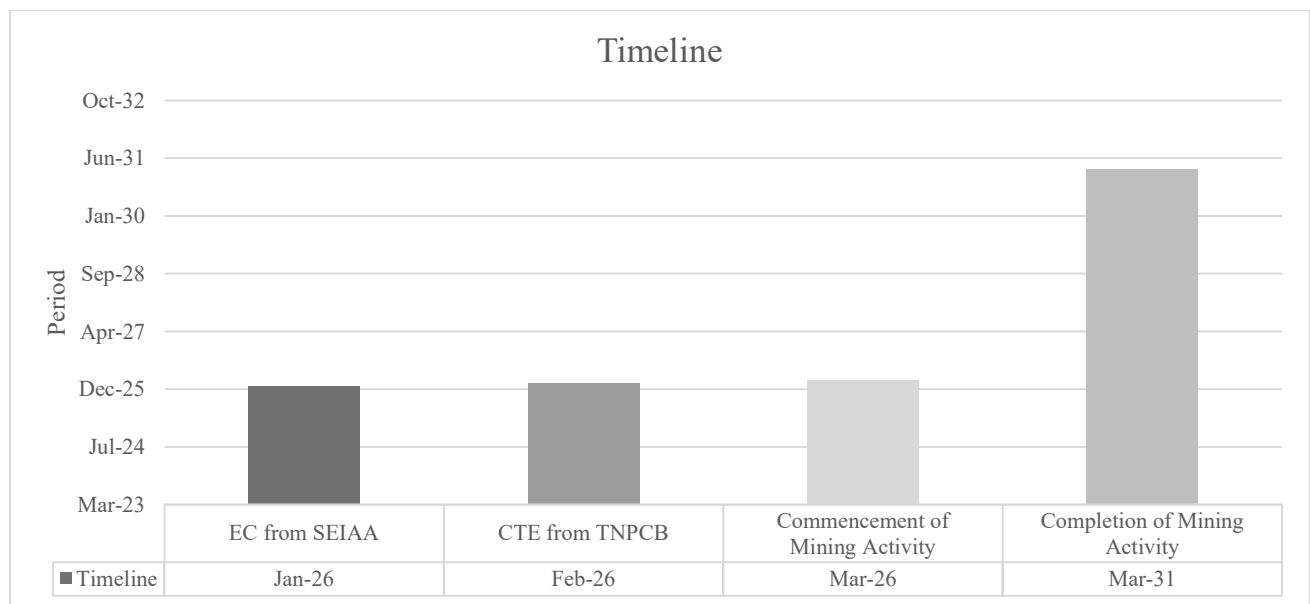
*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

		<pre> graph TD     A[Total Water Requirement 9.5 kLD] --&gt; B[Drinking &amp; Domestic 2.0 kLD]     A --&gt; C[Dust Suppression 3.0 kLD]     A --&gt; D[Green Belt 4.5 kLD]     B --&gt; E[Sewage 2.0 kLD]     E --&gt; F[Septic tank with Soak pit Arrangement]     C --&gt; F     </pre>
2.	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid.
3.	Manpower requirement	40 Nos.
4.	Project Cost	Rs. 914.44 lakhs
5.	CER Cost	Rs. 8,00, 000/-

2.10 Timeline for implementation of Project activities

Mining work will be started upon the grant of Environmental Clearance (E.C) from SEIAA and Consent to Establish (CTE) from TNPC Board. The mining activity will be completed in 5 years on receipt of all the statutory approvals.

Graph 2-1 Schedule for implementation of the proposed project



### 3 DESCRIPTION OF ENVIRONMENT

#### 3.1 General

This chapter depicts the establishment of baseline for valued environmental components, as identified in and around the proposed project site with an area of 10 km radius. Primary baseline data monitoring covered one season (three (3) months) i.e., **Dec'24 to Feb'25** and secondary information was taken from government and semi-government organization's published data.

Primary baseline data are collected through field study and it covers

- ♣ Physical - the area, the soil properties, the geological characteristics, the topography, etc
- ♣ Chemical - water, air, noise and soil pollution levels, etc.
- ♣ Biological - the biodiversity of the area, types of flora and fauna, species richness, species distribution, types of ecosystems, presence or absence of endangered species and/or sensitive ecosystems etc.
- ♣ Socioeconomic - demography, social structure, economic conditions, developmental capabilities, displacement of locals, etc.

Baseline study is carried out with an objective to assess the prevailing environmental quality and to compare the same after the establishment of the proposed project.

#### 3.2 Study area extent

The study area for the proposed project is as follows:

- ♣ Mine Lease area as the “core zone”
- ♣ A study area of 10 km radius from the project boundary is designated as buffer Zone.

We have obtained Terms of Reference from SEIAA vide ToR Identification No. TO25B0106TN5559039N

#### 3.3 Monitoring Lab

The primary data for the proposed project was collected by M/s. Shrient Analytical and Research Labs Pvt Ltd, # 416/15, Dharga Road, Perungalathur, West Tambaram, Chennai – 600 045. (Accredited by NABL as ISO/IEC/17025:2017)

#### 3.4 Baseline Data Collection period

The baseline data is collected in accordance with the CPCB Guidelines. Primary baseline data monitoring covered one season (three (3) months) i.e., **Dec'24 to Feb'25**.

##### 3.4.1 Frequency of Monitoring

Table 3-1 Frequency of Sampling and Analysis

S. No.	Attribute	Details of Baseline data	Frequency
1.	Air Environment		
i	Ambient air quality	Type of data: Primary data Sampling Locations: Project site and 6 surrounding locations within 10 km radius of the project site Period: Dec 24 – Feb 25	24 hourly twice a week 4 hourly. Twice a week, One non-monsoon season 8 hourly, twice a week

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

			24 hourly, twice a week
ii	Noise Level	Type of data: Primary data Sampling Locations: Project site and 6 surrounding locations within 10 km radius of the project site Period: One-time sampling	24 hourly Once in 7 locations
iii	Meteorological Data	Type of data: Project Site Note: Secondary for choosing the baseline monitoring locations Source: Indian Meteorological Department (IMD), Chennai 2020	1 hourly continuous
2	Water Environment		
i	Ground water	Type of data: Primary data Sampling Locations: Project site and 4 surrounding locations Within 5 km radius of the project site Period: Once during the study period	One time sampling
3	Land Environment		
vi	Land use & land cover	Type of data: Secondary Source: GIS Study for Land use/ Landcover details of 10 km radius	
vii	Soil analysis	Type of data: Primary data Sampling Locations: Project site and 5 surrounding locations within 5 km radius of the project site Period: Once during the study period	One time sampling
4	Socio – Economic Environment	1. Primary data: Project site (10 km around the project site) 2. Secondary data: Source: ‘Census of India’ 2011	One time sampling
5	Biological Environment	1. Primary data: Project site and selected locations in the 6 Km radius from the project site (Period: Jan 2025) 2. Secondary data: From 5 Km up to 10 km radius from the project site	

3.5 Study area details

Table 3-2 Study Area Details

S. No.	Description	Details	Source
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*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

1.	Project Location	S.F. Nos. 120 (Part) over an extent of 10.12.0 Ha in Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu	Field Study
2.	Latitude & Longitude	Latitude: 10° 44' 18.4452"N to 10° 44' 37.8367"N Longitude: 78° 23' 44.1074"E to 78°24'03.2847"E	Land Documents
3.	Topo Sheet No.	57J/5 & 6	Survey of India Toposheet
4.	Mine Lease Area	10.12.0 Ha	Land Documents
5.	Total population	4303	Census Survey of India
6.	Maximum Temperature	43.9°C	IMD
7.	Minimum Temperature	13.9°C	
8.	Ecological Sensitive Areas - Wetlands, watercourses or other waterbodies, coastal zone, biospheres, mountains, forests	Nil	Survey of India Toposheet
9.	Densely Populated Area	Kazhugur	
10.	Areas occupied by sensitive manmade land uses (hospitals, schools, places of worship, community facilities)	Poovaayi Amman Malaiyala Karuppu	Field Study

### *3.5.1 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 300 m radius from the proposed Quarry and are detailed below. There are no permanent structures or temples within a 300-meter radius from the project site.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.



Figure 3-1 Google map showing Environmental Features located within 500 m radius from the proposed quarry site



Figure 3-2 Google map showing Structures located within 500 m radius from the proposed quarry site

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

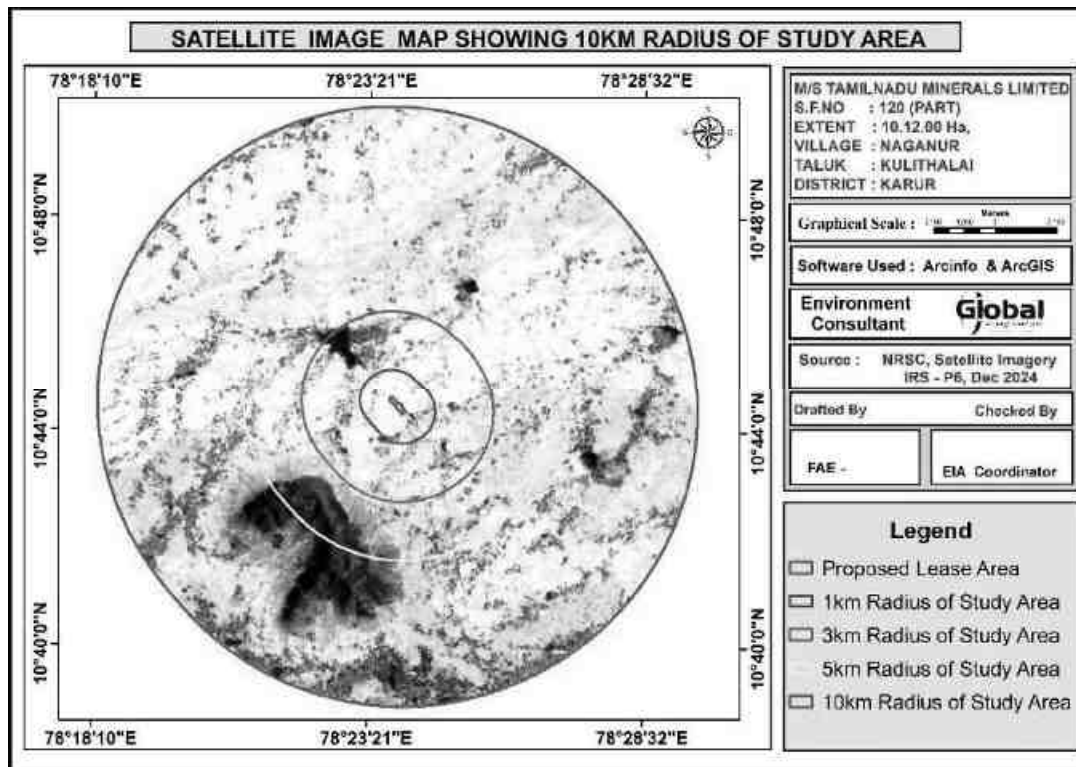


Figure 3-3 Satellite Image – 10km radius around the project site

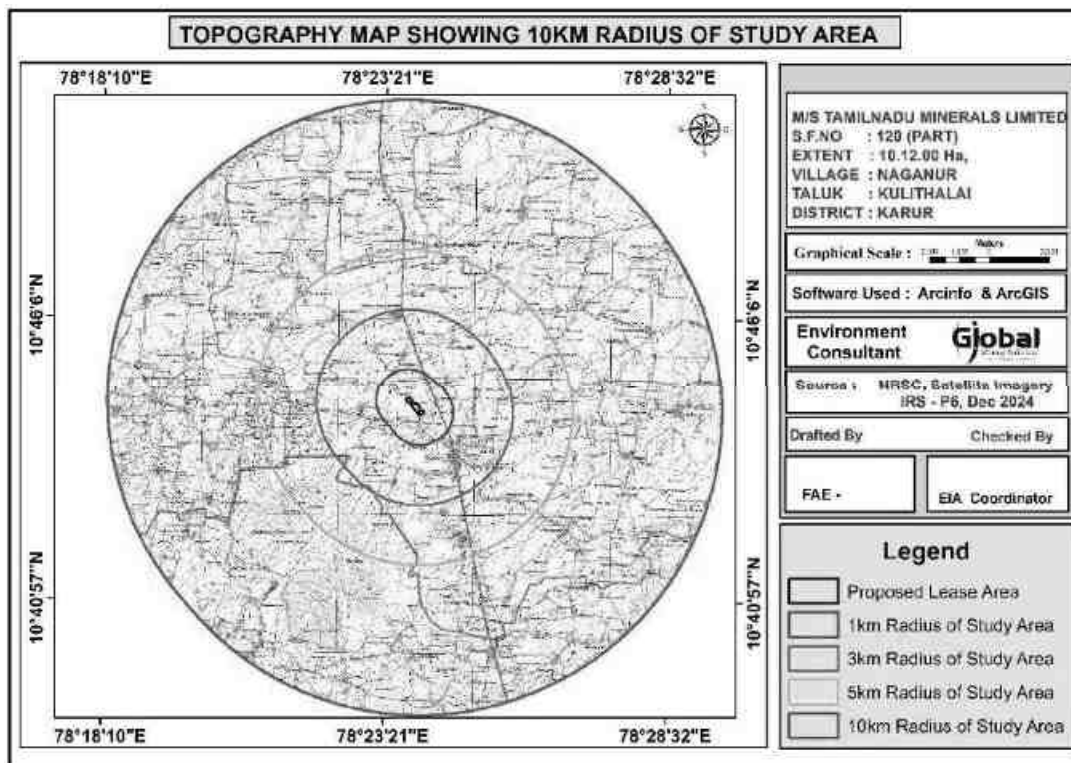


Figure 3-4 TOPO Map – 10km radius from the project site



### 3.6 Physical Conditions

The physical conditions of the study area are discussed:

- ♣ District Profile
- ♣ Land use, Drainage, Geology & Physiography
- ♣ Natural resources
- ♣ Seismic Zone Characteristics

#### 3.6.1 District Profile

Karur district comprises two divisions of Karur and Kulithalai, seven circles namely Karur, Aravakurichi, Manmangalam, Bukalur, Kulithalai, Krishnarayapuram and Kadavur and 203 revenue villages. The district has 157 panchayats and eight districts namely Karur, Dandoni, Aravakurichi, K.Paramathi, Kulithalai, Krishnarayapuram, Kadavur, Thogamalai. In this district there are two municipalities namely Karur and Kulithalai and eleven municipalities namely Aravakurichi, Krishnarayapuram, Marudur, Nangavaram, Old Jayangkonda Solapuram, Pallapatti, Puliur, Punchai Thotakurichi, Punsai Bukhlur, TNBL Bukhlur, Uppidamangalam.

Karur District was created as per G.O.Ms.No.683, Revenue Department, dated 25th July 1996. It consists of Seven Taluks, Viz., Karur, Aravakurichi, Manmangalam, Kadavur, Pugalur, Kulithalai and Krishnarayapuram. The District spreads over an area of 2895 Sq.Km Stretching between 10°45' and 11°45' of North Latitude and 77°45' and 78°07' of East Longitude and with an altitude of 78 Metres above mean sea level with a population of 10, 64,493 as per 2011 census. Karur District is bounded by Tiruchirappalli District on the East, Namakkal District on the North, Dindigul District on the South and Erode District on the West. It is an Inland District without any Coastal line.

**Source:** “District Export Action Plan” & “Karur.nic.in”

#### 3.6.2 Land Use Analysis

##### **Land Use classification:**

Land Use / Land Cover - Land Use refers to man's activity and the various uses, which are carried on land. Land Cover refers to natural vegetation, water bodies, rock/soil, artificial cover and others, resulting due to land transformation. The present Land Use/Land Classification map is developed with following objectives. The main objective of the study is to classify the different land use within 10 km from the project boundary.

##### **Methodology:**

Information of land use and land cover is important for many planning and management activities concerning the surface of the earth (Agarwal and Garg, 2000). Land use refers to man's activities on land, which are directly related to land (Anderson et al., 1976). The land use and the land cover determine the infiltration capacity. Barren surfaces are poor retainers of water as compared to grasslands and forests, which not only hold water for longer periods on the surface, but at the same time allow it to percolate down.

The terms ‘land use’ and ‘land cover’ (LULC) are often used to describe maps that provide information about the types of features found on the earth’s surface (land cover) and the human activity that is associated with them (land use).

Satellite remote sensing is being used for determining different types of land use classes as it provides a means of assessing a large area with limited time and resources. However, satellite images do not record land cover details directly and they are measured based on the solar energy reflected from each area on the land. The amount of multi spectral energy in multi wavelengths depends on the type of material at the earth’s surface and the objective is to associate particular land cover with each of these reflected energies, which is achieved using either visual or digital interpretation. In the present study the task is to study in detail the land use and land cover in and around the project site. The study envisages different LULC around the proposed project area and the procedure adopted is as below

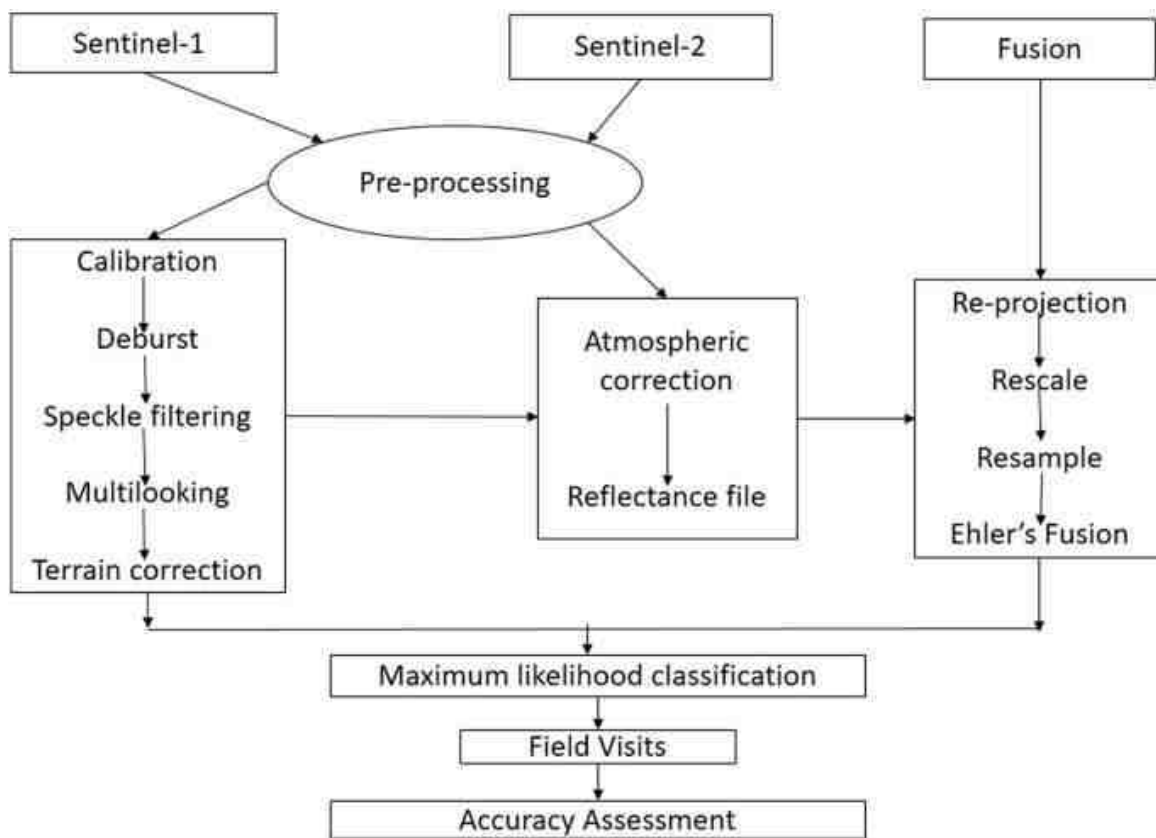


Figure 3-5 Flow-chart showing methodology of Land Use Mapping

**Satellite Data:**

Sentinel multispectral satellite data of 11th April 2022 was utilized for the present study. Details of satellite data is given below. The rectification of imagery was carried out on to bring the digital data on the earth coordinate system by means of ground control point (GCP) assignments/SOI topo sheets.

**Scale of mapping:**

Considering the user defined scale of mapping, 1:50000 Sentinal data on 1:50000 Scale was used for Land use / Land cover mapping of 10 km radius for proposed site. The description of the land use categories for 10 km radius and the statistics are given for 10 km radius.

**Interpretation Technique:**

Standard on screen visual interpretation procedure was followed. The various Land use / Land cover classes interpreted along with the SOI topographical maps during the initial rapid reconnaissance of the study area. The physiognomic expressions conceived by image elements of color, tone, texture, size, shape, pattern, shadow, location and associated features are used to interpret the FCC imagery. Image interpretation keys were developed for each of the LU/LC classes in terms of image elements.

February 2016 FCC imagery (Digital data) of the study area was interpreted for the relevant land use classes. On screen visual interpretation coupled with supervised image classification techniques are used to prepare the land use classification.

1. Digitization of the study area (10 km radius from the proposed site) from the topo maps
2. In the present study the IRS –P6 satellite image and SOI topo sheets of 47-F/01,02,03 have been procured and interpreted using the ERDAS imaging and ARC-GIS software adopting the necessary interpretation techniques.
3. Satellite data interpretation and vectorisation of the resulting units
4. Adopting the available guidelines from manual of LULC mapping using Satellite imagery (NRSA, 1989)
5. Field checking and ground truth validation
6. Composition of final LULC map

The LULC Classification has been done at three levels where level -I being the broad classification about the land covers that is Built-up land, agriculture land, waste land, wet lands, and water bodies. These are followed by level –II where built-up land is divided into towns/cities as well villages. The agriculture land is divided into different classes such as cropland, Fallow, Plantation, while wastelands are broadly divided into, Land with scrub and without Scrub and Mining and Industrial wasteland. The wetlands are classified into inland wetlands, coastal wetlands and islands. The water bodies are classified further into River/stream, Canal, Tanks and bay. In the present study level II classification has been undertaken.

**Ground 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.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

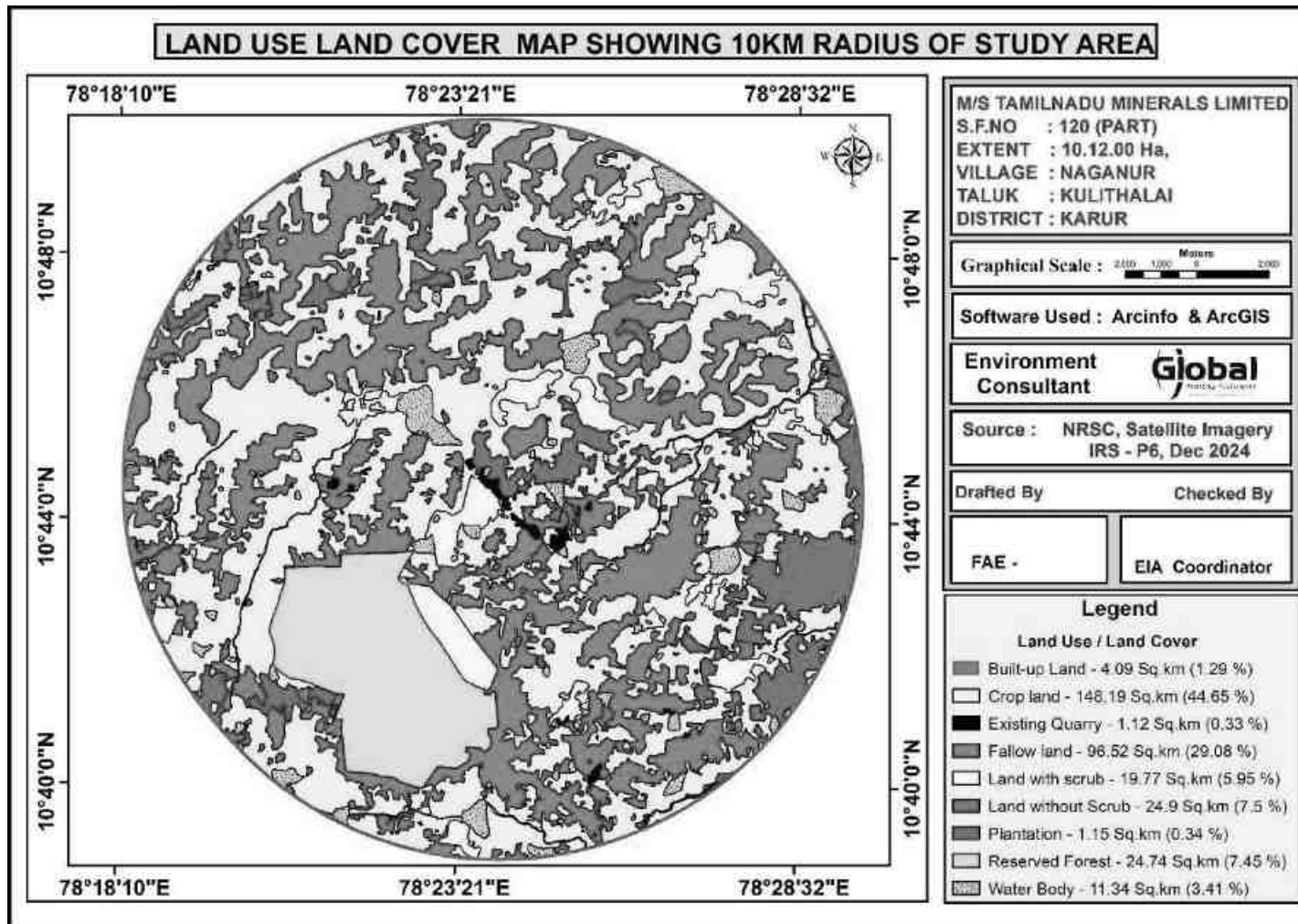


Figure 3-6 land Use Map – 10 km radius around the project site

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Different Land use classes around 10 km radius from the project site are shown below

Table 3-3 land Use classification – 10km around the project site

<b>Classification</b>	<b>Area in Sq.km</b>	<b>Percentage</b>
Built – up Land	4.09	1.29
Crop land	148.19	44.65
Existing Quarry	1.12	0.33
Fallow Land	96.52	29.08
Land with Scrub	19.77	5.95
Land without Scrub	24.9	7.5
Plantation	1.15	0.34
Reserved Forest	24.74	7.45
Water body	11.34	3.41

The land use pattern of the project site is shown below:

Table 3-4 Land use pattern of the project area

<b>Sl. No</b>	<b>Land Use</b>	<b>Present Area (Ha)</b>	<b>Area at conceptual stage (Ha)</b>
1.	Area under mining	4.15.50	8.12.00
2.	Old Pit	0.25.00	0.25.00
3.	Waste Dump	2.53.00	-
4.	Infrastructure	0.12.00	0.12.00
5.	Mineral Stock Yard	0.53.50	-
6.	Roads	0.31.50	0.10.50
7.	Afforestation	0.23.50	0.42.50
8.	Unutilized	1.98.00	1.10.00
<b>Total</b>		<b>10.12.00</b>	<b>10.12.00</b>

### 3.6.3 Contour and Drainage:

The project site is 170m AMSL. The drainage pattern within 5km radius is dendritic.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

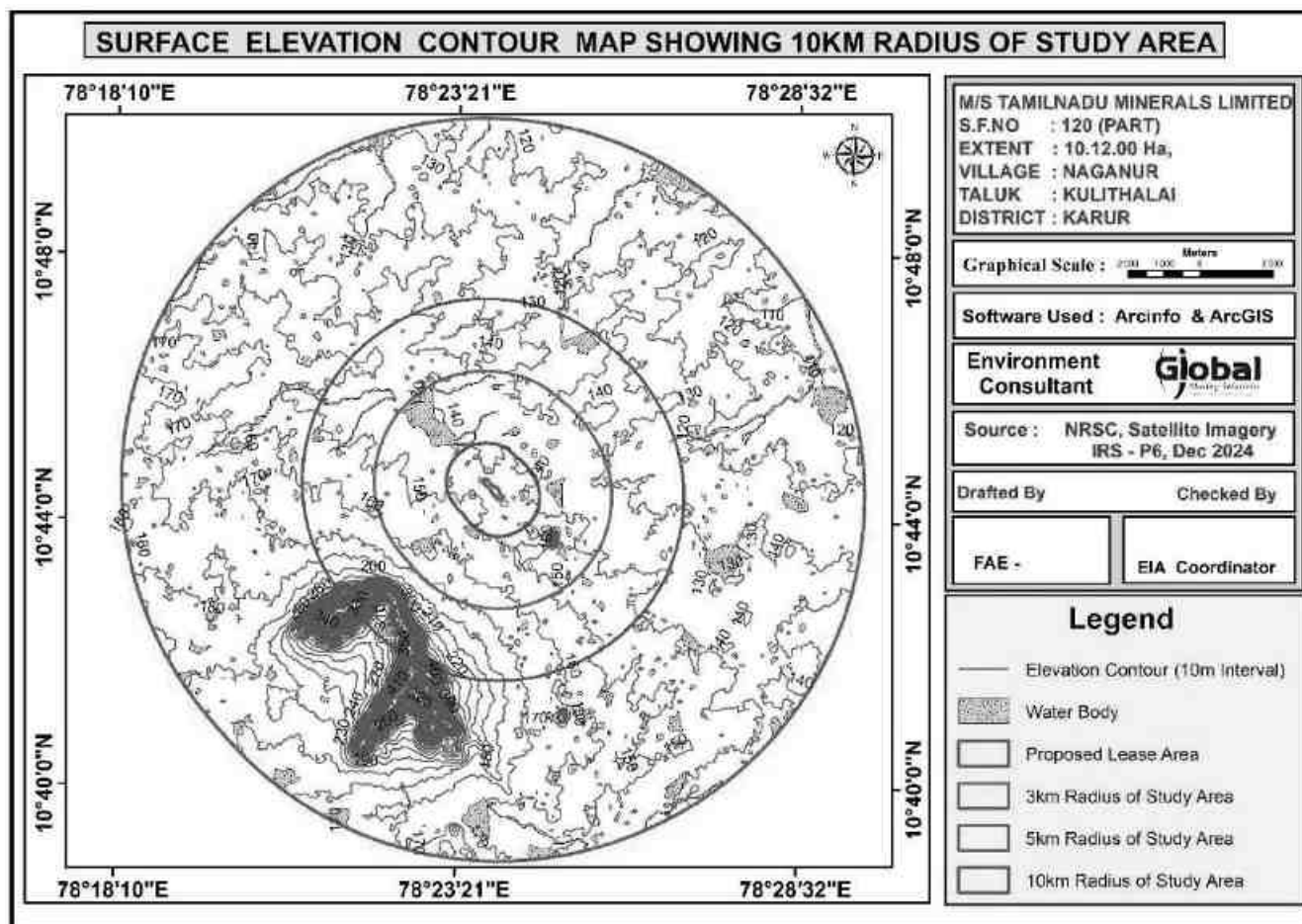


Figure 3-7 Contour Map

Major part of Karur district is drained by Cauvery River. Amaravathi, Kodavanar and Pungar are the important rivers draining the western part of the district and the river Pungar drains in eastern part of the district. The drainage pattern, in general, is dendritic. All the rivers are seasonal and carry substantial flows during monsoon period.

The river Cauvery is flowing on the northern and eastern boundaries. The river Amaravathi is flowing through Kparamathi, Aravakurichi, Thanthoni and Karur blocks and joins with Cauvery at Nerur.

Kodavanar, which is one of the important tributary of Amaravathi River, drains the western part of the district. Originating in Rangamalai hills located in the boarder of Karur and Dindigul district,. It flows from south to north and joins with the river Amaravathi at Karuvadampatti.

The Nanganji river, flowing in the western part of the district, has its origin from the Kottaivali hills in Dindigul district. It flows towards north through Aravakurichi and K.Paramathi blocks and joins with the river Amaravathi at Ariyur.

The Pungar river, flowing across the eastern part of the district, has its origin in the Kadavur hills located in the southern part of Karur district. It flows towards north through Kadavur and Krishnarayapuram blocks and joins with the river Cauvery at Timmachalapuram.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

There is one Odai (480m, S), Venkatachalam Kulam (Adjoining the site), Kusavan Kuttai (255m, NE), Vellai kulam (460m, S), Kalugur Tank (1.3km, NW)

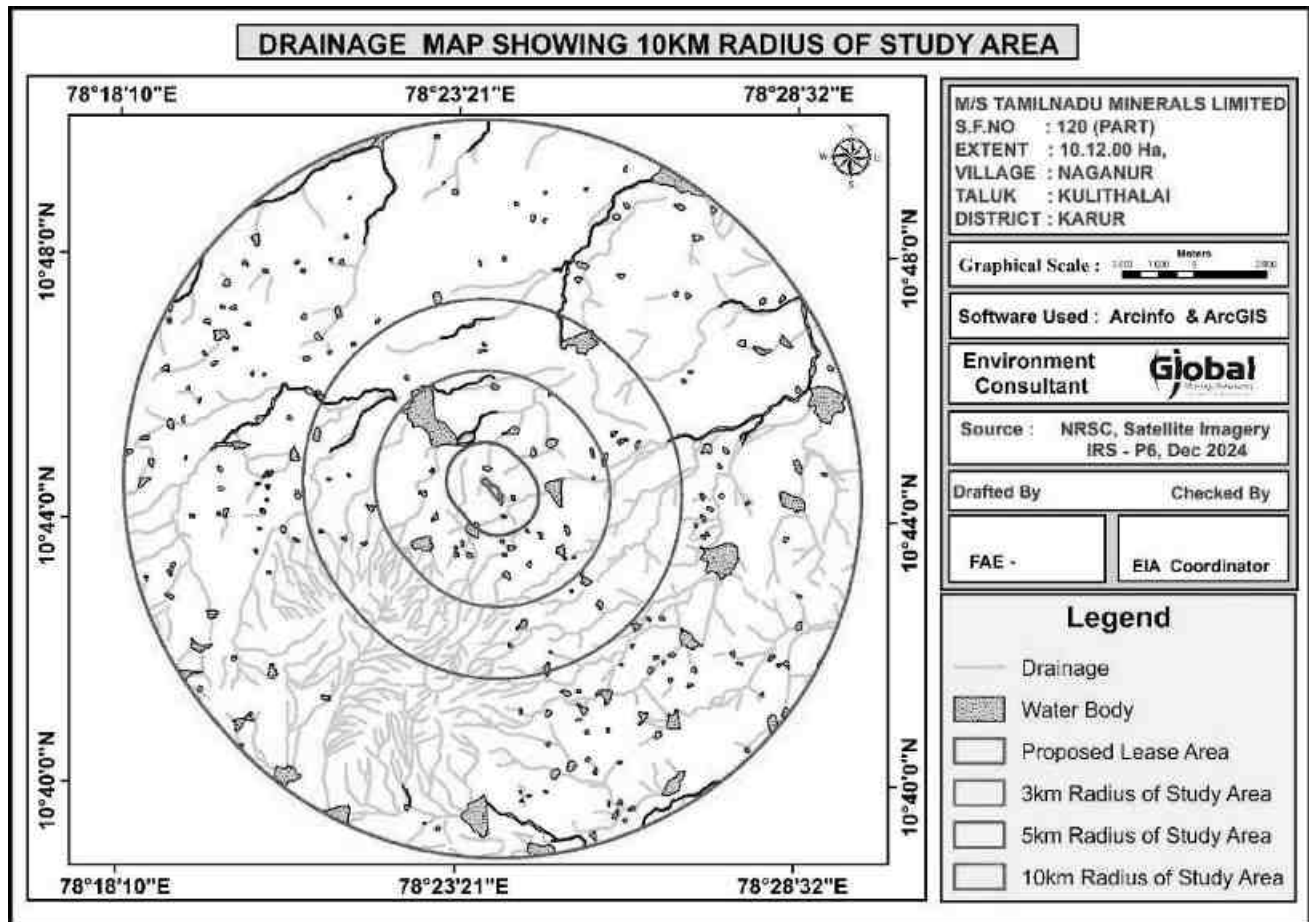


Figure 3-8 Drainage Map

### 3.6.4 Geomorphology

The entire area of the district is a pediplain. The Rangamalai hills and Kadavur hills occurring in the southern side of the district constitutes the remnants of the much-denuded Eastern Ghats and rise to heights of over 1031 m above mean sea level. From these hills the district slopes gently towards north east and forms a vast stretch of plain country till the eastern boarder of the district. There are numerous small residual hills represented by Ayyarmalai, Thanthonimalai and Velayuthampalayam hills. The general elevation of the area is ranging between 100 m and 200m above mean sea level.

The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Structural hill, 2) Pediments, 3) Shallow Pediments, 4) Buried Pediments and 5) Alluvial plain.

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

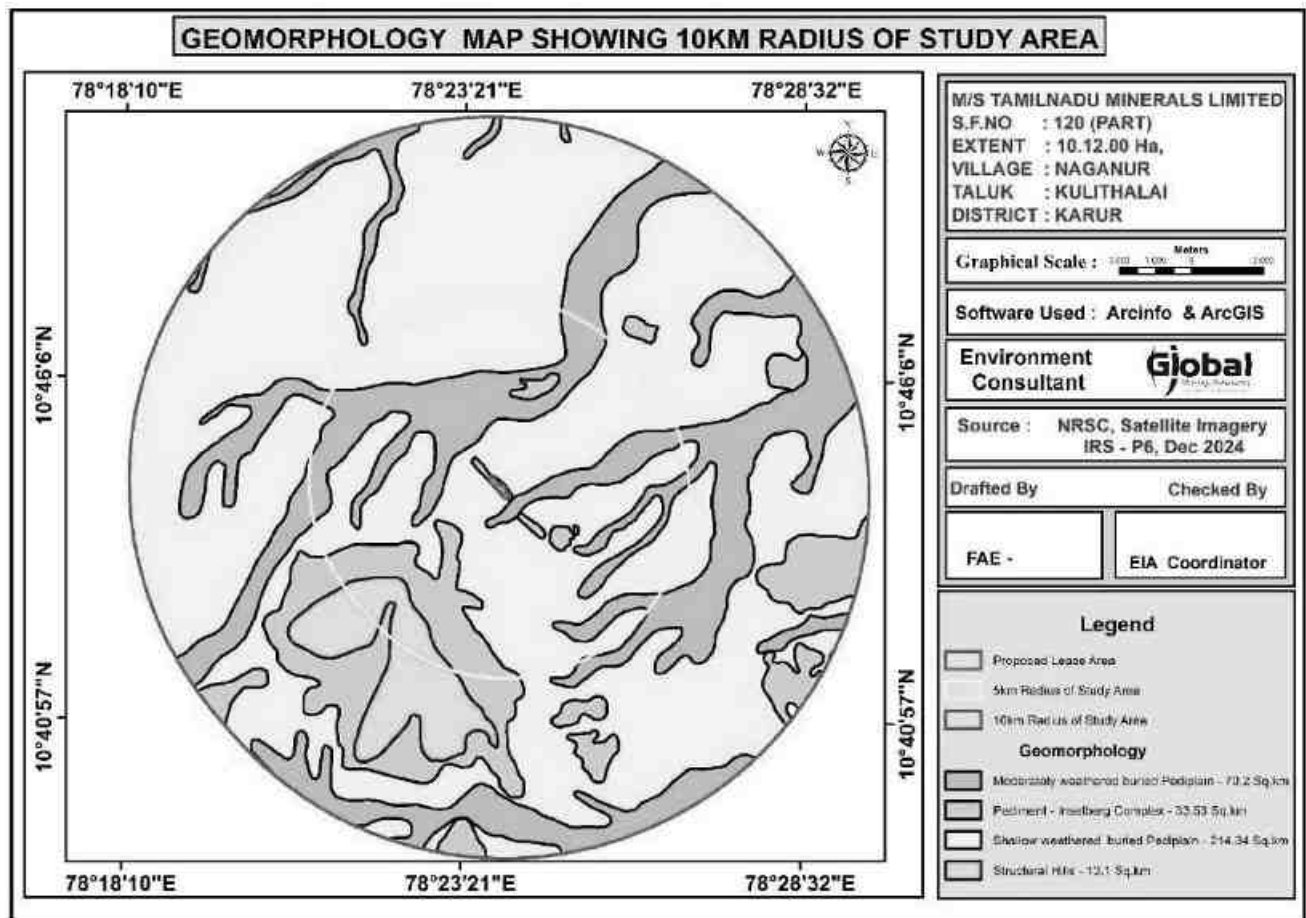


Figure 3-9 Geomorphology – 10 km radius around the project site

### 3.6.5 Geology

The geology map of the study area reveals that the area is predominately covered with Hornblende Boitite Gneiss (301.62 Sq.km) and the remaining area is covered Calc Granulite & Limestone (11.07 Sq.km), Pegmatites (1.41 Sq.km), Pyroxene Granulite (2.28 Sq.km) and Quartzite (15.45 Sq.km). No exploration was carried out.



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

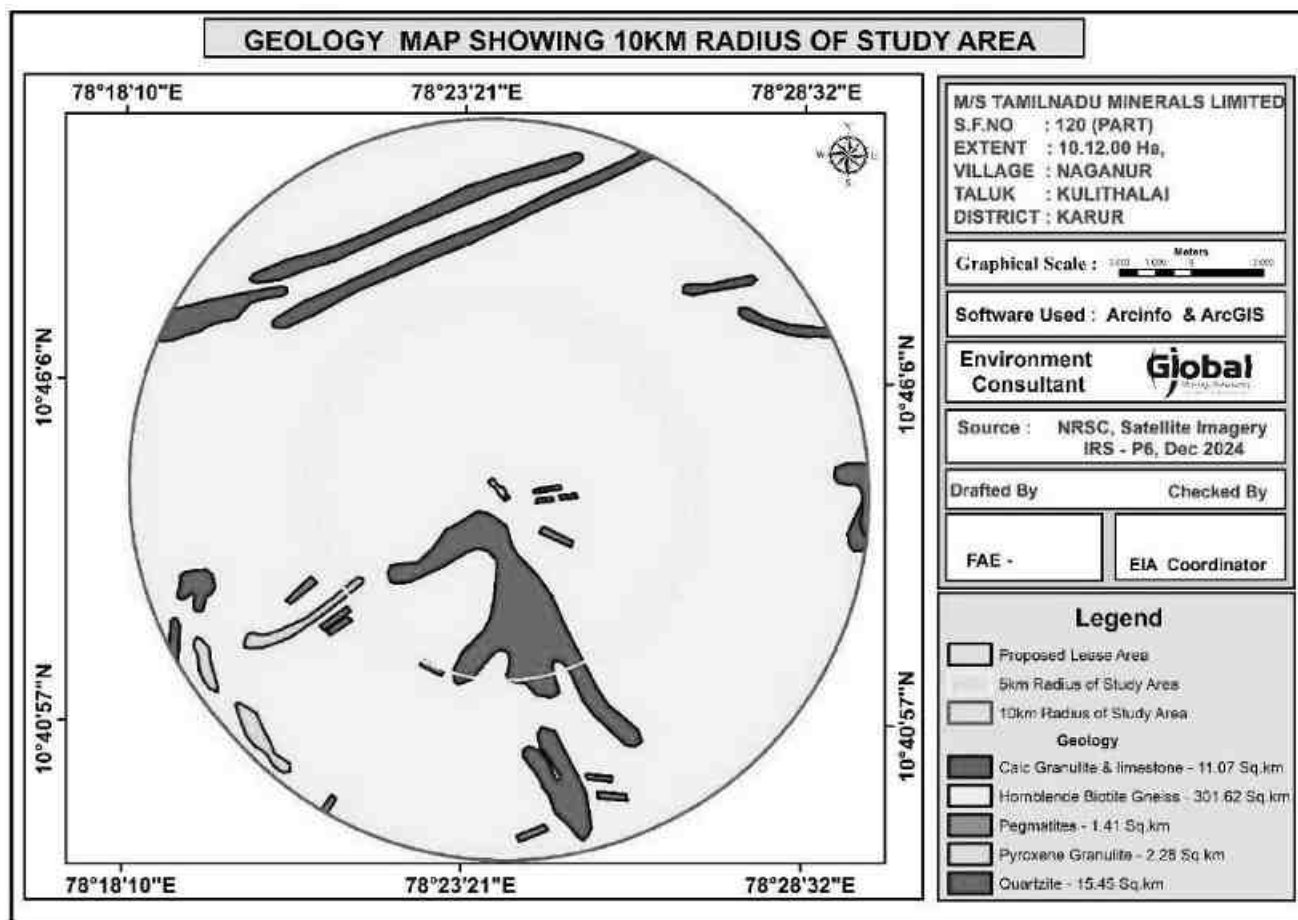


Figure 3-10 Geology – 10 km radius around the project site

### 3.6.6 Hydrogeology

Karur district is underlain entirely by Archaean Crystalline formations with Recent alluvial deposits occurring along the river and streams courses. Weathered, fissured and fractured crystalline rocks and the recent alluvial deposits constitute the important aquifer systems in the district.

The porous formations in the district are represented by river alluvium. These alluvial deposits are confined to the Major River and stream courses only. Ground water occurs under phreatic conditions. The maximum saturated thickness of these aquifers is upto 10 m depending upon the topographic conditions. The hard consolidated crystalline rocks of Archaean age represent weathered, fissured and fractured formations of gneisses, granites, charnockites and other associated rocks. Ground water occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones. The thickness of the weathered mantle of the hard rocks is varying from less than a meter to as much as 20.10 m. It is within the depth of 15m in major part of the district. The Specific capacity of large diameter wells tested in crystalline rocks from 31 to 200 lpm / m. of drawdown. The yield characteristics of wells vary considerably depending on the topographic set-up, lithology and the degree of weathering. The yield of bore wells drilled down to a depth of 70 to 100 m, by various state agencies mainly for domestic purposes ranged from 100 to 600 lpm. The yield of successful bore wells drilled down to a depth of 200 m bgl during the ground water exploration programme of Central Ground Water Board ranged from 0.50 to 14.00 lps. The aquifer and well parameters of the

wells show wide variation. The depth to water level in the district varied between 1.97 – 7.80 m bgl during premonsoon period (May 2006) and varied between 1.35 – 6.83 m bgl during post monsoon depth to water level (Jan 2007). The seasonal fluctuation shows a rise in water level, which ranges from 0.46 to 1.98 m. The piezometric head varied between 3.53 to 5.34 m

### *3.6.7 Natural Resources*

#### *Forest Resources*

The detailed description of Kadavur reserve Forest is enclosed as Annexure.

#### *Agricultural Resources*

Agriculture plays a crucial role in the life of an economy. It is the backbone of our economic system. Agriculture not only provides food and raw material but also employment opportunities to a very large proportion of population.

But, in Karur District Income from agriculture and allied activities was showing decreasing trend from 2009-10 to 2010-11. The decreasing trend of agriculture has positively correlated with decreasing trend of cultivators, increasing trend of agricultural labourer's and declining trend of work participation rate in rural areas during 2001 to 2011. Out of 32 districts, Karur occupies 25th place in terms of agriculture production.

#### *Mineral Resources*

The Karur District forms part of the Archean complex of peninsular gneiss. The general rock types of this area are Charnockite, Biotite gneiss, Migmatites and Anorthosites. Karur District is blessed with good reserves of Crystalline Limestone known as "Palayam belt" in Varavanai, Thennilai, Gudalur etc., villages in Kulithalai Taluk and the occurrences of good quality of pegmatite veins constituting with glassy Quartz and potash Feldspar in lensoid patches in Nagampalli and Pungambadi areas in Aravakurichi Taluk. The major mineral such as Limestone, Quartz and Feldspar and Magnesite and Dunitare exploited in Karur District and utilized in the mineral based industries.

### *3.6.8 Seismicity*

Karur falls under seismic zone III, which is categorised as moderate damage zone. Karur Local Planning Area falls under Seismic Zone – III, II. The whole of Karur Local Planning Area falls in this zone which is a moderate to low seismic risk. The seismic zone of Tamilnadu is shown below.

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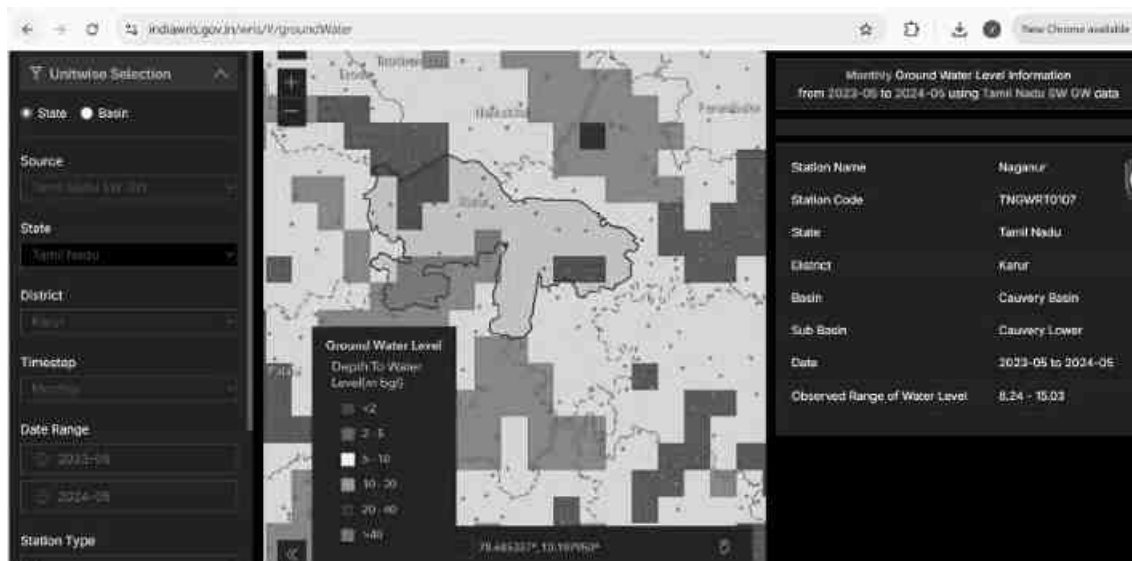


### 3.7 Water Environment

#### 3.7.1 Ground water

##### Depth of GW Level and GW prospects

The ground water table in Cheyyar basin is 3.04 m BGL. **(Source: CGWB)**



The project falls under Kulithalai Block, which is categorized as Safe (< 65%) as per Annexure to G. O (Ms) No. 161, Public Works (R2) Department, dated: 23.10.2019, where the eligibility for the extraction of groundwater, extraction will be permitted only in Safe/Semi critical and non-metro area. **(Source: NWM)**

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Sl.No	Assessment Unit (Firka)	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for Irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (4+5)	Stage of Ground Water Development $\{(6/3)*100\}$ %	Category of the Firka
8	KULITHALAI	3,770.80	1,353.10	67.86	1,420.96	38	SAFE

The figure showing GW prospects for study area of 5 km is shown below (Source: Bhuvan)

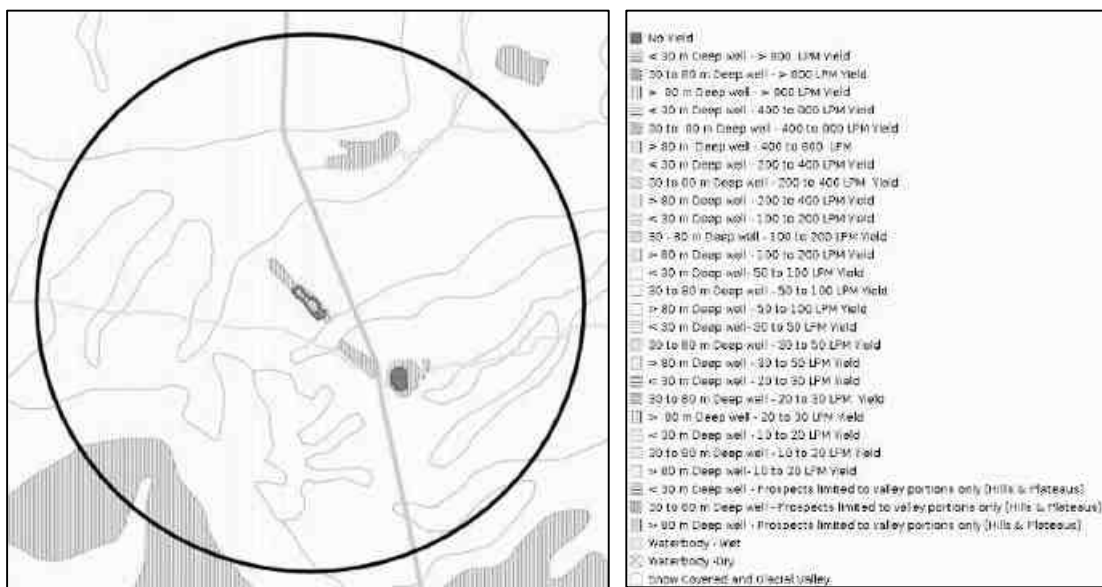


Figure 3-11 Ground water prospects – 5km radius around the project site

The average ground water level in the project is reported as 50 m BGL based on the study done in adjacent ML area.

**Ground water recharge estimation:**

In view of the fact that the detailed data for recharge calculation is extremely difficult to come by some, very simple parameters have been enunciated by the CGWB in their '*Report of the Ground Water Resource Estimation Committee, Ground Water Resource Estimation Methodology - 1997, Central Ground Water Board*'. On an average infiltration can be taken as 44 to 60 cm per year over a total water spread based on the average area of water spread.

Ground water recharge: Total Mine Lease area x 0.6m x 60% x Mining period

$$= 1,01,200 \text{ Sq. m.} \times 0.6\text{m} \times 0.6 \times 5 \text{ years}$$

$$= 1,82,160 \text{ Cu.m for 5 years}$$

**Rainfall Infiltration:**

As per CGWB, the rainfall infiltration is computed by:

$$\text{Rainfall Recharge} = (\text{Rainfall} - \text{minimum threshold}) \times \text{RFIF} \times \text{Area}$$

$$= (0.0089 - 0.001) \times 0.7 \times 74,400$$

$$= 559.64 \text{ Cu.m}$$

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### **Ground Water Quality Monitoring**

Ground water quality monitoring is done in the following locations and analysis will be done for physical, chemical & Biological parameters.

Table 3-5 Ground Water Quality Analysis

<b>Environmental Parameters: <i>Ground water Quality Analysis</i></b>			
Monitoring Period	December 2024 – February 2025		
Design Criteria	Based on the Environmental settings in the study area		
Monitoring Locations	<b>Location</b>	<b>Distance from ML, km</b>	<b>Site Co-ordinates</b>
	Project Site	-	
	Mettupatti	0.30	10°44'33.74"N, 78°24'19.17"E
	Mootakampatti	1.02	10°44'48.09"N, 78°24'23.47"E
	Naganoor	1.00	10°44'13.14"N, 78°23'10.10"E
	Thogamalai	1.35	10°43'12.07"N, 78°24'40.21"E
Methodology	Water Samples were collected in 5 Litre fresh cans as per IS 3025 Part I and transported to the laboratory in Iceboxes		
Frequency of Monitoring	Once in a season		

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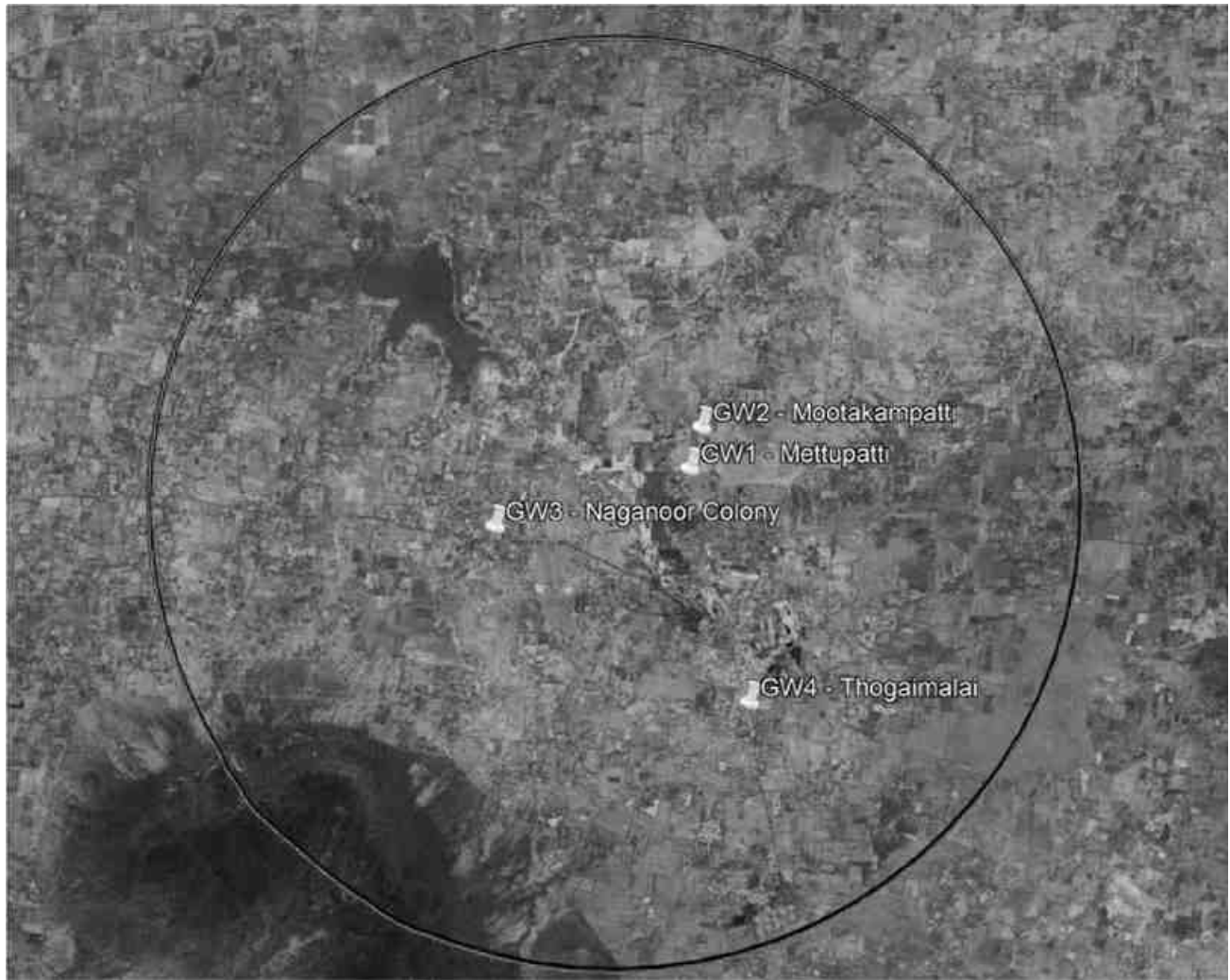


Figure 3-12 Ground Water Sampling Locations

S. No	Parameters	GW 1	GW 2	GW 3	GW 4	GW 5
1	Odour	<1	<1	<1	<1	<1
2	Turbidity	7.48	7.65	7.32	7.66	7.45
3	pH at 25 °C	569.5	1146	833.2	1040	1226
4	Electrical Conductivity	342	690	502	626	738
5	Total Dissolved Solids	133	234	250	242	392
6	Total hardness as CaCO <sub>3</sub>	22.6	43.6	48.5	64.6	85.6
7	Calcium as Ca	18.4	30.1	31.0	19.4	42.7
8	Magnesium as Mg	56.6	109	121	162	214
9	Calcium as CaCO <sub>3</sub>	76.8	125	129	80.8	178
10	Magnesium as CaCO <sub>3</sub>	155	296	332	235	195
11	Total alkalinity as CaCO <sub>3</sub>	140	230	121	232	255

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12	Chloride as Cl <sup>-</sup>	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)
13	Free Residual chlorine as Cl <sup>-</sup>	45.6	181	105	156	218
14	Sulphates as SO <sub>4</sub> <sup>2-</sup>	0.05	0.05	0.04	0.06	0.03
15	Iron as Fe	3.22	1.68	5.64	2.58	1.77
16	Nitrate as NO <sub>3</sub>	0.36	0.45	0.52	0.47	0.45
17	Fluoride as F	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)
18	Manganese as Mn	<1	<1	<1	<1	<1

### **Interpretation of results**

#### **Physical parameters of water**

The basic physical parameters of the water include

**Odour:** The odour of the water is found to be agreeable in all the 7 monitoring locations.

#### **pH:**

Value observed in the project site: 7.48.

Acceptable and permissible limits: 6.5-8.5. The pH value is the measure of acid – base equilibrium. The value of pH in the project site clearly indicates that water is neutral in nature.

#### **Turbidity:**

Value observed in the project site: <1 NTU.

Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplanktons and other sediments. The value in the project site indicates the water is not turbid and no any physical treatment is required to treat the turbidity of the water.

#### **Total Dissolved Solids:**

Value observed in project site: 342 mg/L.

Acceptable and permissible limits: 500 mg/L and 2000 mg/L respectively. The TDS is the presence of the inorganic salts and small amounts of organic matter present in the water. This is mainly due to the result of surface runoff as the cations and anions in the top soil is carried away by the water. As per the Guidelines of WHO, if the value of TDS is greater than 1200 mg/L, it is designated as unacceptable. Since the value of the TDS is less than 1200 mg/L, it will not cause any adverse impact.

#### **Chemical parameters of water:**

The chemical parameters of the drinking water include

#### **Calcium:**

Value observed in the project site: 22.6 mg/L.

Acceptable and permissible limits: 75mg/L and 200 mg/L respectively.

Calcium is the essential macronutrient. The value of the calcium is within the prescribed permissible standards. The higher level of calcium may cause hardening in domestic equipment and will also reduce the detergent efficiency. Higher

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levels of calcium will lead to constipation, gas, and bloating. Apart from that, extra calcium may also increase the risk of kidney stones. If the calcium deposit in blood is high, it may lead to hypercalcemia.

**Magnesium:**

Value observed in the project site: 76.8 mg/L.

Acceptable and permissible limits: 30 mg/L and 100 mg/L respectively.

The value of Magnesium in the project site is less than the permissible limit. The increase in the level of magnesium will cause diarrhoea and vomiting in children.

**Chloride**

Value observed in the project site: 140 mg/L.

Acceptable and permissible limits: 250 mg/L and 1000 mg/L respectively.

The chloride level in the project site is less than the permissible limit. Hence it will not have any major impact.

**Hardness:**

Value observed in project site: 133 mg/L.

Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

The value of Hardness in the project site is within than permissible limit. The increase in the level of hardness may cause corrosion and scaling problems, increased soap consumption and it also contributes to the salty taste of water.

**Secondary Data:**

Following are the Analytical Results of samples collected from National Groundwater Monitoring Wells (May 2022)

S.No	District	Location	Latitude	Longitude	PH	EC <sup>μ</sup>	TH <sup>**</sup>	mg/L																U
								Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	Cl	SO <sub>4</sub>	NO <sub>3</sub>	F							
456	Kara	Kovchar	10.7603	77.8289	7.26	4040	1000	136	161	457	18	0	598	781	363	50	0.65	10.51						
457	Kara	Miyazur	10.9417	78.3417	7.00	1977	570	104	63	178	16	0	348	467	16	5	0.12	3.77						
458	Kara	Melnagaram du	10.8767	78.2219	7.05	2840	660	112	92	332	5	0	580	540	154	81	0.61	8.40						
459	Kara	Panumalai	10.9667	77.9135	7.36	1743	308	50	39	267	7	0	476	165	302	3	1.12	1.17						
460	Kara	Theerampalai	10.7292	78.4230	7.17	3160	530	136	46	414	69	0	343	589	232	1	0.77	13.50						

**Source:** State Report on Groundwater Quality in Tamilnadu & U. T. of Puducherry by Government of India, Ministry of Jal Shakti Department of Water Resources, River Development & Ganga Rejuvenation Central Ground Water Board South Eastern Coastal Region, Chennai

3.8 Climatology & Meteorology

Climate and meteorology of a place can play an important role in the implementation of any developmental project. Meteorology is also the key to understand local air quality as there is an essential relationship between meteorology and atmospheric dispersion involving wind in the broadest sense of the term.

The year may broadly be divided into four seasons:

Winter season: December to February

Pre-monsoon season: March to May

Monsoon season: June to September

Post-monsoon season: October to November

**i) Climate**



The district enjoys a tropical climate. The period from March to May is generally hot and dry. The weather is pleasant during the period from November to January. Usually, mornings are more humid than afternoons. The relative humidities are generally between 40 and 80%.

**ii) Temperature**

The mean maximum temperature ranges from 26.7 to 38.56 °C and the mean minimum temperature ranges from 18.7°C to 29.3 °C. The daytime heat is oppressive and the temperature is as high as 43.9°C. The lowest temperature recorded is of the order of 13.9°C.

**iii) Rainfall:**

The annual average rainfall is 635.6 mm.

	<b>Total rainfall (mm)</b>	<b>No. of Rainy Days</b>	<b>Average annual rainfall (mm)</b>
Rainfall	1.1	55	635.6

**Summary of meteorological data**

<b>Parameters</b>	<b>Min. Value</b>	<b>Max. Value</b>	<b>Mean Value</b>
Temperature (°C)	13.9	43.9	29.3
Wind Speed (m/s)	1	9.3	4.2
Relative Humidity (%)	40	80	60
Solar Radiation (W/m <sup>2</sup> )	144.38	164.9	152.3

*3.8.1 Meteorological data collection*

The meteorological data is collected based on daily observations for three-month period, is used in the current report.

**Wind Speed:**

Wind speed was in the range of 1 Km/hr to 9.3 Km/hr. The wind speed was almost close to each other during the whole study period. The wind speed varied from 1 Km/hr to 9.3 Km/hr. The site-specific meteorological data for the study period (December 2024 - February 2025) is presented below. The maximum and minimum values for all the parameters except wind speed and wind direction are presented below.

**Wind Rose Diagram**

The wind rose denotes a class of diagrams designed to display the distribution of wind direction at a given location over a period of time. Wind roses are also useful as they project a large quantity of data in a simple graphical plot. The wind speed & wind direction data are taken and wind rose is plotted for December 2024 – February 2025.

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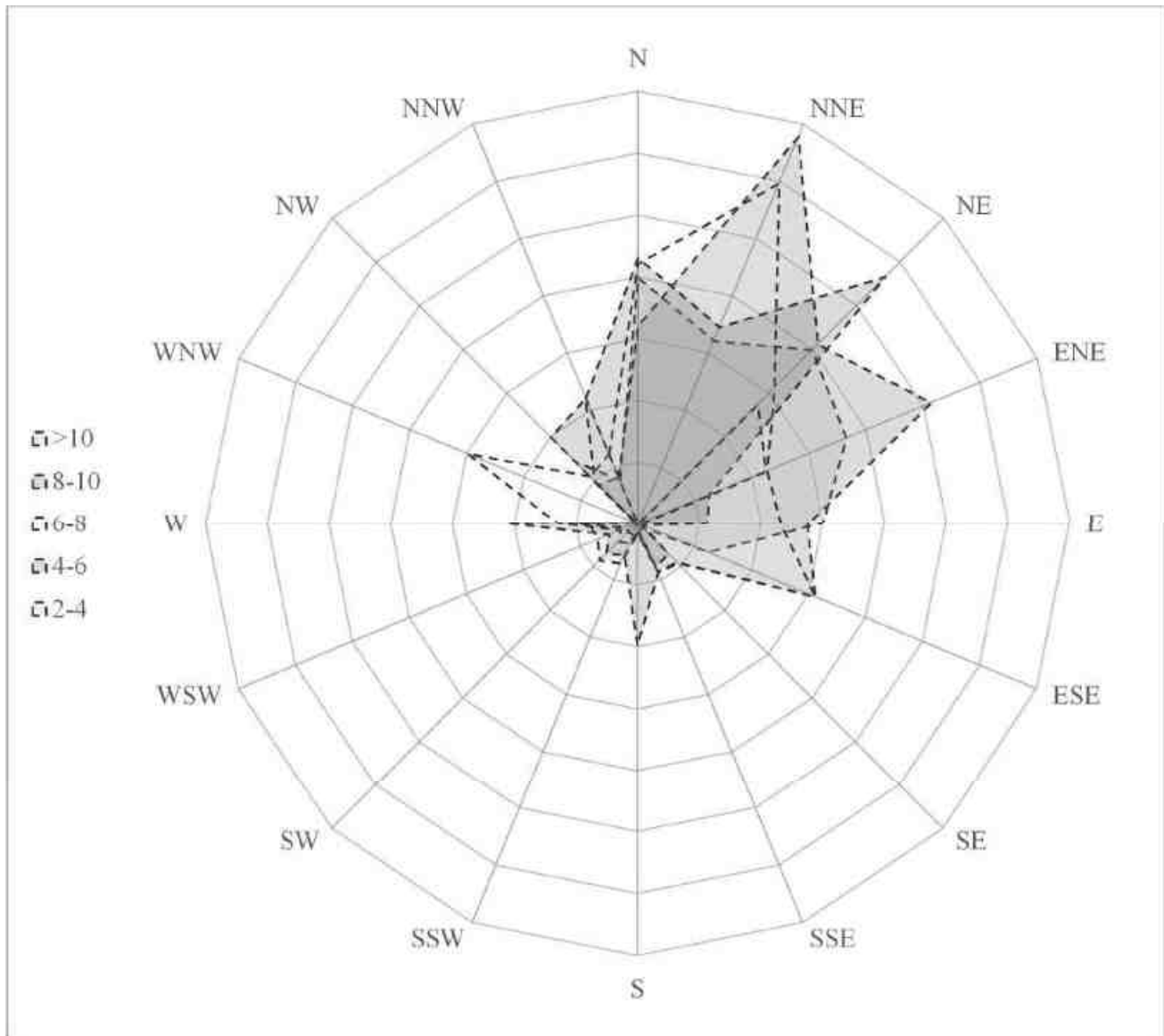


Figure 3-13 Wind Rose Diagram

3.8.2 Ambient Air Quality

Table 3-6 Environmental Parameters – Ambient Air

<b>Environmental Parameters: Ambient Air</b>			
Monitoring Period	December 2024 – February 2025		
Design Criteria	The monitoring stations are selected based on factors like topography/terrain, prevailing meteorological conditions like predominant wind direction (December 2024 – February 2025.), etc, play a vital role in selection of air sampling stations. Based on these criteria, air sampling stations were selected in the area as shown below.		
Monitoring Locations	<b>Location</b>	<b>Distance from ML, km</b>	<b>Site Co-ordinates</b>
	Project Site	-	

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	Mettupatti	0.30	10°44'33.74"N, 78°24'19.17"E
	Mootakampatti	1.02	10°44'48.09"N, 78°24'23.47"E
	Naganoor	1.00	10°44'13.14"N, 78°23'10.10"E
	Thogamalai	1.35	10°43'12.07"N, 78°24'40.21"E
	Kazhugur	1.30	10°45'30.91"N, 78°23'11.58"E
	Thondamanginam	4.50	10°43'58.80"N, 78°21'42.05"E
Methodology	Respirable Particulate Matter (PM10) - Gravimetric (IS 5182: Part 23:2006) Particulate Matter PM2.5 - Gravimetric (Fine particulate matter) Sulphur Dioxide - Calorimetric (West & Gaeke Method) (IS 5182: Part 02: 2001) Nitrogen Dioxide - Calorimetric (Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2006)		
Frequency of Monitoring	2 days in a week, 4 weeks in a month for 3 months in a season.		

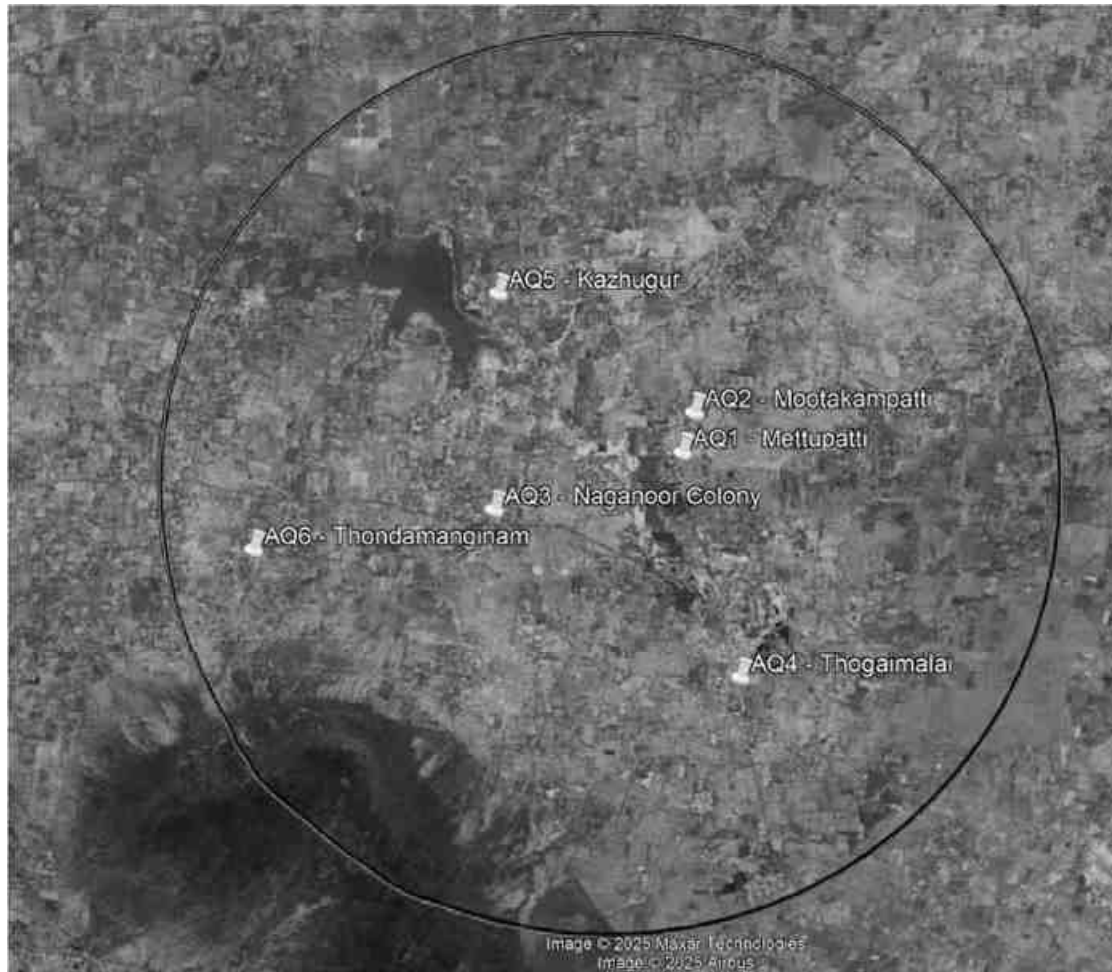


Figure 3-14 Ambient Air Quality Monitoring Stations

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Ambient Air Quality: Results & Discussion

The test results of the ambient air quality monitored in project site and other locations were summarized below.

Table 3-7 Ambient Air Quality – Baseline Monitoring Values

Code	PM 10 ( $\mu\text{g}/\text{m}^3$ )				PM 2.5 ( $\mu\text{g}/\text{m}^3$ )				SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )				NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )			
	Max	Min	Avg	98 percentile	Max	Min	Avg	98 percentile	Max	Min	Avg	98 percentile	Max	Min	Avg	98 percentile
AAQ 1	62.8	52.2	56.3	62.2	29.8	25.5	27.3	29.706	8.5	5.8	7.1	8.5	11.8	8.9	10.6	11.8
AAQ 2	59.2	52.3	54.9	58.8	27.2	24.1	25.3	27.0	8.3	6.2	7.3	8.3	11.2	9.1	10.1	11.2
AAQ 3	53.2	46.3	50.0	53.1	26.9	21.4	24.2	26.7	8.2	5.5	6.6	8.1	10.2	7.5	8.8	10.1
AAQ 4	52.8	44.2	48.6	52.6	25.1	21.0	23.1	25.0	7.4	5.1	6.3	7.4	10.4	8.6	9.6	10.4
AAQ 5	54.9	45.7	50.2	54.9	25.5	21.3	23.4	25.5	8.4	5.3	6.6	8.2	11.3	8.1	9.5	11.0
AAQ 6	49.9	40.8	46.0	49.8	22.0	18.0	20.2	21.9	6.8	4.3	5.4	6.7	9.8	7.5	8.7	9.8
AAQ 7	51.2	42.1	47.3	51.1	22.6	18.6	20.8	22.5	7.1	4.6	5.7	7.0	10.3	8.1	9.2	10.3
NAAQ Standards - Residential Area	100 ( $\mu\text{g}/\text{m}^3$ )				60( $\mu\text{g}/\text{m}^3$ )				80 ( $\mu\text{g}/\text{m}^3$ )				80 ( $\mu\text{g}/\text{m}^3$ )			

**Ambient Air Quality: Results & Discussion**

To assess the impact, AAQ were monitored in project site and six locations in the upwind, downwind & crosswind direction. The values of the AAQ in terms of PM10, PM2.5, Sox and NOx is maximum in the AAQ 1 than all other locations.

PM 2.5 and PM 10:

Table 3-8 Maximum and Minimum Values of PM 2.5 & PM 10

Description	PM 2.5	Location	PM 10	Location
Max	29.8	Mine Lease Area	62.8	Mine Lease Area
Min	18.0	Kazhugur	49.9	Kazhugur
<b>Standard PM 2.5 - 60</b>			<b>Standard PM 10 - 100</b>	

The main sources of PM include incomplete combustion, automobile emissions, Dust and also due to the chemical reactions in the atmosphere. From the monitoring locations, it is inferred that the maximum value of PM 10 & PM 2.5 is observed in Mine Lease Area. The main contributing factor is that there is other existing quarry located near the project site within 500 m radius, where the vehicular traffic will be more. Approximately 150 trucks will be used for the transportation of mined out mineral from all the seven quarries. Coupled to that, SH 71 is located near the mine lease area, due to which there will be movement of traffic, which may be an attributing factor.

The governing factors for the transport of PM are wind direction & wind speed. The baseline monitoring is done for the three months i.e., from December 2024 – February 2025. The predominant wind direction is blowing from North east to South West and the maximum wind speed is 4.2 mps. The greater values of Particulate matter will have its impacts on Human Health. Short term exposure may cause coughing, shortness of breath, tightness of the chest, irritation of the eyes. The Long-term exposure may lead to reduced lung function, development of respiratory diseases and also premature death of people with lung diseases.

SO<sub>2</sub>:

Table 3-9 Maximum and Minimum Values of SO<sub>2</sub>

Description	SO <sub>2</sub>	Location
Max	8.5	Within Mine Lease Area
Min	4.3	Kazhagur
<b>Standard SO<sub>2</sub> - 80</b>		

The main Source of SOx are Burning of fossil fuels such as coal, oil and natural gas. Sulfur dioxide emissions are released primarily as a result of generated electricity through fossil fuel burning power stations. Additional smaller sources of sulfur dioxide are released from industrial processes. These include extracting metal from ore and the burning

of fuels with high sulfur content by locomotives. The maximum value is observed in mine lease area & the minimum value is observed in Kazhugur.

The high value in mine lease area is attributed to crushers and existing mines present near the monitoring location – Six other Quarries are present near the proposed project.

The increased value of SO<sub>x</sub> can have detrimental effects on human health. Such effects include breathing problems, particularly in asthmatics, whereas short-term exposure can lead to chest tightness and coughing and wheezing. Continued exposure to sulfur dioxide has been linked with alterations of the lung's defenses and aggravation of existing cardiovascular disease.

Sulfur dioxide is a major precursor to particulate soot, which reduces air quality. Sulphur dioxide has an acidifying effect on the environment. Acidification harms plants and animals, both on land and in water. When the ground turns acidic, vital nutrients are leached from the soil, which eventually may result in reduced fertility of the soil.

NO<sub>x</sub>:

Table 3-10 Maximum and Minimum Values of NO<sub>x</sub>

<b>Description</b>	<b>NO<sub>x</sub></b>	<b>Location</b>
Max	11.8	Mine Lease Area
Min	7.5	Mootakampatti and Thondamanginam
Standard NO <sub>x</sub> - 80		

The sources of NO<sub>x</sub> pollution include emissions by automobiles, trucks and various non-road vehicles (e.g., construction equipment). NO<sub>x</sub> is released into the atmosphere by combustion of fuels, such as hydrocarbons, in air; especially at high temperatures, such as in car engines. In areas of high motor vehicle traffic, the nitrogen oxides emitted can be a significant source of air pollution.

The maximum value is observed in Mine Lease Area. This is mainly due to more movement of vehicles and trucks in the area due to presence of SH 71 near to the site. Also, there is a fuel point, where vehicles will check-in to fill the fuel. Also, there are already are six operating mine present in the vicinity of the project site, where blasting operations will be carried out. The blasting of explosives may produce No<sub>x</sub>, which will be dispersed in air by the wind, which may be an attributing factor.

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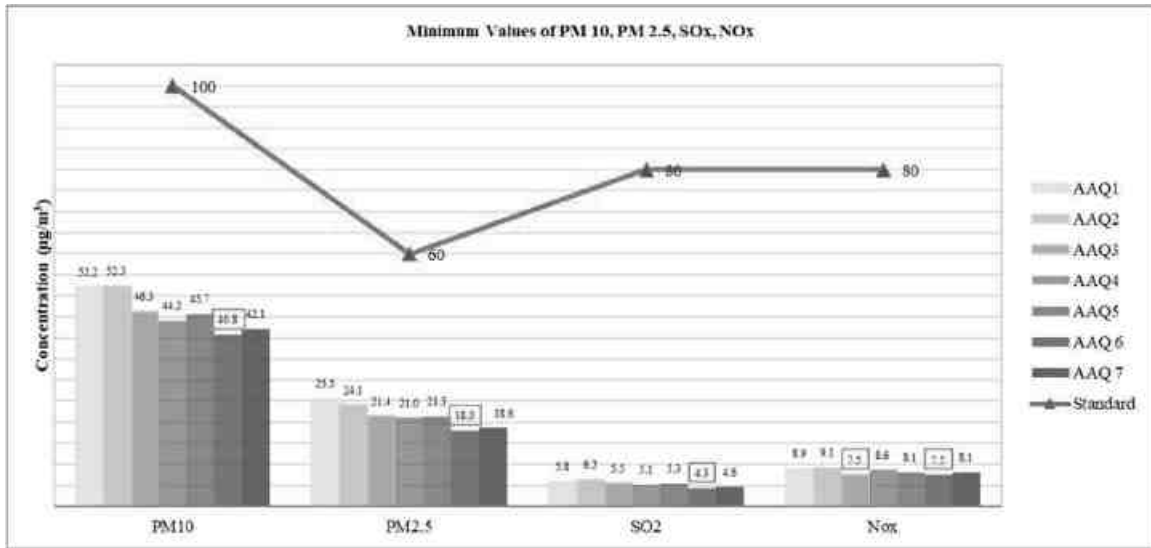


Figure 3-15 Minimum Values of PM10, PM2.5, SO2, NOx

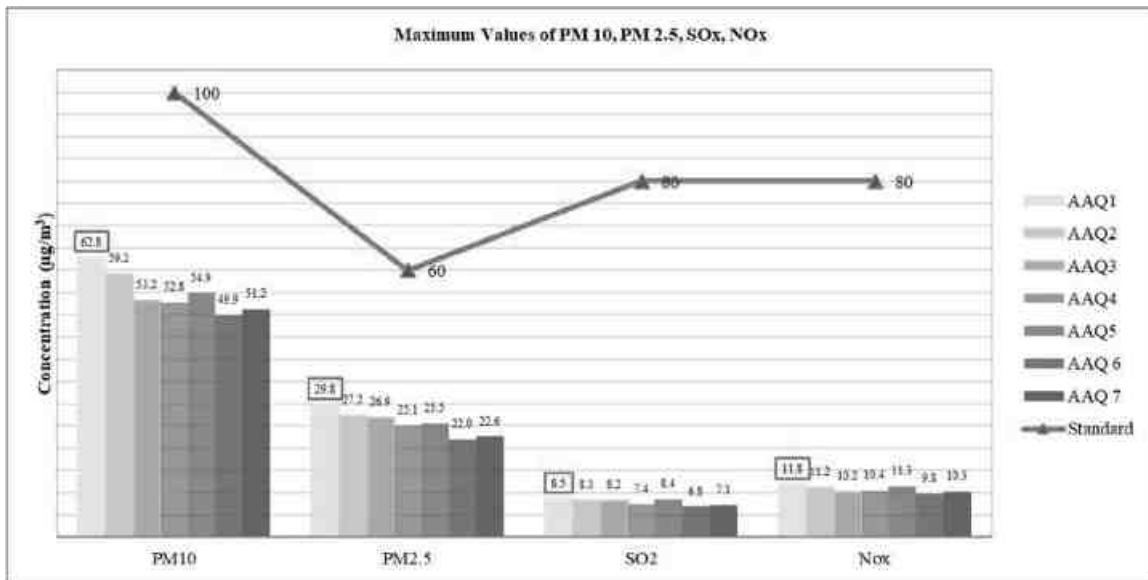


Figure 3-16 Maximum Values of PM10, PM2.5, SO2, NOx

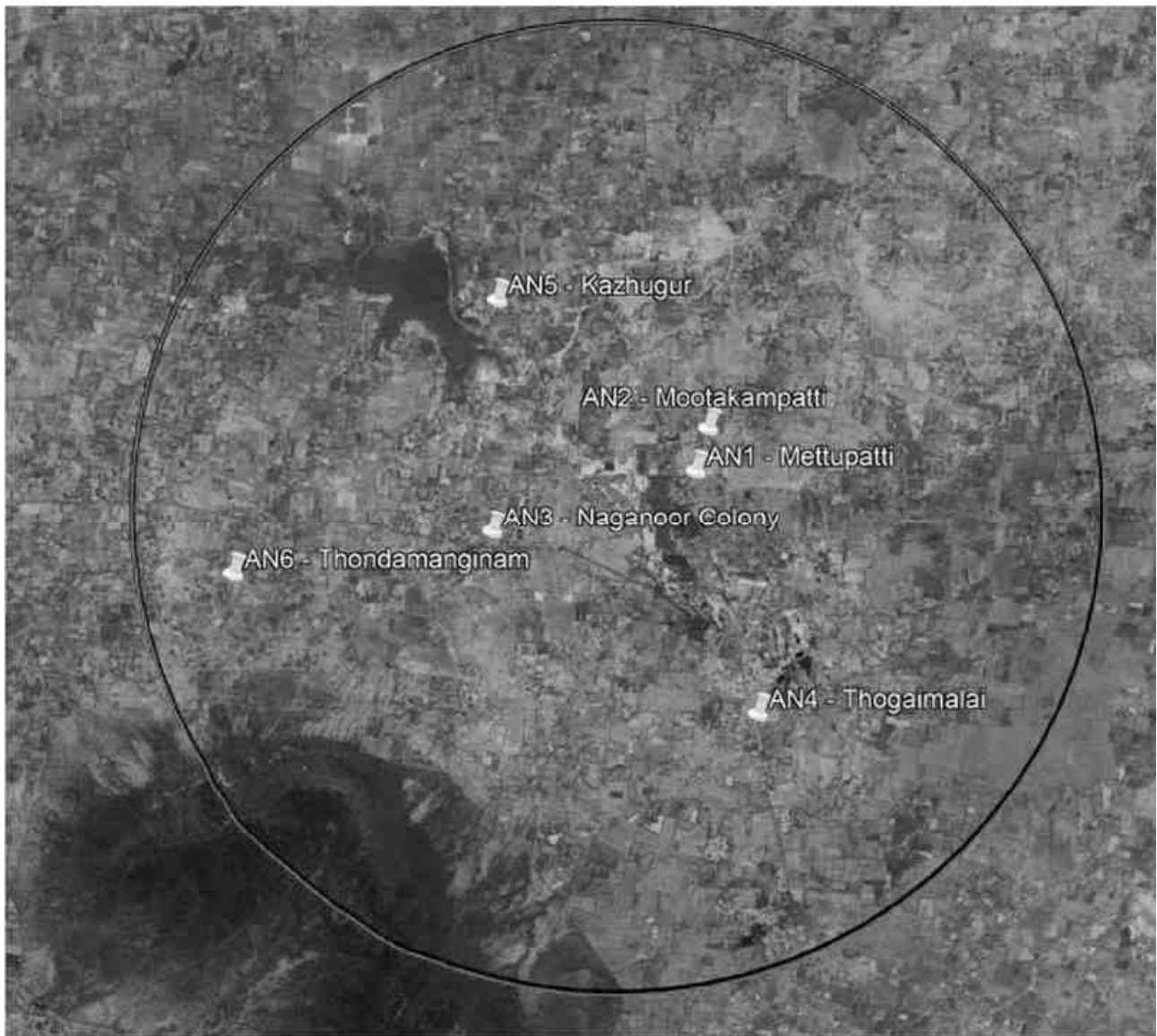
### 3.8.3 Noise Environment

Table 3-11 Noise Level Monitoring

<b>Environmental Parameters: Noise Analysis</b>			
Monitoring Period	December 2024 – February 2025		
Design Criteria	Based on the Sensitivity of the area		
Monitoring Locations	<b>Location</b>	<b>Distance from ML, km</b>	<b>Site Co-ordinates</b>
	Project Site	-	
	Mettupatti	0.30	10°44'33.74"N, 78°24'19.17"E
	Mootakampatti	1.02	10°44'48.09"N, 78°24'23.47"E

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

	Naganoor	1.00	10°44'13.14"N, 78°23'10.10"E
	Thogamalai	1.35	10°43'12.07"N, 78°24'40.21"E
	Kazhugur	1.30	10°45'30.91"N, 78°23'11.58"E
	Thondamanginam	4.50	10°43'58.80"N, 78°21'42.05"E
Methodology	Noise level measurements were taken at the selected locations using noise level meter both during day and night time. Noise level measurements were taken continuously for 24 hours at hourly intervals		
Frequency of Monitoring	Noise samples were collected from 7 locations - Once in a season		



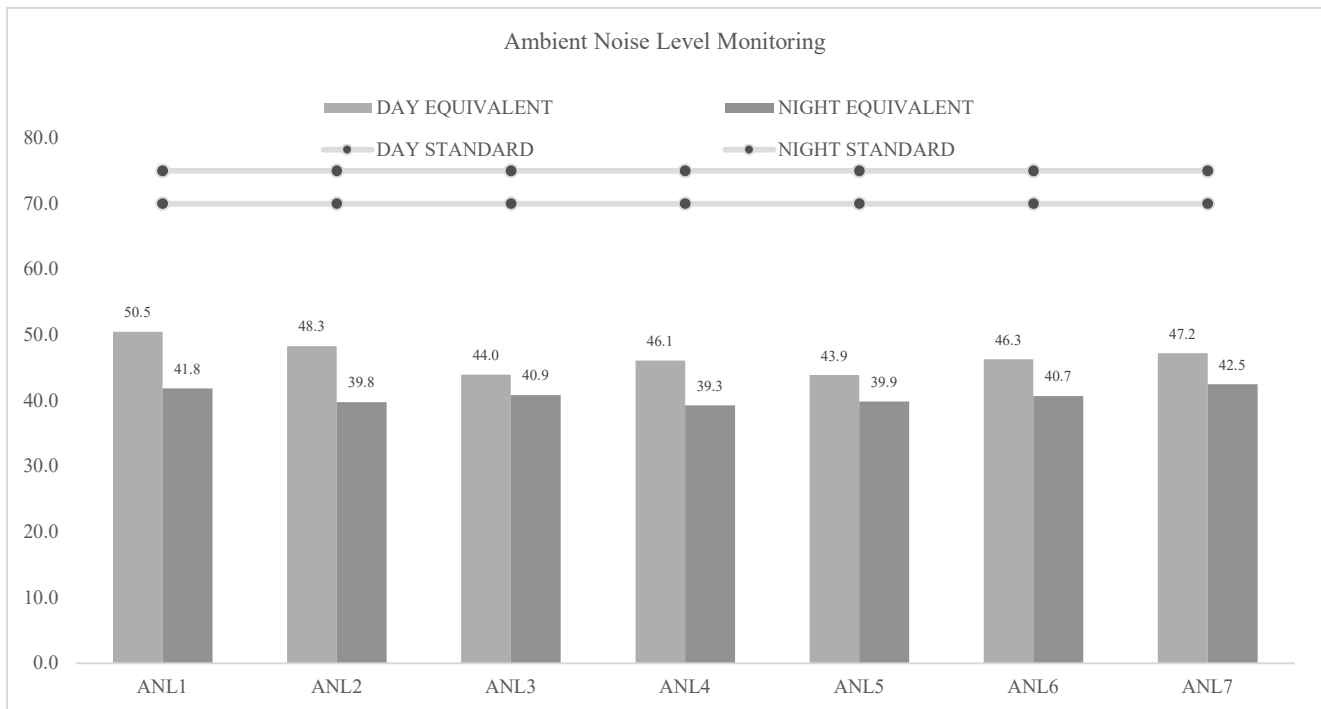
Ambient Noise Levels are monitored in the chosen 7 Locations including the project Site and the monitoring results are summarized below

Day and Night Noise Level (Leq day)



Table 3-12 Day Noise Level (Leq Day)

Noise Levels	N1	N2	N3	N4	N5	N6	N7
Day Equivalent	50.5	48.3	44.0	46.1	43.9	46.3	47.2
Night Equivalent	41.8	39.8	40.9	39.3	39.9	40.7	42.5
Day Standard	75	55	55	55	55	55	55
Night Standard	70	45	45	45	45	45	45



**Inference:**

**Day Noise Level:** The maximum value is observed in Mine Lease Area. Since it is an existing project and mining activity is being carried, the noise level will be more. In addition to that, six other quarries are located in the proximity of the mine, due to which movement of trucks carrying the mined-out mineral will be more.

The noise level in the project site is 50.5 dB (A) and the value is within the CPCB standards.

**Night Noise Level:**

The maximum night noise is observed in Thondamanginam. This is because the area is quite residential area with communal features like temple, farm and schools. Also, movement of trucks via Kamaraj Road (adjacent to monitoring location) will be more during the night time.

The noise level in the Thondamanginam is 42.5 dB(A) and the value is within the CPCB standards.

### 3.8.4 Soil Environment

The project area is surrounded by Mettupatti, Thogamalai, Mootakampatti etc which are not prone to erosion. Sheet erosion is the uniform removal of soil in thin layers by the forces of raindrops and overland flow. In few places, slight sheet erosion can be seen. It can be a very effective erosive process because it can cover large areas of sloping land and go unnoticed for quite some time. The saline nature of the soil within 5 km radius is studied. The soil in the area is not affected. The soil erosion map in the study area reveals that moderate erosion is seen in the major area (96.88%) and remaining 3.12% shows slight to no erosion.

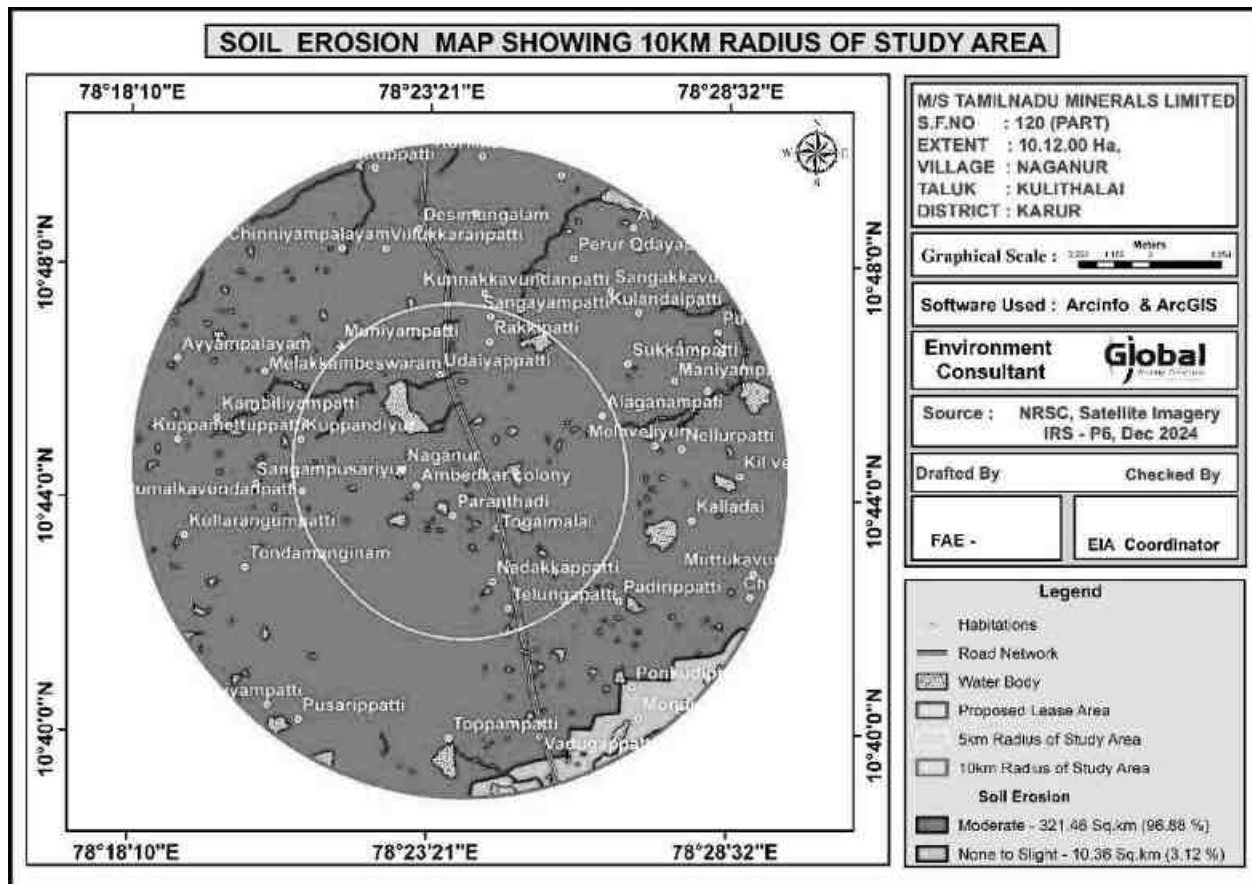


Figure 3-17 Soil Erosion pattern within 10km radius from the project site

### Baseline Data

The present study of the soil quality establishes the baseline characteristics which will help in future in identifying the incremental concentrations if any, due to the operation Phase of the proposed project. The sampling locations have been identified with the following objectives:

- To determine the impact of proposed project on soil characteristics and
- To determine the impact on soils more importantly from agricultural productivity point of view.

Table 3-13 Soil Quality Analysis

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

<b>Environmental Parameters: Soil Analysis</b>			
Monitoring Period	December 2024 to February 2025		
Design Criteria	Based on the Environmental settings in the study area		
Monitoring Locations	<b>Location</b>	<b>Distance from ML, km</b>	<b>Site Co-ordinates</b>
	Project Site	-	
	Mettupatti	0.30	10°44'33.74"N, 78°24'19.17"E
	Mootakampatti	1.02	10°44'48.09"N, 78°24'23.47"E
	Naganoor	1.00	10°44'13.14"N, 78°23'10.10"E
	Thogamalai	1.35	10°43'12.07"N, 78°24'40.21"E
	Kazhugur	1.30	10°45'30.91"N, 78°23'11.58"E
	Thondamanginam	4.50	10°43'58.80"N, 78°21'42.05"E
Methodology	Composite soil samples using sampling augers and field capacity apparatus		
Frequency of Monitoring	Soil samples were collected from 7 locations Once in a season		

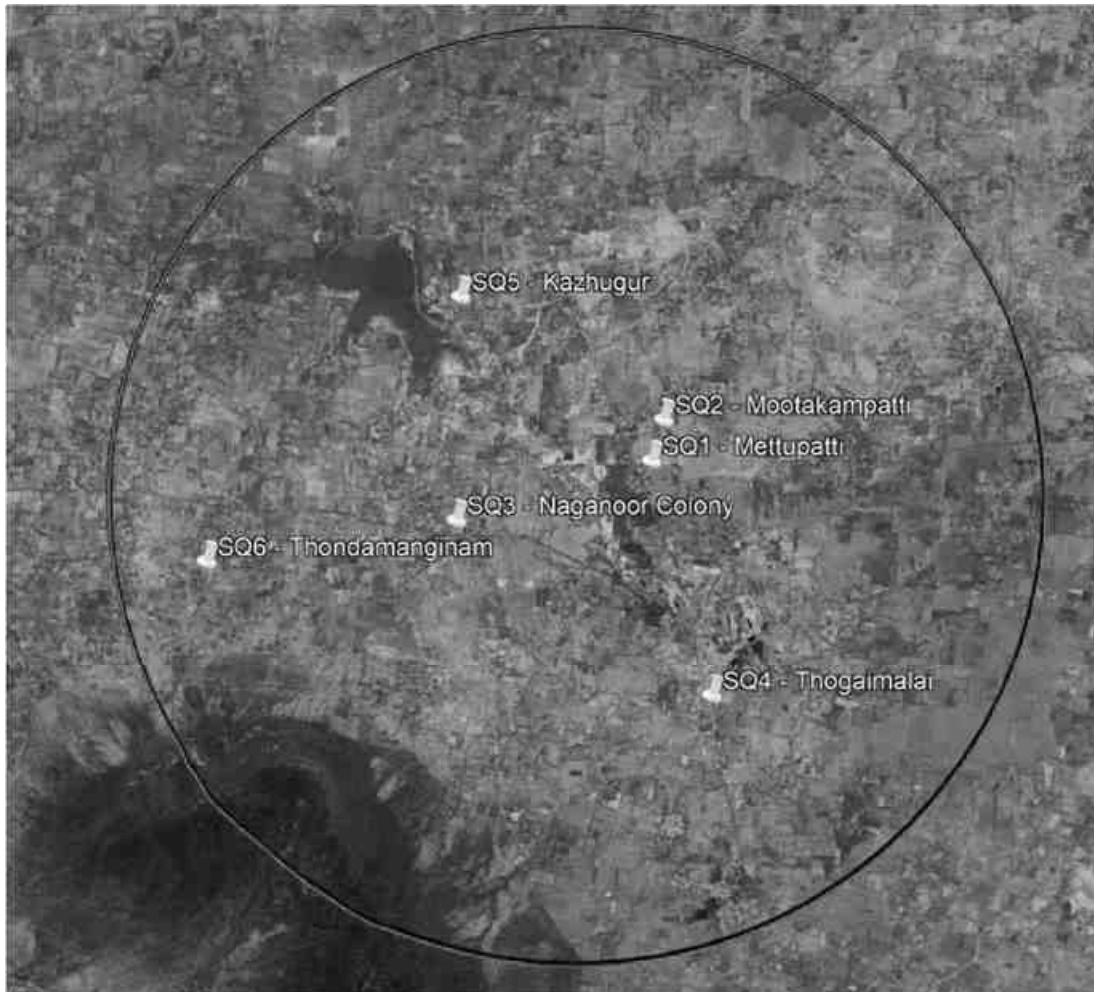


Figure 3-18 Soil Quality Monitoring Locations

To assess the soil quality of the study area, 7 monitoring stations were selected and the results are summarized below

Table 3-14 Soil Quality Analysis

S. No	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7
1	pH at 25 °C	-	6.65	7.25	7.25	6.95	7.31	7.57	7.73
2	Electrical Conductivity	µmhos/cm	124.50	138.40	102.50	132.50	97.54	103.70	80.7
3	Dry matter content	%	96.57	97.54	94.58	97.63	97.57	97.86	93.85
4	Water Content	%	3.43	2.46	5.42	2.37	2.43	2.14	6.15
5	Organic Matter	%	0.65	0.77	1.02	1.54	0.62	1.21	0.81
6	Soil texture	-	CLAY LOAM	CLAY	SILT LOAM	SILTY CLAY	Clay loam	Clay loam	Silt loam
7	Grain Size Distribution	%	30.59	4.01	41.47	6.56	29.87	31.42	21.56
	i. Sand								
8	ii. Silt	%	33.11	33.64	50.41	43.60	34.38	39.86	52.64
9	iii. Clay	%	36.30	62.35	8.12	49.84	35.75	28.72	25.80
10	Phosphorous as P	mg/kg	0.55	0.79	1.02	0.66	1.83	2.28	1.59
11	Sodium as Na	mg/kg	840	952	978	736	782	820	656
12	Potassium as K	mg/kg	392	425	724	456	456	479	342
13	Nitrogen and Nitrogenous Compounds	mg/kg	210	270	312	405	126	175	108
14	Total Soluble Sulphate	%	BDL(D. L.0.02)	BDL(D. L.0.02)	BDL(D. L.0.02)	BDL(D. L.0.02)	BDL(D. L.0.02)	BDL(D. L.0.02)	BDL(D. L.0.02)
15	Porosity	%	14.5	13.2	11.9	12.6	3.7	3.5	3.8
16	Water Holding Capacity	Inches/foot	36	32	34	39	38	37	36

### Physical Properties:

Regular cultivation practices increase the bulk density of soils thus inducing compaction. This results in reduction in water percolation rate and penetration of roots through soils. The soils with low bulk density have favourable physical conditions whereas those with high bulk density exhibit poor physical conditions for agriculture crops. The bulk density of the soil in the study area ranged between 0.79 to 1.25 g/cc. The water holding capacity was found in the range of 32 Inches/Foot to 39 Inches/Foot

### Chemical Properties:

Chemical characteristics of soils include pH, exchangeable cations and fertility status in the form of NPK values and organic matter. The value of the pH is neutral and it ranges from 6.65 to 7.73. The organic matter varies from 0.62% to 1.54%, which indicates the soil is slightly fertile.

### *3.8.5 Ecology and Biodiversity*

Ecology and Biodiversity is studied for 10 km radius around the project site. Project site is considered as core zone and from radius of 5 km radius, it is considered as buffer zone.

- Primary field survey is carried out for the assessment of flora and fauna
- In addition to that, Secondary data from Journals/Literature were studied and compiled to understand the species present

#### Survey Purpose and Approach:

The basic purpose is to explore the biological environment under Environment Impact Assessment (EIA) and to assist in the decision-making process and to ensure that the project options under consideration are bio-environmentally friendly. EIA identifies ways of improving project environmentally by preventing, minimizing, mitigating or compensating for adverse impacts before construction and development phase. The present study on the floral & faunal assessment of the proposed project is based on field survey of the area supported by secondary data from various governmental and non-governmental sources.

#### Objectives of the Study:

The objectives of this study were as follows:

- To conduct detail study for floral/faunal/avifaunal elements in the Study area.
- To assess scheduled species in the Study area (Rare, endangered, critically endangered, endemic and vulnerable).
- Baseline data for the study area along with a description of the existing terrestrial, wetland and aquatic vegetation.
- To identify impact of project on the biological environment, this will be discussed under Chapter 4.

#### Field Study and Methodology adopted

To assess the suitability of the methodology, random field survey was done. Field survey was conducted around 5 km radius from the project site and five locations were chosen based on the species density. Quadrat method is chosen for the proposed study as compared to other sampling methods, because they are relatively simple to use. Quadrat plots are uniform in size and shape and distributed randomly throughout the sample area, which makes the study design straightforward. They are also one of the most affordable techniques because they require very few materials.

#### Monitoring Locations

Table 3-15 Ecology & Biodiversity – Monitoring Locations

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

S. No	Location	Co-ordinates	No. of Quadrates		
			Trees (10mx10m)	Shrubs (5mx5m)	Herbs and grasses (1mx1m)
1.	Project Site				
2.	Mettupatti	10°44'33.74"N, 78°24'19.17"E	1	4	5
3.	Mootakampatti	10°44'48.09"N, 78°24'23.47"	1	4	5
4.	Naganoor	10°44'13.14"N, 78°23'10.10"E	1	4	5
5.	Thogamalai	10°43'12.07"N, 78°24'40.21"E	1	4	5

Study outcome:

Phytosociological parameters, such as Density, Frequency, Basal Area, Abundance and Importance Value Index of individual species (Trees) were determined in randomly placed quadrates of different sizes in the study area. Relative frequency, relative basal area and relative density were calculated and the sum of these three represented Importance Value Index (IVI) for various species. For shrubs, herbs and grasses, Density, Frequency, Relative Density & Relative Frequency were found.

Sample plots were selected in such a way to get maximum representation of different types of vegetation and plots were laid out in different part of the study area of 5 km radius. Analysis of the vegetation will help in determining the relative importance of each species in the study area and to reveal if any economically valuable species is threatened in the process.

Calculation of Density, Frequency (%), Dominance, Relative Density, Relative Frequency, Relative Dominance & Important Value Index:

Parameters	Formula
Density	Total No. of individuals of species/ Total No. of Quadrats used in sampling
Frequency (%)	(Total No. of Quadrats in which species occur/ Total No. of Quadrats studied) * 100
Dominance	Total Basal Area /Total area sampled
Abundance	Total No. of individuals of species/ No. of Quadrats in which they occur
Relative Density	(Total No. of individuals of species/Sum of all individuals of all species) * 100
Relative Frequency	(Total No. of Quadrats in which species occur/ Total No. of Quadrats occupied by all species) * 100

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

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Relative Dominance	Dominance of a given species/Total Dominance of all species
Important Value Index	Relative Density + Relative Frequency + Relative Dominance

The details of trees, herbs and shrubs along with the Phytosociological parameters for the study area is shown below:

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Table 3-16 Tree Species in the core zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Dominance	Relative Density	Relative Frequency	Relative Dominance	IVI
1	Pterocarpus santalinus	Senjantanam	2	2	5	0.33	33.33	1	0.28	1.74	2.20	4.45	8.39
2	Cocos nucifera	Thennai	2	2	5	0.33	33.33	1	0.07	1.74	2.20	1.11	5.05
3	Artocarpus heterophyllus	Palaa	4	4	5	0.67	66.67	1	0.28	3.48	4.40	4.45	12.33
4	Bombax ceiba	Sittan	4	4	5	0.67	66.67	1	0.50	3.48	4.40	7.92	15.79
5	Azadirachta indica	Veppam	1	1	5	0.17	16.67	1	0.15	0.87	1.10	2.29	4.26
6	Pterocarpus santalinus	Senjantanam	2	2	5	0.33	33.33	1	0.27	1.74	2.20	4.31	8.24
7	Butea monosperma	Parasa	3	3	5	0.50	50.00	1	0.23	2.61	3.30	3.61	9.51
8	Aegle marmelos	Vilvam	1	1	5	0.17	16.67	1	0.16	0.87	1.10	2.50	4.47
9	Causuarina equisetifolia	Savukku	10	5	5	1.67	83.33	2	0.13	8.70	5.49	1.98	16.17
16	Delonix elata	Perungondrai	5	1	5	0.83	16.67	5	0.17	4.35	1.10	2.62	8.06
17	Dalbergia sissoo	Shisham	2	2	5	0.33	33.33	1	0.44	1.74	2.20	6.96	10.89
18	Ficus benghalensis	Alai	2	2	5	0.33	33.33	1	0.08	1.74	2.20	1.19	5.13
19	Annona squamosa	Sitapalam	4	1	5	0.67	16.67	4	0.23	3.48	1.10	3.61	8.18
20	Carica papaya	Papaya	1	1	5	0.17	16.67	1	0.14	0.87	1.10	2.18	4.15
21	Ficus religiosa	Arasa maram	3	3	5	0.50	50.00	1	0.09	2.61	3.30	1.35	7.25
22	Polyalthia longifolia	Nettilinkam	5	3	5	0.83	50.00	1.67	0.14	4.35	3.30	2.18	9.83
23	Musa paradise	Vaazhai	3	3	5	0.50	50.00	1	0.08	2.61	3.30	1.19	7.09
24	Prosopis juliflora	Vaelikaruvai	3	3	5	0.50	50.00	1	0.21	2.61	3.30	3.34	9.25
25	Mangifera indica	Mamaram	8	6	5	1.33	100.00	1.333333	0.07	6.96	6.59	1.11	14.66
26	Terminalia catappa	Nattuvadamai	2	2	5	0.33	33.33	1	0.18	1.74	2.20	2.85	6.79
27	Morinda pubescens	Nuna	6	6	5	1.00	100.00	1	0.24	5.22	6.59	3.74	15.55
28	Thespesia populnea	Poovarasam	3	3	5	0.50	50.00	1	0.15	2.61	3.30	2.39	8.30



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

29	Tectona grandis	Thekku	3	3	5	0.50	50.00	1	0.12	2.61	3.30	1.88	7.79
30	Tamarindus indica	Puli	8	6	5	1.33	100.00	1.333333	0.20	6.96	6.59	3.09	16.64
31	Syzygium cumini	naval	1	1	5	0.17	16.67	1	0.11	0.87	1.10	1.79	3.75
34	Citrus medica	Elumichai	2	2	5	0.33	33.33	1	0.23	1.74	2.20	3.61	7.54
<b>Total</b>			<b>90</b>	<b>72</b>					<b>4.93</b>				

Table 3-17 Shrubs in the study area

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation Status
1	Jatropagossypifolia	Kaatamanaku	28	17	20	1.40	0.85	1.65	19.05	21.79	Not Assessed
4	Lantana camara	Unnichedi	9	6	20	0.45	0.30	1.50	6.12	7.69	Not Assessed
5	Calotropis gigantea	Erukam	14	12	20	0.70	0.60	1.17	9.52	15.38	Not Assessed
8	Hibiscus rosa sinensis	Sembaruthi	3	2	20	0.15	0.10	1.50	2.04	2.56	Not Assessed
9	Tabernaemontanadivaricata	Crepe Jasmine	3	3	20	0.15	0.15	1.00	2.04	3.85	Not Assessed
10	Chloromolaena odorata	Venapacha	9	6	20	0.45	0.30	1.50	6.12	7.69	Least Concern
11	Euphorbia geniculata	Amman Pacharisi	3	3	20	0.15	0.15	1.00	2.04	3.85	Not Assessed
12	Catharanthus roseus	Nithyakalyani	3	3	20	0.15	0.15	1.00	2.04	3.85	Not Assessed
13	Woodfordiafruiticosa	Velakkai	3	3	20	0.15	0.15	1.00	2.04	3.85	Least Concern
14	Morindapubescens	Mannanunai	2	2	20	0.10	0.10	1.00	1.36	2.56	Not Assessed
15	Acalypha indica	Kuppaimeni	20	8	20	1.00	0.40	2.50	13.61	10.26	Not Assessed
16	Parthenium hysterophorous	Vishapoundu	50	13	20	2.50	0.65	3.85	34.01	16.67	Not Assessed

Table 3-18 Herbs & Grasses in the core zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation status
1	Plumbago zeylanica	Chittiramoolam	3	3	25	0.12	0.12	1.0	1.19	3.23	Not assessed
2	Mimosa pudica	Thottacherungi	6	5	25	0.24	0.20	1.2	2.38	5.38	Least concern
3	Sida acuta	Malaidangi	10	3	25	0.40	0.12	3.3	3.97	3.23	Not assessed
4	Scrophularia nodosa	Sarakkothini	15	7	25	0.60	0.28	2.1	5.95	7.53	Not assessed
5	Helicteresisora	Valampuri	2	2	25	0.08	0.08	1.0	0.79	2.15	Not assessed
6	Cynodondactylon	Arugu	12	6	25	0.48	0.24	2.0	4.76	6.45	Not assessed
7	Sporobolus fertilis	Giant Parramatta Grass	9	4	25	0.36	0.16	2.3	3.57	4.30	Not assessed
8	Viburnum dentatum	Viburnum	5	5	25	0.20	0.20	1.0	1.98	5.38	Least concern
9	Heraculem spondylium	Hog Weed	20	10	25	0.80	0.40	2.0	7.94	10.75	Not assessed
10	Laportea canadensis	Peruganchori	30	20	25	1.20	0.80	1.5	11.90	21.51	Not assessed
11	Euphorbia hirta	Amman Pacharisi	5	4	25	0.20	0.16	1.3	1.98	4.30	Not assessed
12	Tridax procumbens	Vettukaayathalai	5	4	25	0.20	0.16	1.3	1.98	4.30	Not assessed
13	Tephrosia purpurea	Kavali	20	4	25	0.80	0.16	5.0	7.94	4.30	Not assessed
14	Sida cordifolia	Maanikham	45	4	25	1.80	0.16	11.3	17.86	4.30	Not assessed
15	Tridax procumbens	Cuminipachai	15	4	25	0.60	0.16	3.8	5.95	4.30	Not assessed
16	Ruellia strepens	Grandinayagam	25	4	25	1.00	0.16	6.3	9.92	4.30	Not assessed
17	Senna occidentalis	Nattamsakarai	25	4	25	1.00	0.16	6.3	9.92	4.30	Not assessed

**Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef:**

Biodiversity index is a quantitative measure that reflects how many different types of species, there are in a dataset, and simultaneously takes into account how evenly the basic entities (such as individuals) are distributed among those types of species. The value of biodiversity index increases both when the number of types increases and when evenness increases. For a given number of type of species, the value of a biodiversity index is maximized when all type of species are equally abundant. Interpretation of Vegetation results in the study area is given below

Table 3-19 Biodiversity Indices

Description	Formula
Species diversity – Shannon – Wiener Index	$H = -\sum [(p_i) * \ln(p_i)]$ Where $p_i$ : Proportion of total sample represented by species $i$ : number of individuals of species $i$ / total number of samples
Evenness	$H / H_{max}$ $H_{max} = \ln(s) = \text{maximum diversity possible}$ $S = \text{No. of species}$
Species Richness by Margalef	$RI = S - 1 / \ln N$ Where $S$ = Total Number of species in the community $N$ = Total Number of individuals of all species in the community

**Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef for trees**

Table 3-20 Species Diversity for trees

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Pterocarpus santalinus	Senjantanam	2	0.022222	-3.80666	-0.08459
Cocos nucifera	Thennai	2	0.022222	-3.80666	-0.08459
Artocarpus heterophyllus	Palaa	4	0.044444	-3.11352	-0.13838
Bombax ceiba	Sittan	4	0.044444	-3.11352	-0.13838
Azadirachta indica	Veppam	1	0.011111	-4.49981	-0.05
Pterocarpus santalinus	Senjantanam	2	0.022222	-3.80666	-0.08459
Butea monosperma	Parasa	3	0.033333	-3.4012	-0.11337
Aegle marmelos	Vilvam	1	0.011111	-4.49981	-0.05
Causuarina equisetifolia	Savukku	10	0.111111	-2.19722	-0.24414
Delonix elata	Perungondrai	5	0.055556	-2.89037	-0.16058
Dalbergia sissoo	Shisham	2	0.022222	-3.80666	-0.08459
Ficus benghalensis	Alai	2	0.022222	-3.80666	-0.08459
Annona squamosa	Sitapalam	4	0.044444	-3.11352	-0.13838
Carica papaya	Papaya	1	0.011111	-4.49981	-0.05
Ficus religiosa	Arasa maram	3	0.033333	-3.4012	-0.11337
Polyalthia longifolia	Nettilinkam	5	0.055556	-2.89037	-0.16058
Musa paradise	Vaazhai	3	0.033333	-3.4012	-0.11337
Prosopis juliflora	Vaelikaruvai	3	0.033333	-3.4012	-0.11337
Mangifera indica	Mamaram	8	0.088889	-2.42037	-0.21514
Terminalia catappa	Nattuvadamai	2	0.022222	-3.80666	-0.08459
Morinda pubescens	Nuna	6	0.066667	-2.70805	-0.18054
Thespesia populnea	Poovarasam	3	0.033333	-3.4012	-0.11337
Tectona grandis	Thekku	3	0.033333	-3.4012	-0.11337
Tamarindus indica	Puli	8	0.088889	-2.42037	-0.21514
Syzygium cumini	naval	1	0.011111	-4.49981	-0.05
Citrus medica	Elumichai	2	0.022222	-3.80666	-0.08459
Total		90			-3.06

**H (Shannon Diversity Index) =3.22**

Table 3-21 Species Diversity for Shrubs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
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Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

Jatropagossypifolia	Kaatamanaku	28	0.14433	-1.93565	-0.27937
Lantana trifolia	Shrub verbana	10	0.051546	-2.96527	-0.15285
Robiniapseudoacacia	Black locust	17	0.087629	-2.43464	-0.21335
Lantana camara	Unnichi	9	0.046392	-3.07063	-0.14245
Calotropis gigantea	Erukam	14	0.072165	-2.6288	-0.18971
Stachytarphaeurticifolia	Rat tail	15	0.07732	-2.55981	-0.19792
Datura metal	Ummattangani	5	0.025773	-3.65842	-0.09429
Hibiscus rosa sinensis	Sembaruthi	3	0.015464	-4.16925	-0.06447
Tabernaemontanadivaricata	Crepe Jasmine	3	0.015464	-4.16925	-0.06447
Chloromolaena odorata	Venapacha	9	0.046392	-3.07063	-0.14245
Euphorbia geniculata	Amman Pacharisi	3	0.015464	-4.16925	-0.06447
Catharanthus roseus	Nithyakalyani	3	0.015464	-4.16925	-0.06447
Woodfordiafruticosa	Velakkai	3	0.015464	-4.16925	-0.06447
Morindapubescens	Mannanunai	2	0.010309	-4.57471	-0.04716
Acalypha indica	Kuppaimeni	20	0.103093	-2.27213	-0.23424
Parthenium hysterophorous	Vishapoondur	50	0.257732	-1.35584	-0.34944
		194			-2.3656

**H (Shannon Diversity Index) =2.36**

Table 3-22 Species Diversity for Herbs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Plumbago zeylanica	Chittiramoolam	3	0.011905	-4.43082	-0.05275
Mimosa pudica	Thottacherungi	6	0.02381	-3.73767	-0.08899
Sida acuta	Malaidangi	10	0.039683	-3.22684	-0.12805
Scrophularia nodosa	Sarakkothini	15	0.059524	-2.82138	-0.16794
Helicteresisora	Valampuri	2	0.007937	-4.83628	-0.03838
Cynodondactylon	Arugu	12	0.047619	-3.04452	-0.14498
Sporobolus fertilis	Giant Parramatta Grass	9	0.035714	-3.3322	-0.11901
Viburnum dentatum	Viburnum	5	0.019841	-3.91999	-0.07778
Heraculem spondylium	Hog Weed	20	0.079365	-2.5337	-0.20109
Laportea canadensis	Peruganchori	30	0.119048	-2.12823	-0.25336
Euphorbia hirta	Amman Pacharisi	5	0.019841	-3.91999	-0.07778
Tridax procumbens	Vettukaayathalai	5	0.019841	-3.91999	-0.07778
Tephrosia purpurea	Kavali	20	0.079365	-2.5337	-0.20109
Sida cordifolia	Maanikham	45	0.178571	-1.72277	-0.30764
Tridax procumbens	Cuminipachai	15	0.059524	-2.82138	-0.16794
Ruellia strepens	Grandinayagam	25	0.099206	-2.31055	-0.22922
Senna occidentalis	Nattamsakarai	25	0.099206	-2.31055	-0.22922

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		252			-2.56298
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**H (Shannon Diversity Index) =2.56**

Table 3-23 Evenness and Species Richness by Margalef

Details	H	Hmax	Evenness	Species Richness (Margalef)
Trees	3.06	3.5	0.9	7
Shrubs	2.36	2.77	0.85	2.84
Herbs	2.56	2.83	0.9	2.89

From the above, it can be interpreted that tree community has higher diversity. While the shrub community shows less diversity. It is also observed that most of the quadrates have controlled generation of plant species with older strands. Higher tree species diversity can be interpreted as a greater number of successful species and a more stable ecosystem where more ecological niches are available, environmental change is less likely to be damaging to the ecosystem as a whole. Species richness is high for tree community when compared with herbs and shrubs.

### Frequency Pattern

To understand the frequency pattern, the observed frequency is compared with the Raunkiaer's frequency. Any deviation from Raunkiaer's frequency implies disturbed community.

Classes of species in a community and normal value of class according to Raunkiaer

Class	Frequency (%)	Normal Value in the class
A	1-20	53
B	21-40	14
C	41-60	9
D	61-80	8
E	81-100	16

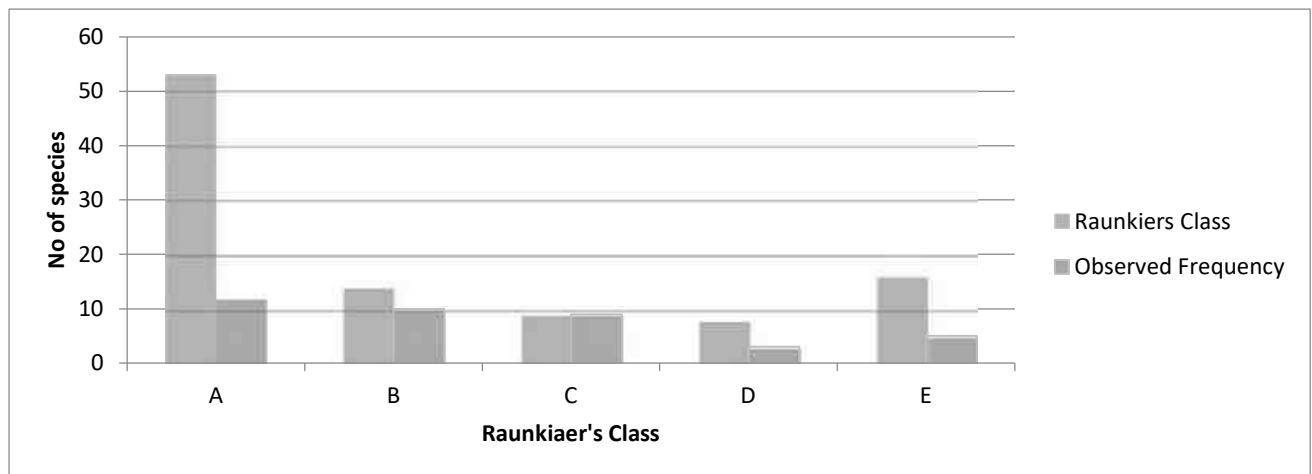
Where  $A > B > C > = < D < E$

Raunkiaer's class for the observed species

S. No.	Scientific Name	Local Name	Frequency (%)	Class as per Raunkiaer's Law
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*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

1.	Pterocarpus santalinus	Senjantanam	33.33	B
2.	Cocos nucifera	Thennai	33.33	B
3.	Artocarpus heterophyllus	Palaa	66.67	D
4.	Bombax ceiba	Sittan	66.67	D
5.	Azadirachta indica	Veppam	33.33	B
6.	Pterocarpus santalinus	Senjantanam	33.33	B
7.	Butea monosperma	Parasa	50.00	C
8.	Aegle marmelos	Vilvam	16.67	A
9.	Causuarina equisetifolia	Savukku	33.33	B
10.	Delonix elata	Perungondrai	16.67	A
11.	Dalbergia sissoo	Shisham	100	E
12.	Ficus benghalensis	Alai	33.33	B
13.	Annona squamosa	Sitapalam	66.67	D
14.	Carica papaya	Papaya	100	E
15.	Ficus religiosa	Arasa maram	16.67	A
16.	Polyalthia longifolia	Nettilinkam	16.67	A
17.	Musa paradise	Vaazhai	16.67	A
18.	Prosopis juliflora	Vaelikaruvai	33.33	B
19.	Mangifera indica	Mamaram	16.67	A
20.	Terminalia catappa	Nattuvadamai	16.67	A
21.	Morinda pubescens	Nuna	50.00	C
22.	Thespesia populnea	Poovarasam	50.00	C
23.	Tectona grandis	Thekku	50.00	C
24.	Tamarindus indica	Puli	50.00	C
25.	Syzygium cumini	naval	100	E
26.	Citrus medica	Elumichai	33.33	B



**Interpretation:** The observed frequency is  $A > B > C < D > E$ , which follows Raunkiaer's Distribution Frequency and hence the ecology is undisturbed.

#### **Floral study in the Buffer Zone:**

##### **Economically important Flora of the study area**

**Agricultural crops:** Paddy, Maize are the main crop grown. Different fruits like Banana, papaya, mangoes, guava and vegetables like brinjal, drumsticks, onion, Coriander also grown by the local people.

**Medicinal species:** The nearby area is also endowed with the several medicinal species which are commonly available in the shrub forest and waste lands. The common medicinal species of the region are *Asparagus racemosus* (satamulli), *Aegle marmelos* (golden apple), *Azadirachta indica* (Neem) etc.

**Rare and endangered floral species:** There are no rare or endangered or threatened (RET) species of in the study area. During the vegetation survey, there are no any species which are endangered or threatened under IUCN (International Union for Conservation of Nature and Natural resources) guidelines.

#### **Faunal Communities**

Both direct and indirect observation methods were used to survey the fauna.

- Point Survey Method: Observations were made in each site for 15 minutes duration.
- Road Side Counts: The observer traveled by motor vehicles from site to site, all sightings were recorded (this was done both in the day and night time). An index of abundance of each species was also established.
- Pellet and Track Counts: All possible animal tracks and pellets were identified and recorded (South Wood, 1978). Additionally, survey of relevant literature was also done to consolidate the list of fauna distributed in the buffer zone.

#### **Methodology Adopted:**

Point Survey method was adopted for this development project where observations were made in each site for 15 minutes duration.

#### **Study in the core zone:**

Point Survey method was adopted for the study within 2 km radius and the following species were observed

##### **Study in the core Zone**

**Mammals:** No wild mammalian species was directly sighted during the field survey. Discussion with local villagers located around the study area also could not confirm presence of any wild animal in that area. Three striped Palm Squirrel, Common Indian Hare, Common mongoose, Common Mouse etc were observed during primary survey.

**Avifauna:** Since birds are considered to be the indicators for monitoring and understanding human impacts on ecological systems (Lawton, 1996) attempt was made to gather quantitative data on the avifauna by walk through survey within the



entire study area and surrounding areas. From the primary survey, a total of 26 species of avifauna were identified and recorded in the study area. The diversity of avifauna from this region was found to be quite high and encouraging.

The list of fauna species found in the study area is mentioned below

Table 3-24 List of faunal Species

Scientific Name	Common Name	Schedule of wild life protection act	IUCN conservation status
<b>Mammals</b>			
Funambulus pennanti	Palm Squirrel	IV	Least Concern
Mus rattus	Indian rat	IV	Not listed
Funambulus palmarum	Three stripped palm squirrel	IV	Least Concern
Herestes edwardsii	Common Mongoose	IV	Not listed
Mus musculus	Common Mouse	IV	Least Concern
Bandicota indica	Rat	IV	Least Concern
Lepus nigricollis	Indian Hare	IV	Least Concern
Felis catus	Cat	Not listed	Not listed
Canis lupus familiaris	Indian dog	Not listed	Not listed
Bos Indicus	Indian Cow	Not listed	Not listed
Bubalus bubalis	Buffalo	I	Not listed
Sus scrofa domesticus	Domestic pig	Not listed	Not listed
<b>Birds</b>			
Milvus migrans	Black kite	IV	Least concern
Saxicoloides fulicatus	Indian Robin	IV	Least concern
Phragmaticola aedon	Thick billed warbler	IV	Least concern
Pericrocotus cinnamomeus	Small Minivet	IV	Least concern
pseudibis papillosa	Black Ibis	IV	Least concern
Ergetta garzetta	Little Erget	IV	Least concern
Psittacula krameni	Rose ringed parakeet	IV	Least concern
Bubulcus ibis	Cattle Erget	IV	Least concern
Dicrurus marcocercus	Black drongo	IV	Least concern
Streptopelia chinensis	Spotted dove	IV	Least concern
Columba livia	Rock pigeon	IV	Least concern
Corvus splendens	House crow	IV	Least concern
Cypsiurus balasiensis	Asian palm swift	IV	Least concern
Ardeola grayii	Pond heron	IV	Least concern
Elanus caeruleus	Black-winged kite	IV	Least concern

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Alcedo atthis	Small blue kingfisher	IV	Least concern
Cuculus canorus	Common Cukoo	IV	Least concern
Centropus sinensis	Greater coucal	IV	Least concern
Passer domesticus	House sparrow	IV	Least concern
<b>Reptiles &amp; Amphibians</b>			
Chameleon zeylanicum	Chameleon	IV	Not listed
Calotes versicolor	Common garden lizard	II	Not listed
Bungarus caeruleus	Common krait	IV	Not listed
Ophisops leschenaultia	Snake eyed lizard	--	Not listed
Bufo melanostictus	Toad	IV	Least concern
Ptyas mucosa	Rat snakes	IV	Least concern
Hemidactylus sp.	House lizard	--	Not listed
<b>Butterflies</b>			
Danaus chrysippus	Plain Tiger	--	Not listed
Papilio demoleus	Common lime	--	Not listed
Euploea core	Common crow	--	Least concern
Danaus genutia	Common tiger	--	Not listed
Eurema brigitta	Small grass yellow	--	Least concern

### 3.9 Demography and Socio-Economics

The demography survey study is done within 10km from the project site. The population, Household, Sex ratio, Literacy rate, SC, ST details for all the villages in the study area is listed below,

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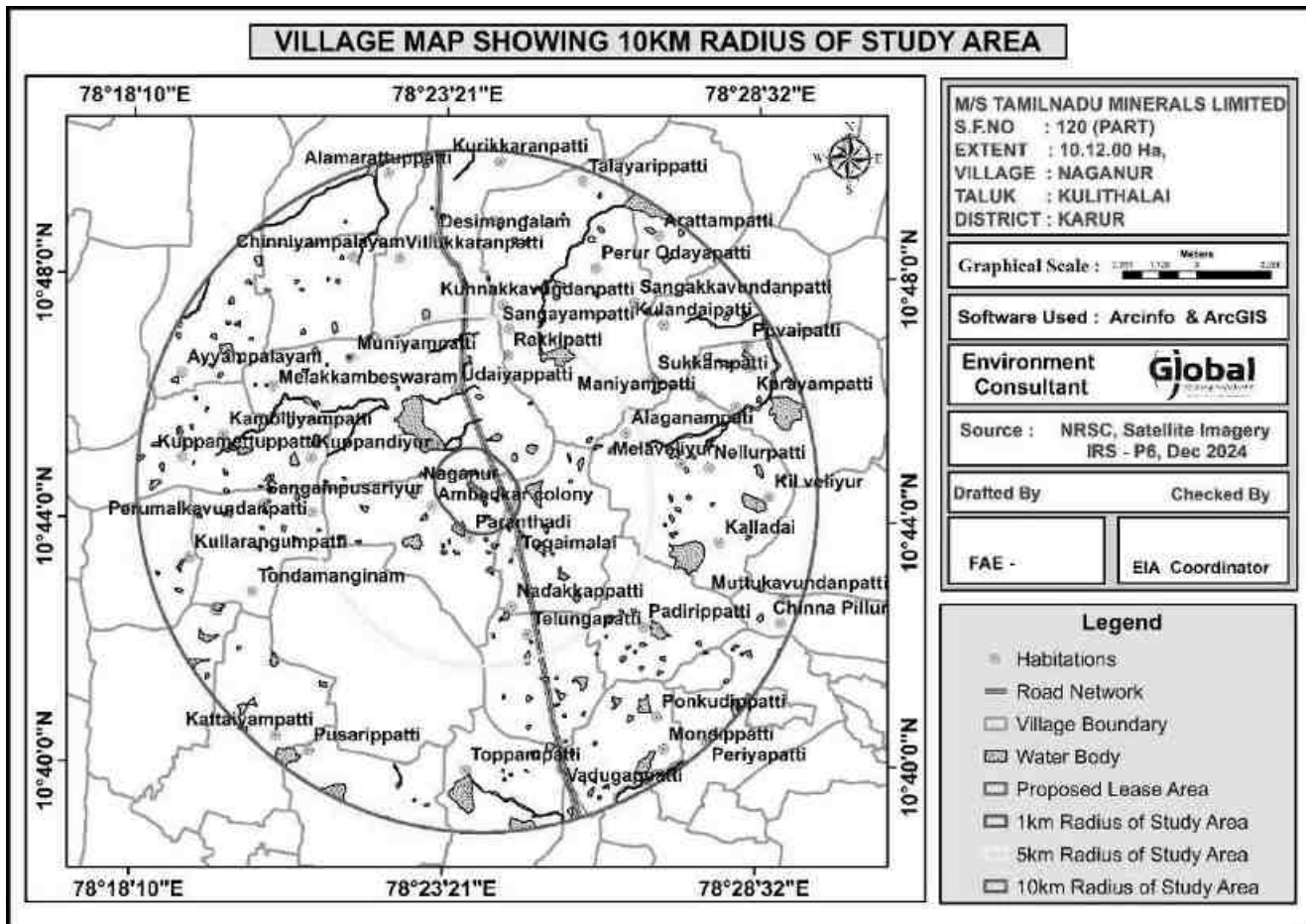


Figure 3-19 Villages around 10 km of the project site

Table 3-25 Demographic Profile – Study area

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

Sl. No	Name of the Blocks / Municipalities	Area (sq.km)	Population			Literates			Scheduled Castes			Scheduled Tribes			
			Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
1.	Karur	243.4	256579	126793	129786	193509	104105	89404	41235	20161	21074	132	66	66	
2	Thanthoni	363.1	188810	94485	94325	135510	74665	60845	40680	20134	20546	159	86	73	
3.	Aravakurichi	436.9	101053	49844	51209	71649	39088	32561	18324	9137	9187	12	4	8	
4.	K. Paramathi	539.3	82268	40825	41443	53384	30733	22651	21805	10854	10951	23	15	8	
5.	Kulithalai	189.0	136212	66991	69221	93760	50924	42836	33624	16230	17394	132	70	62	
6.	Thogamalai	301.8	70519	35038	35481	41455	23512	17943	14721	7191	7530	8	4	4	
7.	Kadavur	427.1	109839	54793	55046	62229	35942	26287	20463	10156	10307	45	21	24	
8.	K.R.Puram	395.0	119213	59415	59798	75548	42757	32791	30533	14946	15587	64	31	33	
District Total			2895.6	1064493	528184	536309	727044	401726	325318	221385	108809	112576	575	297	278

Source: Census of India, 2011

The Population of the district was 1064493 comprising 528184 Men and 536309 women as per 2011 census. The urban population is 434517 constituting 40.82 % of the total Population, the remaining 59.18% ie. 629976 is rural population. The density of population per sq.km was 371 persons in the 2011 census. The total literate among male is 401726 and that of female are 325318

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4.5. Vital Statistics

4.5.1 BIRTHS AND DEATHS REGISTERED

Year: 2016-17

Sl.No. (1)	Name of the Block / Municipality (2)	Live Births Registered (3)	Deaths Registered (4)
1.	Karur Municipality	4995	1631
2.	Kulithalai Municipality	1227	229
3.	Karur Block	638	1209
4.	Thanthoni Block	197	698
5.	Aravakurichi Block	478	925
6.	Paramathi Block	246	913
7.	Kulithai Block	376	743
8.	Thogmalai Block	619	859
9.	Kadavur Block	530	618
10.	Krishnarayapuram Block	861	963
TOTAL		13167	8818

Source: D.D., Health Services

4.5.2 BIRTH, DEATH AND INFANT MORTALITY RATES

Year: 2016-17

Birth Rate (1)	Death Rate (2)	Infant Mortality (3)
11.6	5.7	11

Source: D.D., Health Services

4.5.3 DEATH BY CAUSES

Year: 2016-17

Sl.No. (1)	Name of the Cause for Death (2)	No. of Deaths (3)
-	Nil	8818

Source: Civil Medical Office

Source: District Statistical Handbook 2023-2024

Socio-economic survey methodology

Purposive sampling methods were used for selecting respondents (male and female) for household survey. For official information of village, Gram Panchyat member has been chosen. Structured questionnaire was used for survey. For group discussion, Panchyat bhavan, Aanganwadi bhavan, community halls were used. Out of total 45 villages, 5 villages (11%) were surveyed for which selection criteria is based on proximity to the project site and area with dense and scarce populations were chosen. The chosen villages for the study include: **Mettupatti, Mootakampatti, Naganoor, Thogamalai, Kazhugur.**

Table 3-26 Consolidated Report – Key Socio-Economic Indicator in the study area

S. No	Indicator	Percentage/Nos.
1	People below age 18	28
2	People age limit above 18	75
3	Literates	90
4	Illiterates	15
5	% of people employed in company	45
6	% of people self employed	32
7	% of people seasonally employed	4

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8	% of people unemployed	12
9	% of houses covered with LPG Cooking gas	92
10	% of houses covered with toilet facility	85
11	% of houses covered with piped water supply	59

Salient Features in the study area

**House pattern:** It is notable that nearly 98% of the houses were pakka at survey area.

**Employment:** Main occupation of the people in the study area was agriculture

**Fuel:** All the households use LPG for cooking purpose

**Main Crops:** The cash crops include cotton, sugarcane, oilseeds, coffee, tea, rubber, coconut, gingelly and chillies. The important horticultural products are bananas and mangoes.

**Migration:** During survey, it was found that local population were migrating for employment purpose. Since due to the presence of various industrial units, migration from other places were also noted.

**Sanitation:** All the households were having toilet facilities in their houses. Drainage system was maintained in the study area.

**Drinking Water Facilities:** Ground water is the major source of drinking water in the villages wherein hand pumps, tap water and dug wells are installed.

**Transportation Facility:** For transportation purpose Auto, Public and Private Bus services

were available. Transportation facilities were frequently available in the study area and connecting major cities. Private vehicles like Bicycles & Motor Cycles were mostly used by villagers for transportation purpose

## 4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 4.1 Introduction

An environmental impact is defined as any change to the environment, whether adverse or beneficial, resulting from a facility's activities, products, or services. The anticipation of the possible & potential Environmental impact due to the proposed project is a key step in EIA. Based on the impacts assessed, appropriate mitigation measures should be adopted to maintain the environment with less or no damage.

### 4.2 Environmental Impacts

Environmental Impacts can be group into Primary impacts & Secondary Impacts

**Primary Impacts:** These impacts are directly attributed by the project

**Secondary Impacts:** These are those which are induced by primary impacts and include the associated investments and changed patterns of the social and economic activities by the action.

Assessment of impacts is done for the following Environmental Parameters:

- ♣ Land Environment
- ♣ Water Environment
- ♣ Air Environment
- ♣ Noise Environment
- ♣ Biological Environment
- ♣ Socio Economic Environment

Table 4-1 Impact & Mitigation measures on Land Environment

Aspect	Impact					Mitigation Measures	
<p><b>Quarrying operation</b></p>	<p>The proposed 10.12.00 Ha mine is quarrying of 180221.75m<sup>3</sup> of Saleable Granite &amp; 540665.25 m<sup>3</sup> of waste. The quarry operation is proposed to carry out with Opencast, Semi-mechanized Mining with a bench height of 10m and bench width of 10m is proposed. At the end of 20 years, mining lease area will be converted into ultimate pit of</p>					<p>The proposed project site is not prone to any kind of soil erosion.</p> <p>In addition, garland drainage of 1m x 1m will be provided to avoid storm water run-off.</p> <p>It is proposed to plant 5000 Nos. of local tree species (Neem, Magizham, Tamarind, Elandhai and Vilvam) along the roads, outer periphery of the mining area which enhances the binding property of the soil. It is proposed to improve the affected land wherever possible for better land use, so as to support vegetation and creation of water reservoir in the ultimate pit after quarrying</p> <p>The dumps will be maintained not exceeding 5m Height and the angle of slope of dumps will be at 45° from horizontal. The waste dump has been earmarked and the same is shown in mining plan.</p> <p>The source of dust generation is majorly due to drilling, blasting, loading &amp; unloading of the mined-out mineral, the impact will be mitigated by water sprinkling regularly once in 3hrs.</p>	
	<p><b>Sl. No.</b></p>	<p><b>Ultimate Pit Dimensions at Top (m)</b></p>		<p><b>Ultimate Pit Dimensions at Bottom (m)</b></p>			<p><b>Depth (Avg) in(m)</b></p>
		<p><b>Length</b></p>	<p><b>Width</b></p>	<p><b>Length</b></p>	<p><b>Width</b></p>		
<p>1</p>	<p>680.012</p>	<p>136.50</p>	<p>620.002</p>	<p>66.77</p>	<p>58 BGL</p>		
	<p>This may lead to soil erosion, degradation &amp; resource loss</p>						
	<p>The main impact of open cast mining on land-use is land degradation. The land is bound to be excavated for mining of Multicolor Granite Quarry.</p>						
	<p>Impact on soil of the study area will be minimal as there is no wastewater generated, heavy metal infusion, stack emissions.</p>						



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	<p>Impact due to transformation of terrain characteristics over the large area results in soil degradation.</p> <p>Solid waste will be generated from the mining activity as there will be refuse also generation of domestic waste. If it not properly managed, may cause odor and health problem to the workers.</p>	<p>The proposed mining activity is carried out in almost hilly terrain where the contour level difference is 10m.</p> <p>The 25% recovery is achieved and the remaining waste will be stored as dump not exceeding 5m Height and the angle of slope of dumps will be at 45° from horizontal. Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.</p>
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Table 4-2 Impact & Mitigation measures on water environment

Aspect	Impact	Mitigation Measures
<p><b><i>Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.</i></b></p>	<p>The mining in the area may cause ground water contamination due to intersection of the water table and mine runoff.</p>	<p>The water table will not be intersected during mining, as the ultimate depth is limited up to 58-meter BGL, whereas the ground water table is at 50m below the ground level. In this regard, detailed management plan for the same is enclosed as Annexure</p> <p>For the management of surface run-off, rain water harvesting plan will be proposed. The total harvested rainfall is 35729 Cum [(7.44.00 Ha x 0.98 x 0.35) + (0.3 Ha x 0.98 x 0.35)]. 10% will be evaporated and the remaining 32156 Cum. will be harvested in two sumps each of capacity 17,000 Cu.m</p>

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	<p>The ground water depletion may occur due to mining activity</p> <p>Chemicals consisting of nitrate used for blasting may pollute the surface run off</p> <p>Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labours</p>	<p>The ground water table is at a depth of 50 the mining operation will not affect the aquifer. The ultimate pit at the end of the mining operation will be used for rain water storage, the stored water will be used for greenbelt development and further the stored water will be used for domestic purposes (other than drinking) after proper treatment.</p> <p>Further, the run-off water will be stored in sumps and after proper treatment; water will be used in the mining operation for dust suppression.</p> <p>Provision of urinals/Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater</p>
Drainage	<p>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.</p>	<p>As per the approved mining plan the ultimate pit limit is 58 m (BGL) for twenty years. The ground water table is reported as 50m BGL. The depth is safe and economic for the quarrying operation. The detailed management is enclosed as Annexure</p>

Table 4-3 Impact and mitigation measures on air environment

Aspect	Impact	Mitigation Measures
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*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

***Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.***

During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.

The main source of pollutants arises due to drilling and blasting. 6 Nos. of Tipper will be used for loading and unloading, 2 Nos. of Excavator (0.90 m bucket capacity (with rock breaker attachment) will be used for excavation of the mineral which contributes to the generation of fugitive dust. In addition, blasting will be done using explosives leading to the generation of dust.

Effect on Human

Adverse effect on human health of working labourers and neighbouring villagers like effect on breathing and respiratory system, damage to lung tissue, influenza or asthma.

It is proposed to plant 5000 Nos of local species along the mine lease area, haul roads, outer periphery within the lease area to prevent the impact of dust in consultation with Forest department for the plantation of trees (Neem, Magizham, Tamarind, Elandhai and Vilvam) in two tier to combat air pollution and with herbs (Nerium) in between the tree species. 400 Nos. of tree species will be planted outside the mine lease area

Planning transportation routes of the mined-out mineral, so as to reach the nearest paved roads (an approach road) by shortest route connecting SH 71.

Alternatively, paved road will be constructed between mine lease area and nearest paved road connectivity. The speed of trucks plying on the haul road will be limited to 20km/hr to avoid generation of dust. The trucks will be covered by tarpaulin. Overloading will be avoided.

Personal Protective Equipments (PPEs) like eye goggles, dust mask, leather gloves, safety shoes & boots will be provided to the workers engaged at dust generation points like excavation and loading points.

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	Dust generation due to loading and unloading of mineral and due to transportation can also affect the workers as well as nearby villagers <u>Effect on Plants</u> Stomatal index may be minimized due to dust deposit on leaf.	3 kLD of water will be proposed for sprinkling on unpaved roads to avoid dust generation during transportation.

**AERMOD Modelling:**

**Impact Prediction:** 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.

**Air Emissions:** The impacts on air environment from a mining activity depend on various factors like production capacity, machinery involved, operations and maintenance of various equipment 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.

The air-borne particulate matter generated by quarrying operations and transportation is mainly PM10 and PM2.5, and emissions of sulfur dioxide (SO<sub>2</sub>) and oxides of nitrogen (NO<sub>2</sub>) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

Furthermore, the loading, unloading, and transportation of rough stone, as well as wind erosion of the exposed area and movement of light vehicles, will cause pollution within a 500-meter radius of the project area due to quarrying activities. This has a cumulative impact on the ambient air environment around the project area.

**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 production of 1,80,221.75 m<sup>3</sup> Multicolor Granite and Waste is 5,40,665.25 m<sup>3</sup> 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 modelling 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.

**Sources of Dust Emission:**

The proposed mining is carried out by semi 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 (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>) 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 have 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.

**Emission Details:**

All the emissions discussed above are quantified for proposed maximum production of is 1,80,221.75 m<sup>3</sup> and Waste is 5,40,665.25 m<sup>3</sup> by the open-cast mechanized mining method by the open-cast semi-mechanised mining method. The existing air quality levels are covered in the baseline scenario. Excavation, loading and transportation through tippers are the major sources, which are of significance. Therefore, the emissions considered for modeling are from drilling blasting, excavation & transportation rough stone.

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.

**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 modelling. Mixing heights representative of the region have been taken from the available published literature.

**Summary of Predicted Ground Level Concentrations:** Ground level concentrations due to the mining activities have been estimated to know the incremental raise and extent of impact in the study area.

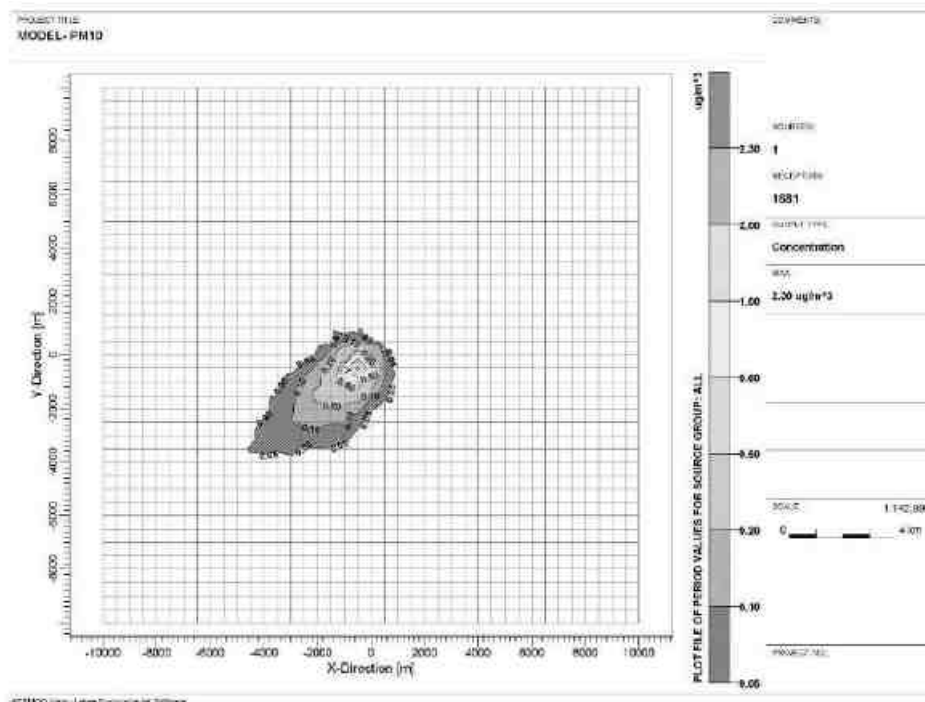


Figure 4-1Isopleth of GLC Prediction for PM10

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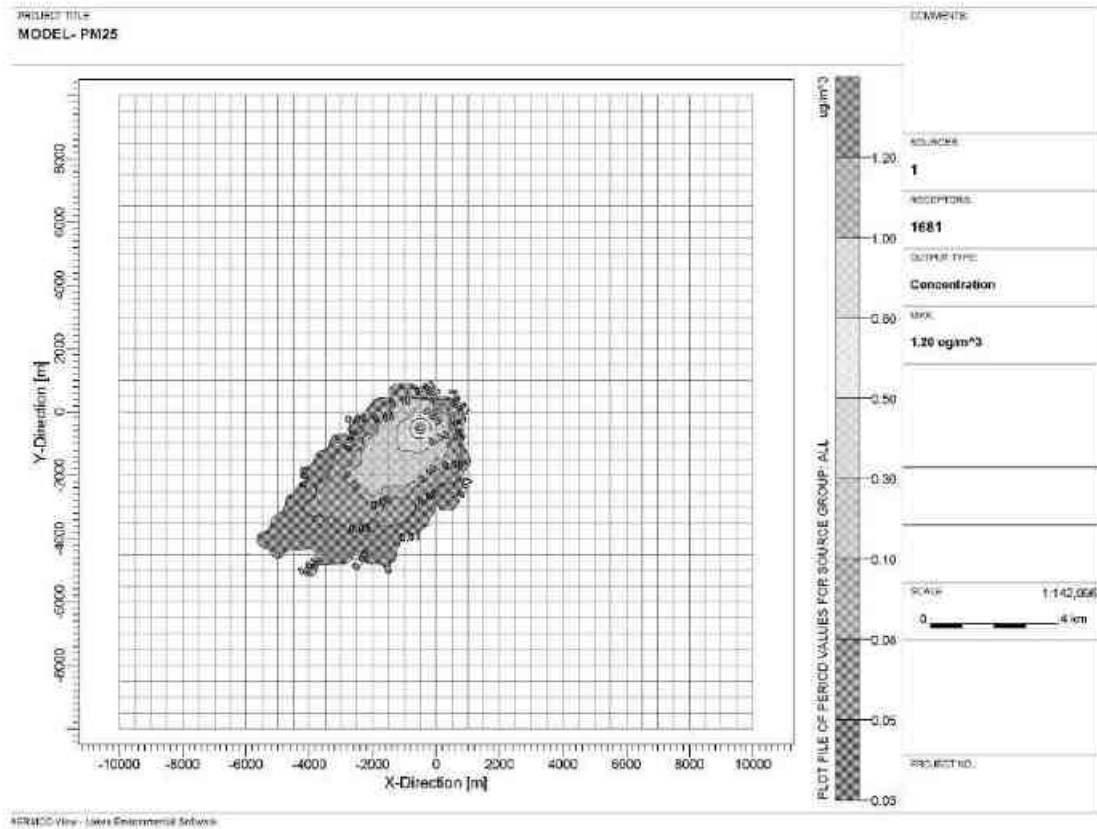


Figure 4-2 Isopleth of GLC Prediction for PM2.5

#### Predicted Ambient Air Quality:

The post project Concentrations of PM10, PM2.5, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No. 4-4 & 4-5

Table 4-4 Concentrations of PM10 after Project Implementation

S. No.	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1.	Project Site	62.8	<1	63.8	100
2.	Mettupatti	59.2	<1	60.2	
3.	Mootakampatti	53.2	<1	54.2	
4.	Naganoor	52.8	<1	53.8	
5.	Thogamalai	54.9	<1	55.9	



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6.	Kazhugur	49.9	<1	50.9	
7.	Thondamanginam	51.2	<1	52.5	

Table 4-5 Concentrations of PM2.5 after Project Implementation

S. No.	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1.	Project Site	29.8	<1	30.8	60
2.	Project Site	27.2	<1	28.2	
3.	Mettupatti	26.9	<1	27.9	
4.	Mootakampatti	25.1	<1	26.1	
5.	Naganoor	25.5	<1	26.5	
6.	Thogamalai	22.0	<1	23.0	
7.	Kazhugur	22.6	<1	23.6	

The above result 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 within the statutory limits in each case.

Table 4-6 Impact & Mitigation measures on Noise Environment and vibration

Aspect	Impact	Mitigation Measures
<p><b><i>Loading and unloading, Transportation of the excavated mineral.</i></b></p>	<p>Usage of Equipments (Excavator – 82 dBA, Tipper - , Jack Hammer), Machinery and trucks used for transportation will generate noise.</p> <p>Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure.</p> <p>Number of vehicles will be increased due to the proposed mining activity hence vehicle may collate which may result in unwanted sound and can also cause impact on human health like breathing and respiratory system, damage to lung tissue, influenza or asthma.</p>	<ul style="list-style-type: none"> <li>• The machinery will be maintained in good running condition so that noise will be reduced to minimum possible level.</li> <li>• Awareness will be imparted to the workers once in six months about the permissible noise level and effect of maximum exposure to those levels. Adequate silencers will be provided in all the diesel engines of vehicles.</li> <li>• It will be ensured that all transportation vehicles carry a valid PUC Certificates.</li> <li>• Speed of trucks entering or leaving the mine will be limited to moderate speed (20km/hr) to prevent undue noise from empty vehicles.</li> <li>• The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipment.</li> <li>• It is proposed to plant 5000 Nos. of local species (Neem, Mandharai, Athi, Ashoka and Villam) to reduce the impact of noise in the study area. The development of green belts around the periphery of the mine will be implemented to attenuate noise.</li> </ul>

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		<ul style="list-style-type: none"> <li>• The trucks will be diverted on two roads and a District Road to avoid traffic congestion.</li> <li>• Health checkup camps will be organized once in six months.</li> <li>• Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.</li> <li>• Provision of quiet areas, where employees can get relief from workplace noise.</li> </ul>
<p>Mining activities such as blasting, drilling and movement of machinery</p>	<p>Though vibration will be only felt by the people working inside the lease area it is usually undesired. Vibration may also cause flyrocks. It may frighten the birds and small insects in the lease area. However, it will be felt only for a short period.</p>	<ul style="list-style-type: none"> <li>• The DG set will be kept within the acoustic enclosure made by the stone blocks.</li> <li>• Drills will be equipped with sharp bits and wet drilling will be adopted.</li> <li>• A well-planned green belt is proposed for the mining to reduce noise level.</li> <li>• Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.</li> <li>• Regular maintenance of the machineries and vehicles to reduce the noise level.</li> <li>• Use of ear muffs by the workers with occupational exposure to noise.</li> <li>• Carrying out blasting on limited scale, only from 12:00 PM to 2:00 PM</li> </ul>

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		<ul style="list-style-type: none"> <li>• Control of fly rock and vibration by maintaining peak particle velocity within the standard as prescribed by the DGMS and MOEF &amp; CC.</li> <li>• Shallow depth jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive.</li> <li>• Supervising blasting by competent and statutory Foreman/ Mines Manager.</li> </ul>
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Table 4-7 Impact on Socio-economic Environment

<b>Aspect</b>	<b>Impact</b>	<b>Mitigation Measures</b>
Proposed implementation of Mining activity	Land acquisition for the implementation of the project may result in loss of assets, which in return will make the PAP to shift, losing their normal routine and livelihood	The proposed project is a Government Land and TAMIN has obtained through tender. Hence the project does not involve Rehabilitation and resettlement
Loading and Transportation of the mined-out mineral	The mining activities may cause dust emission, noise pollution thereby causing disturbance to the local habitat	No human activity is envisaged near the project site. The nearest human settlement is observed in Mettupatti, which is 400m away from the project site.
Grazing and Rearing activities in the nearby villages	The Grazing and rearing of local animals like Sheep, Goat and cows is observed in the nearby villages, which	It is proposed to use graveled road and nearest paved road and preferred not to use unpaved roads. In addition to that, the speed of trucks will be limited to 20km/hr to avoid any accidents

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	may be affected due to the project as the movement of the vehicles may affect/injure the animals	
Employment opportunity	The project will improve the livelihood of the local people	After the development of the proposed mine, it will improve the livelihood of local people and also provide the direct and indirect employment opportunities. The rough stone for the infrastructural development in the area will be made available from the local markets at reasonably lower price.
Corporate Environmental Responsibility	The proposed project will help in natural resource augmentation & Community resource development	As a part of CER, Rs. 8,00,000 will be allocated. The detailed agenda, which is to be executed, has been framed. The salient features of the programme are as follows:  Provision of Library, Plantation of trees and other developmental facilities to the Government School, Naganur

Table 4-8 Impact & mitigation measures on Biological Environment

Aspect	Impacts	Mitigation Measures
Site Clearance	Loss of habitat due to site clearance which may lead to ecological disturbance.	The proposed mining lease is already a barren land hence no site clearance is required. Only few shrubs and herbs like parthenium sp., prosopis juliflora were present.

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Planting of trees	Development of afforestation in the mine lease area will have a positive impact as the land was initially a barren.	A safety distance of 7.5m from the adjoining patta lands, 10m from the adjoining Poramboke lands and 50m for the Kulam in the S.F. No. 151. Afforestation is planned in this safety zone and in addition to that, exclusively 0.42.5 Ha will be provided for the plantation of trees
Mining activities such as drilling, blasting etc.	The mining activity such as drilling, blasting etc. may affect the fauna 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.
	Accidental falling of animals	To prevent entry of animals, the mine lease surrounding area will be properly fenced with barbed wire.

Table 4-9 Impact & mitigation measures on occupational Health and safety

S. No	Aspect	Impact	Mitigation measure
1.	Risk due to the proposed mining	Accidents may occur in the mine area	Proper PPE kit (Safety jacket, Helmet, Safety Shoes, Gloves) etc will be provided to each and every employee in the mine lease concerning the safety of each labour
2.	Screening of Labors	Labors will be checked for health condition before employing them in mining activity	All the labours will be checked and screened for health before employing them  After employing them, periodical medical checkups will be held once in every six months

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3.	Blasting	Injury to the labours due to the blasting activity	Alarm system in the form of Siren will be engaged in the project site to caution the blasting activity. In addition to that, the blasting activity will be scheduled at particular time – 4.30 P.M to 5.30 P.M (or whenever required) so that the employees will be aware of the activity. Smoking will be banned in the site and sign boards will be displayed in various places at site
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## 5 ANALYSIS OF ALTERNATIVES

### 5.1 Introduction

Analysis of alternative is a significant aspect in planning and designing any project. Cost benefit analysis should be work out along with other parameters while choosing an alternative in such a way that the production is maximum and the mining operation is environment friendly and cost effective. The mine plan and mine closure plan has been approved prior to submission of the Form-1 and PFR.

ToR issued by the SEIAA-TN vide ToR Identification No. TO25B0106TN5559039N Dated: 11/03/2025. The study for alternative analysis involves in-depth examination of site and technology.

### 5.2 Analysis for Site Alternative

The proposed project is the mining of Multicolor Granite and is proposed after prospecting the area. In other words, these can be implemented in the mineral available zone. Since the mining block has been allotted in principle by the State Government, there is no case for studying and exploring any other site as an alternative.

### 5.3 Alternatives for Mining Technologies

The open cast mining could be manual/semi-mechanized/mechanized depending upon the geological and topographical setup of the mineral (ROM) to be won and the daily/annual targeted production.

Sr. No.	Particular	Alternative Option 1	Alternative Option 2	Remarks
1.	Technology	Opencast semi mechanized mining	Opencast mechanized mining	Opencast semi-mechanized mining is preferred
2.	Employment	Local employment.	Outsource employment	Local employment is preferred Benefits: Provides employment to local people along with financial benefits No residential building/ housing is required.
3.	Labour transportation	Public transport	Private transport	Local labors will be deployed from Naganur, Thogamalai, Kazhugur so they will either reach mine site by bicycle or by foot. Benefits: Cost of transportation of labors will be negligible



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4.	Material transportation	Public transport	Private transport	Material will be transported through trucks/trolleys on the contract basis Benefits:  It will give indirect employment.
5.	Water	Private Tankers	Ground water	Water will be supplied from private tankers

## 6 ENVIRONMENTAL MONITORING PROGRAM

### 6.1 Introduction

This chapter covers the planned environmental monitoring program. It also includes the technical aspects of monitoring the effectiveness of mitigation measures. Monitoring is important to measure the efficiency of control measures. Post project monitoring of environmental parameters is of key importance to assess the status of environment. The monitoring program will serve as an indicator for identifying environmental degradation due to operation of the project and help in selection of appropriate mitigation measures to safeguard the environment.

Regular monitoring is as important as control of pollution since the efficacy of control measures can only be determined by monitoring. The project proponent will carry out the post project environmental monitoring (PPM) and timely compliance report submission to various regulatory authorities.

Therefore, regular monitoring programme of the environmental parameters is essential to take into account the changes in the environmental quality. The objectives of monitoring are to: -

- Verify effectiveness of planning decisions;
- Measure effectiveness of operational procedures;
- Confirm statutory and corporate compliance; and
- Identify unexpected changes.

Table 6-1 Monitoring Schedule during mining

S. No.	Attributes	Parameters	Frequency	Location
1.	Ambient Air Quality at Mine Site & Fugitive Dust Sampling	PM 10, PM 2.5, SO <sub>2</sub> , NO <sub>x</sub>	Once in a Month	Project Site & Naganur
2.	Ground water Quality	Drinking Water Parameters, as per IS - 10500: 2012	Half yearly	Project Site & Naganur
3.	Surface Water Quality	Class will be assessed as per the CPCB Guidelines	Half yearly	Project Site & Naganur
4.	Soil Quality	(Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	Half yearly	Project Site & Naganur
5.	Noise Level Monitoring	Noise level in dB(A) Quarterly/half yearly	Half yearly	Project Site & Naganur

## 6.2 MEASUREMENT METHODOLOGY

Table 6-2 Measurement Methodology

Ambient Air Quality	Ambient air quality will be monitored for SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>10</sub> and PM <sub>2.5</sub> . 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.
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.
Noise Monitoring	Noise level will be monitored in working environment mainly noise producing sources over the boundary and around the mining area.
Green Belt and Afforested area	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.
Socio-Economics	Socio-economic of the core and buffer zone details elaborated in Chapter-3.

### 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 6-3 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

## 7 ADDITIONAL STUDIES

### 7.1 General

This chapter covers the details of the additional studies viz. Risk assessment, Disaster Management, Public Hearing, Rehabilitation and resettlement

### 7.2 Public Consultation

As the proposed mining project falls under 1(a), Category B1 – Cluster Mining, the project involves the Public Consultation and the same will be conducted under SPCB (TN) in Karur District. The proceedings of the same will be incorporated in the Final EIA Report

### 7.3 Risk Assessment and Management

Mining and allied activities are associated with several potential hazards both to the employees and the public at large. A worker in a mine should be able to work under conditions that are adequately safe and healthy. At the same time the environmental conditions should be such as not to impair his working efficiency. The various safeguards to be taken to ensure the safety of the mine and that of employees are provided in the Mines Act, 1952. Risk involves the occurrence or potential occurrence of some accidents consisting of an event or sequence of events. The risk assessment study covers the following:

- Identification of potential hazard areas
- Identification of representative failure cases
- Assess the overall damage potential of the identified hazardous events and the impact zones from the accidental scenarios
- Assess the overall suitability of the site from hazard minimization and disaster mitigation point of view
- Furnish specific recommendations on the minimization of the worst accident possibilities
- Preparation of broad DMP, On-site and Off-site Emergency Plan, which includes Occupational Health and Safety Plan

The complete mining will be carried out under the management control and direction of a qualified mine manager holding a manager's certificate of competency.

Moreover, mining staff will be sent to refresher courses from time to time to keep them alert. However, following natural/industrial hazards may occur during normal operation:

- Accident due to explosives
- Accident due to heavy mining equipment; and
- In order to take care of above hazard/disasters, the following control measures will be adopted.
- All safety precautions and provisions of the Mine Act, 1952, the MMR, 1961 and the Mines Rules, 1955 will be strictly followed during all mining operations

- Entry of unauthorized persons will be prohibited
- Firefighting and first-aid provisions in the mine's office complex and mining area;
- Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use
- Training and refresher courses for all the employees working in hazardous premises; under mines rules all employees of mines will have to undergo the training at a regular interval working of mine, as per approved plans and regularly updating the mine plans.
- Cleaning of mine faces will be regularly done.
- Handling of explosives, charging and blasting will be carried out by competent persons only.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- Suppression of dust on the haulage roads. Adequate safety equipment will be provided at explosive magazine
- Increasing the awareness of safety and disaster through competitions, posters and other similar drives. For any type of above disaster, a rescue team will be formed by training the mining staff with specialized training.

#### *7.3.1 Identification of hazards in open cast mining*

There are various factors, which can cause disaster in the mines. These hazards are as follows: Identification of Hazards in Opencast Mine is given in below,

- Drilling
- Blasting
- Overburden handling
- Heavy Machinery

#### *Drilling:*

The drilling is carried out using jack hammers with a diameter of hole is 32-36 mm up to 1.5m long drilling will be utilized. The breakages of drill rods may blast injuring the nearby personnel. These can be easily remedied as follows:

- Maintain and operating the equipment's as per the manufacturer's manual.
- Compressor is kept at a safe distance from the main operation area and operated, so that in the event of any disruption the personnel in the operating area are safe.

#### *Blasting:*

Most of the accidents from blasting occur due to the projectiles, as they may sometimes go even beyond the danger zone, mainly due to overcharging of the shot-holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.

The blasting is the predominating method of breaking rocks in various surface and underground mines. At the same time some damaging impacts on environment are evident: noise, gas, dust, fly rock and ground vibration.

The considering factor is most important for safety of natural objects in the vicinity of mining area.

The ground vibration parameters, crucial for safety of endangered objects have a significant correlation with charge weight and distance of blasting.

This study tried to associate the main vibration parameter, particle velocity with blasting parameters and properties of vibration medium.

- Precautionary Measures to Avoid Accidents due to Blasting
- The lessee is advised to store the explosives as per the Indian Explosive act, 1958
- The explosives to be used in mines being a small quantity, the district collector may be approached to keep the stocks not exceeding 5kgs at time or any other quantity permitted by the concerned authorities in a portable magazine of S & B types.
- The lessee is advised to engage an authorized explosive agency to carry out proposed control blasting.
- The Proposed Control Blasting time at a day is proposed to 5PM to 6 PM.
- First Aid Box will be keeping ready at all the time.
- Necessary precautionary announcement will be carried out before the proposed Control Blasting operation.

#### Overburden handling

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 levelling of low-lying areas.

#### Heavy machinery

Most of the accidents during transport of tippers and other heavy vehicles are often attributable to mechanical failures and human errors.

#### *7.3.2 Precautionary Measures to Prevent Accidents due to Trucks and Dumpers*

All transportation within the main working shall be carried out directly under the supervision and control of the management.

The vehicles must be maintained in good condition and checked thoroughly at least once a week by the competent person authorized for the purpose by the Management.

Road signs shall be provided at each and every turning point especially for the guidance of the drivers at the night.

To avoid danger while reversing vehicles especially at the embankment and tipping points, all areas for reversing of lorries should as far as possible be made man free.

A statutory provision of the fences, constant education, training etc. will go a long way in reducing the incidents of such accidents.

A Load consisting of large rocks must not be over the edge. This is unsafe and may damage equipment.

The movement of the dumpers will be governed under the Code of Traffic rule.

#### Storage of explosives

There will not be any storage of explosives during the operation of the quarry. The blasting will be done by contractors authorized by the Government.

#### Safety measures at site

- Adequate care has been taken in deciding the size of the bench for the working as well as ultimate pit.
- Adequate drainage system at the top of the pit and also on the benches shall be made to prevent erosion of the benches.
- The quarries will be protected by garland drains around the periphery for storm water drainage.

#### 7.4 Disaster Management Plan:

##### 7.4.1 Objective

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/drills. The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- Effect the rescue and medical treatment of casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Identify any dead;
- Provide for the needs of relatives;
- Provide authoritative information to the news media;
- Secure the safe rehabilitation of affected area and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In effect, it is to optimize operational efficiency to rescue rehabilitation and render medical help and to restore normalcy.

#### **EMERGENCY ORGANIZATION (EO):**

It is recommended to setup an emergency organization. A senior executive (mine manager) who has control over the affairs of the mine would be heading the emergency organization. He would be designated as site controller. As per the general organization chart, in the mines, the mines manager would be designated as the Incident Controller (IC). The incident controller would be reporting to the site controller. Each incident controller, for him-self, organizes a team responsible for controlling the incidence with the personnel under his control. Shift In-charge would be the reporting officer, who would bring the incidence to the notice of the incidence controller and site controller. Emergency coordinators would be appointed who would undertake the responsibilities like firefighting, rescue, rehabilitation, transport and provide essential and support services. For this purposes, Security in-charge, personnel department, essential services personnel would be engaged. All these personnel would be designated as key personnel.

In each shift, electrical supervisor, electrical fitters, pump house in-charge and other maintenance staff would be drafted for emergency operations. In the event of power or communication system failure, some of staff members in the mine offices would be drafted and their services would be utilized as messengers for quick passing of communications. All these personnel would be declared as essential personnel.

#### **EMERGENCY COMMUNICATION (EC):**

Whoever notices an emergency situation such as fire, growth of fire etc. would inform his immediate superior and Emergency Control Center (ECC). The person on duty in the emergency control center would appraise the site controller. Site Controller verifies the situation from the incident controller of that area or the Shift In-charge and takes a decision about an impending on site emergency. This would be communicated to the entire incident controllers, emergency coordinators. Simultaneously, the emergency warning system would be activated on the instructions of the site controller.

#### **EMERGENCY RESPONSIBILITIES:**

The responsibilities of the key personnel are appended below:

##### **Site Controller:**

On receiving information about emergency, he would rush to emergency control center and take charge of ECC and the situations which all are given below:

Assesses the magnitude of the situation on the advice of incident controller and decides;

- Whether the affected area needs to be evacuated;
- Whether personnel who are at assembly points need to be evacuated;
- Declares Emergency and orders for operation of emergency siren;
- Organizes announcement by public address system about location of emergency;
- Assesses which areas are likely to be affected, or need to be evacuated or are to be alerted;



- Maintains a continuous review of possible development and assesses the situation in consultation with Incident Controller and other Key Personnel as to whether shutting the mine operation required and if evacuation of persons is required;
- Directs personnel for Rescue, rehabilitation, transport, fire, brigade, medical and other designated mutual support systems locally available, for meeting emergencies;
- Controls evacuation of affected areas, if the situation is likely to go out of control or effects are likely to go beyond the mine boundary, informs to District Emergency Authority, Police, Hospital and seeks their intervention and help;
- Informs the statutory authorities;
- Gives a public statement if necessary;
- Keeps record of chronological events and prepares an investigation report and preserves evidence; and
- On completion of On-Site Emergency and restoration of normalcy, declares all clear and orders for all clear warning.

**Incident Controller:**

- Assembles the incident control team;
- Directs operations within the affected areas with the priorities for safety to personnel; minimize damage to property and environment and minimize the loss of materials;
- Directs the shutting down the operations and areas likely to be adversely affected by the emergency;
- Ensures that all key personnel help is sought;
- Provides advice and information to the Fire and Security Officer and the Local Fire Services as and when they arrive;
- Ensures that all non-essential workers/staff of the affected areas evacuated to the appropriate assembly points, and the areas are searched for causalities;
- Has regard to the need for preservation of evidence so as to facilitate any inquiry into the cause and circumstances which caused or escalated the emergency;
- Co-ordinates with emergency services at the site;
- Provides tools and safety equipment to the team members;
- Keeps in touch with the team and advise them regarding the method of control to be used; and
- Keeps the Site Controller of Emergency informed of the progress being made.

**Emergency Coordinator – Rescue, Fire Fighting**

- On knowing about emergency, rushes to ECC;
- Helps the incident Controller in containment of the emergency;

- Ensure fire pumps in operating conditions and instructs pump house operator to ready for any emergency with standby arrangement;
- Guides the firefighting crew i.e. firemen, trained mine personnel and security staff;
- Organizes shifting the firefighting facilities to the emergency site, if required;
- Takes guidance of the Incident Controller for firefighting as well as assesses the requirements of outside help;
- Arranges to control the traffic at the incident area;
- Directs the security staff to the incident site to take part in the emergency operations under his guidance and supervision;
- Evacuates the people in the mine or in the nearby areas as advised by Site Controller;
- Searches for casualties and arranges proper aid for them;
- Assembles search and evacuation team;
- Arranges for safety equipment for the members of this team;
- Decides which paths the evacuated workers should follow; and
- Maintains law and order in the area, and if necessary, seeks the help of police.

**Emergency Coordinator** – Medical, Mutual Aid, Transport and Communication. In the event of failure of electric supply and thereby internal telephone, sets up communication point and establishes contact with the Emergency Control Center (ECC).

- Organizes medical treatment to the injured and if necessary, will shift the injured to nearby hospitals;
- Mobilizes extra medical help from outside, if necessary;
- Keeps a list of qualified first aiders of the mines and seek their assistance;
- Maintains first aid and medical emergency requirements;
- Makes sure that all safety equipment is made available to the emergency team;
- Assists Site Controller with necessary data and to coordinate the emergency activities;
- Assists Site Controller in updating emergency plan, organizing mock drills verification of inventory of emergency facilities and furnishing report to Site Controller;
- Maintains liaison with Civil Administration;
- Ensure availability of canteen facilities and maintenance of rehabilitation center;
- He will be in liaison with Site Controller/Incident Controller;
- Ensure transportation facility;
- Ensures availability of necessary cash for rescue/rehabilitation and emergency expenditure;
- Controls rehabilitation of affected areas on discontinuation of emergency; and
- Makes available diesel/petrol for transport vehicles engaged in emergency operation.

**Emergency Coordinator – Essential Services:**

He would assist Site Controller and Incident Controller;

Maintains essential services like Diesel Generator, Water, Fire Water, power supply for lighting;

Gives necessary instructions regarding emergency electrical supply, isolation of certain sections etc. to shift in-charge and electricians; and

Ensures availability of adequate quantities of protective equipment and other emergency materials, spares etc.

#### **GENERAL RESPONSIBILITIES OF EMPLOYEES DURING AN EMERGENCY:**

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of Disaster Management Plan.

#### **EMERGENCY FACILITIES:**

**Emergency Control Center (ECC):** The Mine Office Block is identified as Emergency Control Center. It would have external Telephone, Fax, and Telex facility. All the Site Controller/ Incident Controller Officers, Senior Personnel would be located here. Also, it would be an elevated place.

The following information and equipment are to be provided at the Emergency:

#### **Control Center (ECC):**

- Intercom, telephone;
- Safe contained breathing apparatus;
- Fire suit/gas tight goggles/gloves/helmets;
- Hand tools, wind direction/velocities indications;
- Public address megaphone, hand bell, telephone directories;
- Mine layout, site plan;
- Emergency lamp/torch light/batteries;
- Plan indicating locations of hazard inventories, sources of safety equipment, work road plan, assembly points, rescue location vulnerable zones, escape routes;
- Hazard chart;
- Emergency shut-down procedures;
- Nominal roll of employees;
- List of key personnel, list of essential employees, list of Emergency Coordinators;
- Duties of key personnel;
- Address with telephone numbers and key personnel, emergency coordinator, essential employees; and

- Important address and telephone numbers including Government agencies, neighbouring industries and sources of help, outside experts, population details around the Mine.

**Assembly Point:**

Number of assemblies depending upon the mine location would be identified wherein employees who are not directly connected with the disaster management would be assembled for safety and rescue. Emergency breathing apparatus, minimum facilities like water etc. would be organized. In view of the size of mine, different locations should be marked as assembly points. Depending upon the location of hazard, the assembly points are to be used.

**Emergency Power Supply:**

Mine facilities are connected to power supply from the SEB. In the event of any grid supply failure, Diesel Generator will be provided at the mine, which is operated as soon as any power failure occurs. Thus water pumps, mine lighting and emergency control center, administrative building and other auxiliary services are connected to emergency power supply. In all the blocks flame proof type emergency lamps would be provided.

**Fire Fighting Facilities:**

First aid firefighting equipment suitable for emergency should be maintained in each operation areas of the mine as per statutory requirements.

**Location of Wind Sock:**

On the top of the administration block, windsocks would be installed to indicate direction of wind for emergency escape.

**Emergency Medical Facilities:**

Stretchers, gas masks and general first aid materials for dealing with chemical burns, fire burns etc. would be maintained in the medical center as well as in the emergency control room. Private medical practitioners help would be sought. Government hospital would be approached for emergency help.

First aid facilities would be augmented. Names of medical personnel, medical facilities in the area would be prepared and updated. Necessary specific medicines for emergency treatment of burns patients and for those affected by toxicity would be maintained.

Breathing apparatus and other emergency medical equipment would be provided and maintained. The help of nearby industrial managements in this regard would take on mutual support basis.

**Ambulance:**

An ambulance with driver availability in all the shifts, emergency shift vehicle would be ensured and maintained to transport injured or affected persons. Number of persons would be trained in first aid so that, in every shift first aid personnel would be available.

**EMERGENCY ACTIONS:**

**Emergency Warning:**

Communication of emergency would be made familiar to the personnel inside the mine and people outside. An emergency warning system would be established.

**Evacuation of Personnel:**

In the event of an emergency, unconnected personnel have to escape to assembly point. Operators have to take emergency shutdown procedure and escape. Time Office maintains a copy of deployment of employees in each shift. If necessary, persons can be evacuated by rescue teams.

**All Clear Signal:**

Also, at the end of an emergency, after discussing with Incident Controllers and Emergency coordinators, the Site Controller orders an all-clear signal. When it becomes essential, the site controller communicates to the district emergency authority, police and fire service personnel regarding help required or development of the situation into an Off-Site Emergency

**GENERAL:**

**Employee Information:**

During an emergency, employees would be warned by raising siren in specific pattern. Employees would be provided with information related to fire hazards, antidotes and first aid measures. Those who would designate as key personnel and essential employees should be given training to emergency response.

**Co-ordination with Local Authorities:**

Keeping in view of the nature of emergency, two levels of coordination are proposed. In the case of an On-Site Emergency, resources within the organization would be mobilized and, in the event, extreme emergency local authorities help should be sought.

In the event of an emergency developing into an offsite emergency, local authority and District emergency Authority (normally the Collector) would be appraised and under his supervision, the Off-Site Disaster Management Plan would be exercised. For this purpose, the facilities that are available locally, i.e. medical, transport, personnel, rescue accommodation, voluntary organizations etc. would be mustered. Necessary rehearsals and training in the form of mock drills should be organized.

**Mutual Aid:**

Mutual aid in the form of technical personnel, runners, helpers, special protective equipment, transport vehicles, communication facility etc. should be sought from the neighbouring industrial management's.

**Mock Drills:**

Emergency preparedness is an important aspect of planning in Industrial Disaster Management. Personnel would be trained suitably and prepared mentally and physically in emergency response through carefully planned, simulated procedures. Similarly, the key personnel and essential personnel should be trained in the operations.

### **Important Information**

Important information such names and addresses of key personnel, essential employees, medical personnel, transporters address, address of those connected with Off Site Emergency such as Police, Local Authorities, Fire Services, District Emergency Authority should be prepared and maintained.

The Unit Head is in charge for disaster management and monitors all activities related to disaster management/risk assessment in case of any such situations.

### **Care and maintenance during temporary discontinuance:**

In case, of any temporary closure or discontinuous of mining operations, the following steps are proposed.

- a. Notice to be served to all concerned authority.
- b. The mining pit area shall be covered by temporary fencing.
- c. Watchman will be posted round the clock to prevent any unauthorized or inadvertent entry of public.
- d. Works on stabilization of dumps to provided vegetal cover would be taken up.
- e. Construction of garland or retaining walls around the dumps will be attempted.
- f. Watering of plants in the afforested area will be considered.
- g. All safety precautions shall be taken care off as per rule.

## 7.5 Cumulative Environmental Impact Assessment Study

### **Emission Estimation from 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- February 2025. The following sources are considered.

### **Emission sources & Quantification of the cluster area:**

Various point and non-point sources of emissions from Proposed Multicolor Granite Quarry of M/s. TAMIL Ltd is quantified and presented below:

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

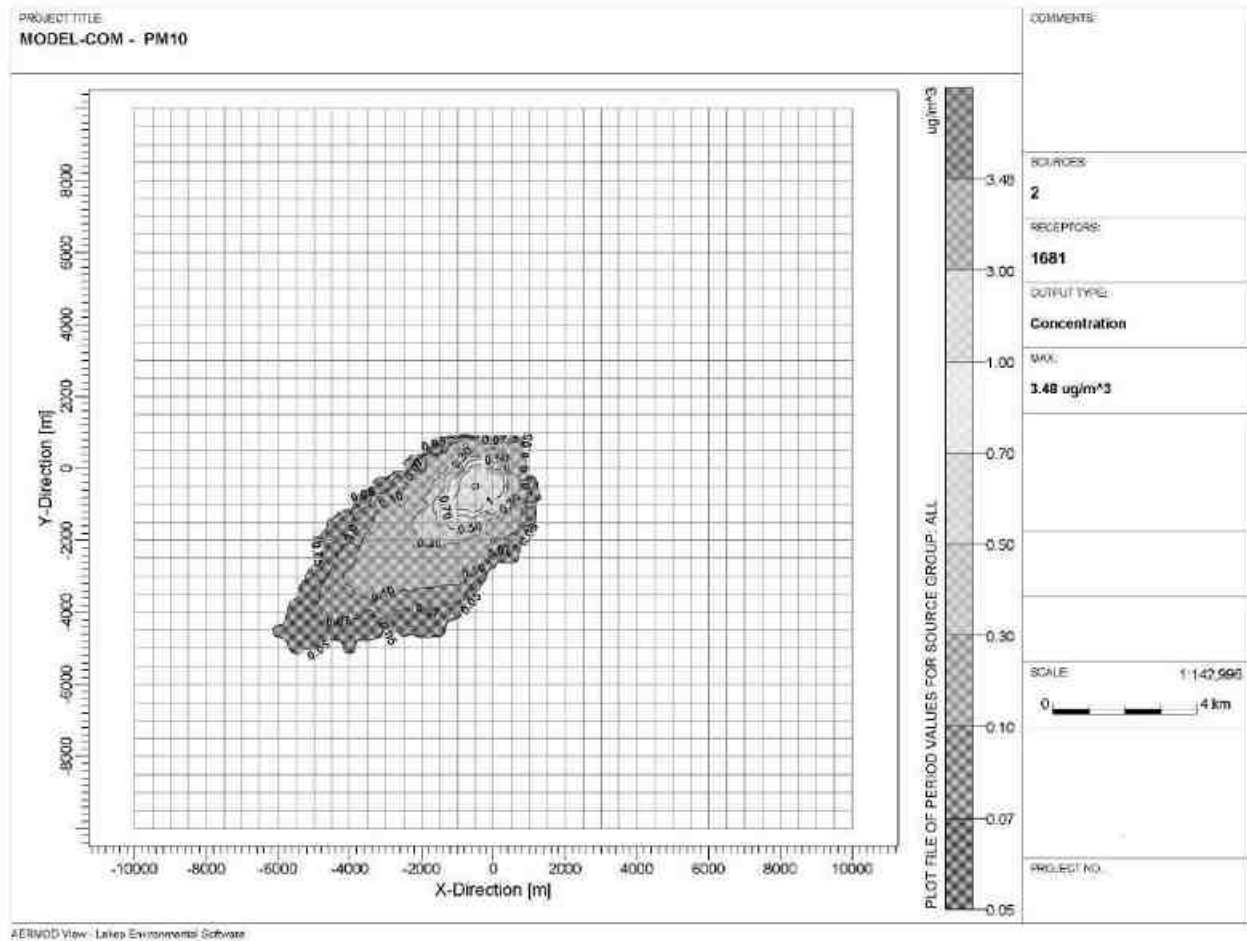


Figure 7-1 Isopleth of GLC Prediction – Cumulative for PM 10

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

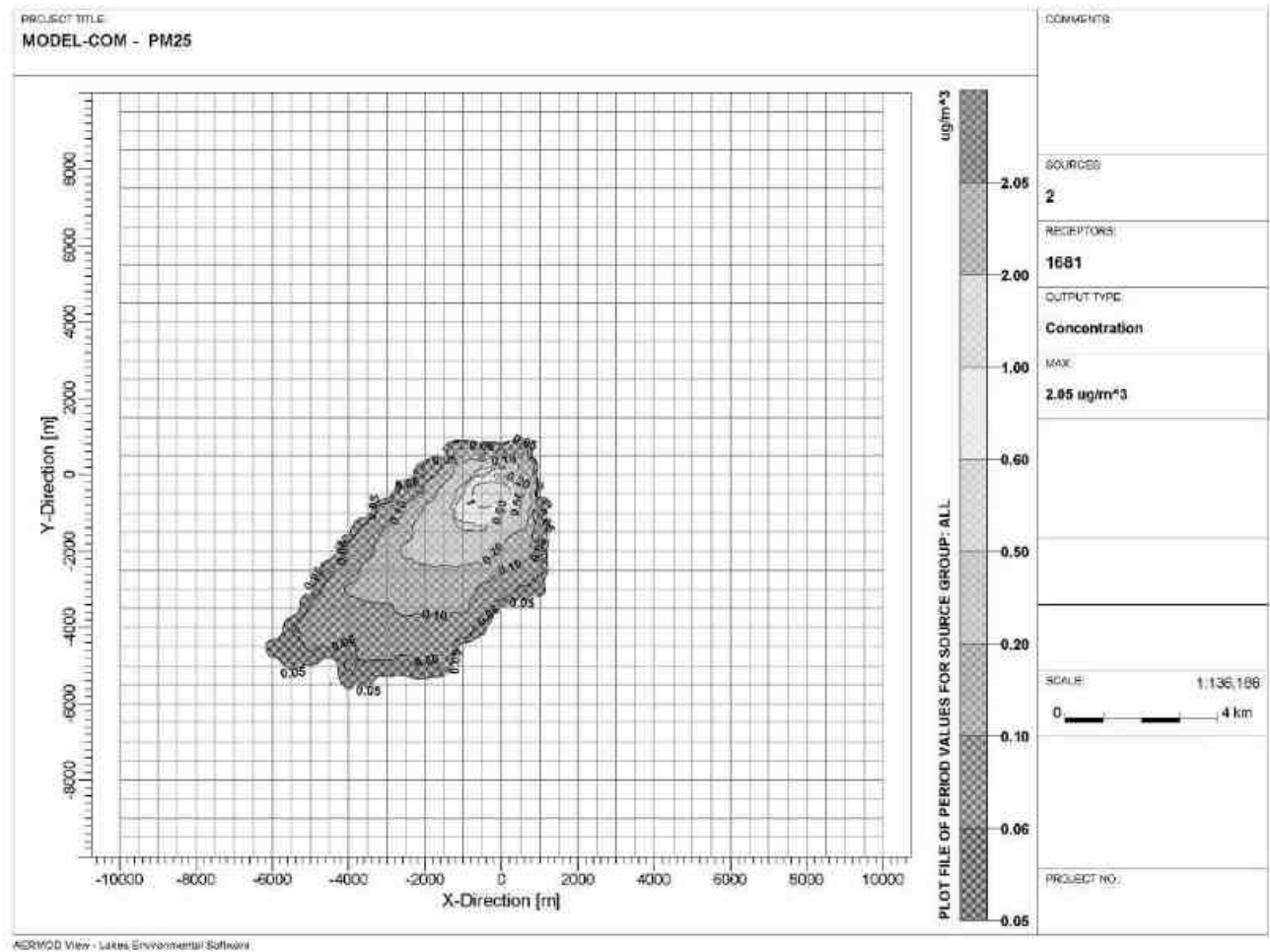


Figure 7-2 Isopleth of GLC Prediction – Cumulative for PM 2.5

**Predicted Ambient Air Quality:**

The post project Concentrations of PM10, PM2.5, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No. 7-1 & 7-2

Table 7-1 Concentrations of PM 10 after Project Implementation

S. No.	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1.	Project Site	62.8	<1	63.8	100
2.	Mettupatti	59.2	<1	60.2	
3.	Mootakampatti	53.2	<1	54.2	
4.	Naganoor	52.8	<1	53.8	



*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

5.	Thogamalai	54.9	<1	55.9
6.	Kazhugur	49.9	<1	50.9
7.	Thondamanginam	51.2	<1	52.5

Table 7-2 Concentrations of PM 2.5 after Project Implementation

S. No.	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1.	Project Site	29.8	<1	30.8	60
2.	Project Site	27.2	<1	28.2	
3.	Mettupatti	26.9	<1	27.9	
4.	Mootakampatti	25.1	<1	26.1	
5.	Naganoor	25.5	<1	26.5	
6.	Thogamalai	22.0	<1	23.0	
7.	Kazhugur	22.6	<1	23.6	

The above results seem 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 within the statutory limits. 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.
- DG sets shall be periodically maintained as per manufacturer's specifications.

#### 7.6 Progressive Mine Closure Plan

As a petrogenic character, the depth persistence of the Multi-colour granite body in the mine area is beyond the workable limits. However, it is very difficult to operate granite dimensional stone mine economically below an average depth of 55.13m by observing the statutory provisions of Mine Safety Rules and Regulations. Hence, in the proposed Mining Plan, only 55.13m average depth has been envisaged as 'Workable depth' for safe and economic mining.

However, it is proposed not to back fill the ultimate pit, in as much as good quantity of reserves is available below the workable depth of 55.13m and there is possibility of technology of up gradation in granite mining for greater depths in course of time for safe mining at economic cost beyond 55.13m depth.

The pit boundaries shall be fenced and used for agricultural purpose when the pit is filled with underground seepage or rain waters.

#### 7.7 Slope Stability Study

The proposed quarry is a very small quarry and the production is also less. Opencast Semi-mechanized mining with a bench height of 10m and bench width of 10m and 45° Slope is proposed. The depth of mining is proposed as 58m (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

#### 7.8 Natural Resource Conservation

There are no natural resources within the premises. The conservation strategies for energy will be followed in the proposed mine lease area. The pollutants of the mine will be minimized by adopting appropriate mitigation measures as mentioned Chapter 4 to prevent the effects on nearest water bodies. No surface runoff from the project site will be let into the nearby waterbody.

#### 7.9 Reclamation and Rehabilitation:

Reclamation and rehabilitation will be carried out at the end of the life of the mine. The mined-out pit is proposed to be used as small reservoir for storing much needed rainwater at the end of the life of the mine when the mine reaches its ultimate pit limit. Since the surrounding areas are dry and experiences low rainfall, any amount of storage of water will be beneficial for recharging the groundwater in the adjacent areas. Along the permanent roads and vacant places, afforestation is being carried out at present. Before closure of the mine, barbed fencing wire will be constructed to prevent inadvertent entry of cattle and human beings. A watchman (Security guard) will be posted around the clock to prevent inherent entry of public and cattle which are growing in and around the area

## 8 PROJECT BENEFITS

### 8.1 General

This chapter covers the benefits accruing to the locality, neighbourhood, region and nation as a whole. It brings out the details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

### 8.2 Improvements in the physical infrastructure

The opening of the proposed project will enhance the following physical infrastructure facilities in the adjoining areas:

**a. Market:** Generating useful economical resource for construction. Due to demand supply chain, excavated mineral (Multicolour Granite) will be sold in the market in the affordable price.

**b. Infrastructure:** The excavated Multicolour Granite will be used for countertops, flooring, wall cladding, and even decorative features like fireplace surrounds

**c. Enhancement of Green Cover & Green Belt Development:** As a part of reclamation plan, native tree species will be planted along the safety boundary and afforestation area (1.52.50 Ha) of the mine lease area. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 5000 numbers of native species along with some fruit bearing and medicinal trees during the mining plan period.

### 8.3 Improvements in the Social Infrastructure

The mining in the area will create rural employment. During site visit, it has been observed that the economic conditions of the villages in the study area is quite normal. After the development of the proposed mine, it will improve the livelihood of local people and also provide the indirect employment opportunities. The rough stone and gravel for the infrastructural development in the area will be made available from the local markets at reasonably lower price.

As a part of CER, Rs. 8 Lakhs will be allocated. The detailed agenda, which is to be executed has been framed. The salient features of the programme are as follows:

Provision of Library, Plantation of trees and other developmental facilities to the Government School, Naganur

### 8.4 Employment potential – Skilled; Semi-skilled and unskilled

The proposed project will create direct and indirect employment within nearby areas, depending upon the availability of skilled and unskilled manpower. During mining, about 40 people will be employed.

### 8.5 Other tangible benefits

As mentioned above, the project will have employment & trade opportunities with the inception of the quarrying activities. Thus, these considerable employment & trade opportunities will eventually result in appreciable economic benefits to the local people & businesses/contractors.

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*8.5.1 Corporate Social Responsibility*

The CER funds will be utilised for the following activities to Government School, Naganur

<b>S. No.</b>	<b>Proposed CER Activities</b>	<b>Cost in Lakhs</b>
1	<ul style="list-style-type: none"><li>♣ Establishment of Library with racks</li><li>♣ Plantations inside the school premises (50 Nos.)</li><li>♣ Providing computer &amp; printer</li><li>♣ Providing black board, lights, fans, tables, chairs, writing tables, sitting tables &amp; cupboards</li><li>♣ Providing RO water purifier, water motor &amp; sports materials</li><li>♣ Construction of toilet and maintenance of the same for the entire lease period</li></ul>	8.00
	Total CER Cost	8.00

## **9 ENVIRONMENTAL COST BENEFIT ANALYSIS**

As per EIA Notification 2006 (amended from time to time), this chapter of the 'Environmental Cost Benefit Analysis' is applicable only if it is recommended at the Scoping stage. However, as per the standard TORs awarded by the (EAC), the Environmental Cost Benefit Analysis is not asked for and hence has not been prepared

## 10 ENVIRONMENTAL MANAGEMENT PLAN

### 10.1 Introduction

This chapter will provide information about Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, the cost involved to implement the EMP, both during the construction and operational phase. This chapter will also describe the proposed post-monitoring scheme for effective implementation of the mitigation measures.

### 10.2 Administrative and Technical Setup

The project proponent has taken extensive measures to delineate the environmental monitoring plan for compliance of various environmental regulations. The Environment Management Plan (EMP) will consist of all mitigation measures for each component of the environment due to the activities increased during the entire life cycle to minimize adverse environmental impacts resulting from the activities of the project.

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.

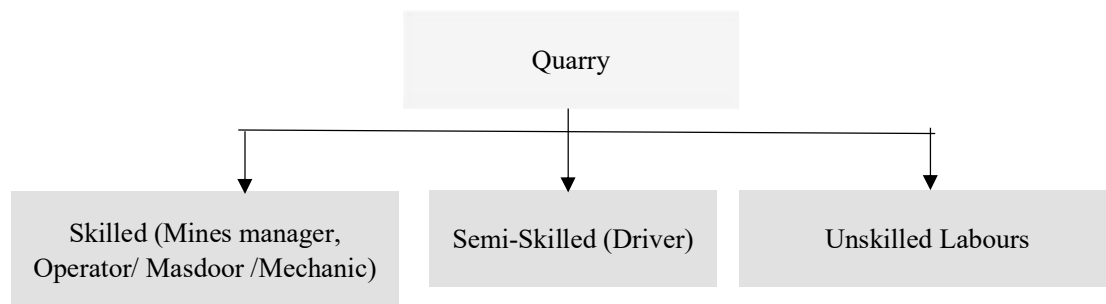


Figure 10-1 Organization Chart

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

Table 10-1 Detailed Environmental Management Plan

S. No	Impacts on Environment	Activity /Aspect	Anticipated impacts	Mitigation measures
1.	Air	Fugitive emissions during operation activity	Due to quarrying activity, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.  Blasting of explosive may result in increase of nitrogen oxides, which may get diluted by the wind	Trees will be planted along the safety distance of the Mine Lease area. Water will be sprinkled in the site as dust suppression measure. Sharp drill bits will be used for drilling and regrinding will be done periodically to minimize the generation of dust. Wet drilling to suppress the dust emission from drill machine  Controlled blasting and optimization of use of explosive energy will help in reducing the above emissions
		During Loading	Dust emission during loading operation	Latest loading equipment like hydraulic excavators of large capacity will be used with dumpers. This reduces the number of buckets to fill from height and thus comparatively less dust generation
		During transportation	Dust emission during transportation	All the haulage roads including the main ramp from crusher to mines pit will be kept wide, leveled, compacted and properly maintained and watered regularly during the shift operation to prevent generation of dust due to movement of dumpers, and other vehicles.
				Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of TNPC Board.
2.	Water	Wastewater generation	Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labors	Provision of urinals/Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater

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		Surface water runoff due to rain	Improper management of surface runoff may pollute the nearest waterbody	Storm water drains will be provided. Rainwater harvesting pits will be proposed to capture the surface run-off
3.	Noise	Mining activities like drilling, blasting, loading and transportation	Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure. Apart from Mining activities like drilling, blasting may generate noise	Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas
4	Vibration	Ground Vibration and Fly Rock Control	The quarrying activity such as drilling and blasting may cause ground vibration, which in turn can disturbance to the local public	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.
4.	Land	Improper management of Storm water Runoff	Storm water Runoff may result in Soil Erosion	Garland drainage of 1m x 1m will be provided to avoid storm water run- off.
4.	Social Responsibility	Mining workers	Unhygienic site sanitation facilities may cause health damage to workers.	The objective is to ensure health and safety of the workers with effective provisions for the basic facilities of sanitation, drinking water, safety of equipments or machinery etc. The following will be done in the site <ul style="list-style-type: none"> <li>✓ By complying with the safety procedures, norms and guidelines (as applicable) as outlined in the National Building Code of India, Bureau of Indian Standards.</li> <li>✓ Provide adequate number of decentralized latrines and urinals</li> <li>✓ Providing Septic tank along with Soak pit arrangement</li> <li>✓ Providing First Aid room, conducting frequent health checkups to labor and conducting free medical camps</li> <li>✓ Providing safety helmet, Gloves, Jacket &amp; Boots</li> </ul>



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				<ul style="list-style-type: none"> <li>✓ Providing measures to prevent fires. Firefighting extinguishers and buckets of sand will be provided in the construction site</li> </ul>
6.	Building materials resource conservation	Building Material consumption	Use of farfetched construction materials than the locally available construction materials may lead to over exploitation of natural resources & increase in carbon footprint.	<ul style="list-style-type: none"> <li>• Use of locally available construction materials.</li> </ul>

### 10.3 Environmental Policy

- The Project Proponent has stipulated a well-defined Environmental policy by which the lessee is committed to conducting business with a strong environmental conscience towards the community, customers, and employees. The Environment policy is given as below.
- The Environment policy of "Multicolor Granite of M/s. TAMIN Ltd. is that the rules and commitment are driven towards conservation of the environment.
- The lessee is committed to efficient use of natural resources based on the reduce, recycle and reuse method.
- The project is committed to the identification of possible impacts and will take the necessary management steps to mitigate the impacts.
- Environment performance will be regularly monitored and reported for continual improvement of our environment and health performance.

Table 10-2 Budgetary allocation - EMP

Activities	Mitigation Measure	Capital cost	Recurring Cost per Annum
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	1.01	1.01
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	8.00	0.50
	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	2.00	0.20
	No overloading of trucks/tippers/tractors	0.00	0.19
	Stone carrying trucks will be covered by tarpaulin	0.00	0.10
	Enforcing speed limits of 20 km/hr within ML area	0.30	0.03
	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	2.02
	Installing wheel wash system near gate of quarry	0.50	0.20
<b>Sub-Total (A)</b>		<b>11.81</b>	<b>4.35</b>
Noise Environment	Provision for Portable blaster shed	0.50	0.02
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	0.00	1.20
<b>Sub-Total (B)</b>		<b>0.50</b>	<b>1.22</b>
Waste Management	Provision for domestic waste collection and disposal through authorized agency	0.25	0.20
	Installation of dust bins	0.05	0.02

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

<b>Sub-Total (C)</b>		<b>0.30</b>	<b>0.22</b>
<b>Mine Closure</b>	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	1.01	0.05
	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	20.24	0.10
	Plantation inside ML area (1800 Nos.)	0.80	0.12
	Plantation outside ML area (200 Nos.)	13.80	1.38
<b>Sub-Total (D)</b>		<b>35.85</b>	<b>1.65</b>
<b>Implementation of EC, Mining Plan &amp; DGMS Condition</b>	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	0.10	0.01
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	0.00	0.50
	Workers will be provided with Personal Protective Equipment's	1.60	0.40
	Health checkup for workers will be provisioned	0.00	0.40
	First Aid facility Provision	0.00	0.20
	Signage & boards for safety precautions	0.10	0.02
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles.	5.06	0.10
	Installation of CCTV cameras in the mines and mine entrance	0.30	0.05
	Implementation as per Mining Plan and ensure safe quarry working	0.00	10.80
	Slope Stability Action plan	2.00	0.00
<b>Sub-Total (E)</b>		<b>9.16</b>	<b>12.48</b>
<b>Grant Total</b>		<b>57.62</b>	<b>19.92</b>

Table 10-3 Budgetary allocation – EMP for five years

Sl. No	Year	Capital cost (Lakhs)	Recurring Cost @ 5% Escalation (Lakhs)
1	1 <sup>st</sup> Year	57.62	19.92
2	2 <sup>nd</sup> Year	0.0	20.92
3	3 <sup>rd</sup> Year	0.0	21.96
4	4 <sup>th</sup> year	0.0	23.06
5	5 <sup>th</sup> year	0.0	24.21
6			25.42
7			26.69
8			28.03
9			29.43

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

<b>10</b>		30.90
11		32.45
12		34.07
13		35.77
<b>14</b>		37.56
15		39.44
16		41.41
17		43.48
<b>18</b>		45.66
19		47.94
20		50.34
	<b>Total</b>	<b>57.62</b>
	<b>Grand Total (Lakhs)</b>	<b>716.29</b>
<b>The total EMP Cost is 658.67 Lakhs for a period of Twenty years have been proposed. i.e., Capital cost of Rs. 57.62 Lakhs + Recurring cost of Rs. 658.67 lakhs.</b>		

## 11 SUMMARY AND CONCLUSION

### 11.1 Prelude

This chapter gives the overall summary of the proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State (Cluster Area: 21.25.0 Ha)

### 11.2 Project Overview

Table 11-1 Project Overview

S. No.	Particulars	Details
1.	Proponent Name	M/s. Tamil Nadu Minerals Limited
2.	Proposed project	Multicolor Granite of M/s. Tamil Nadu Minerals Limited
3.	Extent	10.12.00 Ha and the cluster area within 500 m radius including the proposed mine is 21.25.00 Ha > 5 Ha
4.	Location	S.F. Nos. 120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State
5.	Co-ordinates of the project site	Latitude: 10° 44' 18.4452"N to 10° 44' 37.8367"N Longitude: 78° 23' 44.1074"E to 78°24'03.2847"E
6.	Topography	Plain Terrain
7.	Site Elevation above MSL	≈ 93 m from above MSL
8.	Topo Sheet No.	57 J/5 & 6
9.	Minerals of Mine	Multicolor Granite
10.	Proposed production in m <sup>3</sup>	<u>Total Run off Mines – 7,20,887 m<sup>3</sup></u> Saleable Multicolour granite is 1,80,221.75 m <sup>3</sup> and Waste is 5,40,665.25 m <sup>3</sup> – 20 years <u>Total Run off Mines – 1,80,220 m<sup>3</sup></u> Saleable Multicolour granite is 45,055 m <sup>3</sup> and Waste is 1,35,165 m <sup>3</sup> – Years
11.	Ultimate Depth of mining	58m (BGL)
12.	Method of Mining	Opencast Mining with a bench height of 10m and bench width of 10m is proposed
13.	Drilling/Blasting	Drilling and controlled Blasting is proposed
14.	No. of Working days	300 Days
15.	Water requirement & Source	9.5 kLD and will be sourced from local vendors
16.	Manpower	40 Nos.
17.	Project Cost	Rs. 914.44 lakhs

*Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.*

18.	Mining Plan Approval	Commissioner of Geology and Mining, Guindy, Chennai vide Rc.No.5811/MM2/2023 dated 31.01.2025
19.	Safety Zone	0.42.5 Ha will be maintained as safety zone and tree saplings will be planted in this area
20.	Ground water level	58 m BGL

Table 11-2 Environmental Settings of the Project

S. No.	Particulars	Details
1.	Nearest Highway	SH-71-Kulithalai – Manapparai Road (515m, E) (NH-83) Tiruchirappalli – Dindigul (12.1 km, SE)
2.	Nearest Railway Station	Samudram – 14 km, SE
3.	Nearest Airport	Tiruchirappalli – 33.6 km, SE
4.	Nearest Port	Thoothukudi -220 km, SW
5.	Nearest Village	Mettupatti – 300m, SW
6.	Water bodies	<ul style="list-style-type: none"> <li>• Odai – 480 m (S)</li> <li>• Venkatachalam Kulam – Adjoining the M.L Area (S)</li> <li>• Kusavan Kuttai – 255 m (NE)</li> <li>• Vellai kulam – 460 m (S)</li> <li>• Kalugur Tank – 1.30 km (NW)</li> </ul>
7.	Reserved Forest	Veeramalai R.F – 2.80 km (SW) Naganur R.F – 3.10 km (SW)
8.	Eco Sensitive Zone and Wildlife Sanctuary (Notified)	Nil within 10km Radius Kadavur Slender Loris Sanctuary- 20.80Km (SW)
9.	Archaeological important places	Nil within 10 km radius
10.	Defense Installations	Nil within 10 km radius
11.	Nearest Port	Nil within 10 km radius
12.	Seismic Zone	Nil within 10 km radius

### 11.3 Baseline Status

Season: Post-Monsoon

Period of Collection: December 2024 to February 2025

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

**Number of Monitoring Locations**

Parameters	No. of Monitoring Locations
Meteorology	01
Ambient Air Quality	07
Ground Water Quality	05
Ground Water Level	02
Noise Level	07
Soil Quality	07

**Meteorological Parameters**

Parameters	Min. Value	Max. Value	Mean Value
Temperature (°C)	13.9	43.9	29.3
Wind Speed (m/s)	1	9.3	4.2
Relative Humidity (%)	40	80	60
Solar Radiation (W/m <sup>2</sup> )	144.38	164.9	152.3

**Rainfall Data:**

	Total rainfall (mm)	No. of Rainy Days	Average annual rainfall (mm)
Rainfall	1.1	55	635.6

**Predominant wind direction during monitoring period:** North East

**Ambient Air Quality**

Core Zone	Pollutant	Unit	Min	Max	Mean	Standards
Core Zone	PM10	Micro Gram per Meter Cube	52.2	62.8	56.3	100
Core Zone	PM2.5	Micro Gram per Meter Cube	25.5	29.8	27.3	60
Core Zone	SO2	Micro Gram per Meter Cube	5.8	8.5	7.1	80
Core Zone	NOx	Micro Gram per Meter Cube	8.9	11.8	10.6	80

Buffer Zone	Pollutant	Unit	Min	Max	Mean	Standards
Buffer Zone	PM10	Micro Gram per Meter Cube	40.8	59.2	54.9	100
Buffer Zone	PM2.5	Micro Gram per Meter Cube	18.0	27.2	24.2	60
Buffer Zone	SO2	Micro Gram per Meter Cube	4.3	8.4	6.2	80

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

<b>Buffer Zone</b>	NOx	Micro Gram per Meter Cube	7.5	11.3	9.5	80
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**Ground Water Quality**

<b>Buffer Zone</b>	<b>Pollutant</b>	<b>Unit</b>	<b>Observed Value</b>		<b>Standard</b>	<b>Standard</b>
			From	To	<b>Desirable Limits</b>	<b>Permissible Limits</b>
<b>Buffer Zone</b>	pH	-	7.32	7.65	6.5	8.5
<b>Buffer Zone</b>	TDS	Micro Gram per Litre	502	738	500	2000
<b>Buffer Zone</b>	Total Hardness	Micro Gram per Litre	234	392	200	600
<b>Buffer Zone</b>	Chlorides	Micro Gram per Litre	121	255	250	1000
<b>Buffer Zone</b>	Fluoride	Micro Gram per Litre	0.45	0.52	1	1.5
<b>Buffer Zone</b>	Iron	Micro Gram per Litre	0.03	0.06	0.3	No relaxation

<b>Core Zone</b>	<b>Pollutant</b>	<b>Unit</b>	<b>Observed Value</b>		<b>Standard</b>	<b>Standard</b>
			From	To	<b>Desirable Limits</b>	<b>Permissible Limits</b>
<b>Core Zone</b>	pH	-	7.48	7.48	6.5	8.5
<b>Core Zone</b>	TDS	Micro Gram per Litre	342	342	500	2000
<b>Core Zone</b>	Total Hardness	Micro Gram per Litre	133	133	200	600
<b>Core Zone</b>	Chlorides	Micro Gram per Litre	140	140	250	1000
<b>Core Zone</b>	Fluoride	Micro Gram per Litre	0.36	0.36	1	1.5
<b>Core Zone</b>	Iron	Micro Gram per Litre	0.05	0.05	0.3	No relaxation

**Ground Water Level (Phreatic Surface)**

<b>motoring Location</b>	<b>Range of Water Table Pre-monsoon Season (in m below ground level)</b>		<b>Range of Water Table Post-Monsoon Season (in m below ground level)</b>	
	<b>From (Pre-monsoon)</b>	<b>To (Pre-monsoon)</b>	<b>From (post-monsoon)</b>	<b>To (post-monsoon)</b>
<b>Buffer Zone</b>	48	49	49	50



Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

Monitoring Location	Range of Water Table Pre-monsoon Season (in m below ground level)		Range of Water Table Post-monsoon Season (in m below ground level)	
	From (Pre-monsoon)	To (Pre-monsoon)	From (Post-monsoon)	To (Post-monsoon)
CORE ZONE	48	49	49	50

**Noise Level**

Monitoring Location	Buffer Zone	Category	Observed Noise Level(dB(A))				Prescribed Standard(dB(A))	
			Day Time Level		Night Time Level		Day Time Level	Night Time Level
			From	To	From	To		
Buffer Zone		Residential area	43.9	48.3	39.8	42.5	55	45
Monitoring Location	Core Zone	Category	Observed Noise Level(dB(A))				Prescribed Standard(dB(A))	
			Day Time Level	Night Time Level	Day Time Level	Night Time Level	Day Time Level	Night Time Level
			From	To	From	To		
Core		Industrial area	50.5	50.5	41.8	41.8	75	70

**Soil Quality**

Monitoring Location	Soil Texture	Particle Size Distribution (%)			Water Holding Capacity (%)	Porosity (%)
		Sand	Silt	Clay		
Buffer Zone	Silt Loam	41.47	50.41	43.60	834	11.9
Monitoring Location	Soil Texture	Particle Size Distribution (%)			Water Holding Capacity (%)	Porosity (%)
		Sand	Silt	Clay		
Core Zone	Clay Loam	30.59	33.11	36.30	36	14.5

11.4 Anticipated Impacts and mitigation measures

The potential impacts and appropriate mitigation measures are listed below:

Table 11-3 Anticipated impacts & suggestive mitigation measures

S. No.	Potential Impact	Mitigation Measures
--------	------------------	---------------------

- |    |                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | The main impact in the air environment is dust emission during various mining activities such as drilling, blasting, excavation, loading and transportation. The dust emission may affect the quality of ambient air in the and around the mine area. The increased emission may cause respiratory & Cardiovascular problems in human health | Proper mitigation measures like water sprinkling on haul roads will be adopted to control dust emissions. To control the emissions regular preventive maintenance of equipment will be carried out on contractual basis. Plantation will be carried out along approach roads & mine premises.                                                                                                                                            |
| 2. | Waste water will be generated due to mining activity and from other domestic activities. These may contaminate the ground water leading to ground water. The mining activity may affect the ground water table                                                                                                                               | No waste water will be generated from the mining activity of minor minerals as the project only involves lifting of over burden from mine site. The wastewater generated from the domestic activity will be disposed off safely through the proposed septic tank. Mining will intersect ground water table. The detailed management plan is enclosed as Annexure. Hence the water table will not be impacted due to the proposed project |
| 3. | Noise will be generated in the mine area during various mining activities such as blasting, drilling, excavation. During transportation of the mined-out mineral, there may be noise generation due to the movement of vehicles. This may impact the health condition of the workers by creating headache                                    | Periodical monitoring of noise will be done.<br>No other equipment except the transportation vehicles and Excavator (as & when required) for loading will be allowed at site.<br>Noise generated by these equipment shall be intermittent and does not cause much adverse impact. Plantation will be carried out along approach roads. The plantation minimizes propagation of noise and also arrest dust.                               |
| 4. | Solid waste will be generated from the mining activity as there will be refuse after 95% recovery and also generation of domestic waste                                                                                                                                                                                                      | The 25% recovery is achieved and the waste will be dumped not exceeding 5m Height and the angle of slope of dumps will be at 45° from horizontal. Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.                                                                                                                                |
| 5. | During mining activities, there are chances of workers getting health issues or may be prone to accidents                                                                                                                                                                                                                                    | Dust masks will be provided as additional personal protection equipment to the workers working in the dust prone area. Periodical trainings will be conducted to create awareness about the occupational health hazards due to                                                                                                                                                                                                           |

activities like blasting, drilling, excavation. Worker's health related problem if any, will be properly addressed.

#### 11.5 Environmental Monitoring program

A monitoring programme for all the physical environment, which includes Ambient Air Quality, Surface & Ground Water & Wastewater Quality and Noise as per CPCB/MoEF&CC/Tamil Nadu Pollution Control Board (TNPCB) shall be maintained.

#### 11.6 Disaster Management Plan

No high-risk accidents are anticipated as it is small scale mechanized Quarry with essential light machinery. The area is not prone for landslides, seismic activities, subsidence, floods, inundation etc. As there are no rivers and habitation in the vicinity of probable disaster from the mine lease area. Elaborate description in respect of Risk Assessment and disaster Management plan are detailed in Chapter – 7.

#### 11.7 Project benefits

The proposed project benefits the local community by providing them employment opportunity. Total 40 Nos. will be employed in the proposed quarrying activity. It also provides indirect job opportunity to many people, thereby improving the standard of living. Quarrying activity produces materials granite which are used in construction and other industries, thereby contributing to the economic development of the local region. CER fund of Rs. 8 Lakhs will be used for the development of school in the study area.

#### 11.8 Conclusion

To carry out the EIA study, 10km buffer zone was considered around the proposed site. Studies were conducted within the buffer zone, to obtain the information regarding the existing status of environment, for predicting the impacts if any due to proposed expansion activity and EMP regarding the project.

The studies done on different environmental parameters mandated by CPCB/ IS10500:2012/NAAQMS for noise, water, soil and air.

Appropriate models and techniques were used to predict the impact of the proposed project and to minimize impacts at every level of development, mitigation measures were suggested.




It can be concluded on a positive note that after the implementation of the mitigation measures and environmental management plans, the proposed project would result in minimal and controlled impacts during the operational phase.


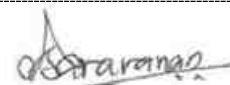

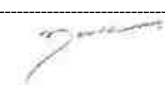
Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

## 12 DISCLOSURE OF CONSULTANT

In order to assess the potential environmental impacts due to the proposed *Multicolor Granite of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State. (Cluster Area: 21.25.0 Ha)*, the project proponent has engaged M/s. Global Mining Solutions, Salem to undertake EIA study. The nature of consultancy service rendered covers terrestrial environmental assessment.

Table 12-1 Declaration of Experts

S. No.	Functional areas	Name of the expert/s	Involvement (Period and task)	Signature and date
1.	AP	Dhanalakshmi Ramanathan	<ol style="list-style-type: none"> <li>1. Selection of Baseline Monitoring stations based on the wind direction</li> <li>2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area</li> <li>3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact</li> </ol> <p>Period: Dec 24 to Feb 25</p>	
2.	WP	Abirami Kaliaperumal	<ol style="list-style-type: none"> <li>1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied</li> <li>2. Interpretation of baseline data collected</li> <li>3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project</li> <li>4. Preparation of suitable and appropriate mitigation plan</li> </ol> <p>Period: Dec 24 to Feb 25</p>	
5.	SHW	Ramadoss N	<ol style="list-style-type: none"> <li>1. Identification of nature of solid waste generated</li> <li>2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the</li> </ol>	

			<p>per capita basis. Identification of impacts of SHW on Environment</p> <p>3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated</p> <p>Period: Dec 24 to Feb 25</p>	
4.	SE	Sarasvathy K	<p>1. Primary data collection through the census questionnaire</p> <p>2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report.</p> <p>3. Impact assessment &amp; proposing suitable mitigation plan</p> <p>4. CSR budget allocation by discussing with the local body and allotting the same for need based activity.</p> <p>Period: Dec 24 to Feb 25</p>	
5.	EB	Saravanan S	<p>1. Primary data collection through field survey and sheet observation for ecology and biodiversity</p> <p>2. Secondary Collection through various authenticated sources</p> <p>3. Prediction of anticipated impacts and suggesting appropriate mitigation measures.</p> <p>Period: Dec 24 to Feb 25</p>	
6.	HG	Ravinthiran N	<p>1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures</p> <p>2. Determination of groundwater use pattern, development of rainwater harvesting program.</p> <p>3. Storm water management through garland drainage system.</p> <p>Period: Dec 24 to Feb 25</p>	
7.	GEO	Valliappan Meyyappan	<p>Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use</p>	

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

			<p>pattern, development of rainwater harvesting program.</p> <p>Period: Dec 24 to Feb 25</p>	
8.	SC	Shisupal Sing	<p>1. Interpretation of baseline report</p> <p>2. Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.</p> <p>Period: Dec 24 to Feb 25</p>	Shisupal Sing
9.	AQ	Srilatha Thiruveedhula	<p>1. Collection of Meteorological data for the baseline study period</p> <p>2. Plotting wind rose plot and thereby selecting the monitoring locations based on the wind pattern</p> <p>3. Estimation of sources of air emissions and air quality modelling is done</p> <p>4. Interpretation of the results obtained</p> <p>5. Identification of the impacts and suggesting suitable mitigation measures.</p> <p>Period: Dec 24 to Feb 25</p>	T Srilatha
10.	NV	Dhanalakshmi Ramanathan	<p>1. Selection of monitoring locations</p> <p>2. Interpretation of baseline data</p> <p>3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures</p> <p>Period: Dec 24 to Feb 25</p>	R. Dhanam
11.	LU	Srilatha Thiruveedhula	<p>1. Collection of Remote sensing satellite data to study the land use pattern.</p> <p>2. Primary field survey and limited field verification for land categorization in the study area</p> <p>3. Preparation of Land use map using Satellite data for 10km radius around the project site.</p> <p>Period: Dec 24 to Feb 25</p>	T Srilatha
4.	RH	S.V. Prashant	<p>1. Identification of the risk</p> <p>2. Interpreting consequence contours</p> <p>3. Suggesting risk mitigation measures</p>	S. Prashant

Proposed Multicolor Granite Quarry of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State.

			Period: Dec 24 to Feb 25	
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I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

**EIA Coordinator:** Manikandan Manickam

**Signature and Date:**

**Period of involvement:** December 2024 – 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

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

I, Prabhu, hereby, confirm that the above-mentioned experts prepared the EIA report of Proposed Mining of of M/s. Tamil Nadu Minerals Limited at S. F. No. 120 (Part) over an extent of 10.12.00 Ha at Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State. I also confirm that the consultant organization shall be fully accountable for any mis-leading information mentioned in this statement.

**Signature:** 

**Name:**

**Designation:**

**Name of the EIA consultant organization:**

**NABET Certificate No. & Issue Date:**

# **Annexure I - Terms of Reference**





सत्यमेव जयते

**File No: 11825**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(Issued by the State Environment Impact Assessment Authority(SEIAA),**  
**TAMIL NADU)**

\*\*\*



Dated 11/03/2025



To,

Sudeep Jain IAS  
M/s. Tamil Nadu Minerals Limited (Government of Tamil Nadu undertaking)  
31 Kamarajar Salai, Chepauk, Chennai, Tamil Nadu., Chennai, CHENNAI, TAMIL NADU, Chennai,  
600005  
tamin@tamingranites.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 the Proposed Multi Colour Granite quarry lease over an extent of 10.12.0Ha at SF.No. 120(Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu by M/s. Tamil Nadu Minerals Limited – 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/523023/2025, dt: 07.02.2025.  
2. Your application submitted for Terms of Reference dated:11.02.2025.  
3. Minutes of the 534th SEAC meeting held on 20.02.2025.  
4. Minutes of the 800th SEIAA meeting held on 04.03.2025 & 05.03.2025.

2. The particulars of the proposal are as below :

<b>(i) TOR Identification No.</b>	TO25B0106TN5559039N
<b>(ii) File No.</b>	11825
<b>(iii) Clearance Type</b>	TOR
<b>(iv) Category</b>	B1
<b>(v) Project/Activity Included Schedule No.</b>	1(a) Mining of minerals
<b>(vii) Name of Project</b>	Multicolour Granite Quarry of M/s. Tamil Nadu Minerals Limited
<b>(viii) Name of Company/Organization</b>	M/S. TAMIL NADU MINERALS LIMITED
<b>(ix) Location of Project (District, State)</b>	KARUR, TAMIL NADU
<b>(x) Issuing Authority</b>	SEIAA
<b>(xii) Applicability of General Conditions</b>	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 04.03.2025 & 05.03.2025. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of M/s. Tamil Nadu Minerals Limited under the provisions of EIA Notification, 2006 and as amended thereof.
5. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6. The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/Regulations or Statutes, as applicable, to the project.
7. This issues with the approval of the Competent Authority.
8. The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OM No. J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

#### **Copy To**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Additional Chief Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Additional Chief Secretary to Government, Natural Resources Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai – 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairperson, TNPC Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Karur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. The Assistant Director, Department of Geology & Mining, Karur District.
10. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
11. File Copy

#### **Annexure 1**

#### **Specific Terms of Reference for (Mining Of Minerals)**

#### **1. Seiaa Specific Conditions:**

S. No	Terms of Reference
<b>1.1</b>	The authority noted that the subject was placed in the 534th SEAC meeting held on 20.02.2025. SEAC has furnished its recommendations for granting Terms of Reference subject to the conditions stated therein

S. No	Terms of Reference
	<p>After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant <b>Terms of Reference (ToR) along with Public Hearing</b> for the RoM quantity of 1,80,220m<sup>3</sup> of Multicolor Granite &amp; 45,055m<sup>3</sup> of Saleable Recovery (@25%) upto the depth of 58m 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 &amp; normal conditions &amp; the conditions mentioned in Annexure of this minutes &amp; in addition to the following ToR:</p> <ol style="list-style-type: none"> <li>1. The EMP should cover the detailed restoration plan for the site.</li> <li>2. The concerns of the public regarding the impact of mining activity on the water bodies and shall be deliberated in detail during public hearing.</li> </ol>

## 2. Seac Conditions - Site Specific

S. No	Terms of Reference
2.1	<ol style="list-style-type: none"> <li>1. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m &amp; 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, educational institutions, colleges, schools, etc., and spell out the mitigation measures to be proposed for the protection of the above structures, if any during the quarrying operations.</li> <li>2. <b>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 &amp; 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:</b> <ol style="list-style-type: none"> <li>a. Copy of the agreement forming CMC.</li> <li>b. The Organisation chart of the Committee with defining the role of the members</li> <li>c. The 'Standard Operating Procedures' (SoP) executing the planned activities.</li> </ol> </li> <li>3. The PP shall erect the DGPS reference pillars painted with blue &amp; white colour indicating the safety barrier of 7.5 m to be left under the Rule 13 (1) of MCDR, 1988 within the lease boundary and protective bunds and submit the photographic/videographic evidence along with the EIA report.</li> <li>4. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank &amp; green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries &amp; water bodies nearby provided as per the approved mining plan.</li> <li>5. The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report.</li> <li>6. The PP shall prepare the EMP for the entire project life of mine, i.e., 10 years and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.</li> <li>7. The PP shall submit the Certified Compliance Report (CCR) obtained from the RO, MoEF &amp; CC and furnish with the action taken report during the appraisal.</li> <li>8. The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing &amp; proposed quarries which included drilling &amp; blasting, loading &amp; hauling on the surrounding village and structures.</li> <li>9. The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed and existing quarry wall.</li> </ol>

## 3. Seac Standard Conditions

S. No	Terms of Reference
3.1	<p>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:</p> <ul style="list-style-type: none"> <li>(i) Original pit dimension</li> <li>(ii) Quantity achieved Vs EC Approved Quantity</li> <li>(iii) Balance Quantity as per Mineable Reserve calculated.</li> <li>(iv) Mined out Depth as on date Vs EC Permitted depth</li> <li>(v) Details of illegal/illicit mining</li> <li>(vi) Violation in the quarry during the past working.</li> <li>(vii) Quantity of material mined out outside the mine lease area</li> <li>(viii) Condition of Safety zone/benches</li> <li>(ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.</li> </ul> <p>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.</p> <p>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.</p> <p>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.</p> <p>5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.</p> <p>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.</p> <p>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 &amp; 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.</p> <p>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.</p> <p>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, I/I Class mines manager appointed by the proponent.</p> <p>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.</p> <p>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.</p> <p>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,</p> <p>13. What was the period of the operation and stoppage of the earlier mines with last work permit</p>

S. No	Terms of Reference
	<p>issued by the AD/DD mines?</p> <p>14. Quantity of minerals mined out.</p> <ul style="list-style-type: none"> <li>· Highest production achieved in any one year</li> <li>· Detail of approved depth of mining.</li> <li>· Actual depth of the mining achieved earlier.</li> <li>· Name of the person already mined in that leases area.</li> <li>· If EC and CTO already obtained, the copy of the same shall be submitted.</li> <li>· Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</li> </ul> <p>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).</p> <p>16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,</p> <p>17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees &amp; safety distance between the adjacent quarries &amp; water bodies nearby provided as per the approved mining plan.</p> <p>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.</p> <p>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.</p> <p>20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping &amp; 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.</p> <p>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 &amp; flora/fauna including traffic/vehicular movement study.</p> <p>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 &amp; health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.</p> <p>23. Rain water harvesting management with recharging details along with water balance (both monsoon &amp; non-monsoon) be submitted.</p> <p>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.</p> <p>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&amp;R issues, if any, should be provided.</p> <p>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,</p>

S. No	Terms of Reference
	<p>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.</p> <p>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.</p> <p>28. Impact on local transport infrastructure due to the Project should be indicated.</p> <p>29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area &amp; 300m buffer zone and its management during mining activity.</p> <p>30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.</p> <p>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.</p> <p>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.</p> <p>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</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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&amp;CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.</p> <p>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.</p> <p>43. Concealing any factual information or submission of false/fabricated data and failure to</p>

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	<p><b><u>Cluster Management Committee</u></b></p> <ol style="list-style-type: none"> <li>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.</li> <li>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.,</li> <li>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.</li> <li>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.</li> <li>5. The committee shall deliberate on risk &amp; emergency management plan, fire safety &amp; 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.</li> <li>6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report.</li> <li>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.</li> <li>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.</li> </ol> <p><b><u>Agriculture &amp; Agro-Biodiversity</u></b></p> <ol style="list-style-type: none"> <li>9. Impact on surrounding agricultural fields around the proposed mining Area.</li> <li>10. Impact on soil flora &amp; vegetation around the project site.</li> <li>11. Details of type of vegetation including no. of trees &amp; 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.</li> <li>12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horticultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.</li> <li>13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.</li> <li>14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.</li> </ol> <p><b><u>Forests</u></b></p> <ol style="list-style-type: none"> <li>15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife.</li> <li>16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.</li> <li>17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.</li> <li>18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.</li> </ol>

S. No	Terms of Reference
	<p><b><u>Water Environment</u></b></p> <p>19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping &amp; 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.</p> <p>20. Erosion Control measures.</p> <p>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, &amp; any ecological fragile areas.</p> <p>22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.</p> <p>23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities.</p> <p>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.</p> <p>25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.</p> <p>26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.</p> <p>27. The EIA shall include the impact of mining activity on the following:</p> <ol style="list-style-type: none"> <li>a) Hydrothermal/Geothermal effect due to destruction in the Environment.</li> <li>b) Bio-geochemical processes and its foot prints including Environmental stress.</li> <li>c) Sediment geochemistry in the surface streams.</li> </ol> <p><b><u>Energy</u></b></p> <p>28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.</p> <p><b><u>Climate Change</u></b></p> <p>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.</p> <p>30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil &amp; below soil carbon stock, soil health and physical, chemical &amp; biological soil features.</p> <p>31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.</p> <p><b><u>Mine Closure Plan</u></b></p> <p>32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.</p> <p><b><u>EMP</u></b></p> <p>33. Detailed Environment Management Plan along with adaptation, mitigation &amp; remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs.</p> <p>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.</p> <p><b><u>Risk Assessment</u></b></p> <p>35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.</p> <p><b><u>Disaster Management Plan</u></b></p> <p>36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards &amp; to cope with disaster/untoward accidents in &amp; around the</p>



S. No	Terms of Reference
	<p>proposed mine lease area due to the proposed method of mining activity &amp; its related activities covering the entire mine lease period as per precise area communication order issued.</p> <p><b>Others</b></p> <p>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.</p> <p>38. As per the MoEF&amp; 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.</p> <p>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 &amp; microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.</p>

**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 2<sup>nd</sup> December, 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> 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 29<sup>th</sup> August, 2017.



# **Annexure 2 - Approved Mining Plan**



COMMISSIONERATE OF GEOLOGY AND MINING



From  
Thiru.E.Saravanelraj, I.A.S.,  
Commissionerate of Geology and Mining,  
Industrial Estate,  
Guindy, Chennai - 600 032.

To  
The Managing Director,  
Tvl. Tamil Nadu Minerals Ltd,  
No.31, Kamarajar Salai,  
TWAD House, Chepauk  
Chennai- 05

Rc.No. 5811/MM2/2023 Dated. 31 .01.2025

Sir,

Sub : Mines and Minerals – Multicolour Granite- Karur District – Kulithalai Taluk – Naganur Village - S.F.No.120(Part) - Over an extent of 10.12.0 hectares – Poramboke land - Granite quarry lease renewal application preferred by Tvl.Tamil Nadu Minerals Limited (TAMIN Ltd) for 20 Years period – sent to the Government – Precise area communicated by the Government – Draft revised Mining Plan forwarded and recommended by the Assistant Director (G&M), Karur – Approval accorded - Regarding.

- Ref :
1. Granite Quarry Lease Renewal Application of Tvl.TAMIN dated 24.08.2022.
  2. Revenue Divisional Officer, Kulithalai Report Rc.No.A1/6820/2022, dated:12.05.2023.
  3. Technical Report of the Deputy Director, Department of Geology & Mining, Karur dated: 14.06.2023.
  4. District Collector, Karur Single File System Note File No.411/Mines/2022, dated 14.08.2023 addressed to the Director of Geology and Mining.
  5. Government letter No.6168728/MME.1/2023-1, dated:24.05.2024.
  6. Assistant Director (G&M), Karur letter in Rc.No.411/Mines/2022, dated:10.10.2024.
  7. This Office Letter in Rc.No.5811/MM2/2023, dated:18.11.2024.
  8. Assistant Director (G&M), Karur letter in Rc.No.411/Mines/2022, dated:09.01.2025.

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Kind attention is invited to the references cited above.

2) In the reference 1<sup>st</sup> cited, Tvl. TAMIN Ltd, 31, Kamarajar Salai Chepauk, Chennai - 600 005 has preferred a Granite quarry lease renewal application for quarrying Multi Coloured Granite over an extent of 10.12.0 hectares of Poramboke land in Naganur Village, Kulithalai Taluk, Karur District under rule 8-C of Tamil Nadu Minor Mineral Concession Rules 1959 for a period of 20 years.

3) In the reference 5<sup>th</sup> cited, the Government has communicated precise area to the Tvl.TAMIN Ltd with a direction to submit Approved Mining Plan and Environmental Clearance on the proposal recommending for grant of multi-coloured

quarry lease. Accordingly, Tvl.TAMIN Ltd has submitted draft mining plan for the approval of the Commissioner of Geology and Mining. The same have been forwarded and recommended vide reference 6<sup>th</sup> cited by the Assistant Director (G&M), Karur. In this connection, the Commissioner of Geology and Mining vide reference 7<sup>th</sup> cited returned the draft mining plan and requested to submit revised draft Mining Plan for approval.

4) In the reference 8<sup>th</sup> cited, the Assistant Director (G&M), Karur has forwarded the revised draft Mining Plan and reported that Tvl.TAMIN Ltd has submitted the revised draft mining plan in accordance with rule 8-C and rule 42 of TNMMCR, 1959. The conditions stipulated in the precise area communication are incorporated in the revised draft mining plan. The content in the revised draft mining plan is verified and found correct along with field conditions. Finally, the Assistant Director of Geology and Mining, Karur has recommended for approval of the Commissioner of Geology and Mining.

5) On examining the revised draft mining plan, it is observed that the total Geological reserves and mineable reserves available in the area are 63,60,307 cbm and 36,18,453 cbm respectively. The saleable mineable reserves at 25% recovery is about 9,04,613 cbm for a maximum depth of 58 mts. Further, the proposed Run of Mine and saleable multi coloured granite for the first five years are 180220m<sup>3</sup> and 45,055m<sup>3</sup>.

6) Based on the recommendation of the Assistant Director (G&M), Karur and in exercise of the powers conferred under Rule, 18(4) of Granite Conservation and Development Rules, 1999 read with G.O.(Ms). No.87, Industries (MMC.1) Department dated 22.02.2001, the Mining Plan submitted by Tvl.TAMIN Ltd is hereby approved subject to the following conditions:

- i. This mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such Laws are made by the Central Government, State Government or any other authority.
- ii. 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.
- iii. This mining plan including Progressive mine closure plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- iv. Provisions of the Mines Act, 1952 and the Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required under Mines Act, 1952 shall be complied with.
- v. Provisions made under Mines and Minerals (Development & Regulation) Act, 1957, MMDR Amendment Act, 2015 and Granite Conservation and Development Rules, 1999 made there under shall be complied with.

- vi. Tvl.Tamin Ltd should produce latest valid mining due clearance certificate before the execution of lease deed.
- vii. A safety distance of 50 meters should be provided to the Venkatachalamkulam situated in the S.F.No.151 to the south side of the applied area.
- viii. A safety distance of 7.5 meters and 10 meters should be provided to the adjacent patta and poramboke lands respectively.
- ix. No encroachment shall be allowed in the adjacent patta lands and Government lands during quarrying operation.
- x. Environmental Clearance should be obtained from the competent authority in respect of the subject area as per rule 42 of the Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the notification of the Ministry of Environment and Forest and also obtain any other clearances, if any, required as per the notifications.
- xi. The four boundaries of the applied area are fixed and the quarrying activity should be restricted within the area granted on lease.
- xii. Quarrying activity should be carried out from 07.00 AM to 05.00 PM only.
- xiii. No hindrance should be caused to the adjacent pattadars and public while quarrying and transportation of minerals from the subject area.
- xiv. Relaxation to be obtained under Rule 105(2 )(a) &(b) of Metalliferous Mines Regulations, 1961 from the Director of Mines Safety, if necessary.
- xv. The applicant should fence the lease granted area with barbed wire before the execution of lease deed as follows:-
  - The applicant shall at his own expenses erect, maintain and keep in repair all the boundary pillars.
  - The pillar post shall be firmly grounded with concrete foundation of height not less than 2 meters with a distance between two pillars shall not be more than 3 meters.
  - A soft copy of the digitalized map with the Geo Coordinates of the boundary pillar and shape file of the lease boundary should be submitted in the CD form to the Deputy/Assistant Director (G&M), Karur and the Director of Geology and Mining.
- xvi. A Green belt should be constructed to prevent sound and air pollution due to the proposed quarrying activity by planting at least 500 seedlings of Neem and Pungan all around the area.
- xvii. The waste materials generated during the course of quarrying should be dumped only within the lease hold area.
- xviii. The applicant should use mild explosives during quarrying.
- xix. The applicant should ensure that while starting the quarry work, all the quarry workers working under their control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.
- xx. Child labourer should not be engaged in the quarry works.
- xxi. The conditions mentioned in G.O. No. 79 Industries Department, dated 06.04.2015 should be complied with.
- xxii. The applicant should comply with the conditions stipulated in the Government of India, Ministry of Mines order no.11/02/2020, dated 14.01.2020 issued as per the orders of the Hon'ble Supreme Court of India dated 08.01.2020 that,

“the mining lease holders shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to this mining activities and restore the land to a condition which is fit for growth of fodders, flora and fauna etc.”


- xxiii. The applicant company should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification in Rc.No.2921/MM4/2019, dated: 01.02.2018 and subsequent corrigendum, dated: 13.08.2019 and carry out the drone survey before execution of quarry lease through empaneled agencies.
- xxiv. The applicant firm shall strictly adhere to the statutory and safety requirements.
- xxv. The applicant firm shall erect and maintain the boundary pillars at his own expense all along the lease area.
- xxvi. The applicant firm should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification in RC No.2921/MM4/2019, dated:01.02.2018 and subsequent corrigendum dated 13.08.2019 and carry out the Drone survey before execution of quarry lease through the empaneled agencies.
- xxvii. The owner, agent, mining engineer or manager of mine or quarry shall review the mining plan as prescribed under sub-rule (1) of 18 of the GCDR, 1999 and submit a scheme of mining for the next five years of the lease for approval of the Commissioner of Geology and Mining.
- xxviii. The applicant firm shall submit scheme of mining, mine closure plan and other statutory requirements within the time stipulated for submission of the above, as per rules.
- xxix. If any violation is found during quarrying operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules, 1959 and other rules and act in force will attract.
- xxx. Quarrying shall be done as per the approved mining plan and that 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.
- xxxi. The District Collector, Karur shall obtain sworn-in-affidavit from the applicant for the compliance or the above conditions, before execution of the lease deed and also ensure that the said conditions and the instructions issued in Government Letter No. 6168728/MME.1/2023-1, dated:24.05.2024 are complied by the applicant.

Approved Mining Plan is sent herewith for further necessary action.

Encl: Approved Mining Plan.

Sd/- E.Saravanelraj,  
Commissioner of Geology and Mining

Forwarded / By Order

  
Assistant Director

  
31/01/25

**Copy Submitted to:**

Additional Chief Secretary  
to Government(FAC),  
Natural Resources Department,  
Secretariat, Chennai-9.

**Copy to**

1. The Director of Mines Safety,  
Lapis Lagoon, AA Block,  
Shanthi Colony, Anna Nagar,  
Chennai-40. (With AMP)
2. The District Collector,  
Karur.
3. The Deputy Director,  
Geology and Mining,  
Karur (With AMP).



**MINING PLAN FOR  
NAGANUR MULTI-COLOUR GRANITE QUARRY**

**District** : **Karur**  
**Taluk** : **Kulithalai**  
**Village** : **Naganur**  
**Field No.** : **120(Part)**  
**Classification** : **Govt. Poramboke**  
**Extent** : **10.12.0Ha.**

**(UNDER RULE 12, 13 & 16 OF GCDR, 1999)**

***APPLICANT:***



**M/s. TAMIL NADU MINERALS LIMITED,**  
**(An Undertaking of Government of Tamil Nadu)**  
**No.31, KAMARAJAR SALAI,**  
**CHEPAUK, CHENNAI – 600 005.**

**Name of the RQP** : **Dr. E.GANESAN, Ph.D., PGDELP.**  
**Designation** : **DEPUTY MANAGER, TAMIN**  
**Mobile No** : **94888 55535**





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### DECLARATION BY NOMINATED OWNER

Certified that the Mining Plan in respect of Naganur Multi-Colour Granite Quarry over an extent of 10.12.0Ha in SF.No.120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State has been prepared in full consultation with me and I understood its contents and agree to implement the same in accordance with the law. The Mining Plan has been prepared by Dr.E.Ganesan, a Recognized Qualified Person.

I hereby undertake that all the modifications as made in the Mining Plan by the RQP are deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

I request you to make further correspondences regarding the modifications of the Mining Plan with the said Recognized Qualified Person in the following address:

Dr. E.Ganesan, Ph.D., PGDELP.,  
Deputy Manager (Mining Lease),  
Recognized Qualified Person  
Tamil Nadu Minerals Limited,  
No.31, Kamarajar Salai,  
Chepauk, Chennai-600 005.

  
**ANIL MESHAM, I A S.,  
MANAGING DIRECTOR**

  
12/12/14  
Dr. E. Ganesan







### **CERTIFICATE FROM THE RECOGNIZED QUALIFIED PERSON**

This is to certify that the provisions of Granite Conservation and Development Rules, 1999 and as amended in Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan for Naganur Multi-Colour Granite Quarry over an extent of 10.12.0Ha of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State has been prepared for

**M/S. Tamil Nadu Minerals Limited,**  
No.31, Kamarajar Salai,  
Chepauk, Chennai- 600 005.

Wherever specific permissions, exemptions, relaxations and approvals are required, the applicant will approach concerned authorities of Department of Geology and Mining, Guindy, Chennai for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Place: Chennai

Date:

Dr. E.GANESAN, Ph.D., PGDELP  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.



## **TAMIN,**

### **MINING PLAN FOR NAGANUR MULTI-COLOUR GRANITE QUARRY**

[Under Rule 8-C and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 & Rule 12,13 & 16 of Granite Conservation and Development Rules ,1999]

#### **1.0. INTRODUCTION:**

M/s Tamil Nadu Minerals Limited (An Undertaking of Government of Tamil Nadu hereinafter referred as TAMIN) was established in the year 1978 to carryout systematic mining and development of different minerals all over the State.

The mining plan was prepared for quarrying Multi-Colour Granite over an extent of 10.12.0Ha in SF.No.120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State for 20 years vide this office letter Rc. No.814/ML2/2022, dt.31.07.2024 in accordance with Precise area communication has been granted vide GoTN, Natural Resources (MME.1) Department, Letter No.6168728/MME.1/2023-1,dated 24.05.2024.

#### **PART-I**

#### **1.0. MINING PLAN:**

##### **Name of Mine:**

Naganur (10.12.0Ha) Multi-Colour Granite Quarry

#### **1.2 Particulars of Approval of Mining Plan under GCDR (indicate approval No. and date):**

The mining plan was prepared for producing and selling Multi-Colour Granite dimensional stone and granite waste in accordance with Rule 8-C (11) of the Tamil Nadu Minor Mineral Concession Rules,1959 over an extent of 10.12.0Ha in SF.No.120 (Part) of Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu State for 20 years vide this office letter Rc. No.814/ML2/2022, dt.31.07.2024.

Subsequently, the Commissioner of Geology and Mining has returned the mining plan and advised to revise the mining plan in consonance with provision of Rules 22 of the Granite Conservation Development Rules,1999 vide Commissionerate of Geology and Mining vide Rc. No. 5811/MM2/2023, dated 18.11.2024.

Accordingly, the mining plan has been revised as directed in consonance with provision of Rules 22 of the Granite Conservation Development Rules,1999. TAMIN has proposed to sell the Multi-Colour Granite dimensional stone only in accordance with Rule 8-C and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959. Further, there is no proposal for selling granite waste in this quarry.





### 1.3 Date of commencement of Mining Operations:

Will be intimated after execution of the lease deed under rule 8-C(5)(c) of the Tamil Nadu Minor Mineral Concession Rules, 1959.

### 1.4 (a) Deficiencies, if any that existed in the approved Mining Plan to be taken note of and rectified by incorporating suitable proposal for implementation in the Scheme of Mining:

Nil

### 1.4(b) Review of Compliance of salient features of Mining Plan on chapter-wise basis bringing out marked deviations, if any and justifications/ reasons thereof. Items to be covered may include exploration, mine development, exploitation, afforestation programme, reclamation and rehabilitation, control of dust, noise and ground vibration and any other significant feature:

#### (1) Exploration:

Systematic geological mapping and demarcation of the commercially viable granite deposit has been prepared with relevant structural features such as dip and strike of the country rock and the commercial granite deposit. Different joint patterns and their pattern of repetition etc., have been marked. Based on these features, estimation of geological reserves and mineable reserves has been arrived at considering the waste resources and market potentiality. Nevertheless to say, the mine has already been fully developed. By past mining, the probable depth of deposit, ratio of recovery with reference to ore to over burden have been established earlier and hence no exploration programme is envisaged during the next five years period of mining.

#### (2) Mine Development:

Year pertaining to	Proposed generation of waste in the Mining Plan Period (M <sup>3</sup> )	
	Over Burden	Side Burden
First year to Twentieth Year	Nil	Nil
<b>Total</b>	<b>Nil</b>	<b>Nil</b>

#### (3) Exploitation:

##### Block-I

Year	Run of Mines in		Saleable Multi-Colour Granite Recovery @ 25%		Multi-Colour Granite Waste @ 75%	
	M3	Tonnes	M3	Tonnes	M3	Tonnes
First	36000	95400.000	9000	23850.000	27000	71550.000
Second	36100	95665.000	9025	23916.250	27075	71748.750
Third	36084	95622.600	9021	23905.650	27063	71716.950
Fourth	36000	95400.000	9000	23850.000	27000	71550.000
Fifth	36036	95495.400	9009	23873.850	27027	71621.550
<b>Total</b>	<b>180220</b>	<b>477583.000</b>	<b>45055</b>	<b>119395.750</b>	<b>135165</b>	<b>358187.250</b>

Note: Specific Gravity of Colour Granite: 2.65.

Source: IBM, Granite in India Bulletin No.21, March, 1990 and in accordance with Appendix -II of the TNMMCR, 1959. (Attached in Annexure-VIII).





**Block-II**

Year	Run of Mines in		Saleable Multi-Colour Granite Recovery @ 25%		Multi-Colour Granite Waste @ 75%	
	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes
Sixth	36050	95532.500	9012.50	23883.125	27037.50	71649.375
Seventh	36024	95463.600	9006.00	23865.900	27018.00	71597.700
Eighth	36024	95463.600	9006.00	23865.900	27018.00	71597.700
Ninth	36120	95718.000	9030.00	23929.500	27090.00	71788.500
Tenth	36000	95400.000	9000.00	23850.000	27000.00	71550.000
<b>Total</b>	<b>180218</b>	<b>477577.700</b>	<b>45054.50</b>	<b>119394.425</b>	<b>135163.5</b>	<b>358183.275</b>

**Block-III**

Year	Run of Mines in		Saleable Multi-Colour Granite Recovery @ 25%		Multi-Colour Granite Waste @ 75%	
	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes
Eleventh	36096	95654.400	9024.00	23913.600	27072.00	71740.800
Twelfth	36040	95506.000	9010.00	23876.500	27030.00	71629.500
Thirteenth	36000	95400.000	9000.00	23850.000	27000.00	71550.000
Fourteenth	36053	95540.450	9013.25	23885.113	27039.75	71655.338
Fifteenth	36002	95405.300	9000.50	23851.325	27001.50	71553.975
<b>Total</b>	<b>180191</b>	<b>477506.150</b>	<b>45047.75</b>	<b>119376.538</b>	<b>135143.25</b>	<b>358129.613</b>

**Block-IV**

Year	Run of Mines in		Saleable Multi-Colour Granite Recovery @ 25%		Multi-Colour Granite Waste @ 75%	
	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes	M <sup>3</sup>	Tonnes
Sixteenth	36091	95641.150	9022.75	23910.288	27068.25	71730.863
Seventeenth	36000	95400.000	9000.00	23850.000	27000.00	71550.000
Eighteenth	36045	95519.250	9011.25	23879.813	27033.75	71639.438
Nineteenth	36086	95627.900	9021.50	23906.975	27064.50	71720.925
Twentieth	36036	95495.400	9009.00	23873.850	27027.00	71621.550
<b>Total</b>	<b>180258</b>	<b>477683.700</b>	<b>45064.50</b>	<b>119420.925</b>	<b>135193.50</b>	<b>358262.776</b>

**(4) Progressive quarry closure Plan:**

As a Petrogenetic character, the depth persistence of the Multi-Colour granite body in the mine area is beyond the workable limits. However, it is very difficult to operate granite dimensional stone mine economically below an average depth of 55.13m by observing the statutory provisions of Mine Safety Rules and Regulations. Hence, in the proposed Mining Plan, only 55.13m average depth has been envisaged as 'Workable depth' for safe and economic mining.

However, it is proposed not to back fill the ultimate pit, in as much as good quantity of reserves is available below the workable depth of 55.13m and there is possibility of technology of up gradation in granite mining for greater depths in course of time for safe mining at economic cost beyond 55.13m depth.





The pit boundaries shall be safely fenced and used for agricultural purpose when the pit is filled with underground see page or rain waters.

**(5) Control of Dust, Noise and Ground Vibrations:**

The quarrying operation is being carried out by semi-mechanized method with deployment of HEMM for development and production activities. Dust will be suppressed by adopting wet drilling method and water sprinkling in the haul road. As expansion rock breaking powder is using for splitting rock the noise level will be reduced. As TAMIN is using Milli Second Delay Detonator (MSDD) for blasting, the vibration observed in this quarry is negligible.

**Ground Water:**

The average ground water table is 18.35m from ground level, Where as TAMIN has proposed to quarrying up to average depth of 55.13m from the ground level. The entire lease applied area is migmatite gneiss i.e hard rock formation. There is no availability of water table in this rocky portion. Hence, the question of intersection of ground water does not arise.

**Significant Features:**

TAMIN closely monitored the environmental factors systematically without degrading the land, water and air.

**1.4(c) Review of the compliance position of conditions and stipulations imposed, if any, while approving the Mining Plan. In case of non-compliance / partial compliance, detailed justification reasons thereof may be furnished along with proposal for compliance in the ensuing period:**

The Mining Plan for the subject area under reference was approved earlier by observing the provisions of GCDR 1999 and the Rules framed there under. TAMIN always carries out its mining operations in conformity with the above Acts and Rules.

**1.4 (d) Review of compliance of violations pointed out after inspections made under GCDR, 1999 during last 5 years. The position emerging out of the yearly review of the Mining Plan while checking up implementation of the Mining Plans in the field shall also be taken note of at this stage:**

No violation has been pointed out after instruction made under GCDR, 1999.





**1.4 (e) Any other points requiring attention in the interest of proper mine design, development and conservation and environment and ecology of the area:**

The present as well as the proposed mine working is so designed in such a way mainly keeping in view of conservation of mineral, afforestation, environment, and ecology of the mine area.

\*\*\*

**PART – II**

**2.0. PROPOSAL UNDER MINING PLAN FOR THE NEXT 5 YEARS.**

**2.1 Name and Address of the Lessee:**

Name : M/s. Tamilnadu Minerals Limited,  
Address : No. 31, Kamarajar Salai,  
Chepauk, Chennai - 600 005.  
Tamil Nadu State.  
Phone : 044-2989 2018  
e.Mail : [tamin@tamingranites.com](mailto:tamin@tamingranites.com)

**2.2 Name and address, registration number of the recognized persons together with validity date / person employed under Rule 13 of GCDR1999 who has prepared the Mining Plan:**

RQP Certificate Enclosed.

**2.3 Mineral (s) to be mined:**

To mine the Multi-colour Granite (Geologically called as Migmatite) commercially known as 'Colombo Zubarana' Granite Dimensional Stone.

**2.4 Area and date of expiry of lease:**

Details of Lease Applied Area	Date of expiry of lease
Naganur Multi-Colour Granite quarry, Extent – 10.12.0Ha of Naganur Village, SF.No. 120(Part), Kulithalai Taluk, Karur District, Tamil Nadu State.	Will be informed after execution of lease deed

**2.5 Date of expiry of 5 year period for which Mining Plan approved on the last occasion:**

Not applicable at this stage.

**3.0. RESERVES:**

**3.1 Category-wise (Proved, Probable and Possible) Reserves Estimated in the earlier Mining Plan with grades:**

Sl. No	Geological Reserves	Mineable Reserves	Mineable Saleable Granite Reserves @25% Recovery	Granite Waste @75% Recovery
1.	65,73,533M <sup>3</sup>	38,31,679M <sup>3</sup>	9,57,920M <sup>3</sup>	28,73,759M <sup>3</sup>





The above estimations arrived at on the basis of geological cross sections after leaving safety distances as directed in the precise area communication letter

**3.2 Depletion of Reserves:**

2,13,226 M<sup>3</sup>

**3.3 Additional reserves established category wise (with basis and parameters considered):**

No additional reserves.

**3.4 Category wise updated reserve with grade (indicate and use grade with analysis) as well as marginal grades:**

Sl. No	Geological Reserves	Mineable Reserves	Mineable Saleable Granite Reserves @25% Recovery	Granite Waste @ 75% Recovery
1.	63,60,307M <sup>3</sup>	36,18,453M <sup>3</sup>	9,04,613M <sup>3</sup>	27,13,840M <sup>3</sup>

The above estimations arrived at on the basis of geological cross sections updated as on 30.06.2024.

**4.0. CONCEPTUAL MINING PLAN:**

**a) Anticipated Life of the Quarry:**

Updated Mineable Reserves : 36,18,453M<sup>3</sup>  
 Anticipated Life of the Quarry : 100.17@101years.

**b. Depicted on Mine Geological Plans and sections with necessary statement annexed supported by essential text, covering the basic & long term design features of mine covering exploration, mine development, optimum exploitation & utilization of the mineral, waste & sub-grade mineral management, and environmental aspects. The ensuing five year detailed programme should but be a part of the conceptual overall Mining Plan.**

**i. Mine Year wise Production:**

The Mine year wise production up to the lease period has been discussed in the Chapter.1.4(b) (3).

**Mine Year wise Development:**

Year pertaining to	Proposed generation of waste in the Mining Plan Period (M <sup>3</sup> )	
	Over Burden	Side Burden
First year to Twentieth Year	Nil	Nil
Total	Nil	Nil





**ii) Optimum exploitation and utilization of the Mineral:**

The optimum quantity of mineable reserves as ROM is 38,31,679M<sup>3</sup>.

**iii) Waste and sub-grade Mineral Management:**

The dumps will be maintained not exceeding 5m Height and the angle of slope of dumps will be at 45° from horizontal. The waste dump has been earmarked in the plate No.4/1 & 4/4.

**iv) Environmental Aspects:-**

**Afforestation Programme:**

TAMIN will get environment clearance (EC) from the SEIAA as directed by the Govt. after approval of this mining plan and necessary native species of sapling will be planted as per the EC letter.

The quarrying operation is being carried out by semi-mechanized method with deployment of HEMM for development and production activities.

**Ultimate Pit dimensions of the Quarry at top and bottom are tabulated below:**

Sl. No.	Ultimate Pit Dimensions at Top (m)		Ultimate Pit Dimensions at Bottom (m)		Depth	Pit SF.No
	Length	Width	Length	Width		
1.	680.012	136.50	620.002	66.77	58.00	120(Part)

**5.0 MINING:**

**5.1 Salient Description of the present mining methods:**

The Quarrying work being carried out under the direct supervision of our Statutory Mining Personal of TAMIN as approved by the DGMS under MMR,1961.

**5.2 Yearly pit-wise development plan proposed for the next five years, depicted on plans and sections (ore and overburden to be shown clearly along with geological formations encountered depicting also the design and layout of the mine benches in case of opencast mining).**

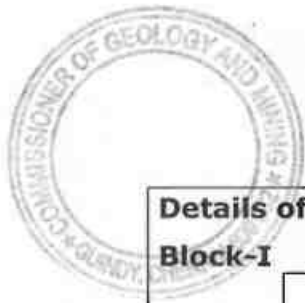
It has been discussed in chapter 4.0 b i)

**5.3 Yearly pit-wise development plan proposed for next five years along with grade. Blending proposal, if any, may be indicated:**

Nil







**Details of depth and benches proposed during the Mining Plan Period  
Block-I**

Year	Section	Depth Details(m)				No. of Benches
		Present	Proposed	Remaining	Total	
First	PQ&AA'	5.90	10.00	42.10	58.00	1
Second	PQ&BB'	5.90	10.00	42.10	58.00	1
Third	PQ&CC'	5.90	10.00	42.10	58.00	1
Fourth	PQ&AA'	15.90	10.00	32.10	58.00	1
Fifth	PQ&CC'	15.90	10.00	32.10	58.00	1

During the Mining Plan Period, Block-II, Block III and Block - IV details of proposed depth and benches have been given in the Annexure-IX.

**5.4 Any change in proposed method of mining and deployment of machinery, together with reasons thereof:**

There is no change in the method of mining.

**6.0. HANDLING OF WASTE /SUB- GRADE MATERIAL:**

**6.1 Rate of yearly generation of waste and proposals for disposal of waste for next five years. (indicate sequence of dumping with necessary plan and sections)**

The waste generated during the mining operation i.e., Granite waste, un-sized boulders and rubbles etc, will be dumped in the suitable area already selected. The unsold blocks are kept within the boundary of the lease hold area.

**6.1.1 Build-up of dumps from year to year to be shown in yearly plans and sections with description of the method & manner of disposal of waste rock, designed capacity & height of individual dumps and precautions envisaged for confinement of the dumps together with design details of the protective works:**

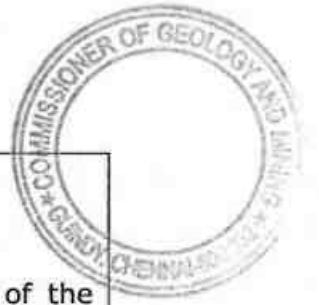
The dumps will be maintained not exceeding 5m height and the angle of slope of dumps will be at 45° from horizontal. The waste dump has been earmarked in the Plate Nos. 4.

**6.2 Rate of yearly generation of sub-grade mineral with reference to threshold values and proposals for stacking for next five years. (Submit necessary plan/sections.) (In case variations from the recommended threshold values of IBM, please give adequate justification and reasons).**

There is no sub-grade mineral produced.

**6.3 Quantity and grade of sub-grade material available at the mine as on date duly supported by plans & sections and descriptive statement inclusive of the precautions adopted for storage.**

-Not Applicable-



## **7.0. USE OF MINERAL:**

### **7.1 Changes proposed in the use of mineral, if any, with reasons:**

TAMIN will sell dimensional blocks in accordance with Rule 8-C of the Tamil Nadu Minor Mineral Concession Rules, 1959.

### **7.2 Changes in the specification, if any, imposed by the user industries and or specifications required in the case of new user industries, if any, to be given:**

As mentioned above there is no change in specification imposed by the user industries.

### **7.3 Efforts made for utilization of the sub-grade mineral including fines:**

As there is no sub-grade mineral, the question of efforts made for utilization of the sub grade mineral including fines does not arise.

## **8.0. MINERAL BENEFICIATION:**

### **8.1 Results of any beneficiation investigations conducted and changes made in existing mineral beneficiation plant and tailing disposals, if any, with benefits expected (necessary) flow - sheet and tailing dam designs etc., to be submitted as applicable:**

- Not Applicable -

### **8.2 Beneficiation test done, if any, on sub-grade mineral including fines and proposals for installation of new or additional beneficiation facility, if any (furnish process details in brief along with expected tailings loss):**

- Not Applicable -

## **9.0. ENVIRONMENTAL MANAGEMENT PLAN:**

The following observations are made for Environmental Management Plan:

### **i) Existing land use pattern:**

The lease applied area is undulated terrain covered entirely with rocky. The area is moderate Rainfall and hence there is sparse growth of vegetation within lease area. However, efforts will be taken to plant trees. The altitude of the area is 170m (Maximum) above MSL and the area receives average annual rainfall of about 682.9mm.

### **Land Reclamation & Rehabilitation:-**

The mine-pit will be fenced so as to avoid the inadvertent entry and mine pit water will be utilized as a water reservoir.



**Waste Dump management:-**

The waste material can be dumped on North eastern side (Centre portion) of the lease applied boundary.

**10.0. ANY OTHER INFORMATION:**

- NIL -

**Date:**

Dr. E.GANESAN, Ph.D., PGDELP  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.

COMMISSIONER  
GEOLOGY AND MINING  
GUINDY, CHENNAI - 600 032.

4/7

29/01/25

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

**Letter No. 5811/MT/2023 Dated 31.01.25**





Natural Resources  
(MME.1) Department  
Secretariat, Chennai - 600 009.



**Letter No.6168728/MME.1/2023-1, Dated: 24.05.2024**

From  
Thiru K. Phanindra Reddy, IAS.,  
Additional Chief Secretary to Government (FAC).

To  
The Managing Director,  
Tamil Nadu Minerals Limited,  
Chepauk, Chennai - 600 005.



Sir,

Sub: Natural Resources - Minor Mineral - Multi-colour Granite - Quarry lease renewal application preferred by TAMIN for quarrying of Multi-colour Granite over an extent of 10.12.0 Hectares of poramboke land in S.F.Nos.120 (Part) of Naganur Village, Kulithalai Taluk, Karur District for a period of 20 years - Precise area communicated - Approved Mining Plan and Environmental Clearance - Called for.

- Ref:
1. Your Quarry Lease Renewal Application dated 24.08.2022.
  2. From the District Collector, Karur Lr.No.411/Mines/2022, dated: 14.08.2023.
  3. From the Commissioner of Geology and Mining, Chennai, Rc.No.5811/MM2/2023, dated: 23.11.2023.

\*\*\*\*\*

I am directed to invite attention to the references second and third cited, wherein the District Collector, Karur and the Commissioner of Geology and Mining, Chennai have recommended and forwarded your quarry lease renewal application for grant of quarry lease renewal for quarrying of Multi-colour Granite over an extent of 10.12.0 Hectares of Poramboke land in S.F.No.120 (Part) of Naganur Village, Kulithalai Taluk, Karur District for a period of 20 years under rule 8-C of the Tamil Nadu Minor Mineral Concession Rules, 1959.

2. The Government carefully examined the recommendations of the District Collector, Karur and the Commissioner of Geology and Mining, to communicate precise area for quarrying Multi-colour Granite over an extent of 10.12.0 Hectares of poramboke land in S.F.No.120(Part) of

-1 CMLD/PI.

5/6/24



Naganur Village, Kulithalai Taluk, Karur District for a period of 20 years and accordingly, the Government hereby communicate Precise Area for the above said area under 8-C of the Tamil Nadu Minor Mineral Concession Rules, 1959 for grant of quarry lease.

3. I therefore request you to furnish the Approved Mining Plan for the above-mentioned Precise Area through the Commissioner of Geology and Mining within a period of 3 months as per Rule 8-C of the Tamil Nadu Minor Mineral Concession Rules, 1959 and to produce Environmental Clearance obtained from the competent authority for the above said area for grant of quarry lease renewal, subject to the following conditions:-

- i. Tvl.TAMIN Ltd shall submit the approved mining plan and Environmental clearance for the renewal period.
- ii. Tvl.TAMIN Ltd should remit an amount of Rs.5,26,936/- as penalty for the quantum of 215.076 cbm Multi-colour Granite blocks were transported without Environmental clearance after 15.01.2016 to 13.11.2016.
- iii. Tvl.TAMIN Ltd should produce latest valid mining due clearance certificate before the execution of lease deed.
- iv. A safety distance of 50 meters should be provided to the Venkatachalamkulam situated in the S.F.No.151 to the south side of the applied area.
- v. A safety distance of 7.5 and 10 meters should be provided to the adjacent patta and poramboke lands respectively.
- vi. The four boundaries of the applied area should be fixed and the District administration/Geology and Mining Department should ensure that the quarrying pertains should be restricted within the area granted on lease.
- vii. The applicant should obtained Environment Clearance from the competent authority in respect of the subject area as per rule 42 of Tamil Nadu Minor Minerals Concession Rules, 1959 and as per the notification of the Ministry of Environment and Forest and any other clearances if any.
- viii. Quarrying activity should be carried out between 7,00 A.M. to 5.00 P.M.
- ix. A green belt should be constructed to prevent sound and air pollution due to the proposed quarrying activity by planting at least 500 seedlings of Neem and Pungan all around the area.
- x. Barbed wire fencing or Compound wall should be erected all along the boundary of the lease granted area.
- xi. The waste materials generated during the course of quarrying should be dumped only within the lease hold area.
- xii. The applicant should fence the lease granted area with barbed wire before the execution of lease deed as follows:-
  - (a) The applicant shall at his own expenses erect, maintain and keep in repair all the boundary pillars.
  - (b) The pillar post shall be firmly grounded with concrete

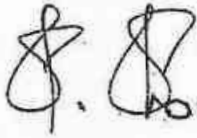
foundation of height not less than 2 meters with a distance between two pillars shall not be more than 3 meters.

- (c) The applicant company shall incorporate all the Geo Coordinates taken by the DGPS for the entire boundary pillars of the area and the same should be clearly shown in the mining plan.
- (d) A soft copy of the digitized map with the Geo Coordinates of the boundary pillar and shape file of the lease boundary should be submitted in the CD to the Deputy Director (G&M), Karur.
- xiii. The applicant should use mills explosives during quarrying.
- xiv. The child labourer should not be engaged in the quarry works
- xv. The applicant should ensure that while starting the quarry work, all the quarry workers working under their control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.
- xvi. The conditions mentioned in G.O No.79, Industries Department, dated 06.04.2015 should be complied with.
- xvii. The applicant company should comply with the conditions stipulated in the Government of India, Ministry of Mines order No.11/02/2020, dated 14.01.2020 issued as per the orders of Hon'ble supreme Court of India dated 08.01.2020 which states that "The mining lease holders shall after ceasing mining operations, under take re-grassing the mining area and any other area which may have been disturbed due to this mining activities and restore the land to a condition which is fit for growth of fodder, flora and fauna etc.,"
- xviii. The applicant company should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification in Rc.No.2921/ MM4/ 2019, dated 01.02.2018 and subsequent corrigendum, dated 13.08.2019 and carry out the drone survey before execution of quarry lease through empanelled agencies
- xix. The applicant company shall strictly adhere to the statutory and safety requirements.
- xx. Quarrying shall be done as per the approved Mining Plan and that 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.
- xxi. The applicant company shall submit scheme of mining; mine closure plan and other statutory requirements within the time stipulated for submission of the above, as per rules.
- xxii. If any violation is found during quarrying operation, the penal provisions of the Tamil Nadu Minor Mineral Concession Rules, 1959 and other rules and act in force will attract.




4. The District Collector, Karur may be instructed to obtain a sworn-in-affidavit from the applicant / firm, containing the above conditions before execution of lease deed and also ensure that the instructions issued in Government Letter No.12789/MMB.2/2002-7, Industries Department, dated 09.01.2003 are complied with. Further, the District Administration / Geology and Mining Department should ensure the conditions imposed in G.O. (Ms) No.79, Industries (MMC.1) Department, dated 06.04.2015

Yours faithfully,

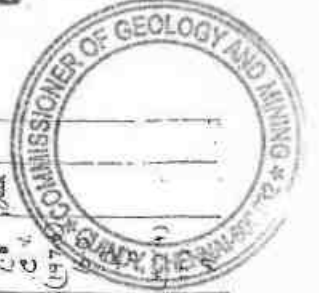
 S. Sannuganathan  
24/5/24

for Additional Chief Secretary to Government (FAC).

  
Copy to:

The Commissioner of Geology and Mining,  
Guindy, Chennai - 600 032.

The District Collector, Karur.



1	266	G 1	(5564)	1974	1405
2	300	F 1	(1726)	1974	1405
3	328	C 1	(854)	1974	1405
4	414	A 1	(68)	1974	1405
5	304	B 1	(76)	1974	1405
6	254	D 1	(54)	1974	1405
7	120	E 1	(120)	1974	1405

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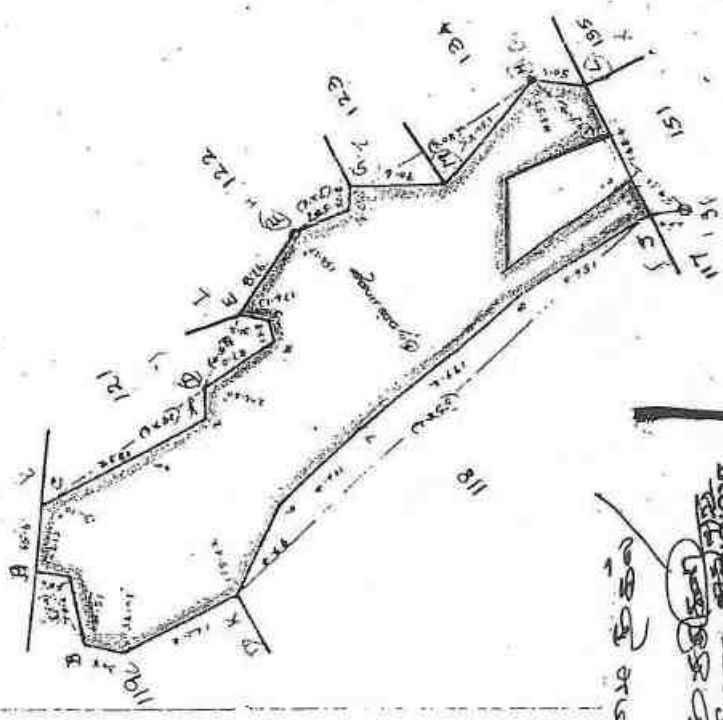
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22

74

சி. என். (54) நாகனூர்.



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114	...	114	அ	புற	...	...	...	ரு. பை. ஹெ ஏர்ஸ்.	ரு. பை.	1 22.0	...	தார்சாலை.
115	...	115	அ	புற	...	...	...	...	...	1 44.5	...	வண்டிப் பாதை.
116	...	116	அ	புற	...	...	...	...	...	1 16.5	...	வண்டிப் பாதை.
117	...	117	அ	புற	...	...	...	...	...	0 64.5	...	வண்டிப் பாதை.
118	...	118	ர	பு	...	8-3	13	1 53	48 54.0	74 36	2 9	அருள்மிகு கடம்பவனேஸ்வரர் சுவாமி கோவில் திருப்பனந்தாள் கட்டளை.
119	1	119-1	ர	பு	...	8-3	13	1 53	1 35.5	2 07	584	த. மூக்காயி அம்மாள்.
	2	-2	ர	பு	...	8-3	13	1 53	0 20.5	0 32	228	மு. சின்னத் தம்பிபிள்ளை.
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120	...	120	அ	தி ஏ த	...	...	...	...	10 63.5	...	...	...
121	1A	121-1 Burr	ர	பு	...	8-3	13	1 53	0 75.0	1 15	761	பொ. ஆறு முகம் முத்து ராஜா (1), மு. தர்மலிங்கம். (2).
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122	1A	122-1 Burr	ர	பு	...	8-3	13	1 53	0 17.5	0 27	1074	மு. அண்ணாவி மற்றும் நான்ரு பேர்களுட. *
	1B	-1 Burr	ர	பு	...	8-3	13	1 53	1 96.5	3 01	917	மு. அண்ணாவி (1), பை. மணி (2), பை. மலைக் கொழுந்தான் (3).

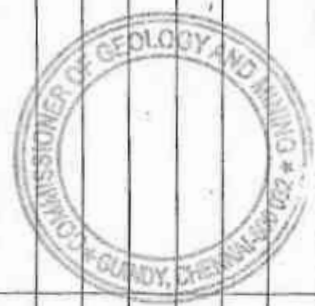
\* எவரப்பட்டியலைப் பார்க்கவும்.

சி. என். (54) நாகனூர்  
 கிராம நிர்வாக அலுவலர்  
 27-நாகனூர் கிராமம்  
 குளித்தலை வட்டம்

12

பக்கம் 2 கிராமத்தில் வருடவாரி புவவாரி கைப்பற்று எழுப்பி அடங்கல் கணக்கு

சந்தி எண்	இரண்டாம் போகம்.					முதல் போகம்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.
	(13)	(14)	(15)	(16)	(17)													
	சந்தி எண்	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து	பரிசீலனை செய்து



1431 - ஆம் பசுவியில் ஈரின் மாவட்டம் கோத்தண்டி வட்டம் 27-28-29-30-31

நில வரித் திட்டத்தின்படி புலங்களின் விபரம்.	சுற்று வாரியம் பெயர்.	முதல் போகம்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.	சுற்று வாரியம் பெயர்.
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எண் 2 கிராமத்தில் வட்டவாரி புலவாரி-கைப்பற்று சாகுபடி ஆய்வுகள் கணக்கு

நில வரித் திட்டத்தின்படி புலவாரிகள் விபரம்.	புலவாரி	புலவாரி	புலவாரி	புலவாரி	புலவாரி	புலவாரி	இராண்டம் போகும்.				மொத்தம்							
							புலவாரி	புலவாரி	புலவாரி	புலவாரி								
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எண் 2 கிராமத்தில் வட்டவாரி புலவாரி-கைப்பற்று சாகுபடி ஆய்வுகள் கணக்கு

நில வரித் திட்டத்தின்படி புலவாரிகள் விபரம்.	புலவாரி	புலவாரி	புலவாரி	புலவாரி	புலவாரி	புலவாரி	முதல் போகும்.				மொத்தம்							
							புலவாரி	புலவாரி	புலவாரி	புலவாரி								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

# Tamil Nadu Minerals Limited

(A Government of Tamil Nadu Undertaking)



Annexure No -V

Tel : 044-28415003 / 28511972  
Fax : 91-44-2852 4960  
E-mail : tamin@taminminerals.com  
GSTIN : 33AABCT2250P1ZA  
WEB : www.tamin.co.in

Regd. Office : No.31, Kamarajar Salai, "TWAD House" Chepauk, Post Box No.2961, Chennai - 600 005.

Rc No. 9456/ML1/2017

Dated: 20.02.2024

## TO WHOM SO EVER IT MAY CONCERN

This is to certify that Dr.E.Ganesan is working as Deputy Manager (Mining Lease) in Tamil Nadu Minerals Limited, Chennai. His qualification and experience is given below.

### Qualifications:-

1. M.Sc., (Geology)
2. MBA
3. Ph.D (Environmental Geology)
4. PGDELP (Post Graduate Diploma in Environmental Law & Policy)
5. Second Class Mines Manager Certificate of Competency (Restricted) Certificate No. SMR/5390, dated.06.05.2014.



### Experience:-

Sl No	Name of Projects	Designation	Nature of work	Period	Total period
1.	Sivagangai Graphite Mine	Project Officer (Trainee)	Mining Geologist & over all mining supervision	23.06.1993 to 23.06.1994	Years : 01 Months : 00 Days : 00
2.	-do-	Project Officer	-do-	24.06.1994 to 09.07.1997	Years : 03 Months : 00 Days : 15
3.	Lakmanaickenpatti Quartz & Feldspar Mine	Project Officer	Mining Geologist & over all mining supervision in statutory capacity	03.05.2002 to 23.08.2002	Years : 00 Months : 03 Days : 20
4.	Periyanaagarur Limestone Mine	Divisional Manager i/c	-do-	17.10.2012 to 14.07.2013	Years : 00 Months : 08 Days : 27
<b>Total period of experience</b>					<b>Years : 05 Months : 01 Days : 02</b>

The Regional Controller of Mines, Indian Bureau of Mines (IBM), Chennai Region has already issued the Recognized Qualified Person (RQP) Certificate to him vide RQP/MAS/036/88/B, dated.21.10.2014. This certificate is issued only for preparation of Mining Plan / Scheme etc., as per Rules in force.

for Tamil Nadu Minerals Ltd,

Nominated Owner / Managing Director

# RQP CERTIFICATE



भारत सरकार / GOVERNMENT OF INDIA  
 मंत्रालय / MINISTRY OF MINES  
 भारतीय खनन विभाग / INDIAN BUREAU OF MINES



**अभ्यर्थियों के अभ्युक्तिपत्र**  
**CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON**  
 (Under Rule 22C of Mineral Concession Rules, 1950)

किसी व्यक्ति को खनन विभाग के अधीन विद्यमान खनिज अधिकारों में भागीदारी के लिए योग्य माना जाता है।  
 यह प्रमाणित करने के लिए कि वह व्यक्ति को खनन विभाग के अधीन विद्यमान खनिज अधिकारों में भागीदारी के लिए योग्य माना जाता है।  
 यह प्रमाणित करने के लिए कि वह व्यक्ति को खनन विभाग के अधीन विद्यमान खनिज अधिकारों में भागीदारी के लिए योग्य माना जाता है।

Mr. Srinivasa Murthy Limited, No. 21, Kanchipuram, T.W.A.D. Ho. No. 2/2000, Post No. 761021, Chennai - 600 026. The person whose photograph and signature is affixed below, having given satisfactory evidence of his qualifications & experience hereby RECOGNISED under Rule 22C of the Mineral Concession Rules, 1950 as a Qualified Person to prepare Mining Plans.

My application number: OPM/MS/03/2016

This recognition is valid for a period of 10 years ending on 22/01/2026

The undersigned persons who are authorized signatories to sign the documents are given in Appendix I.

This certificate will be liable to its withdrawal / corrected in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

Issued at: Chennai  
 Date: 21/11/2014

Regional Controller of Mines  
 Indian Bureau of Mines  
 Chennai Region

प्रतिभागी के नाम / Name of RQPs



*(Signature)*

1. श्री बी. सुब्रह्मण्यम, सेल ग्रेड डिविजनल मैनेजर  
 SSM B. Subramanian, Section Grade Divisional Manager



*(Signature)*

2. श्री के. शंभुगम, सेल ग्रेड सेंसर प्रोजेक्ट ऑफिसर  
 K. Shanmugam, Section Grade Senior Project Officer



*(Signature)*

3. श्री पी. गिरिहारन, सेल ग्रेड डिविजनल मैनेजर  
 P. Giriharan, Section Grade Divisional Manager



*(Signature)*

4. श्री ई. गणेशन, सेल ग्रेड प्रोजेक्ट ऑफिसर  
 E. Ganesan, Section Grade Project Officer



*(Signature)*

5. श्री एस.वेणुकाचलपति, प्रोजेक्ट ऑफिसर  
 S. Venkatasripathi, Project Officer



*(Signature)*

6. श्री ए.रामचंद्रन, सेल ग्रेड प्रोजेक्ट ऑफिसर  
 A. Rameshchandra, Section Grade Project Officer

## TAMIL NADU MINERALS LIMITED, CHENNAI - 600 005.

## BOARD OF DIRECTORS OF TAMIL NADU MINERALS LIMITED



1. **Thiru.K.Phanindra Reddy, I A S.,**  
Chairman,  
Tamil Nadu Minerals Limited and  
Additional Chief Secretary to Government,  
Industries Department,  
Secretariat, Chennai- 600 009.
2. **Thiru.Anil Meshram, I A S.,**  
Managing Director,  
Tamil Nadu Minerals Limited,  
Chepauk, Chennai- 600 005.
3. **Thiru.L.Nirmal Raj, I A S.,**  
Industries Commissioner and Director,  
Industries and Commerce,  
2<sup>nd</sup> Floor and 3<sup>rd</sup> Floor,  
SIDCO Corporate office Building,  
Thiru-Vi-Ka Industrial Estate,  
Guindy, Chennai- 600 032.
4. **Thiru. G.K. Arun Sundar Thayalan, I A S.,**  
Additional Secretary to Government,  
Finance Department,  
Secretariat, Chennai- 600 009.
5. **Thiru. M.J.Devaraj,,**  
Deputy Secretary to Government,  
Natural Resources Department,  
Secretariat, Chennai- 600 009.
6. **Dr. T.Subramani, Ph.D.**  
Professor and Head,  
Department of Mining Engineering,  
Anna University,  
Guindy, Chennai- 600 025.
7. **Dr.Godwin Tennyson,**  
Professor in Operations, Management and Decision Sciences,  
Indian Institute of Management,  
Pudukkottai Main Road, Chinna Sooriyur Village,  
Trichirappalli - 620 024.
8. **Dr.Biswajit Paul,**  
Professor, Dept. of Environmental Science and Engineering,  
Centre of Mining, Indian Institute of Technology, (Indian School of Mines)  
Dhanbad - 826 004. Jarkhand.
9. **Thiru.K.Meenatchi Sundaram**  
Flat 5E, SPL Uma Apartments  
New No:34, Luz Church Road  
Mylapore, Chennai-600004



**Details of depth and benches proposed during the Mining Plan Period**

**Block-II**

Year	Section	Depth Details(m)				No. of Benches
		Present	Proposed	Remaining	Total	
Sixth	PQ&AA'	0	10.00	48.00	58.00	1
Seventh	PQ&AA'	10.00	10.00	38.00	58.00	1
Eighth	PQ&BB'	5.90	10.00	42.10	58.00	1
Ninth	PQ&CC'	5.90	10.00	42.10	58.00	1
Tenth	PQ&CC'	15.90	10.00	32.10	58.00	1

**Block-III**

Year	Section	Depth Details(m)				No. of Benches
		Present	Proposed	Remaining	Total	
Eleventh	PQ&AA'	2.63	10.00	45.37	58.00	1
Twelfth	PQ&BB'	2.63	10.00	45.37	58.00	1
Thirteenth	PQ&CC'	0	10.00	48.00	58.00	1
Fourteenth	PQ&DD'	12.63	10.00	35.37	58.00	1
Fifteenth	PQ&EE'	12.63	10.00	35.37	58.00	1

**Block-IV**

Year	Section	Depth Details(m)				No. of Benches
		Present	Proposed	Remaining	Total	
Sixteenth	PQ&AA'	3.50	10.00	44.50	58.00	1
Seventeenth	PQ&BB'	3.50	10.00	44.50	58.00	1
Eighteenth	PQ&CC'	3.50	10.00	44.50	58.00	1
Nineteenth	PQ&CC'	13.50	10.00	34.50	58.00	1
Twentieth	PQ&BB'	13.50	10.00	34.50	58.00	1

भारत सरकार  
GOVERNMENT OF INDIA  
इस्पात और खान मंत्रालय  
MINISTRY OF STEEL AND MINES  
भारतीय खान ब्यूरो  
INDIAN BUREAU OF MINES



प्रशिक्षण, खनन अनुसंधान और प्रकाशन प्रभाग  
Training, Mining Research and Publication Division

प्रकाशन प्रकोष्ठ  
PUBLICATION CELL



## GRANITE IN INDIA

*Bulletin No. 21*

Issued by  
Controller-General  
Indian Bureau of Mines  
NAGPUR

March 1990

Price : (Inland) Rs. 55.00; (Foreign) £ 6.41; or \$ 19.80



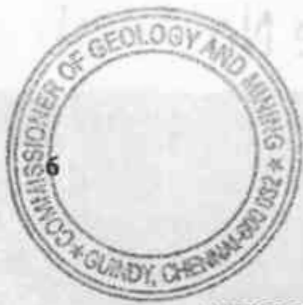


TABLE 1.1 (E)

**PHYSICAL PROPERTIES OF GREY GRANITE, DOLERITE AND GABBRO\***

Property	Grey granite	dolerite	Gabbro
1. Hardness			
a. "Moh's scale	5.8-6.6	6-6.7	4.8-6.2
b. Shore	85-110	85-105	-
2. Specific gravity	2.6-2.7	2.6-3.13	2.9-3.12
3. Compressive strength, kg/cm <sup>2</sup>	1000-3000	2000-3500	1800-3000
4. Tensile strength, kg/cm <sup>2</sup>	70-250	150-350	150-300
5. Shear strength, kg/cm <sup>2</sup>	140-500	250-600	-
6. Modulus of elasticity, kg/cm <sup>2</sup> x10 <sup>5</sup>	2.5	8-11	7-11
7. Coefficient of linear expansion, x10 <sup>6</sup>	4-6	2-4	-
8. Porosity, %	0.5-1.5	0.1-0.5	0.1-0.2

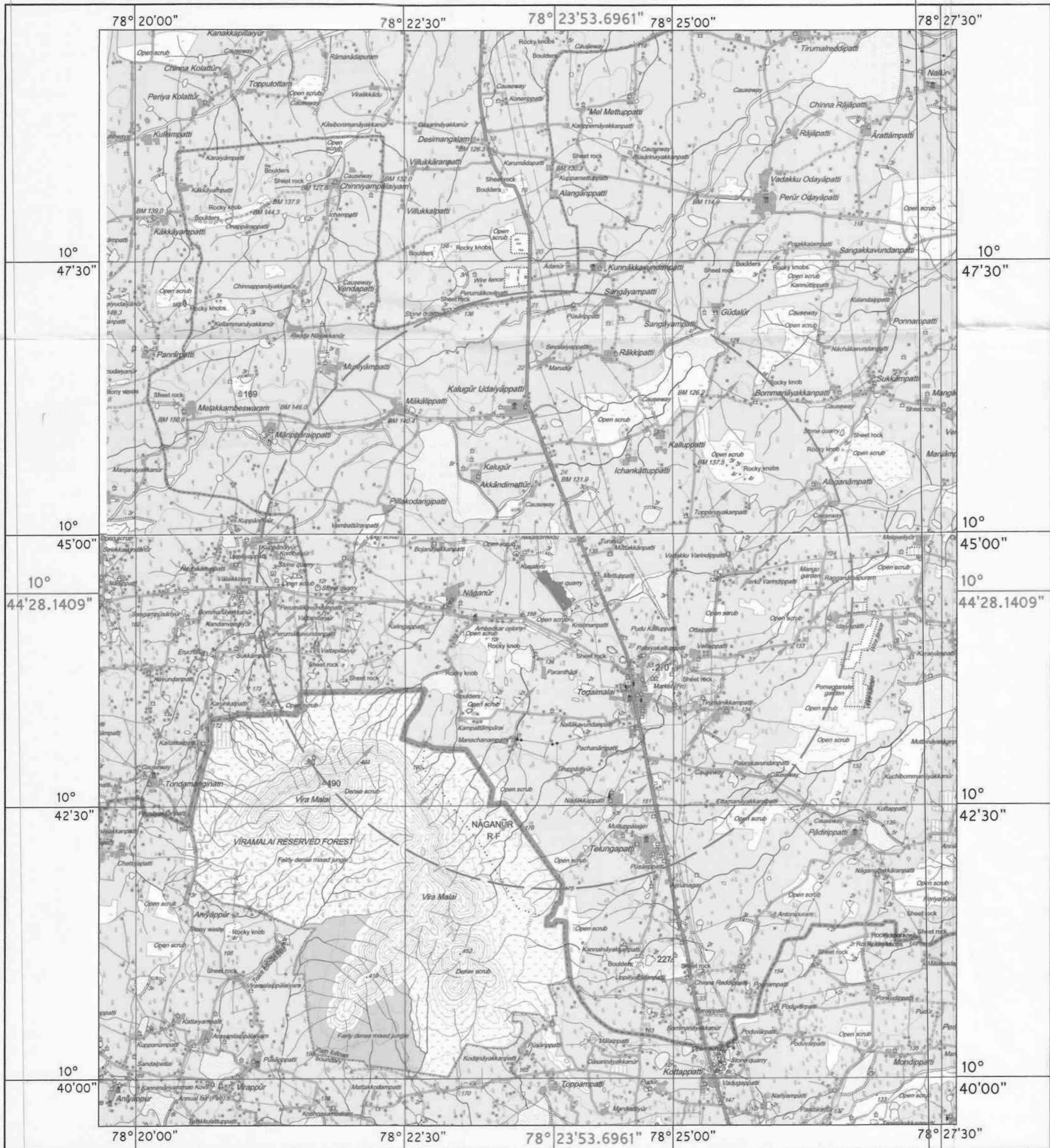
**2.3 PHYSICAL PROPERTIES**

The desirable physical properties of granite vary with the intended use. Generally strength, durability and appearance are considered the most important physical properties. Besides, a number of other properties influence the utility and value of granite. The salient physical properties are described in Table 1.1 (E).

Strength and deformation characteristics of granite and dolerites from Warangal District, Andhra Pradesh are given below :

Rock	Density	Compression strength (SC)	Tensile strength (St)	Shear strength (SS)	Young's Modulus (E)
	M/V	kg/cm <sup>2</sup>	kg/cm <sup>2</sup>	kg/cm <sup>2</sup>	x10 <sup>5</sup> kg/cm <sup>2</sup>
Pink granite	2.58 to	800 to	70 to	280 to	2.15 to
	2.63	1500	130	425	3.60
Grey granite	2.60 to	1300 to	100 to	300 to	2.80 to
	2.68	2200	150	540	5.04
Dolerite	3.00 to	1500 to	130 to	400 to	4.40 to
	3.10	3200	220	680	7.42

Source : Deva Pratap, Granite Seminar, Institution of Engineers, 1988 Hyderabad.



**INDEX**

-  MINING LEASE APPLIED BOUNDARY
-  SAFETY ZONE 5Km. RADIUS
-  ROAD
-  UNMETALLED ROAD
-  RESERVOIR / KULAM
-  STREAM
-  CONTOUR
-  RESERVED FOREST BOUNDARY
-  DISTRICT BOUNDARY
-  TALUK BOUNDARY

**WIND DIRECTION**

-  WINTER
-  SUMMER



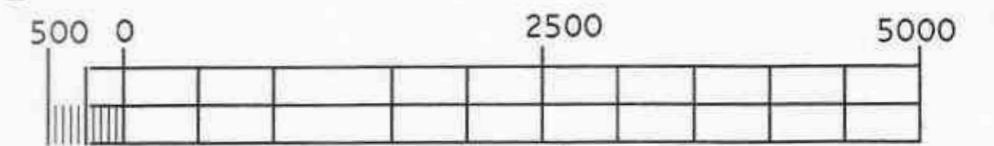
DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 (Part)  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No. 1

**NAGANUR MULTI-COLOUR GRANITE QUARRY  
 KEY PLAN**

PART OF TOPO SHEET NO.57J/5&6


EASTERN LONGITUDE FROM 78° 23'44.1074" TO 78° 24'03.2847"  
 NORTHERN LATITUDE FROM 10° 44'18.4452" TO 10° 44'37.8367"




SCALE= 1:50,000 (1CM = 500 M)  
 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

  
**Dr. E.GANESAN, Ph.D., PGDLP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.

78° 23'44.1074"

78° 24'03.2847"

VILL.NO.50  
KAZHUGUR



CO-ORDINATES OF BOUNDARY PILLARS

SI.No.	BOUNDARY PILLARS	CO-ORDINATES	
		LATITUDE (N)	LONGITUDE (E)
01.	BP1	10°44'30.2481"	78°23'54.4022"
02.	BP2	10°44'30.3489"	78°23'54.9500"
03.	BP3	10°44'31.3586"	78°23'55.2223"
04.	BP4	10°44'29.7100"	78°23'57.9568"
05.	BP5	10°44'27.9578"	78°23'58.7239"
06.	BP6	10°44'27.8995"	78°23'59.4553"
07.	BP7	10°44'24.9534"	78°23'59.7722"
08.	BP8	10°44'22.1875"	78°24'03.2847"
09.	BP9	10°44'20.5214"	78°24'03.1745"
10.	BP10	10°44'19.1136"	78°24'00.2212"
11.	BP11	10°44'22.1843"	78°23'59.0322"
12.	BP12	10°44'21.5856"	78°23'57.1278"
13.	BP13	10°44'18.7129"	78°23'59.3738"
14.	BP14	10°44'18.4452"	78°23'58.7750"
15.	BP15	10°44'22.0622"	78°23'55.3486"
16.	BP16	10°44'27.3699"	78°23'51.5633"
17.	BP17	10°44'30.3670"	78°23'49.3649"
18.	BP18	10°44'31.9039"	78°23'46.5053"
19.	BP19	10°44'35.0590"	78°23'44.1074"
20.	BP20	10°44'36.1809"	78°23'44.3330"
21.	BP21	10°44'36.9039"	78°23'46.5035"
22.	BP22	10°44'37.8367"	78°23'46.5116"
23.	BP23	10°44'37.5837"	78°23'48.6536"
24.	BP24	10°44'32.4315"	78°23'51.6596"
25.	BP25	10°44'32.5483"	78°23'52.6563"

LEGEND

SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	SURVEY FIELD NO.	(120)
3.	BOUNDARY PILLARS	BP1 TO BP25

10°  
44'37.8367"

10°  
44'37.8367"

10°  
44'18.4452"

10°  
44'18.4452"

78° 23'44.1074"

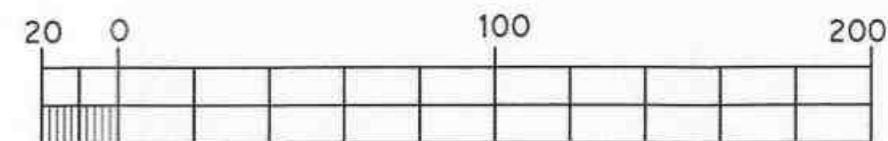
78° 24'03.2847"

DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.



PLATE No.1a

NAGANUR MULTI-COLOUR GRANITE QUARRY  
LEASE PLAN



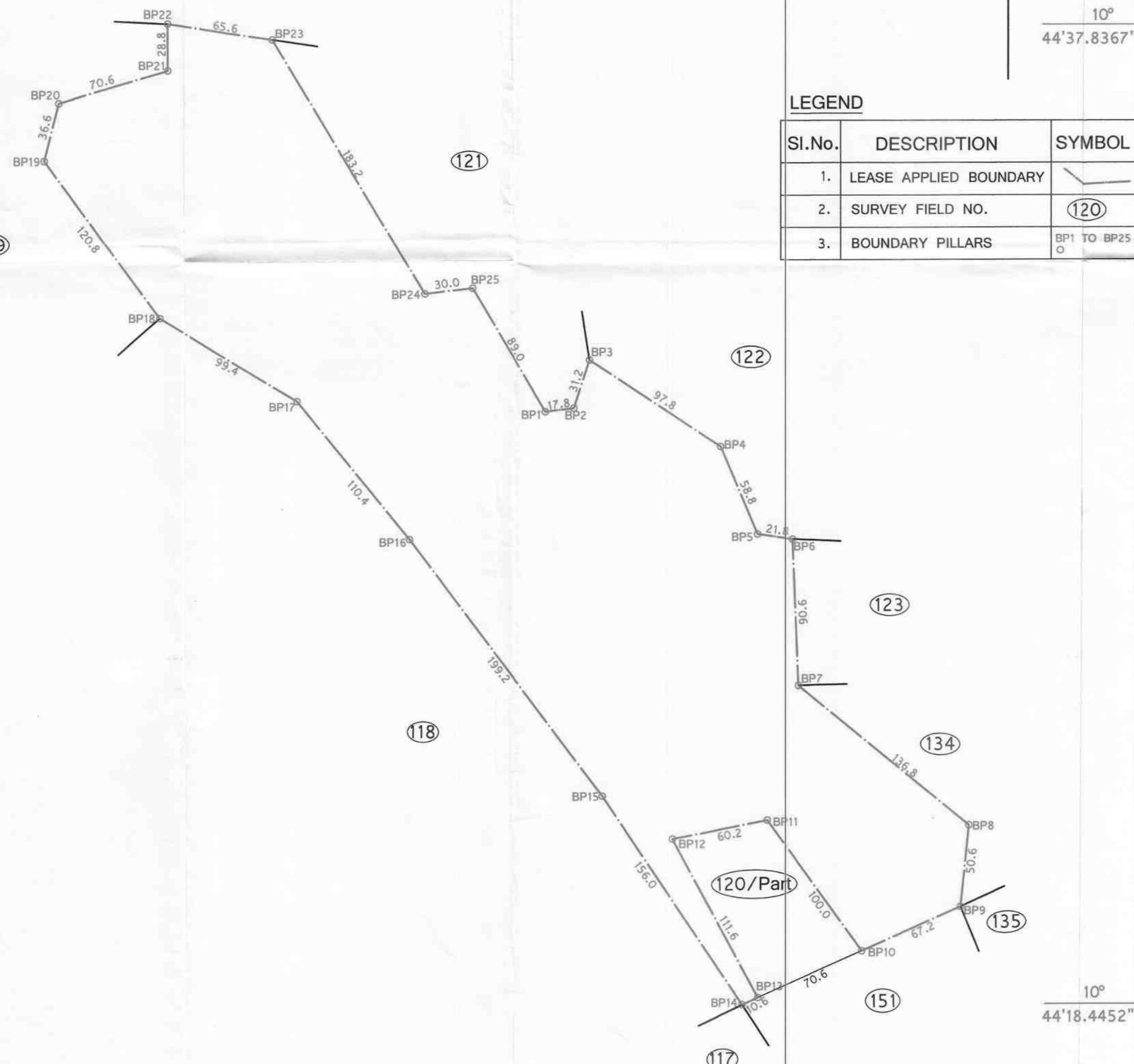
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ALL DIMENSIONS ARE IN METRES

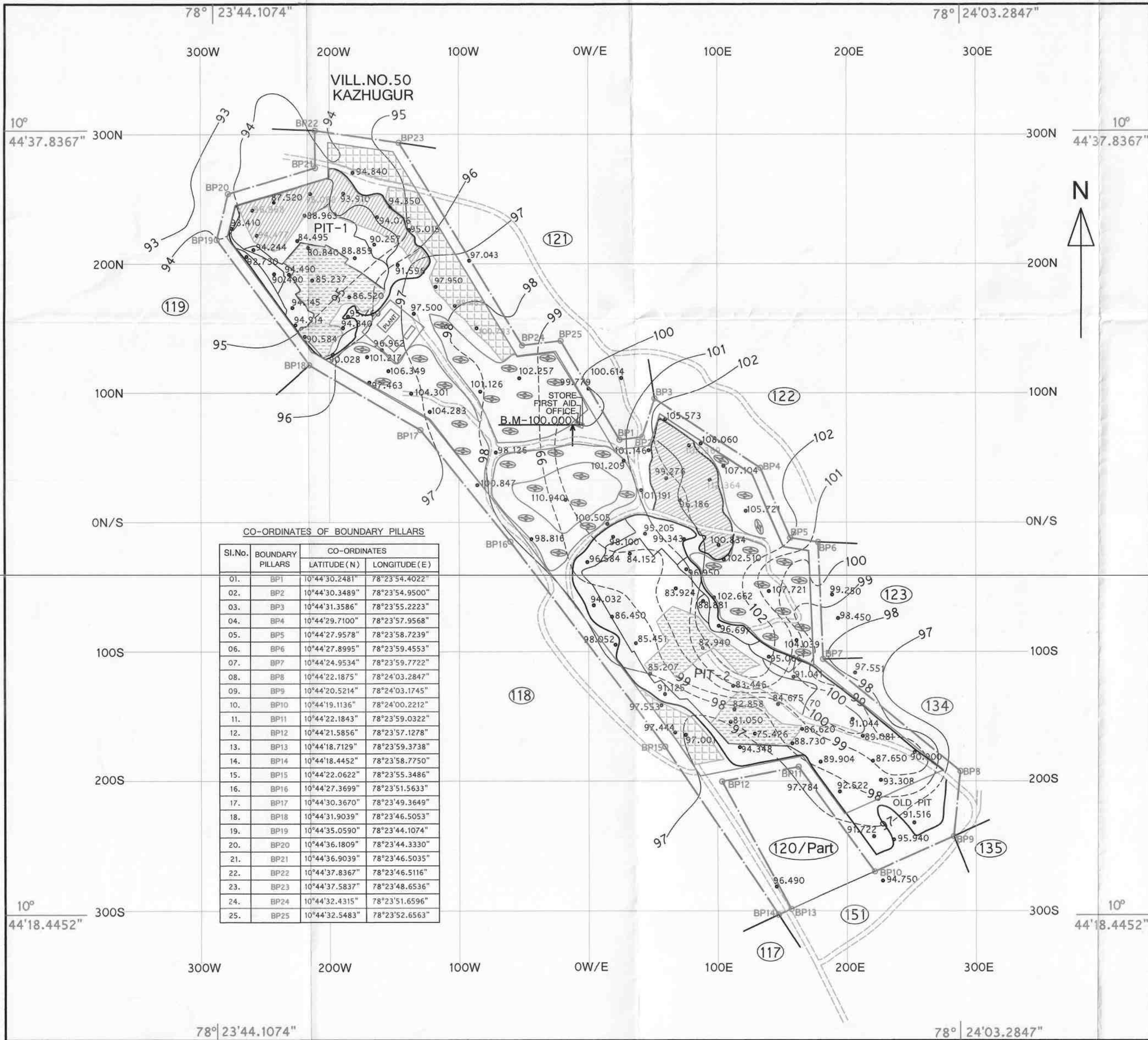
APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

M. RAM SANKAR  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

Dr. E.GANESAN, Ph.D., PGDLP  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.





CO-ORDINATES OF BOUNDARY PILLARS

Sl.No.	BOUNDARY PILLARS	CO-ORDINATES	
		LATITUDE (N)	LONGITUDE (E)
01.	BP1	10°44'30.2481"	78°23'54.4022"
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08.	BP8	10°44'22.1875"	78°24'03.2847"
09.	BP9	10°44'20.5214"	78°24'03.1745"
10.	BP10	10°44'19.1136"	78°24'00.2212"
11.	BP11	10°44'22.1843"	78°23'59.0322"
12.	BP12	10°44'21.5856"	78°23'57.1278"
13.	BP13	10°44'18.7129"	78°23'59.3738"
14.	BP14	10°44'18.4452"	78°23'58.7750"
15.	BP15	10°44'22.0622"	78°23'55.3486"
16.	BP16	10°44'27.3699"	78°23'51.5633"
17.	BP17	10°44'30.3670"	78°23'49.3649"
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23.	BP23	10°44'37.5837"	78°23'48.6536"
24.	BP24	10°44'32.4315"	78°23'51.6596"
25.	BP25	10°44'32.5483"	78°23'52.6563"

**LEGEND**

Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	ASSUMED BENCH MARK	
5.	CONTOUR INTERVAL 1M.	
6.	OPENCAST WORKING PIT	
7.	PIT WATER LOGGED	
8.	WASTE DUMP	
9.	PIT REFILLED	
10.	STOCK YARD	
11.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	

DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.



PLATE No.2

**NAGANUR MULTI-COLOUR GRANITE QUARRY**  
**SURFACE PLAN**  
**MINING PLAN**

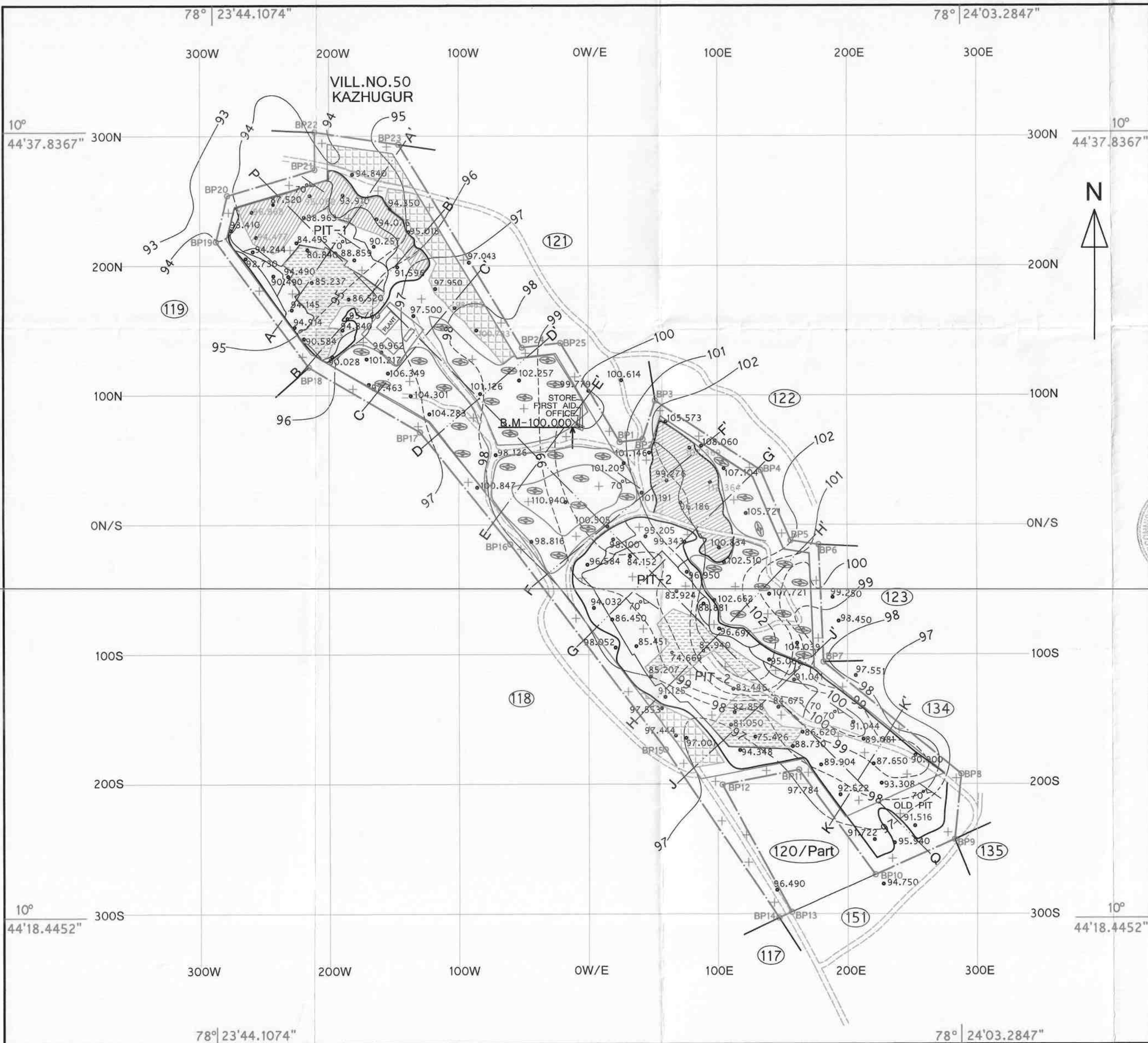
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 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

*Dr. E. Ganesan*  
**Dr. E.GANESAN, Ph.D., PGDLP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



**LEGEND**

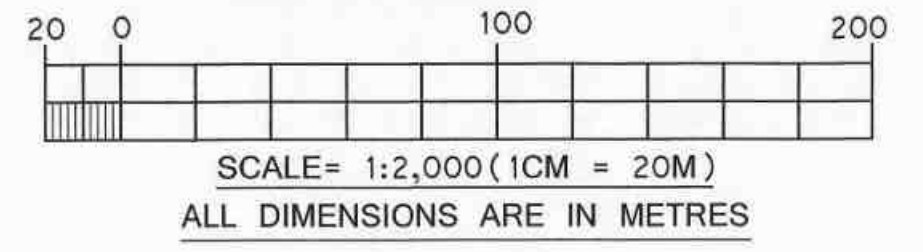
SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	ASSUMED BENCH MARK	
5.	CONTOUR INTERVAL 1M.	
6.	OPENCAST WORKING PIT	
7.	PIT WATER LOGGED	
8.	WASTE DUMP	
9.	PIT REFILLED	
10.	STOCK YARD	
11.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
12.	COLOUR GRANITE DEPOSIT	
13.	DIP AND STRIKE	



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.3

**NAGANUR MULTI-COLOUR GRANITE QUARRY  
 GEOLOGICAL PLAN  
 MINING PLAN**

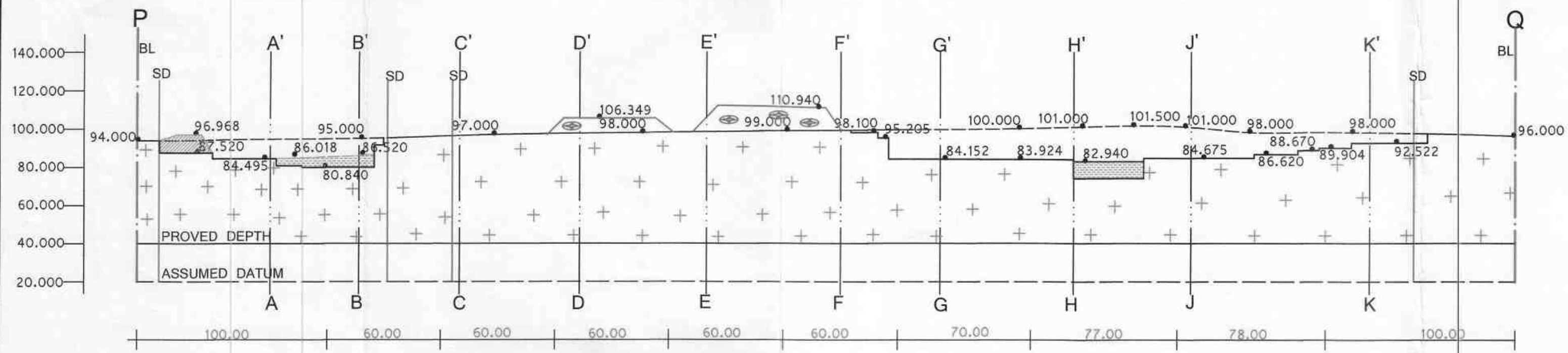


APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

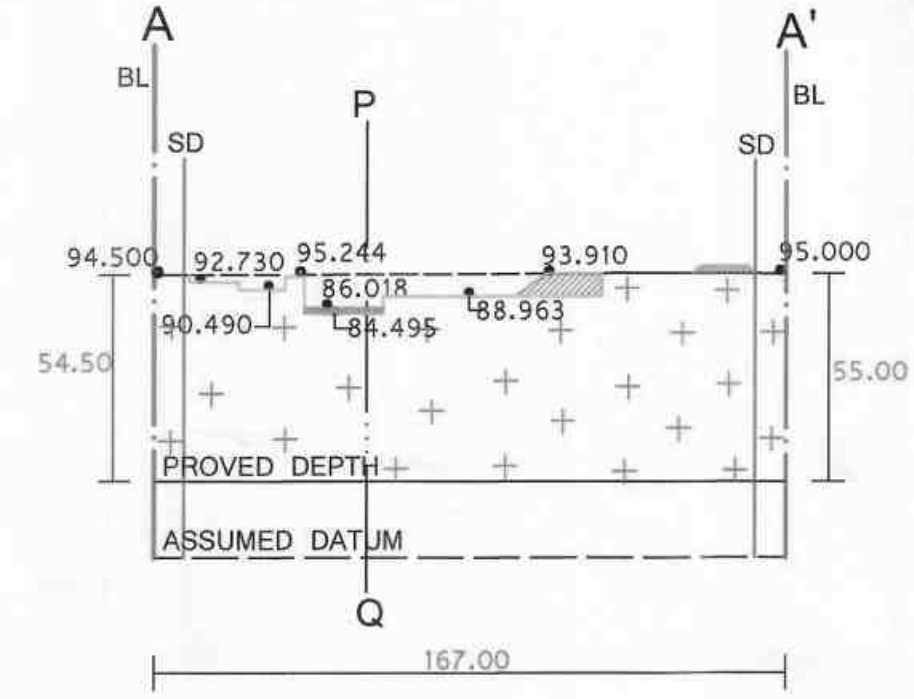
Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

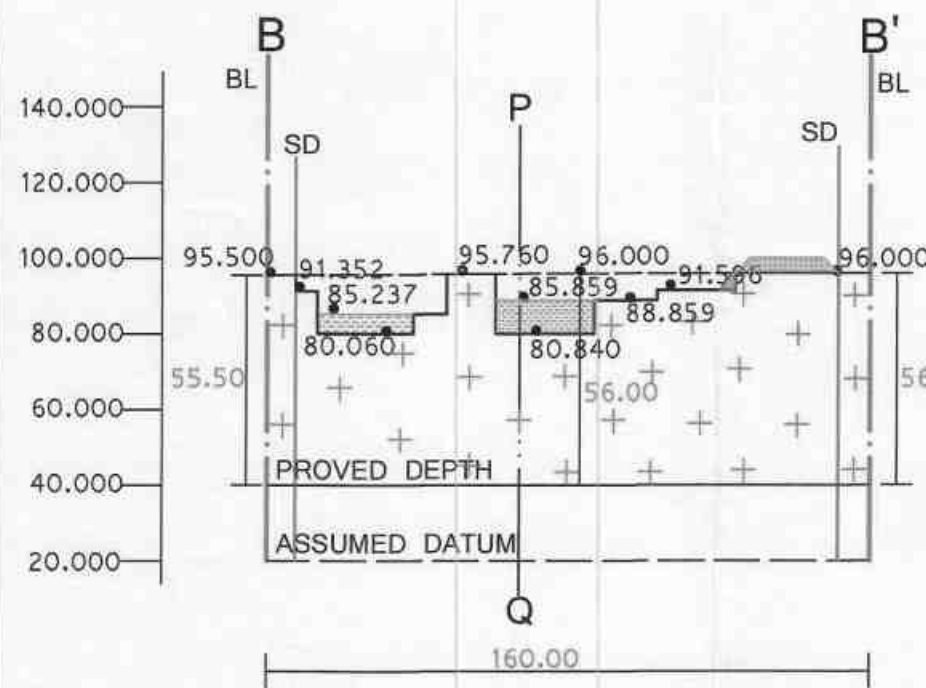
*Dr. E. Ganesan*  
**Dr. E.GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



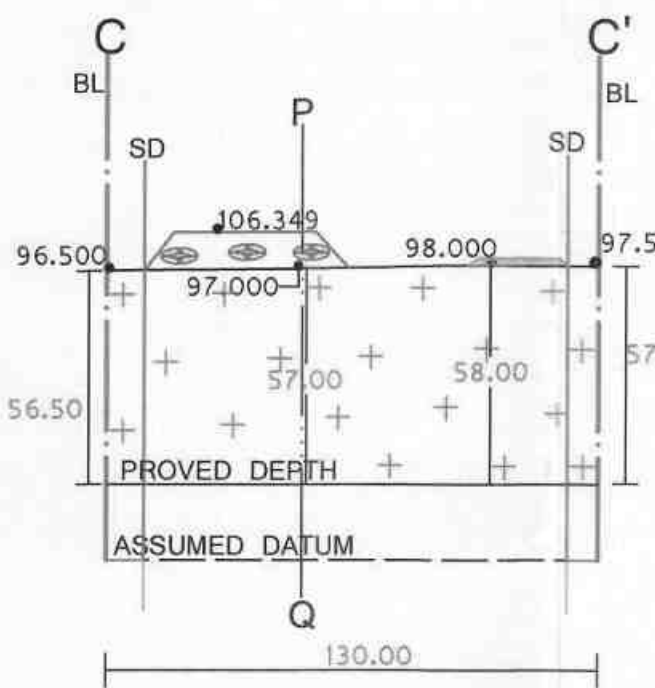
LONGITUDINAL SECTION ON - PQ



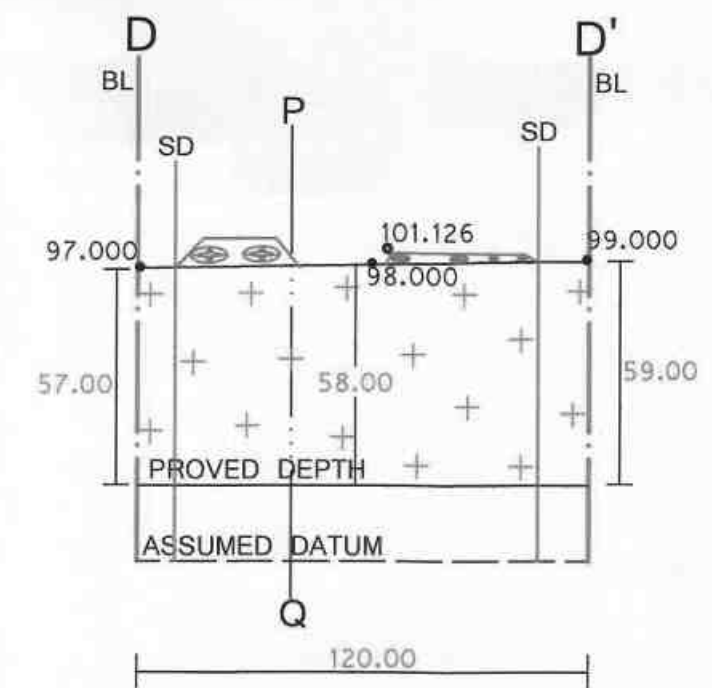
CROSS SECTION ON - AA'



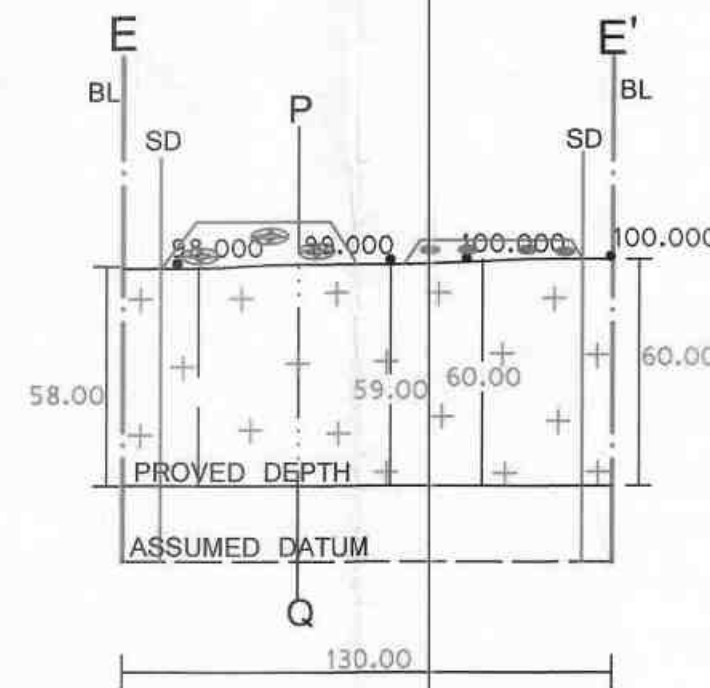
CROSS SECTION ON - BB'



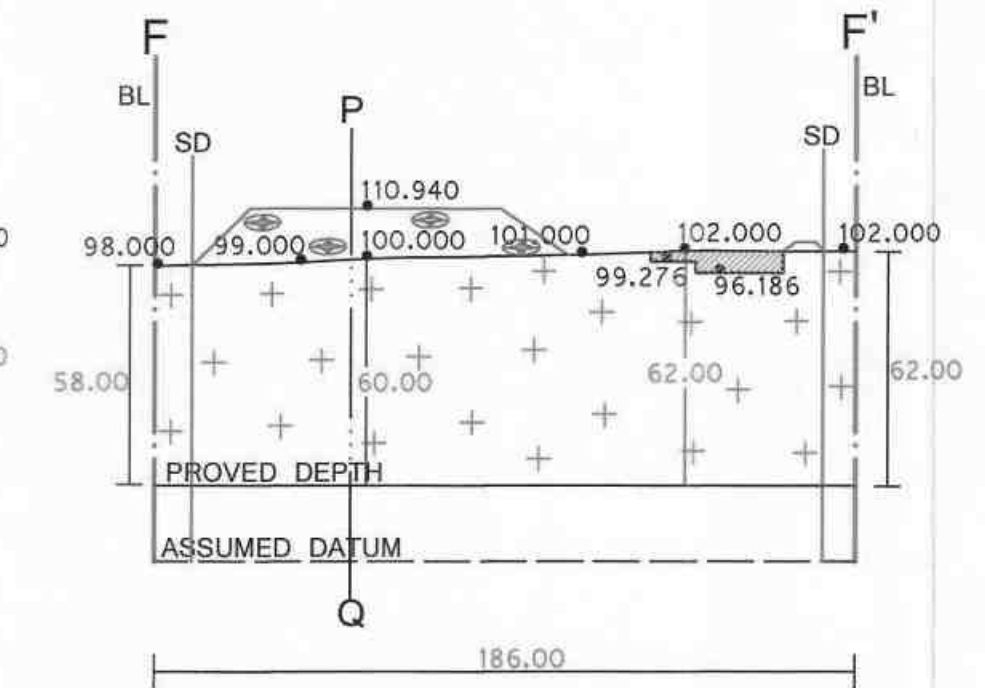
CROSS SECTION ON - CC'



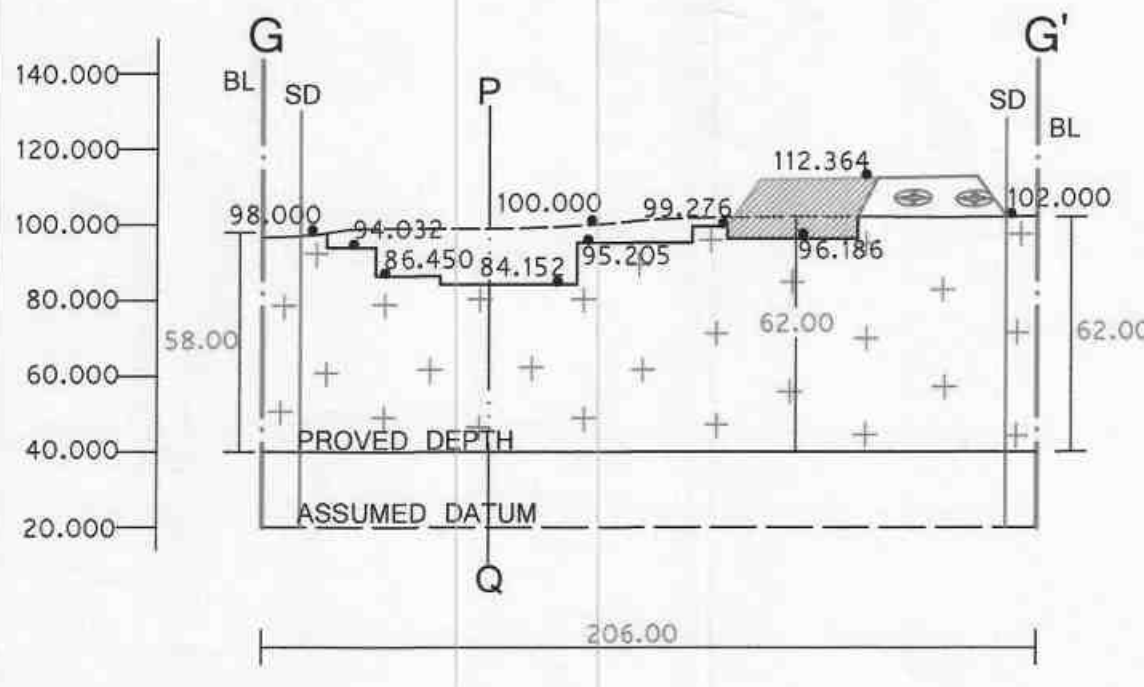
CROSS SECTION ON - DD'



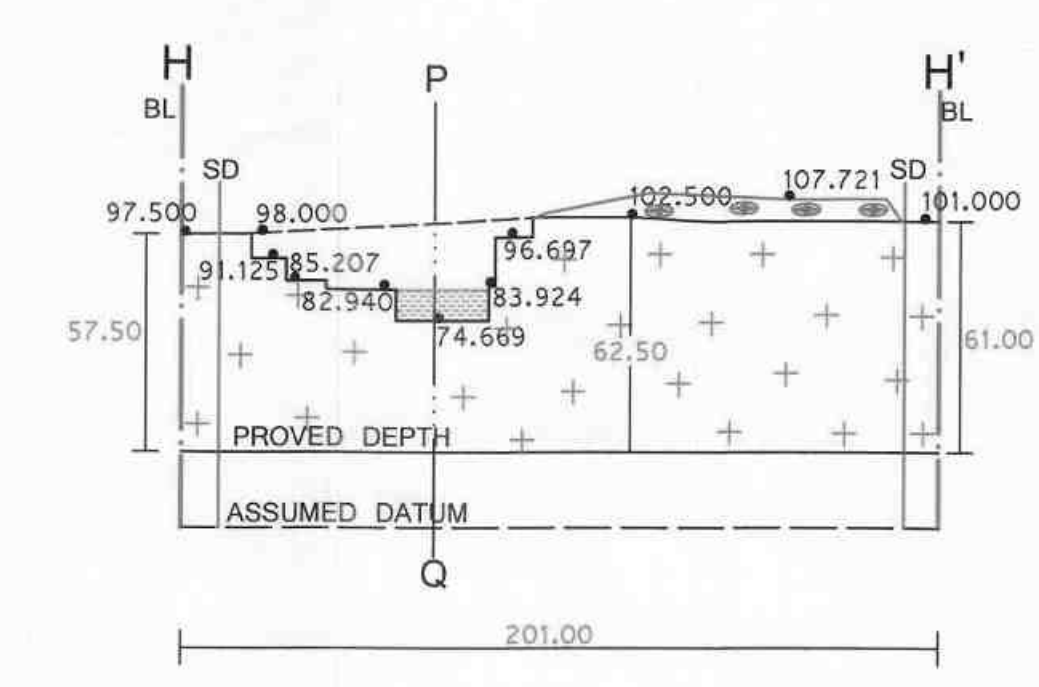
CROSS SECTION ON - EE'



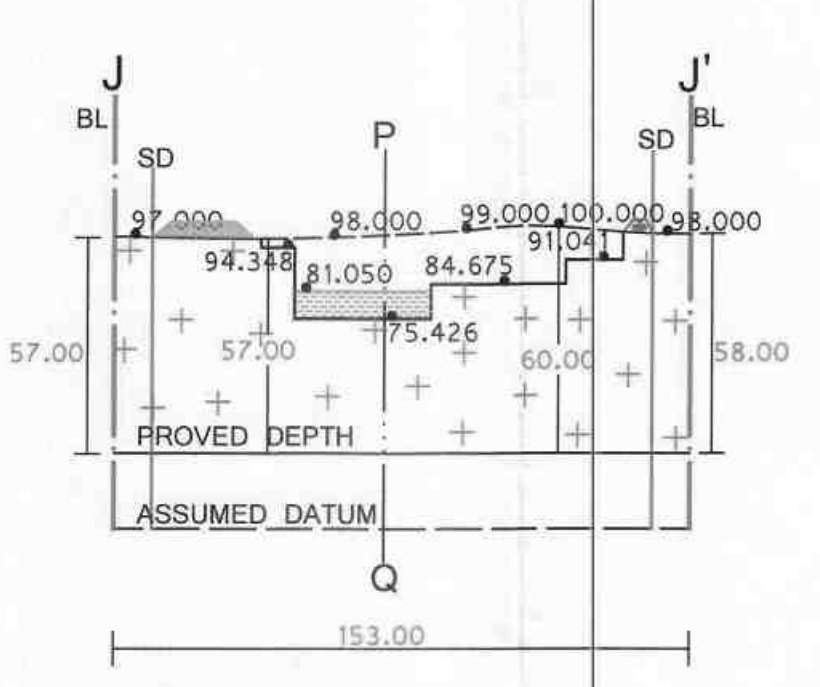
CROSS SECTION ON - FF'



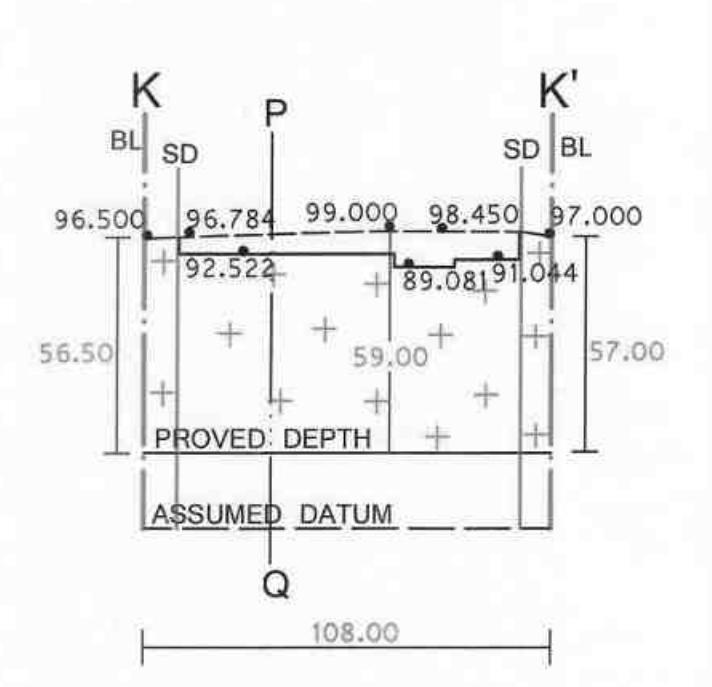
CROSS SECTION ON - GG'



CROSS SECTION ON - HH'



CROSS SECTION ON - JJ'



CROSS SECTION ON - KK'

LEGEND

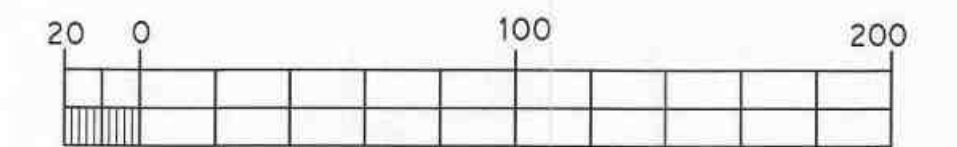
SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	OPENCAST WORKING PIT	⌒
3.	PIT WATER LOGGED	⌒ (with wavy lines)
4.	WASTE DUMP	⌒ (with diagonal lines)
5.	PIT REFILLED	⌒ (with horizontal lines)
6.	STOCK YARD	⌒ (with grid pattern)
7.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM-IN S.F.No.151	
8.	COLOUR GRANITE DEPOSIT	+ + +



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.3a

NAGANUR MULTI-COLOUR GRANITE QUARRY  
 GEOLOGICAL SECTIONS  
 MINING PLAN



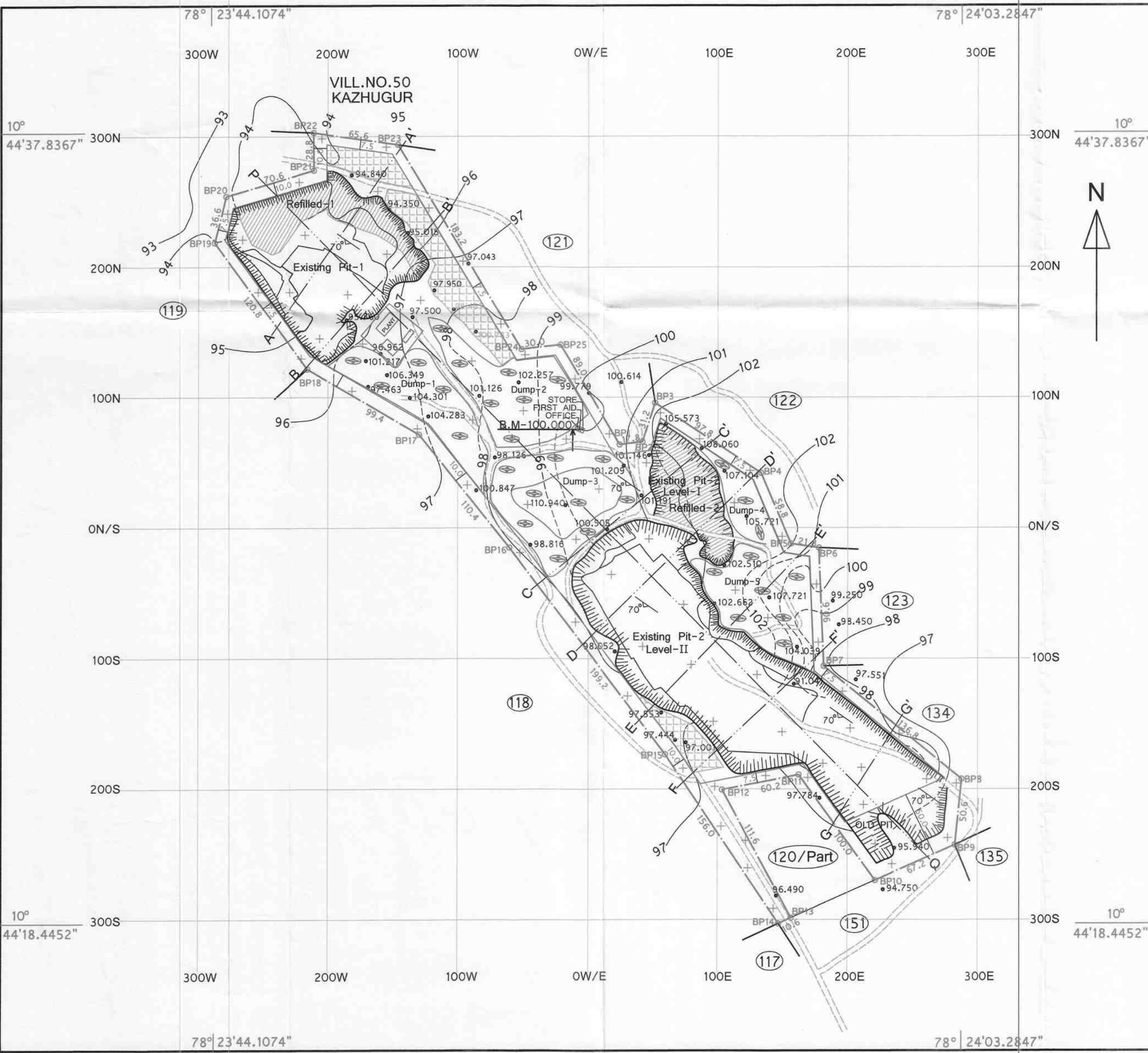
SCALE= 1:2,000 (1CM = 20M)  
 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

*M. Ram Sankar*  
 M. RAM SANKAR  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

*Dr. E. Ganesan*  
 Dr. E.GANESAN, Ph.D., PGDPLP  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



**Existing Pit Details**

Sl.No.	Pit No.	Length in m	Average Width in m	Average Depth in m	Excavated Volume in M <sup>3</sup>
1.	1	117.00	109.99	3.50	45041
2.	2 (Level-I)	108.00	40.00	2.63	11362
	2 (Level-II)	347.00	76.60	5.90	156823
					<b>213226</b>

**Existing Dump & Refilled Details**

Sl.No.	Dump No.	Length in m	Average Width in m	Average Depth in m	Dumped Volume in M <sup>3</sup>
1.	1	134.00	35.00	5.00	23450
2.	2	132.00	42.00	3.40	18850
3.	3	76.00	91.00	8.50	58786
4.	4	140.00	13.39	4.70	8811
5.	5	91.00	61.00	2.75	15265
<b>TOTAL</b>					<b>125162</b>

Sl.No.	Refilled No.	Length in m	Average Width in m	Average Depth in m	Refilled Volume in M <sup>3</sup>
1.	1	166.00	22.00	4.00	14608
2.	2	108.00	40.00	7.00	30240
<b>TOTAL</b>					<b>44848</b>
<b>GRAND TOTAL</b>					<b>170010</b>

**Excavation Details:**

Excavated Volume in M <sup>3</sup>	Permit Qty in M <sup>3</sup>	Stock	Dump & Refilled	Difference Qty
213226	24200.444	18563.58	170010	451.976 (0.212%)

**Note:**  
The difference of 451.976 Cbm @ (0.212%) might have been reduced due to mining loss i.e. drilling waste, dressing waste, fragmentation used in the haul road and voids.

**LEGEND**

Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	ASSUMED BENCH MARK	
5.	CONTOUR INTERVAL 1M.	
6.	OPENCAST WORKING PIT	
7.	PIT WATER LOGGED	
8.	WASTE DUMP	
9.	PIT REFILLED	
10.	STOCK YARD	
11.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
12.	COLOUR GRANITE DEPOSIT	
13.	DIP AND STRIKE	

DISTRICT : KARUR  
TALUK : KULITHALAI  
VILLAGE NAME : NAGANUR  
VILLAGE No. : 54  
FIELD No. : 120 Part  
LEASE HOLD AREA : 10.12.0Ha.

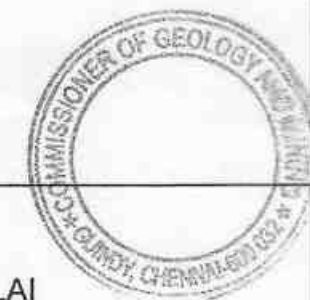
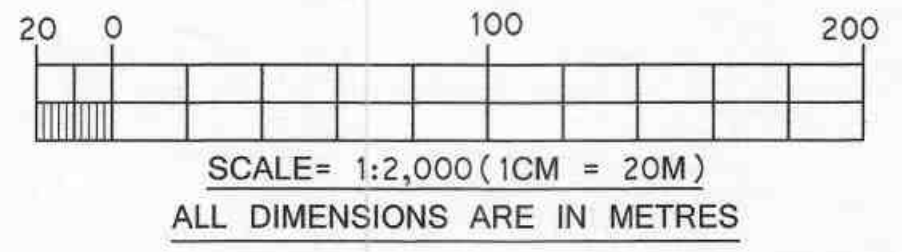


PLATE No.3/1  
**NAGANUR MULTI-COLOUR GRANITE QUARRY  
SURFACE & GEOLOGICAL PLAN  
MINING PLAN**



APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
No.31, KAMARAJAR SALAI,  
CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

**M. RAM SANKAR**  
Mines Surveyor  
Certificate No: SVR/789.  
Tamil Nadu Minerals Limited.

**Dr. E. GANESAN, Ph.D., PGDCLP**  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.

LEGEND

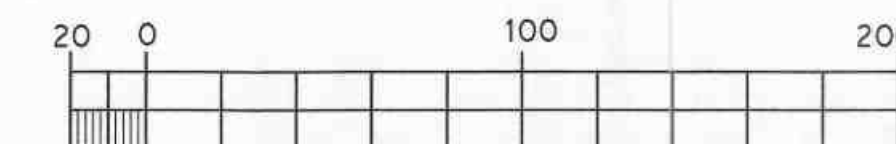
SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	OPENCAST WORKING PIT	⌋
3.	PIT WATER LOGGED	⌋ (with wavy lines)
4.	WASTE DUMP	⌋ (with dots)
5.	PIT REFILLED	⌋ (with diagonal lines)
6.	STOCK YARD	⌋ (with grid pattern)
7.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
8.	COLOUR GRANITE DEPOSIT	+ + +



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.3a/1

NAGANUR COLOUR GRANITE QUARRY  
 GEOLOGICAL SECTIONS  
 MINING PLAN



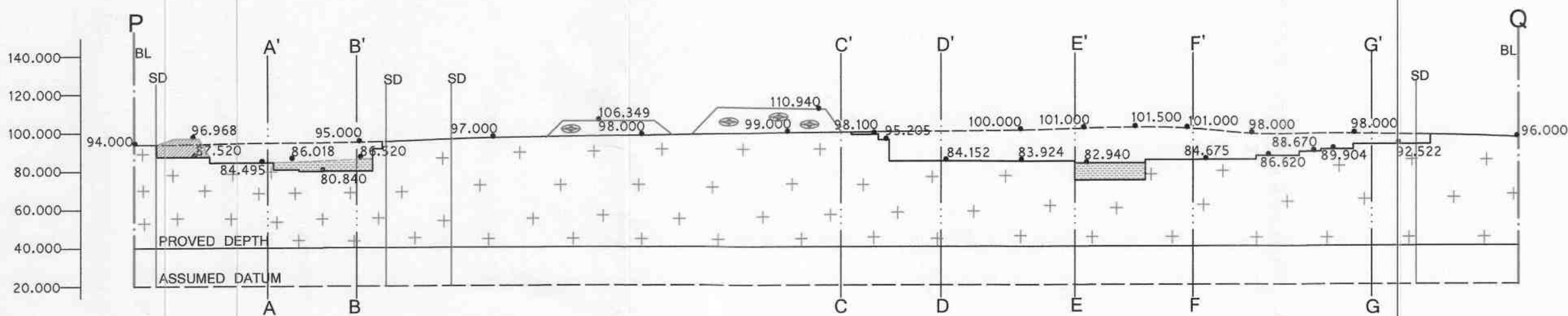
SCALE= 1:2,000 (1CM = 20M)  
 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

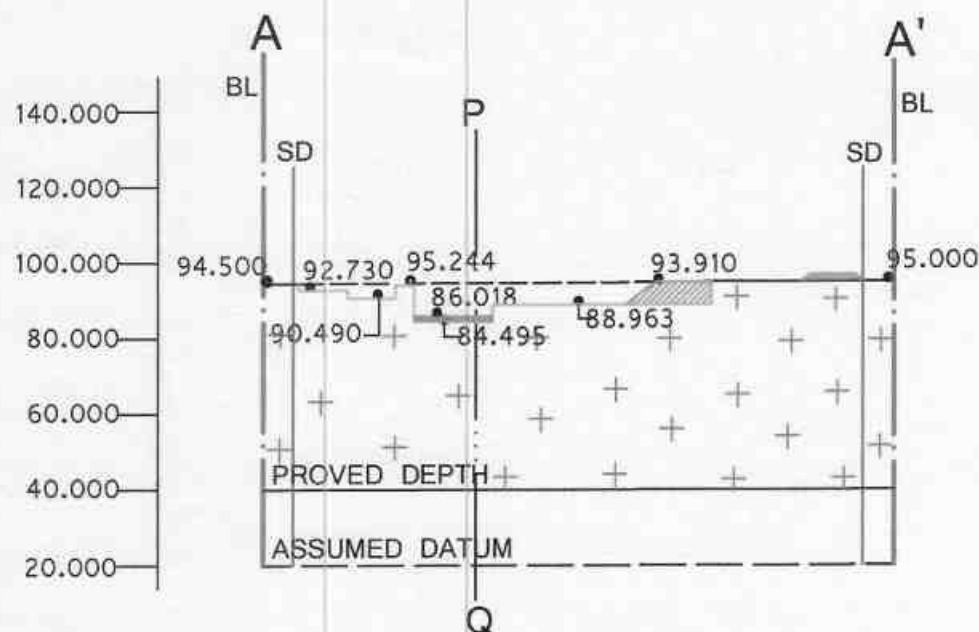
Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

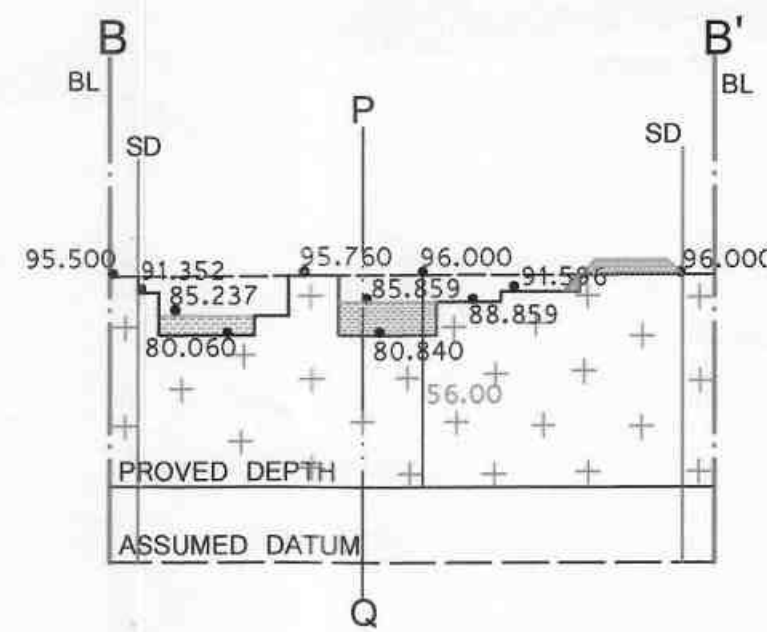
*Dr. E. Ganesan*  
**Dr. E. GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



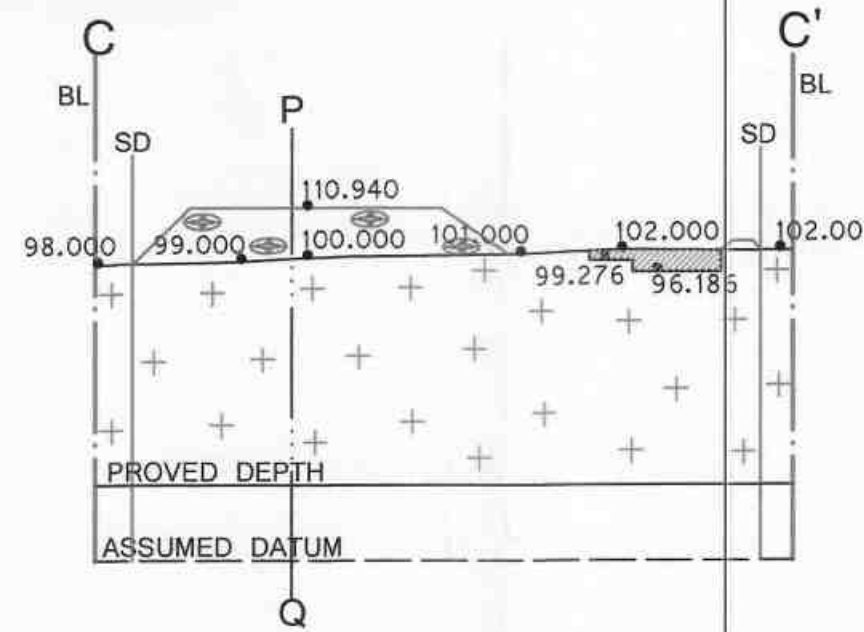
LONGITUDINAL SECTION ON - PQ



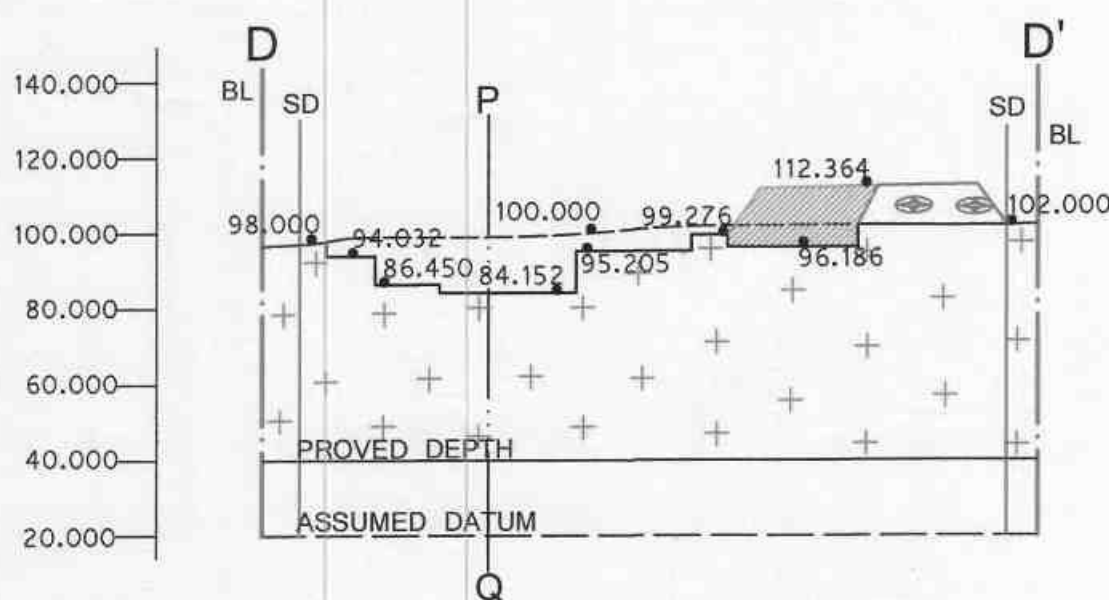
CROSS SECTION ON - AA'



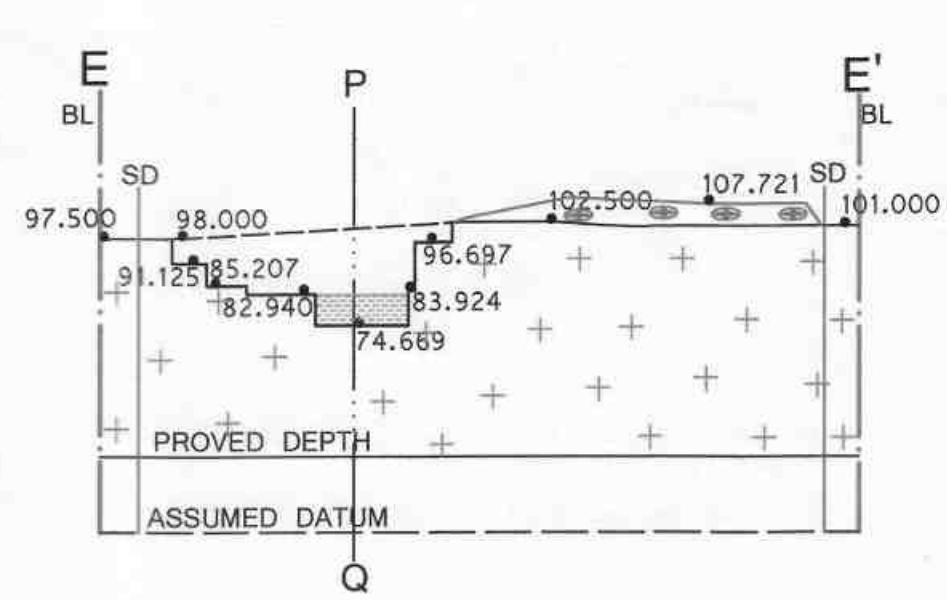
CROSS SECTION ON - BB'



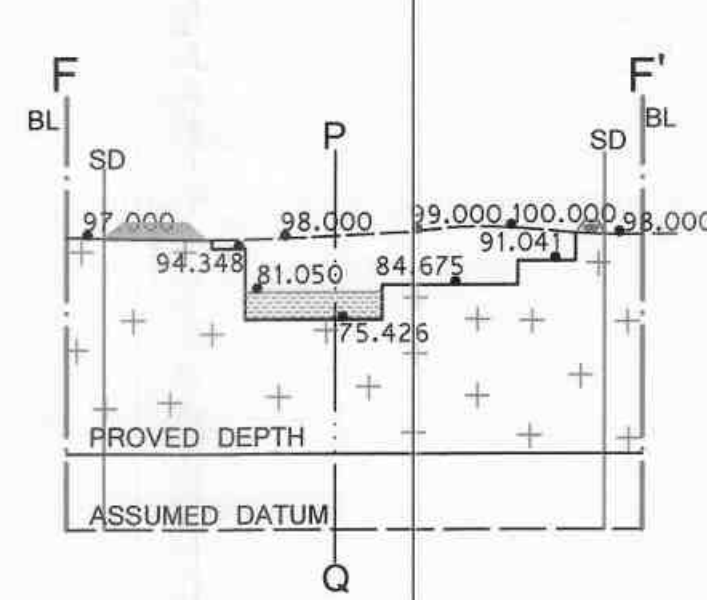
CROSS SECTION ON - CC'



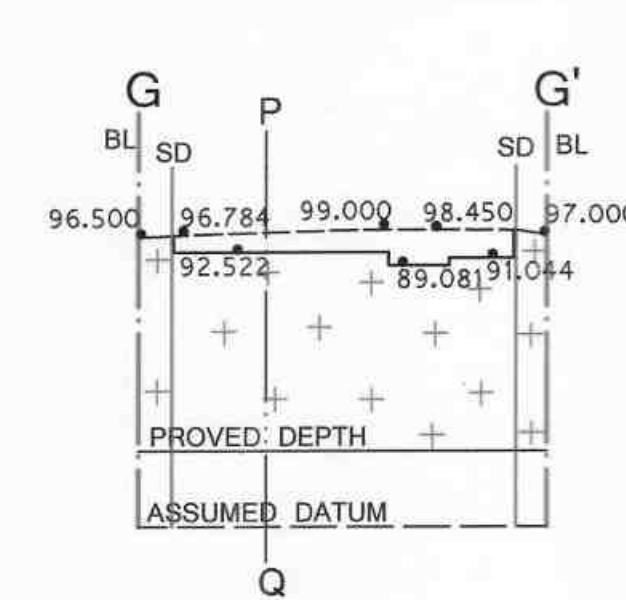
CROSS SECTION ON - DD'



CROSS SECTION ON - EE'

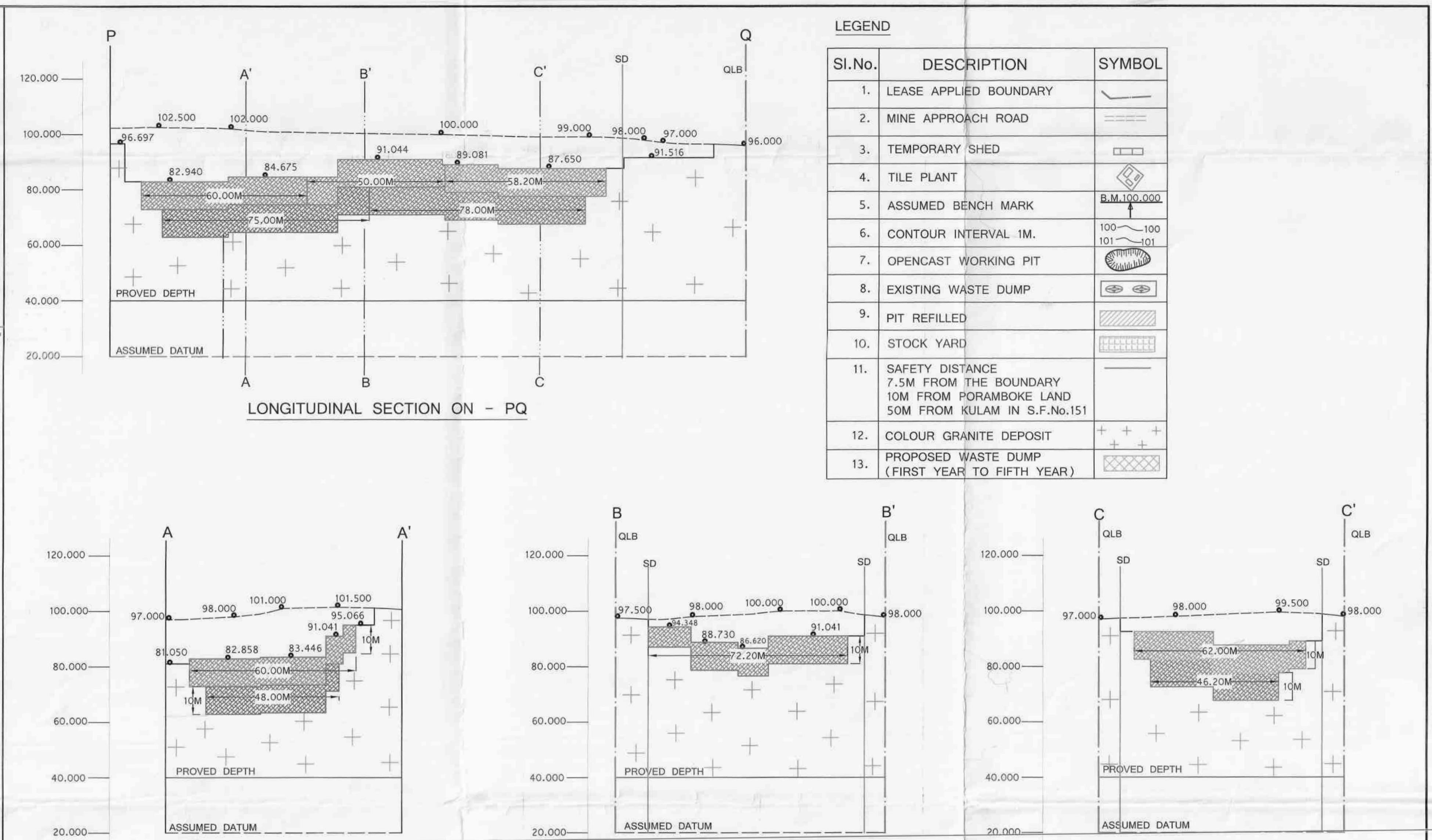
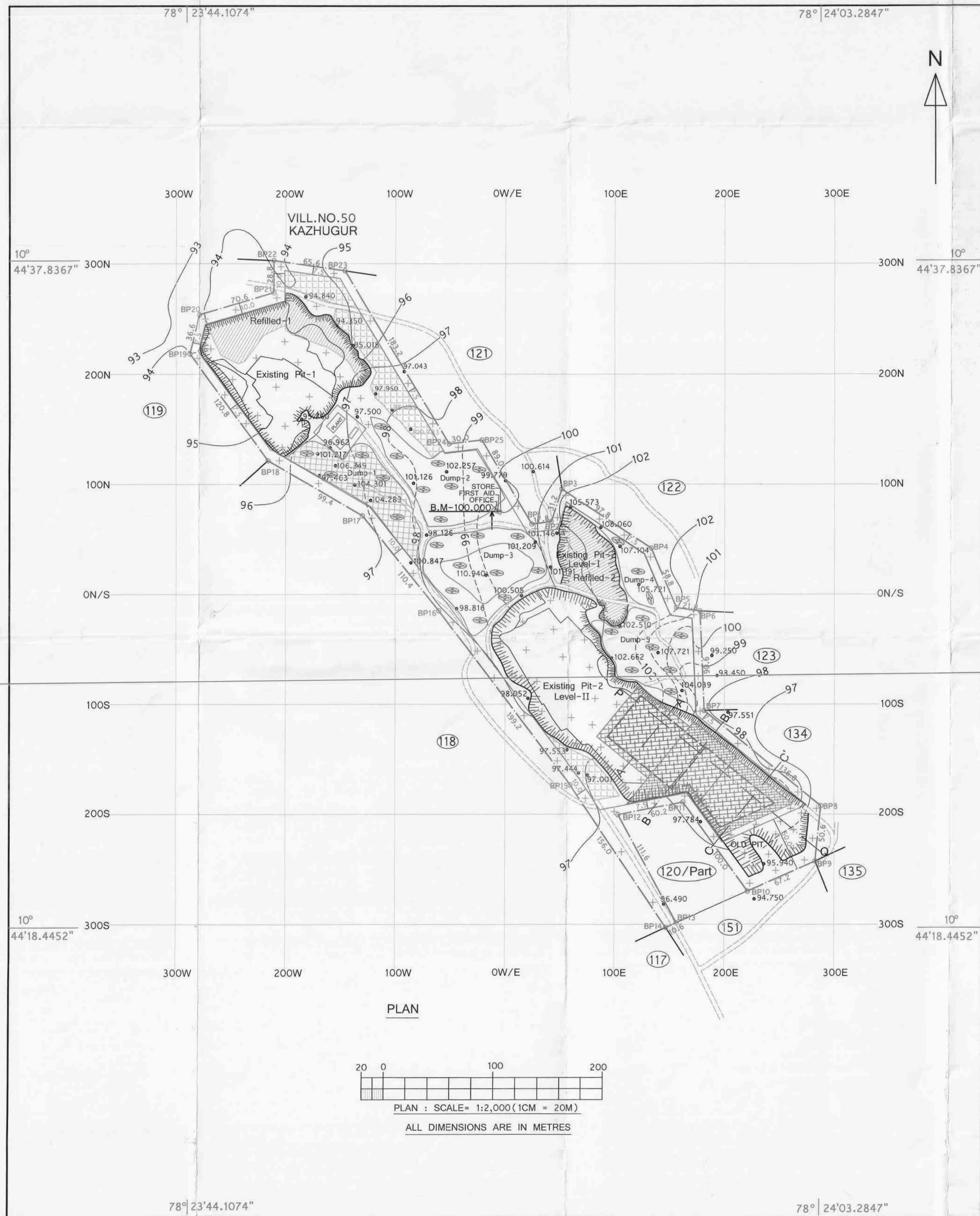


CROSS SECTION ON - FF'



CROSS SECTION ON - GG'





**DETAILS OF DEPTH AND BENCH**

Section	YEAR	Bench	Present Depth in (m)	Proposed Depth in (m)	Remaining Depth in (m)	Total Depth in (m)
PQ-AA'	First Year	I	5.90	10.00	42.10	58.00
PQ-BB'	Second Year	I	5.90	10.00	42.10	58.00
PQ-CC'	Third Year	I	5.90	10.00	42.10	58.00
PQ-AA'	Fourth Year	I	15.90	10.00	32.10	58.00
PQ-CC'	Fifth Year	I	15.90	10.00	32.10	58.00

**PRODUCTION**

FOR THE FIRST YEAR

FOR THE SECOND YEAR

FOR THE THIRD YEAR

FOR THE FOURTH YEAR

FOR THE FIFTH YEAR

**FIRST YEAR TO FIFTH YEAR PRODUCTION DETAILS**

Section	YEAR	Bench	Length in (m)	Width in (m)	Depth in (m)	Rom in m <sup>3</sup>	Production Reserves in m <sup>3</sup>	Proposed Salable CG @ 25% in m <sup>3</sup>	Proposed CG Rejects @ 75% in m <sup>3</sup>	Side Burden in m <sup>3</sup>	Top Soil in m <sup>3</sup>	Weathered Rock in m <sup>3</sup>
PQ-AA'	First Year	I	60.00	60.00	10.00	36000	36000	9000.000	27000.000	Nil	Nil	Nil
PQ-BB'	Second Year	I	50.00	72.20	10.00	36100	36100	9025.000	27075.000	Nil	Nil	Nil
PQ-CC'	Third Year	I	58.20	62.00	10.00	36084	36084	9021.000	27063.000	Nil	Nil	Nil
PQ-AA'	Fourth Year	I	75.00	48.00	10.00	36000	36000	9000.000	27000.000	Nil	Nil	Nil
PQ-CC'	Fifth Year	I	78.00	46.20	10.00	36036	36036	9009.000	27027.000	Nil	Nil	Nil
<b>GRAND TOTAL</b>						<b>180220</b>	<b>180220</b>	<b>45055.000</b>	<b>135165.000</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>

DISTRICT : KARUR  
TALUK : KULITHALAI  
VILLAGE NAME : NAGANUR  
VILLAGE No. : 54  
FIELD No. : 120 Part  
LEASE HOLD AREA : 10.12.0Ha.

DIPLOMA IN MINING ENGINEERING OF PONDICHERRY UNIVERSITY

PLATE No.4/1

**NAGANUR MULTI COLOUR GRANITE QUARRY  
YEARWISE PRODUCTION & DEVELOPMENT  
PLAN AND SECTIONS FOR FIVE YEARS(BLOCK-I)  
(FIRST YEAR TO FIFTH YEAR)**

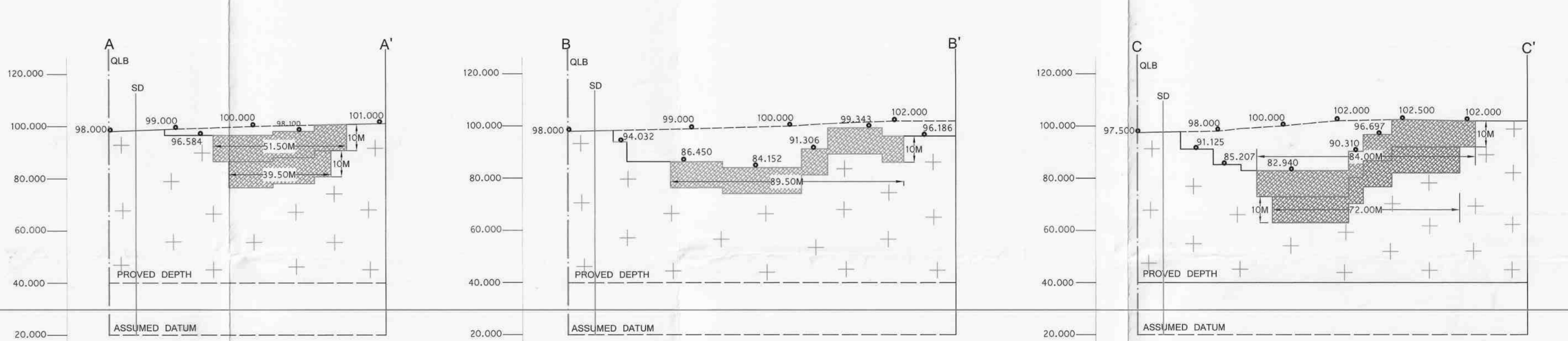
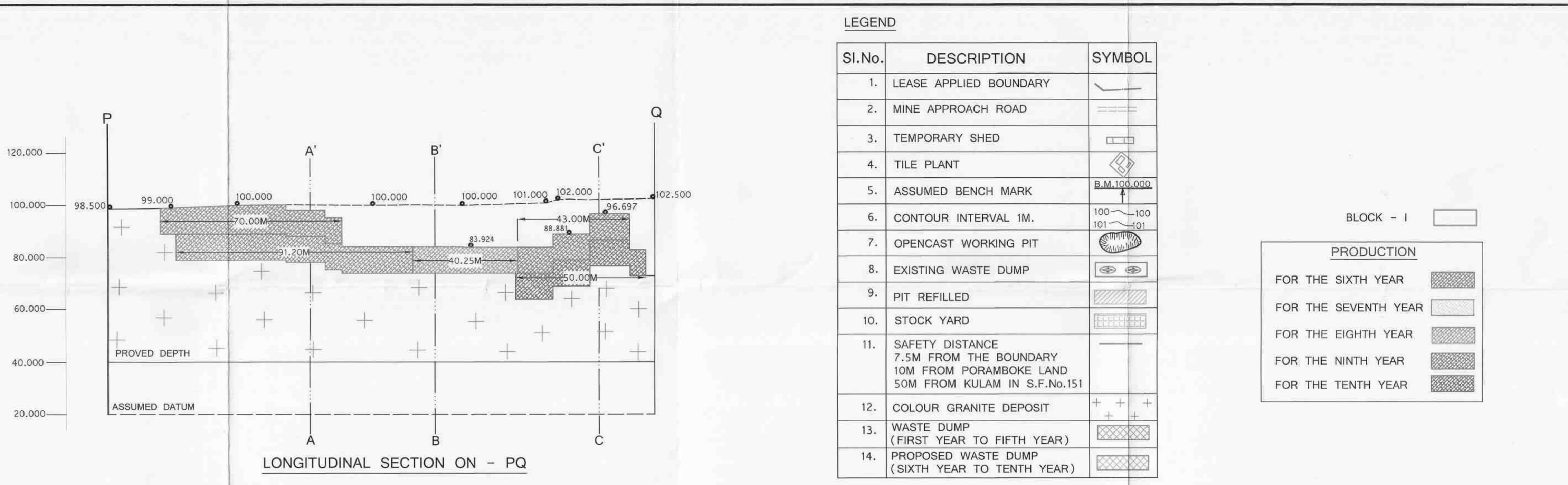
**MINING PLAN**

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
No.31, KAMARAJAR SALAI,  
CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN & SECTIONS is Correct.

**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

**Dr. E.GANESAN, Ph.D., PGDPLP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.

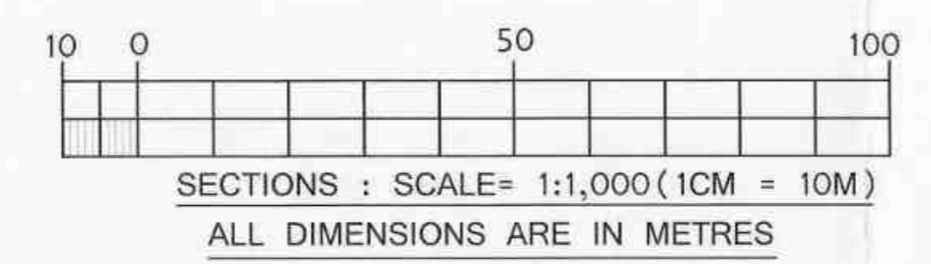


**DETAILS OF DEPTH AND BENCH**

Section	YEAR	Bench	Present Depth in (m)	Proposed Depth in (m)	Remaining Depth in (m)	Total Depth in (m)
PQ-AA'	Sixth Year	I	0	10.00	48.00	58.00
PQ-AA'	Seventh Year	I	10.00	10.00	38.00	58.00
PQ-BB'	Eighth Year	I	5.90	10.00	42.10	58.00
PQ-CC'	Ninth Year	I	5.90	10.00	42.10	58.00
PQ-CC'	Tenth Year	I	15.90	10.00	32.10	58.00

**SIXTH YEAR TO TENTH YEAR PRODUCTION DETAILS**

Section	YEAR	Bench	Length in (m)	Width in (m)	Depth in (m)	Rom in m <sup>3</sup>	Production Reserves in m <sup>3</sup>	Proposed Salable CG @ 25% in m <sup>3</sup>	Proposed CG Rejects @ 75% in m <sup>3</sup>	Side Burden in m <sup>3</sup>	Top Soil in m <sup>3</sup>	Weathered Rock in m <sup>3</sup>
PQ-AA'	Sixth Year	I	70.00	51.50	10.00	36050	36050	9012.500	27037.500	Nil	Nil	Nil
PQ-AA'	Seventh Year	I	91.20	39.50	10.00	36024	36024	9006.000	27018.000	Nil	Nil	Nil
PQ-BB'	Eighth Year	I	40.25	89.50	10.00	36024	36024	9006.000	27018.000	Nil	Nil	Nil
PQ-CC'	Ninth Year	I	43.00	84.00	10.00	36120	36120	9030.000	27090.000	Nil	Nil	Nil
PQ-CC'	Tenth Year	I	50.00	72.00	10.00	36000	36000	9000.000	27000.000	Nil	Nil	Nil
<b>GRAND TOTAL</b>						<b>180218</b>	<b>180218</b>	<b>45054.500</b>	<b>135163.500</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>



DISTRICT : KARUR  
TALUK : KULITHALAI  
VILLAGE NAME : NAGANUR  
VILLAGE No. : 54  
FIELD No. : 120 Part  
LEASE HOLD AREA : 10.12.0Ha.

**NAGANUR MULTI COLOUR GRANITE QUARRY  
YEARWISE PRODUCTION & DEVELOPMENT  
PLAN AND SECTIONS FOR FIVE YEARS (BLOCK-II)  
(SIXTH YEAR TO TENTH YEAR)  
MINING PLAN**

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
No.31, KAMARAJAR SALAI,  
CHEPAUK, CHENNAI - 600 005.

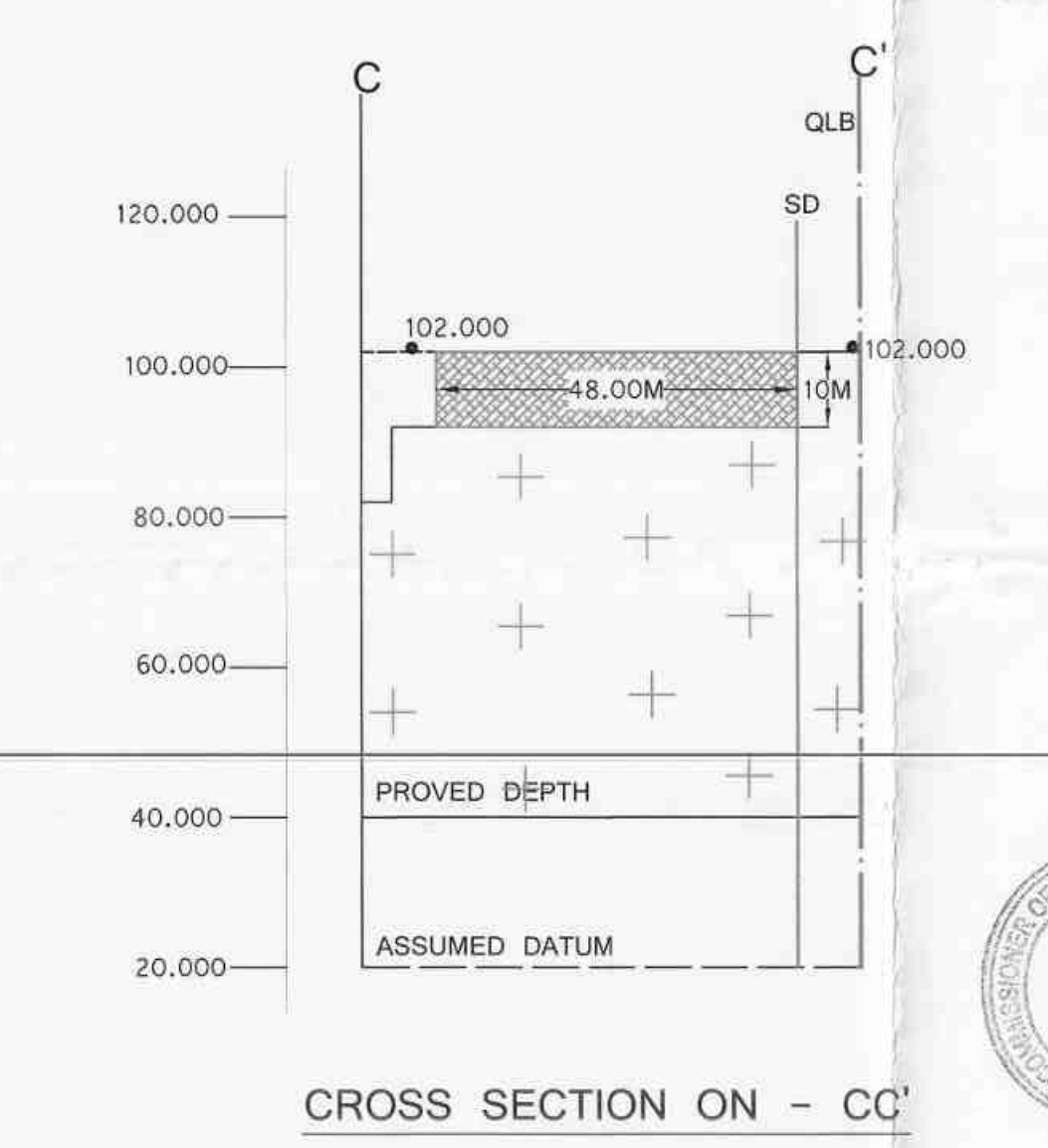
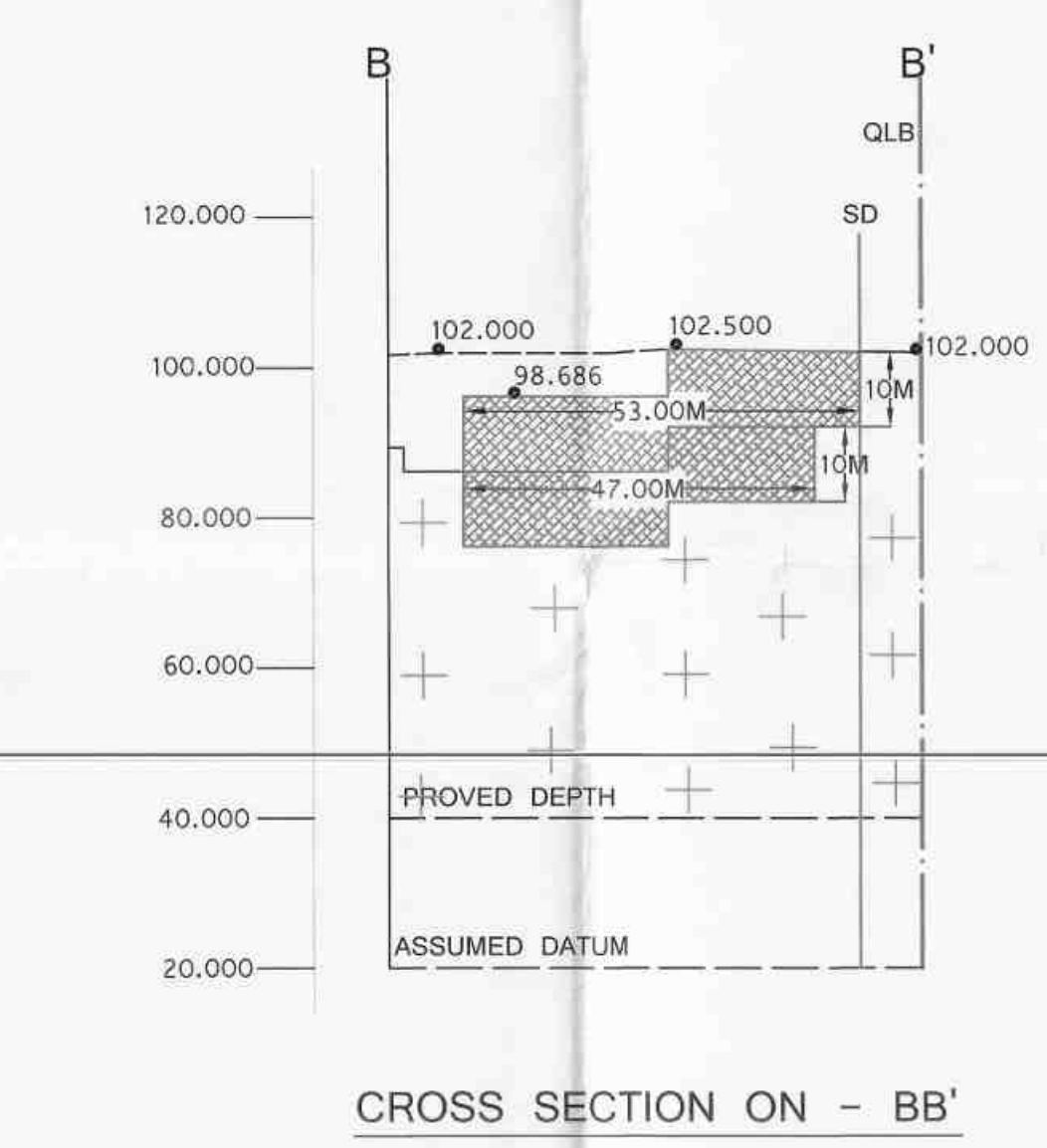
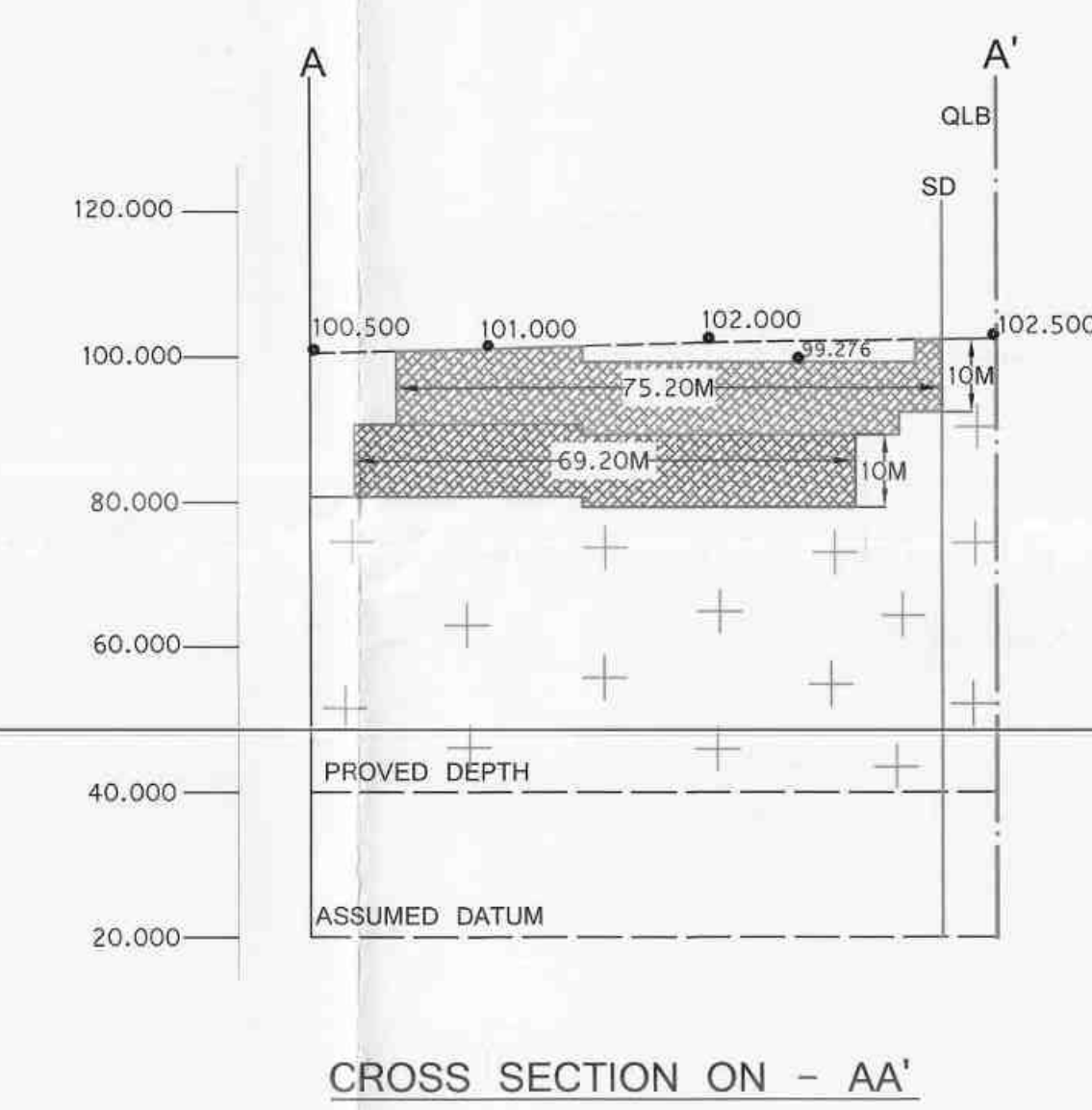
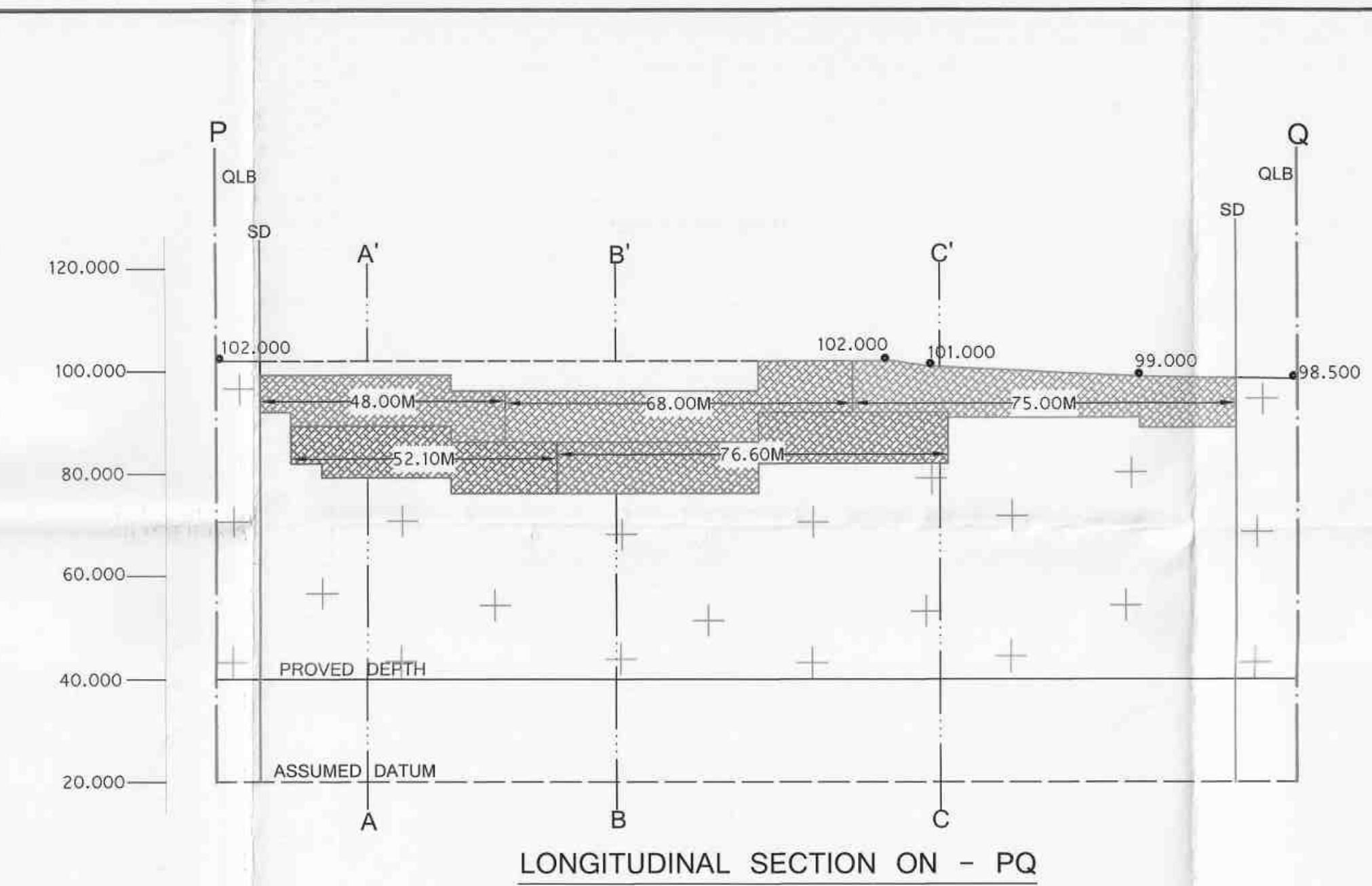
Certified that the PLAN & SECTIONS is Correct.

**M. RAM SANKAR**  
Mines Surveyor  
Certificate No: SVR/789.  
Tamil Nadu Minerals Limited.

**Dr. E.GANESAN, Ph.D., PGD&EP**  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.

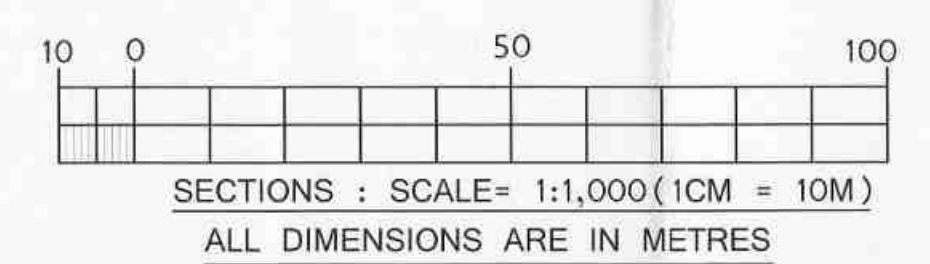


PLATE No.4/2



DETAILS OF DEPTH AND BENCH						
Section	YEAR	Bench	Present Depth in (m)	Proposed Depth in (m)	Remaining Depth in (m)	Total Depth in (m)
PQ-AA'	Eleventh Year	I	2.63	10.00	45.37	58.00
PQ-BB'	Twelfth Year	I	2.63	10.00	45.37	58.00
PQ-CC'	Thirteenth Year	I	0	10.00	48.00	58.00
PQ-DD'	Fourteenth Year	I	12.63	10.00	35.37	58.00
PQ-EE'	Fifteenth Year	I	12.63	10.00	35.37	58.00

ELEVENTH YEAR TO FIFTEENTH YEAR PRODUCTION DETAILS												
Section	YEAR	Bench	Length in (m)	Width in (m)	Depth in (m)	Rom in m <sup>3</sup>	Production Reserves in m <sup>3</sup>	Proposed Satellite CG @ 25% in m <sup>3</sup>	Proposed CG Projects @ 75% in m <sup>3</sup>	Side Burden in m <sup>3</sup>	Top Soil in m <sup>3</sup>	Weathered Rock in m <sup>3</sup>
PQ-AA'	Eleventh Year	I	48.00	75.20	10.00	36096	36096	9024.000	27072.000	Nil	Nil	Nil
PQ-BB'	Twelfth Year	I	68.00	53.00	10.00	36040	36040	9010.000	27030.000	Nil	Nil	Nil
PQ-CC'	Thirteenth Year	I	75.00	48.00	10.00	36000	36000	9000.000	27000.000	Nil	Nil	Nil
PQ-AA'	Fourteenth Year	I	52.10	69.20	10.00	36053	36053	9013.250	27039.750	Nil	Nil	Nil
PQ-BB'	Fifteenth Year	I	76.60	47.00	10.00	36002	36002	9000.500	27001.500	Nil	Nil	Nil
GRAND TOTAL						180191	180191	45047.750	135143.250	Nil	Nil	Nil



Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	TILE PLANT	
5.	ASSUMED BENCH MARK	
6.	CONTOUR INTERVAL 1M.	
7.	OPENCAST WORKING PIT	
8.	EXISTING WASTE DUMP	
9.	STOCK YARD	
10.	PIT REFILLED	
11.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
12.	COLOUR GRANITE DEPOSIT	
13.	WASTE DUMP (FIRST YEAR TO FIFTH YEAR)	
14.	WASTE DUMP (SIXTH YEAR TO TENTH YEAR)	
15.	PROPOSED WASTE DUMP (ELEVENTH YEAR TO FIFTEENTH YEAR)	

PRODUCTION	
FOR THE ELEVENTH YEAR	
FOR THE TWELTH YEAR	
FOR THE THIRTEENTH YEAR	
FOR THE FOURTEENTH YEAR	
FOR THE FIFTEENTH YEAR	



DISTRICT : KARUR  
TALUK : KULITHALAI  
VILLAGE NAME : NAGANUR  
VILLAGE No. : 54  
FIELD No. : 120 Part  
LEASE HOLD AREA : 10.12.0Ha.

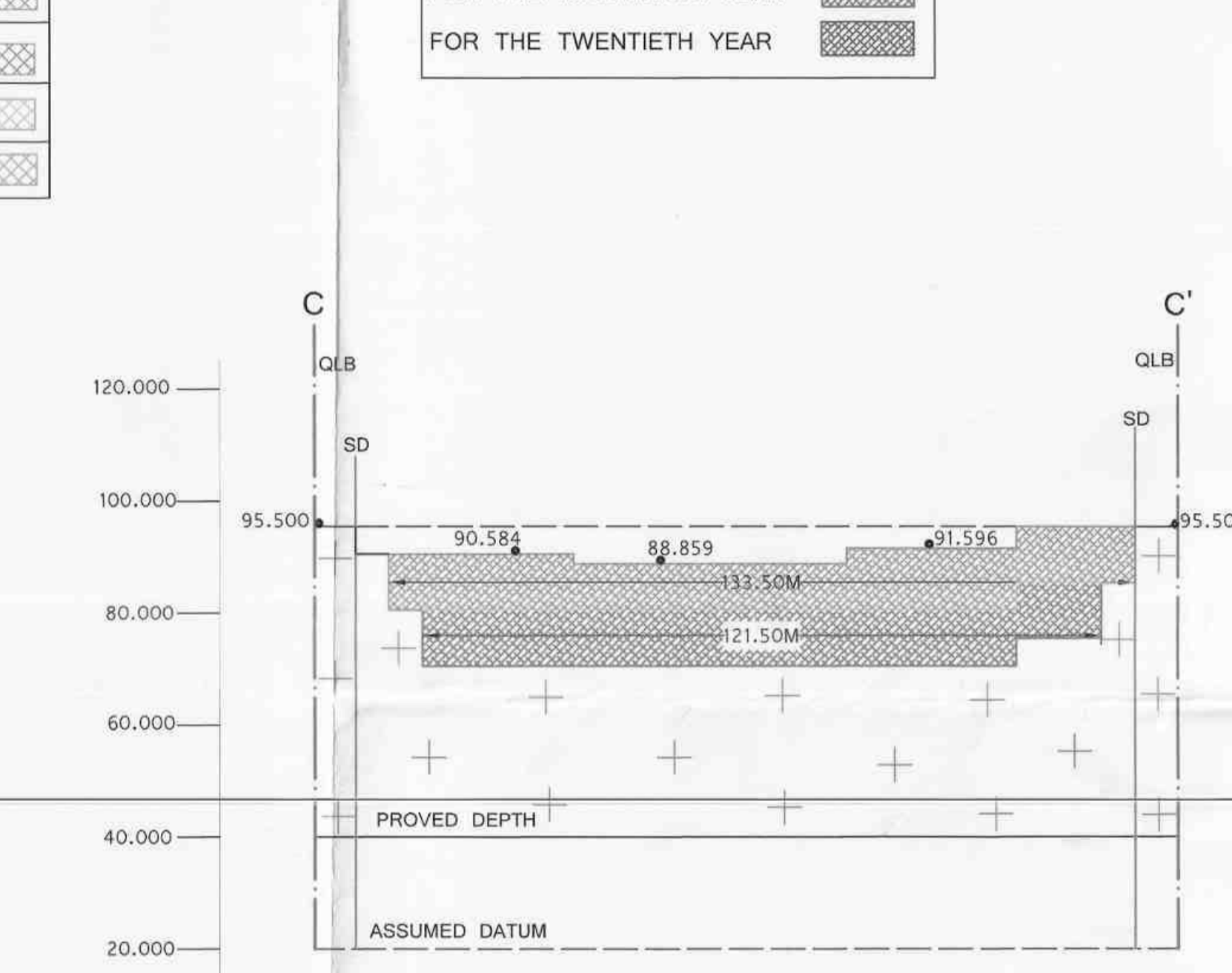
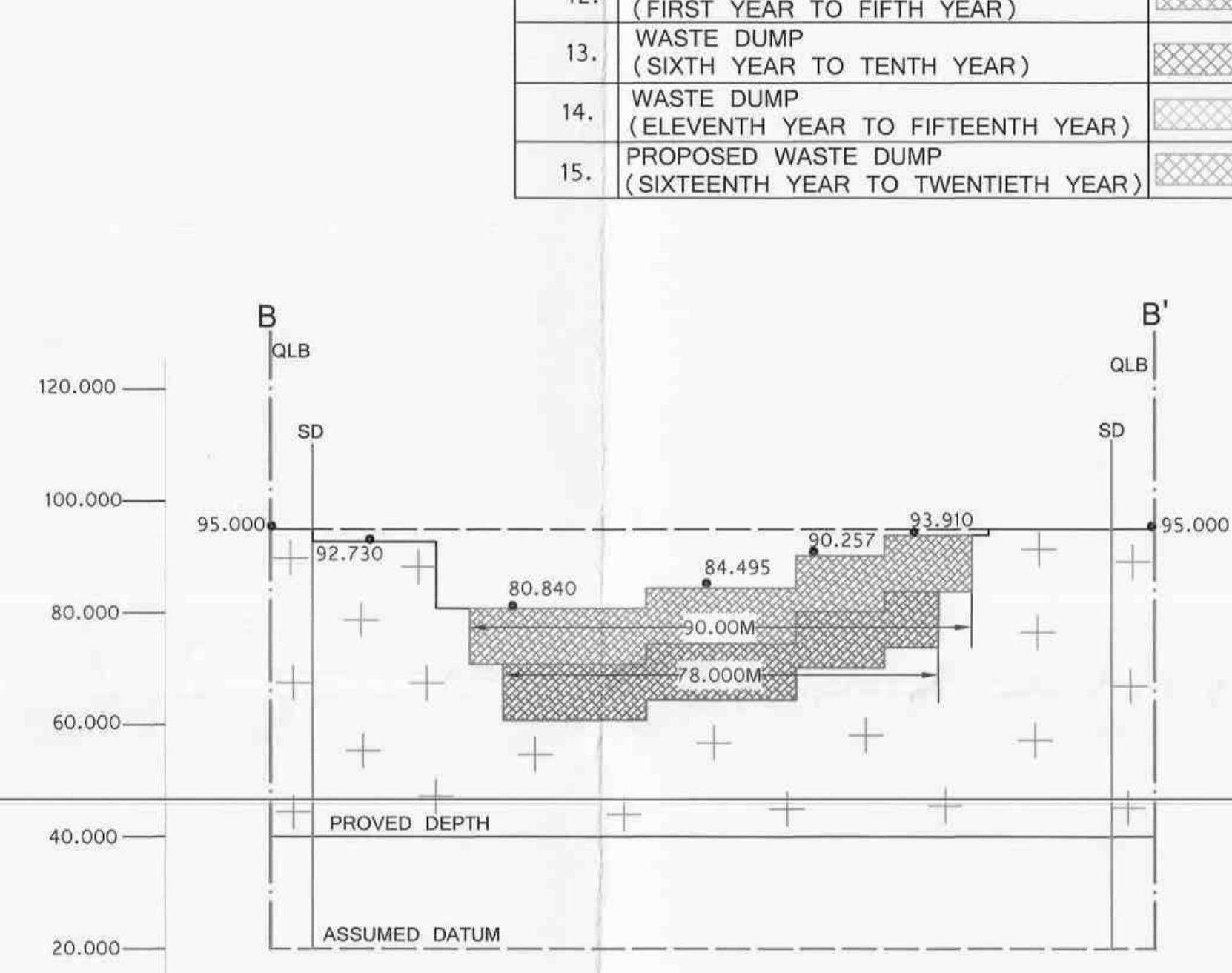
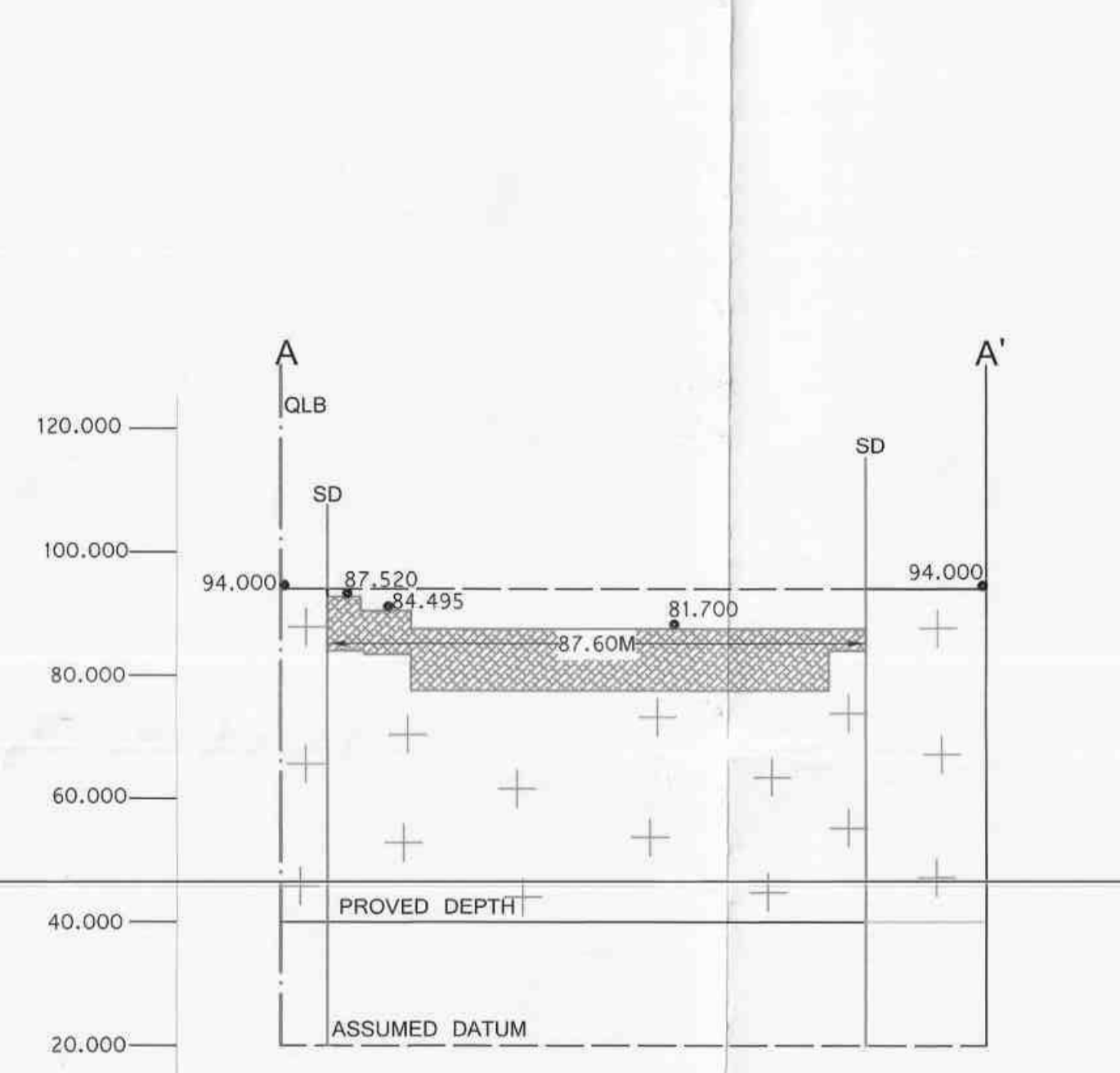
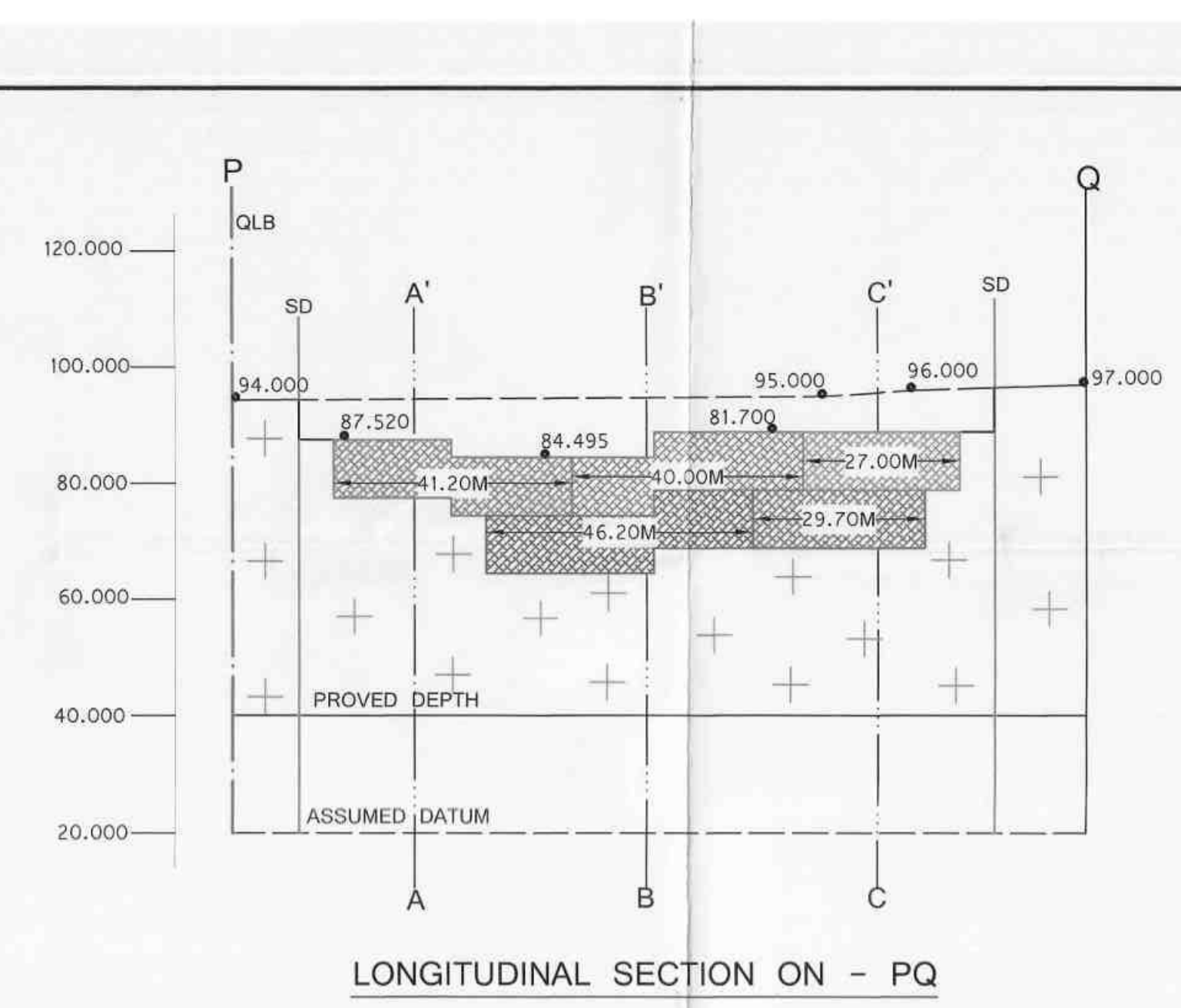
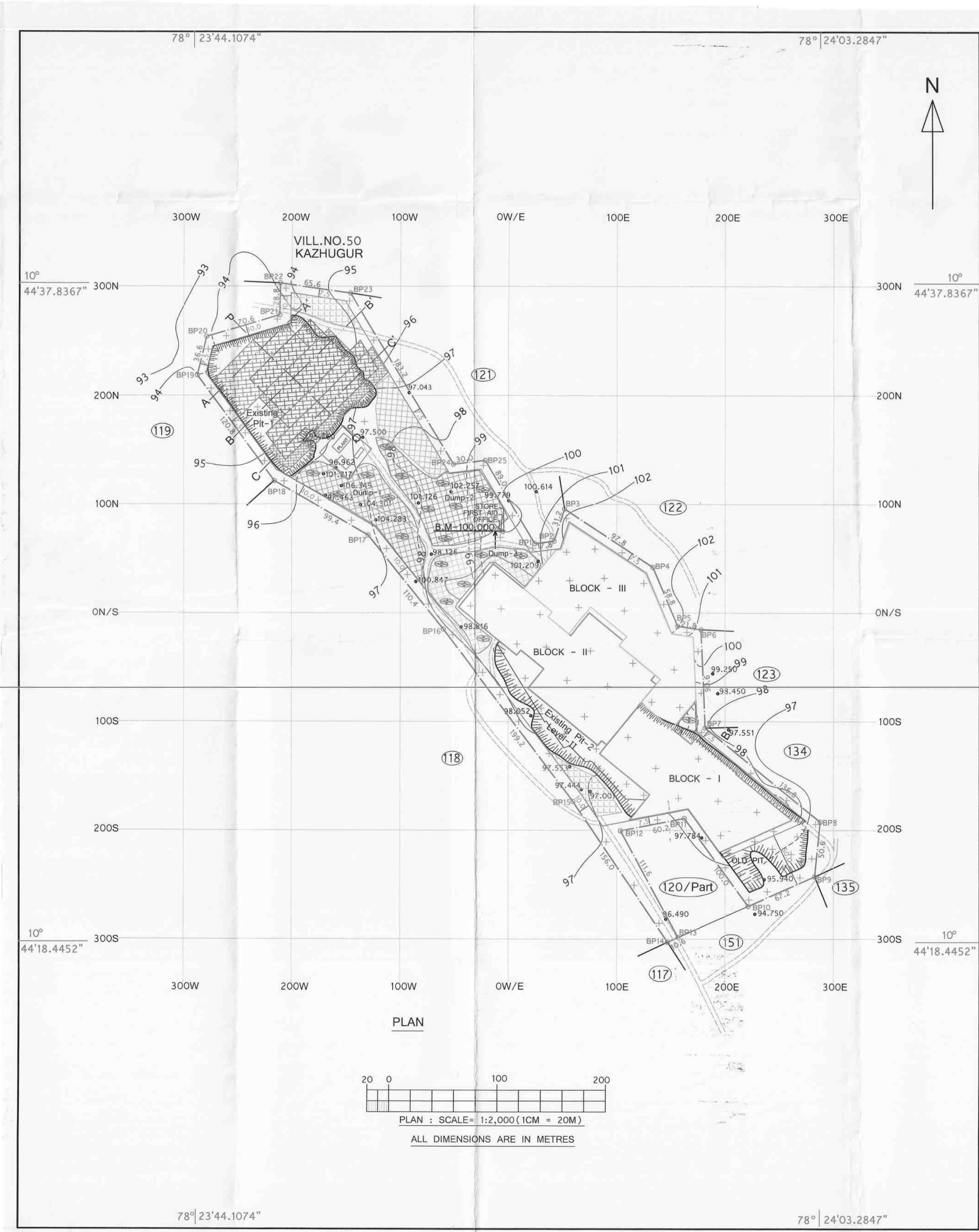
PLATE No.4/3  
**NAGANUR MULTI COLOUR GRANITE QUARRY  
YEARWISE PRODUCTION & DEVELOPMENT  
PLAN AND SECTIONS FOR FIVE YEARS (BLOCK-III)  
(ELEVENTH YEAR TO FIFTEENTH YEAR)  
MINING PLAN**

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
No.31, KAMARAJAR SALAI,  
CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN & SECTIONS is Correct.

M. RAM SANKAR  
Mines Surveyor  
Certificate No: SVR/789.  
Tamil Nadu Minerals Limited,  
Chennai - 600 005.

Dr. E.GANESAN, Ph.D., PGDPL  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.



LEGEND

Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	---
2.	MINE APPROACH ROAD	---
3.	TEMPORARY SHED	□
4.	TILE PLANT	⊠
5.	ASSUMED BENCH MARK	B.M. 100.000
6.	CONTOUR INTERVAL 1M.	100 100 101 101
7.	OPENCAST WORKING PIT	⊕
8.	EXISTING WASTE DUMP	⊖
9.	STOCK YARD	▨
10.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	---
11.	COLOUR GRANITE DEPOSIT	+
12.	WASTE DUMP (FIRST YEAR TO FIFTH YEAR)	▨
13.	WASTE DUMP (SIXTH YEAR TO TENTH YEAR)	▨
14.	WASTE DUMP (ELEVENTH YEAR TO FIFTEENTH YEAR)	▨
15.	PROPOSED WASTE DUMP (SIXTEENTH YEAR TO TWENTIETH YEAR)	▨

BLOCK - I

BLOCK - II

BLOCK - III

PRODUCTION

FOR THE SIXTEENTH YEAR

FOR THE SEVENTEENTH YEAR

FOR THE EIGHTEENTH YEAR

FOR THE NINETEENTH YEAR

FOR THE TWENTIETH YEAR

DETAILS OF DEPTH AND BENCH

Section	YEAR	Bench	Present Depth in (m)	Proposed Depth in (m)	Remaining Depth in (m)	Total Depth in (m)
PQ-AA'	Sixteenth Year	I	3.50	10.00	44.50	58.00
PQ-BB'	Seventeenth Year	I	3.50	10.00	44.50	58.00
PQ-CC'	Eighteenth Year	I	3.50	10.00	44.50	58.00
PQ-CC'	Nineteenth Year	I	13.50	10.00	34.50	58.00
PQ-BB'	Twentieth Year	I	13.50	10.00	34.50	58.00

SIXTEENTH YEAR TO TWENTIEH YEAR PRODUCTION DETAILS

Section	YEAR	Bench	Length in (m)	Width in (m)	Depth in (m)	Rom in m <sup>3</sup>	Production Reserves in m <sup>3</sup>	Proposed Salable CG @ 25% in m <sup>3</sup>	Proposed CG Rejects @ 75% in m <sup>3</sup>	Side Burden in m <sup>3</sup>	Top Soil in m <sup>3</sup>	Weathered Rock in m <sup>3</sup>
PQ-AA'	Sixteenth Year	I	41.20	87.60	10.00	36091	36091	9022.750	27068.250	Nil	Nil	Nil
PQ-BB'	Seventeenth Year	I	40.00	90.00	10.00	36000	36000	9000.000	27000.000	Nil	Nil	Nil
PQ-CC'	Eighteenth Year	I	27.00	133.50	10.00	36045	36045	9011.250	27033.750	Nil	Nil	Nil
PQ-CC'	Nineteenth Year	I	29.70	121.50	10.00	36086	36086	9021.500	27064.500	Nil	Nil	Nil
PQ-BB'	Twentieth Year	I	46.20	78.00	10.00	36036	36036	9009.000	27027.000	Nil	Nil	Nil
GRAND TOTAL						180258	180258	45064.500	135193.500	Nil	Nil	Nil

DISTRICT : KARUR

TALUK : KULITHALAI

VILLAGE NAME : NAGANUR

VILLAGE No. : 54

FIELD No. : 120 Part

LEASE HOLD AREA : 10.12.0Ha.

PLATE No.4/4

NAGANUR MULTI COLOUR GRANITE QUARRY

YEARWISE PRODUCTION & DEVELOPMENT

PLAN AND SECTIONS FOR FIVE YEARS (BLOCK-IV)

(SIXTEENTH YEAR TO TWENTIETH YEAR)

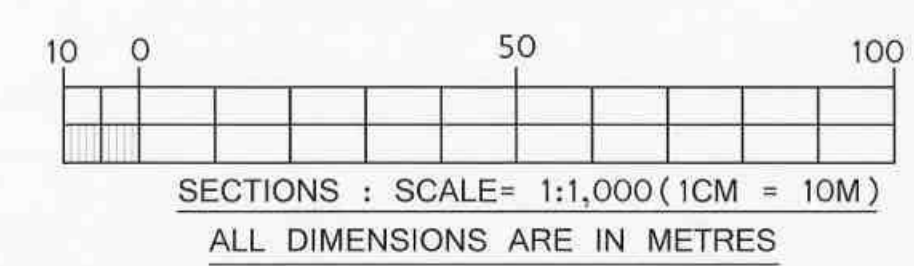
MINING PLAN

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
No.31, KAMARAJAR SALAI,  
CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN & SECTIONS is Correct.

M. RAM SANKAR  
Mines Surveyor  
Certificate No: SVR/789,  
Tamil Nadu Minerals Limited,  
Chennai - 600 005.

Dr. E.GANESAN, Ph.D., PGD&P  
Qualified Person,  
Tamil Nadu Minerals Limited  
Chennai - 600 005.



78° 23'44.1074"

78° 24'03.2847"

300W 200W 100W OW/E 100E 200E 300E

VILL.NO.50 KAZHUGUR

PROPOSED DEVELOPMENT UP TO LEASE PERIOD

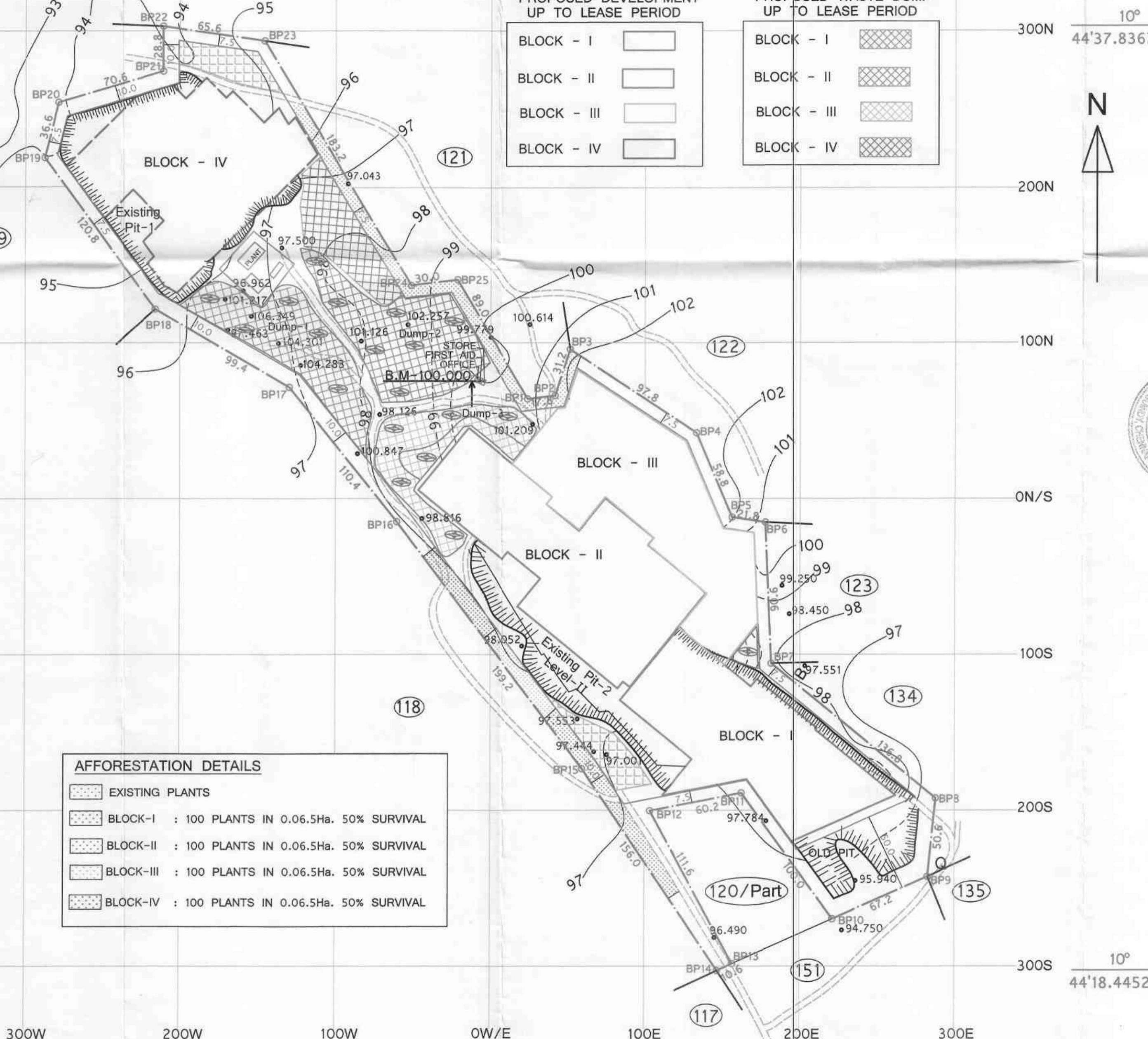
PROPOSED WASTE DUMP UP TO LEASE PERIOD

BLOCK - I	[Symbol]
BLOCK - II	[Symbol]
BLOCK - III	[Symbol]
BLOCK - IV	[Symbol]

BLOCK - I	[Symbol]
BLOCK - II	[Symbol]
BLOCK - III	[Symbol]
BLOCK - IV	[Symbol]

LEGEND

SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	[Symbol]
2.	MINE APPROACH ROAD	[Symbol]
3.	TEMPORARY SHED	[Symbol]
4.	TILE PLANT	[Symbol]
5.	ASSUMED BENCH MARK	[Symbol]
6.	CONTOUR INTERVAL 1M.	[Symbol]
7.	OPENCAST WORKING PIT	[Symbol]
8.	WASTE DUMP	[Symbol]
9.	STOCK YARD	[Symbol]
10.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	[Symbol]



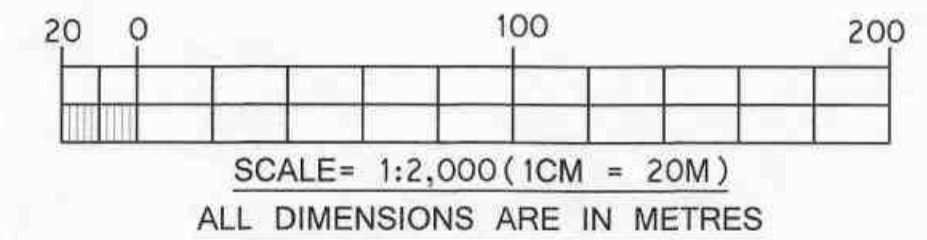
AFFORESTATION DETAILS	
[Symbol]	EXISTING PLANTS
[Symbol]	BLOCK-I : 100 PLANTS IN 0.06.5Ha. 50% SURVIVAL
[Symbol]	BLOCK-II : 100 PLANTS IN 0.06.5Ha. 50% SURVIVAL
[Symbol]	BLOCK-III : 100 PLANTS IN 0.06.5Ha. 50% SURVIVAL
[Symbol]	BLOCK-IV : 100 PLANTS IN 0.06.5Ha. 50% SURVIVAL



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.5

**NAGANUR MULTI-COLOUR GRANITE QUARRY  
 LANDUSE AND AFFORESTATION PLAN  
 MINING PLAN**



APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

*Dr. E. Ganesan*  
**Dr. E. GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.

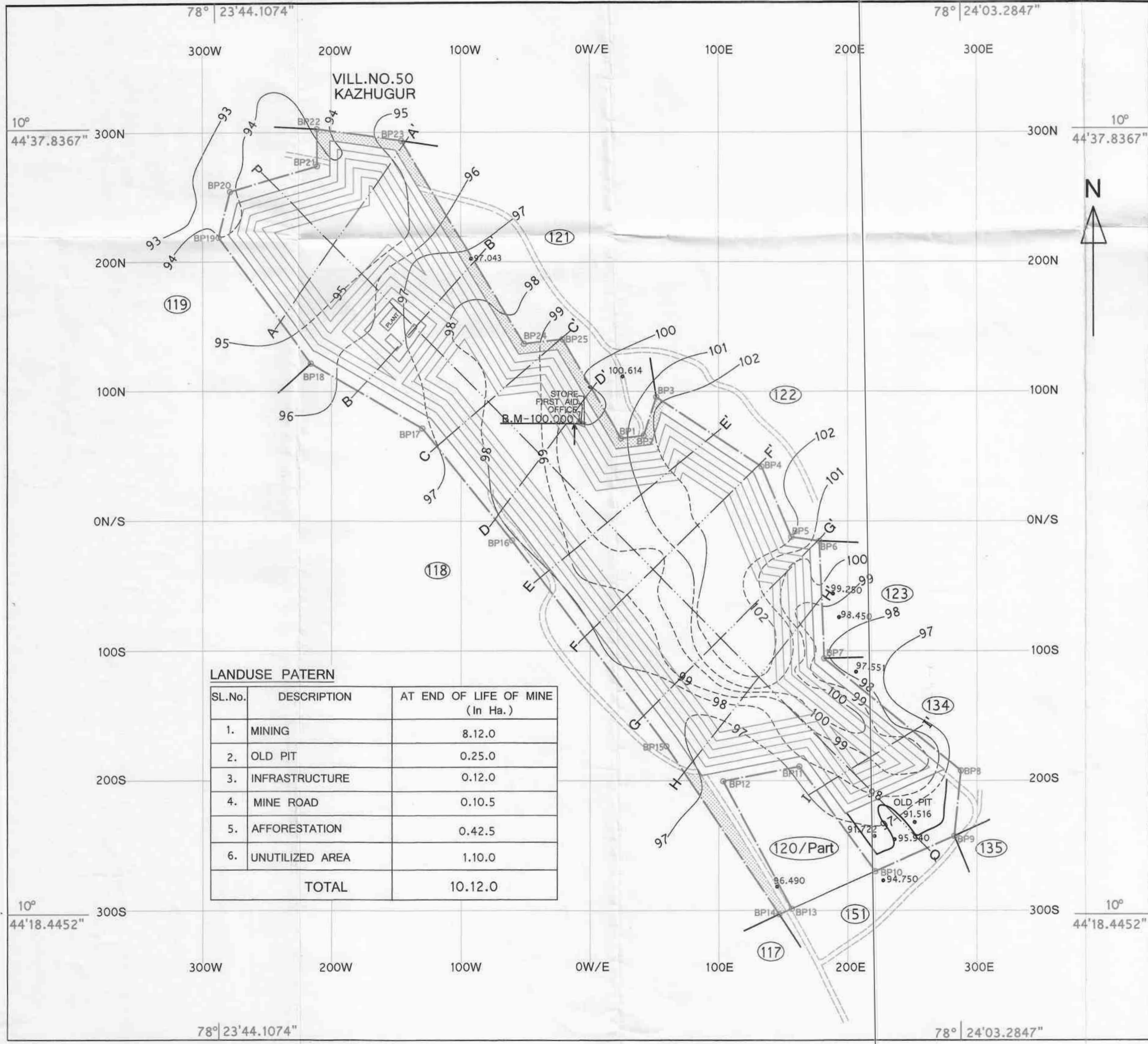
78° 23'44.1074"

78° 24'03.2847"

300W 200W 100W OW/E 100E 200E 300E

10° 44'18.4452"

10° 44'18.4452"



**LANDUSE PATERN**

SL.No.	DESCRIPTION	AT END OF LIFE OF MINE (In Ha.)
1.	MINING	8.12.0
2.	OLD PIT	0.25.0
3.	INFRASTRUCTURE	0.12.0
4.	MINE ROAD	0.10.5
5.	AFFORESTATION	0.42.5
6.	UNUTILIZED AREA	1.10.0
<b>TOTAL</b>		<b>10.12.0</b>

**LEGEND**

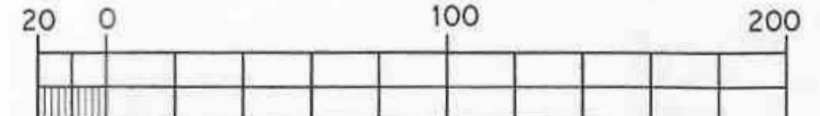
Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	ASSUMED BENCH MARK	
5.	CONTOUR INTERVAL 1M.	
6.	OLD PIT	
7.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
8.	COLOUR GRANITE DEPOSIT	
9.	ULTIMATE PIT LIMIT	
10.	ULTIMATE AFFORESTATION	



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.6/1

**NAGANUR COLOUR GRANITE QUARRY  
 CONCEPTUAL PLAN  
 MINING PLAN**



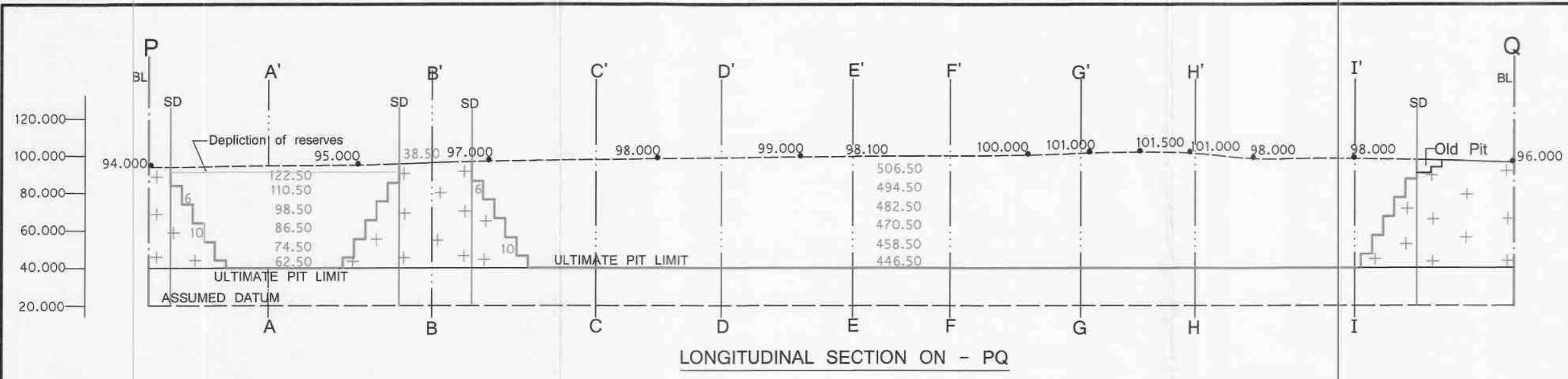
SCALE = 1:2,000 (1CM = 20M)  
 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

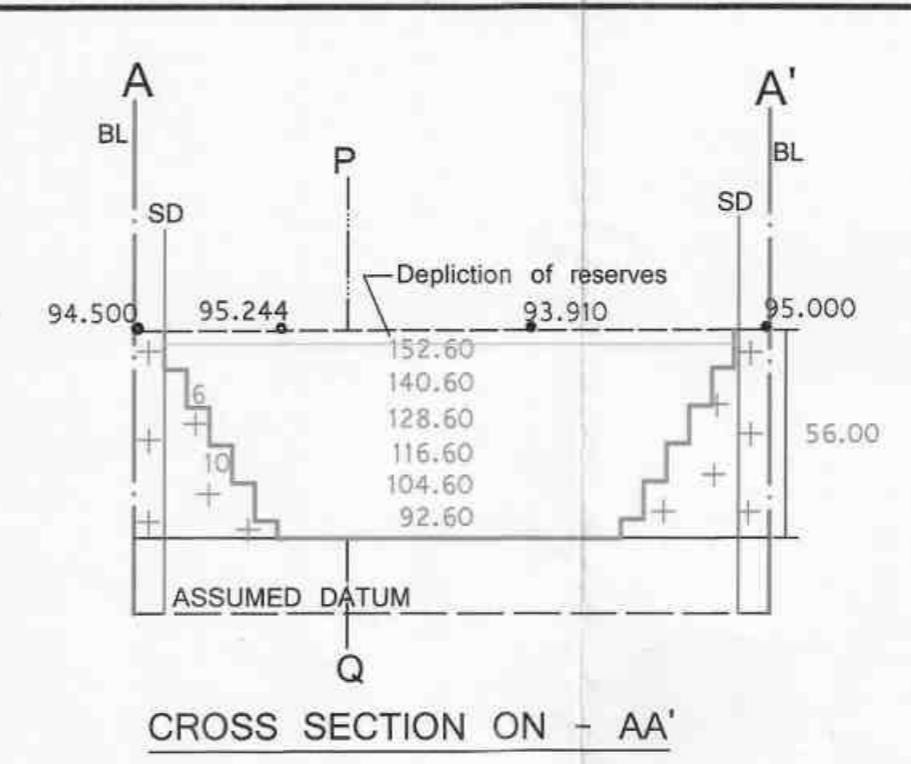
Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

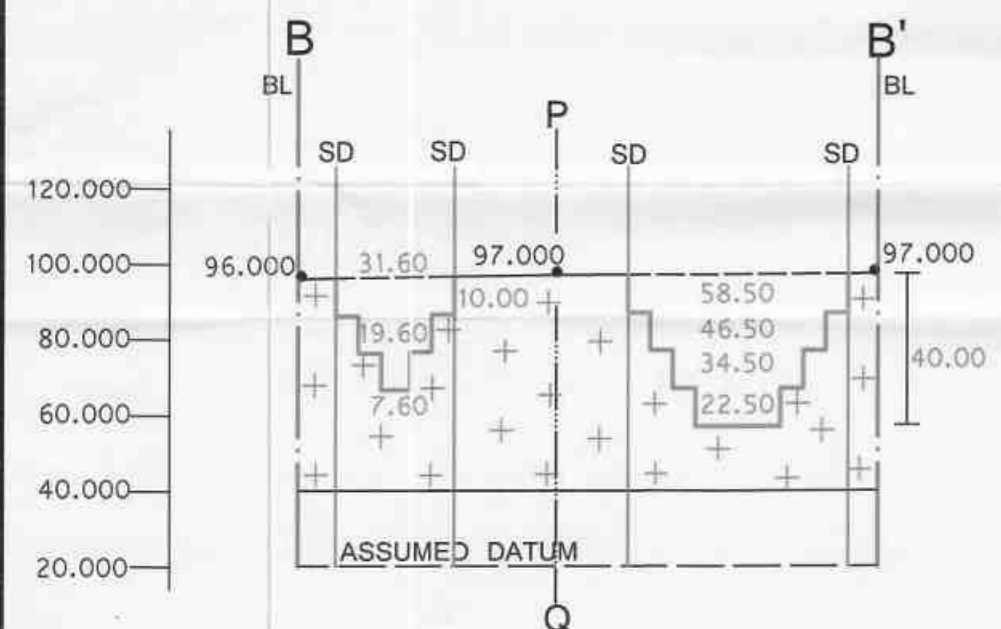
*Dr. E. Ganesan*  
**Dr. E.GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



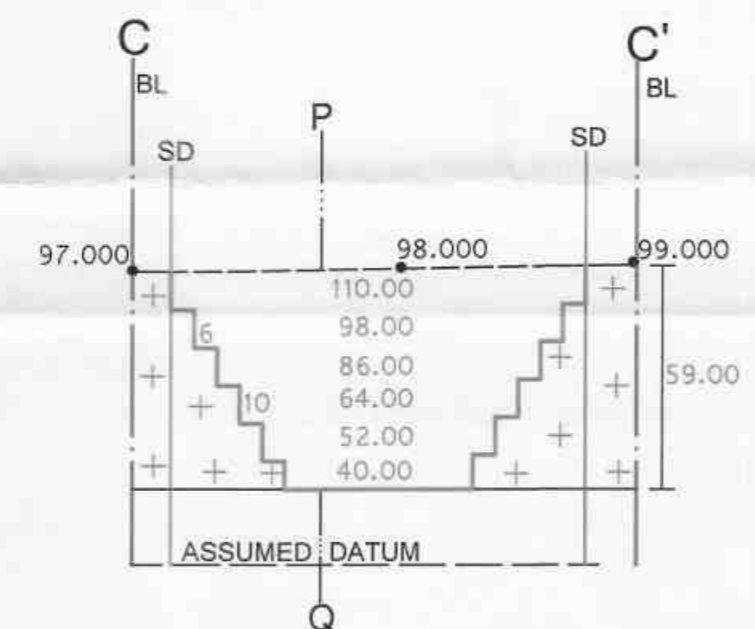
LONGITUDINAL SECTION ON - PQ



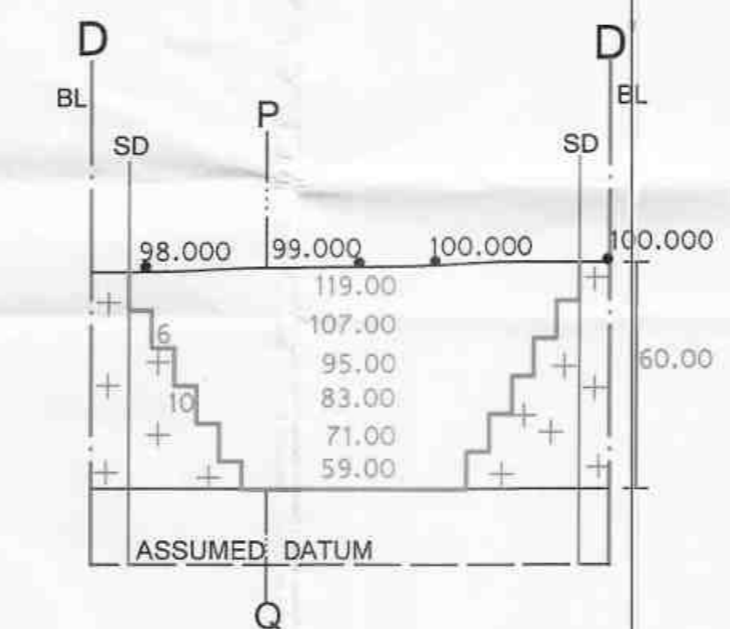
CROSS SECTION ON - AA'



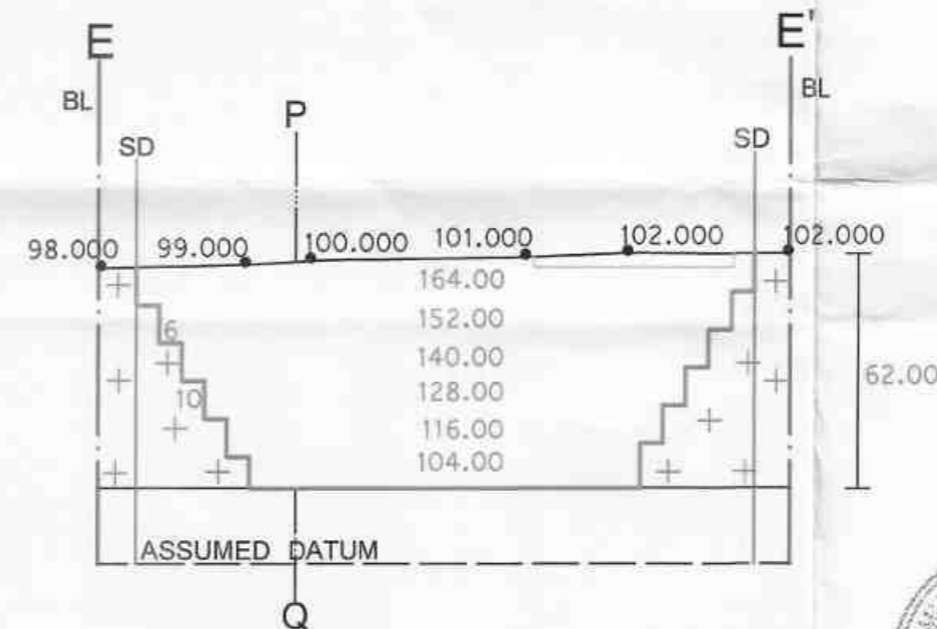
CROSS SECTION ON - BB'



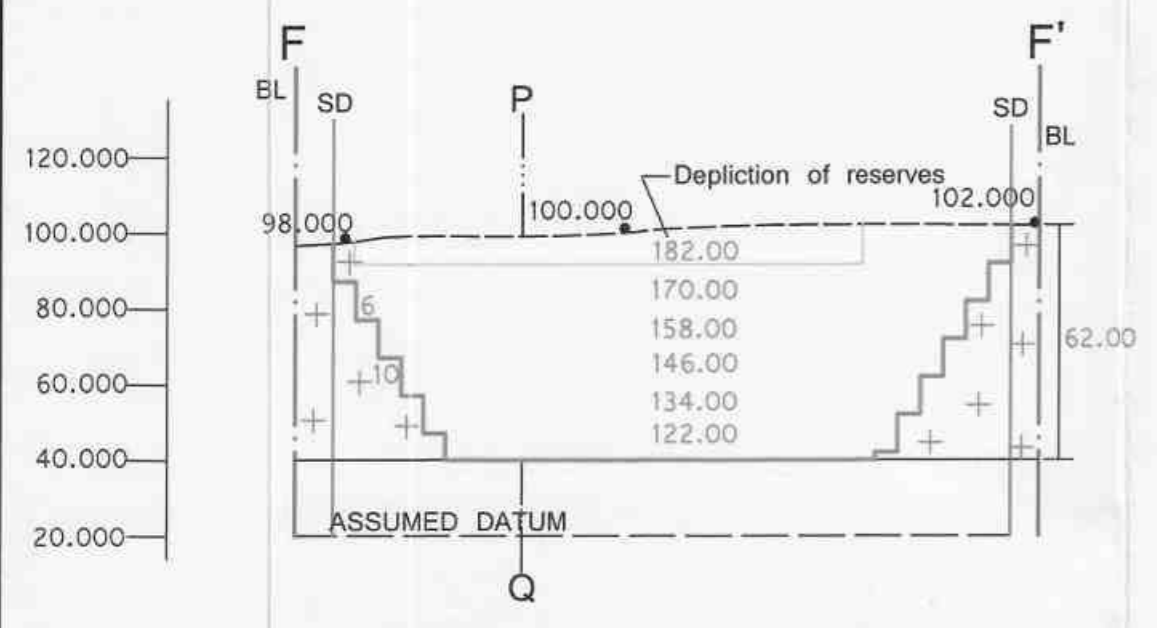
CROSS SECTION ON - CC'



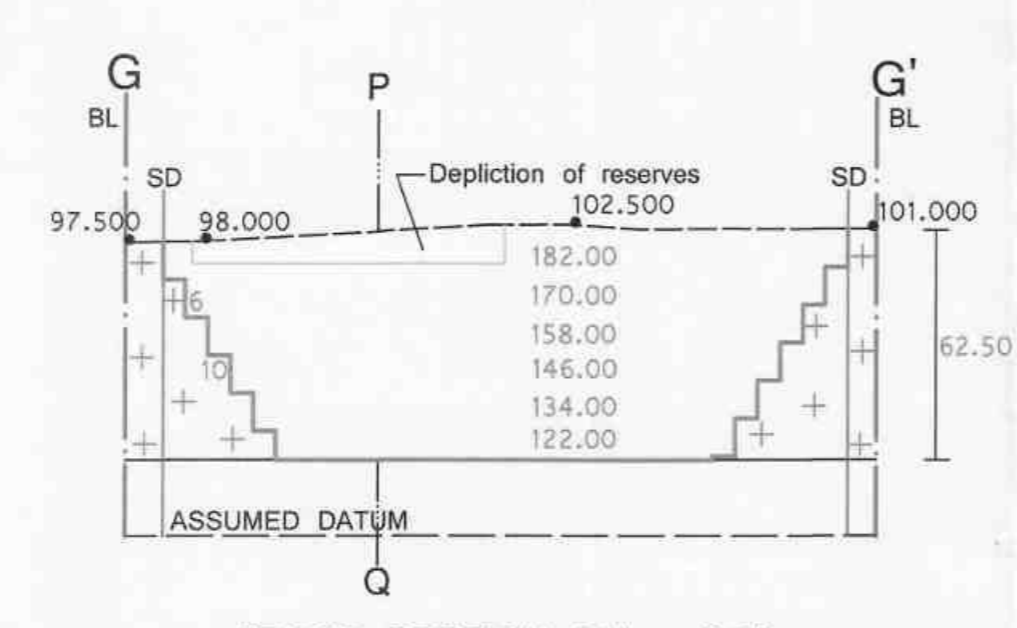
CROSS SECTION ON - DD'



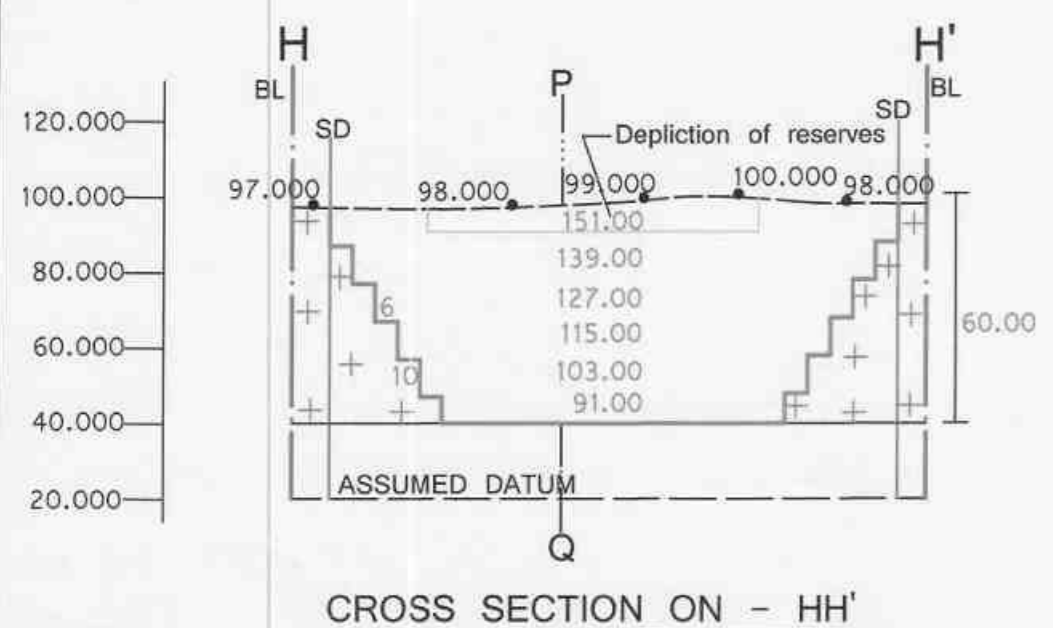
CROSS SECTION ON - EE'



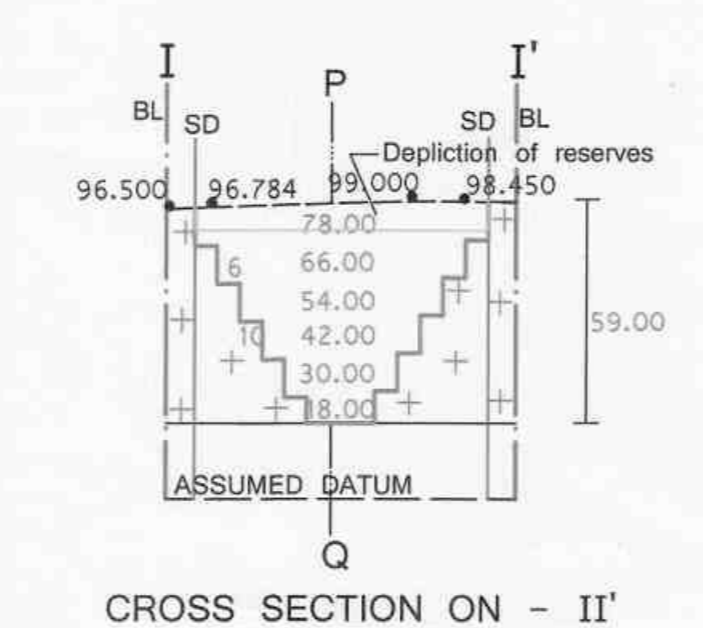
CROSS SECTION ON - FF'



CROSS SECTION ON - GG'



CROSS SECTION ON - HH'



CROSS SECTION ON - II'

MINEABLE RESERVES					
Section	Bench	Length in m	Width in m	Depth in m	Volume in M <sup>3</sup>
PQ - AA'	I	122.50	152.60	6.50	121508
	II	110.50	140.60	10.00	155363
	III	98.50	128.60	10.00	126671
	IV	86.50	116.60	10.00	100859
	V	74.50	104.60	10.00	77927
	VI	62.50	92.60	8.00	46300
TOTAL					628628
PQ - BB'	I	39.00	31.60	10.00	12324
	I	38.00	58.50	10.00	22230
	II	39.00	19.60	10.00	7644
	II	38.00	46.50	10.00	17670
	III	39.00	7.60	10.00	2964
III	38.00	34.50	10.00	13110	
IV	38.00	22.50	10.00	8550	
TOTAL					84492
PQ & CC', DD', EE', FF', GG', HH', II'	I	506.50	(110+119+164+182+182+151+78) / 7 = 141.00	6.50	464208
	II	494.50	129.00	10.00	637905
	III	482.50	117.00	10.00	564525
	IV	470.50	105.00	10.00	494025
	V	458.50	93.00	10.00	426405
	VI	446.50	81.00	8.80	318265
TOTAL					2905333
GRAND TOTAL					3618453

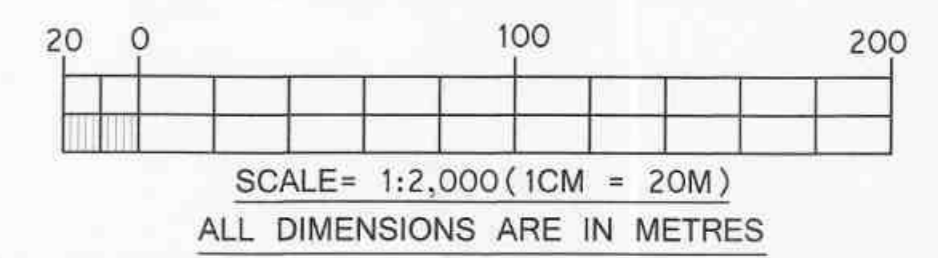
Mineable Reserves in M <sup>3</sup>	Mineable Salable Granite Reserves @ 25% Recovery	Granite Waste @ 75%
36,18,453	9,04,613 M <sup>3</sup>	27,13,840 M <sup>3</sup>



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.6a/1

**NAGANUR MULTI COLOUR GRANITE QUARRY  
 CONCEPTUAL SECTIONS  
 MINING PLAN**



**LEGEND**

Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	—
2.	OLD PIT	—
3.	ULTIMATE PIT LIMIT PIT	—
4.	EXISTING PIT	—
5.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	—
6.	COLOUR GRANITE DEPOSIT	+++

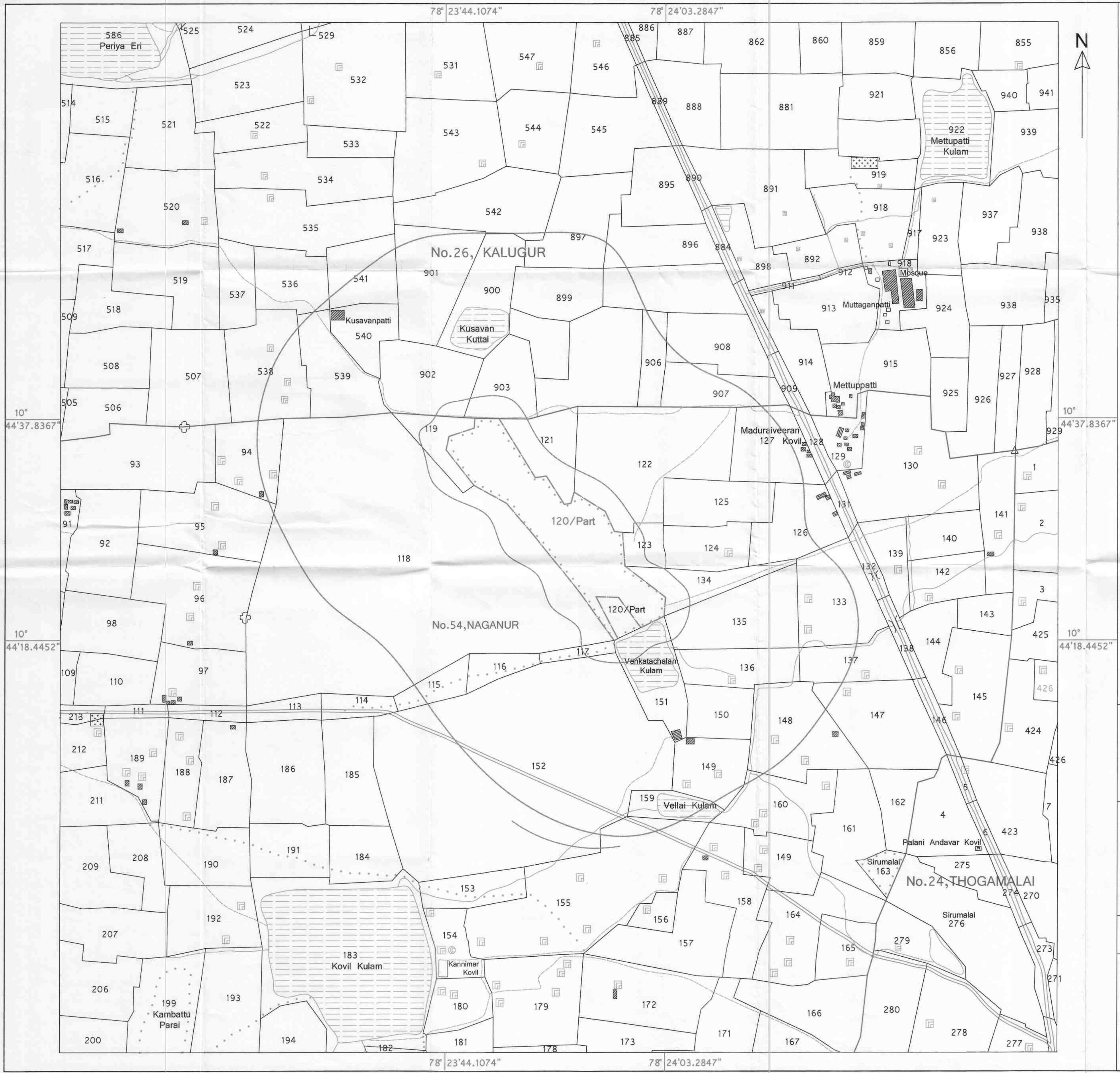
**ULTIMATE PIT DIMENSION**

Sl.No.	Detail	Ave.Length in M	Ave.Width in M	Depth in M
1.	Top bench	680.012	136.50	58.00
2.	Bottom bench	620.002	66.77	

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.  
 Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

*Dr. E. Ganesan*  
**Dr. E. GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



**LEGEND**

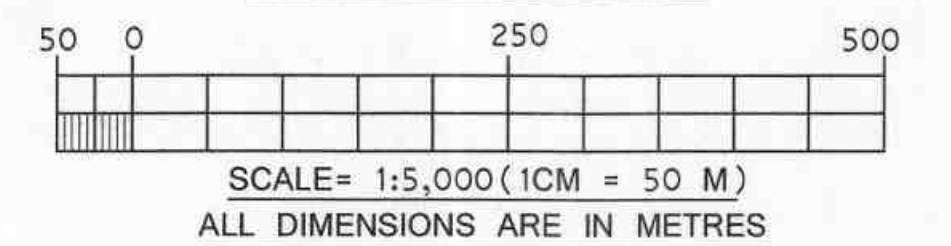
Sl.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	[Symbol: Dashed line]
2.	VILLAGE ROAD	[Symbol: Solid line]
3.	CART TRACK	[Symbol: Dotted line]
4.	FOOT PATH	[Symbol: Dotted line]
5.	KULAM / ERI	[Symbol: Hatched area]
6.	KALVAI	[Symbol: Wavy line]
7.	STREAM	[Symbol: Wavy line]
8.	WELL	[Symbol: Circle with cross]
9.	VILLAGE BOUNDARY	[Symbol: Solid line]
10.	BUFFER ZONE 500m RADIUS	[Symbol: Circle]
11.	SAFETY ZONE 60M RADIUS	[Symbol: Circle]
12.	RESIDENTIAL AREA	[Symbol: Hatched area]



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No. 7

**NAGANUR MULTI-COLOUR GRANITE QUARRY ENVIRONMENT PLAN**



APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.  
 Certified that the PLAN is Correct.

*M. Ram Sankar*  
**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789,  
 Tamil Nadu Minerals Limited.

*Dr. E. Ganesan*  
**Dr. E. GANESAN, Ph.D., PGDLP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.



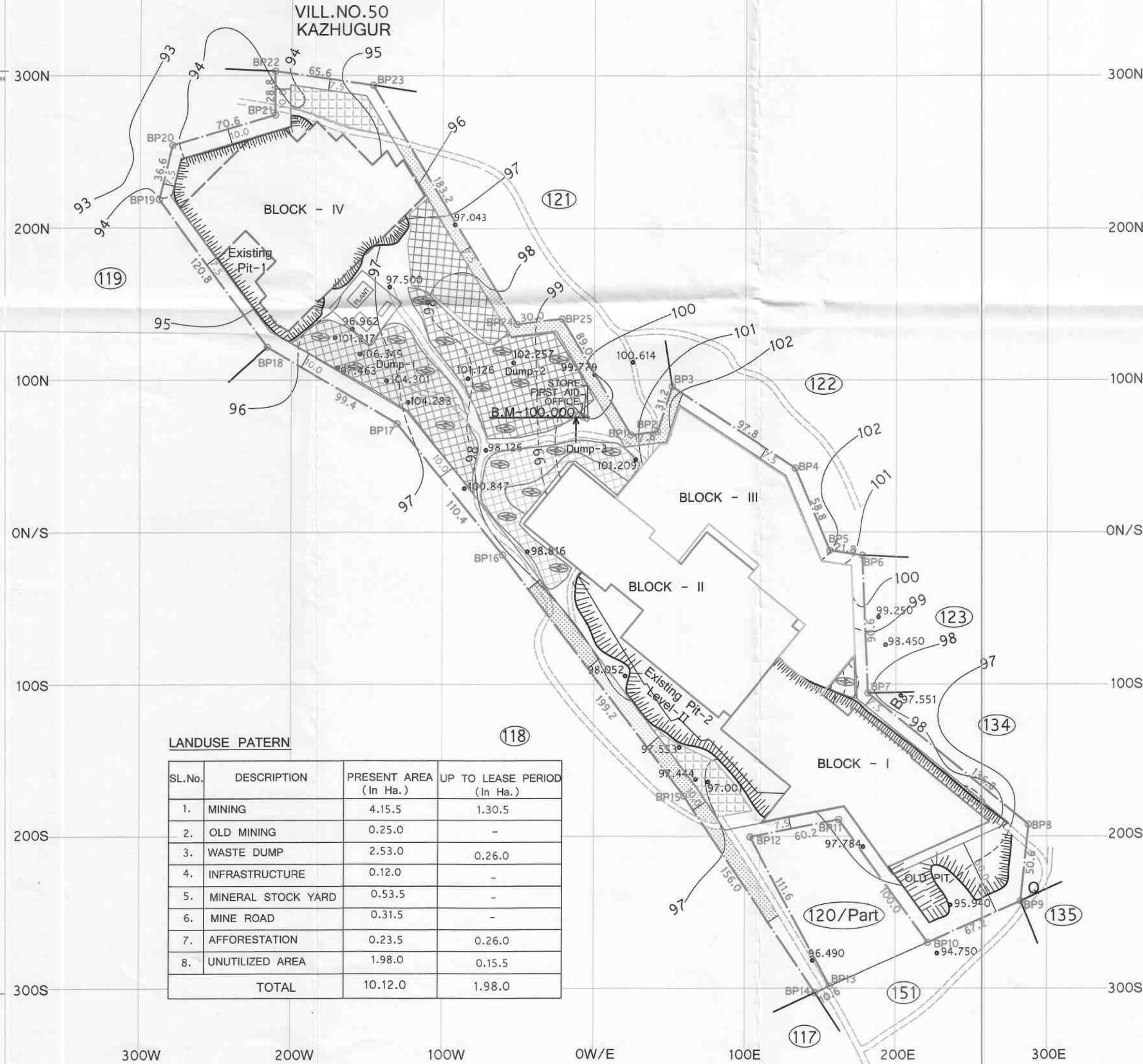
78° 23'44.1074"

78° 24'03.2847"

300W 200W 100W 0W/E 100E 200E 300E

10° 44'37.8367"

10° 44'37.8367"



**LANDUSE PATERN**

SL.No.	DESCRIPTION	PRESENT AREA (In Ha.)	UP TO LEASE PERIOD (In Ha.)
1.	MINING	4.15.5	1.30.5
2.	OLD MINING	0.25.0	-
3.	WASTE DUMP	2.53.0	0.26.0
4.	INFRASTRUCTURE	0.12.0	-
5.	MINERAL STOCK YARD	0.53.5	-
6.	MINE ROAD	0.31.5	-
7.	AFFORESTATION	0.23.5	0.26.0
8.	UNUTILIZED AREA	1.98.0	0.15.5
<b>TOTAL</b>		<b>10.12.0</b>	<b>1.98.0</b>

**LEGEND**

SI.No.	DESCRIPTION	SYMBOL
1.	LEASE APPLIED BOUNDARY	
2.	MINE APPROACH ROAD	
3.	TEMPORARY SHED	
4.	TILE PLANT	
5.	ASSUMED BENCH MARK	
6.	CONTOUR INTERVAL 1M.	
7.	OPENCAST WORKING PIT	
8.	WASTE DUMP	
9.	STOCK YARD	
10.	SAFETY DISTANCE 7.5M FROM THE BOUNDARY 10M FROM PORAMBOKE LAND 50M FROM KULAM IN S.F.No.151	
11.	EXISTING PLANTS	

**PROPOSED DEVELOPMENT UP TO LEASE PERIOD**

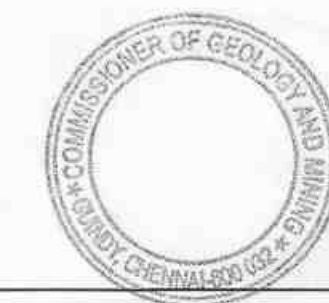
BLOCK - I	
BLOCK - II	
BLOCK - III	
BLOCK - IV	

**PROPOSED WASTE DUMP UP TO LEASE PERIOD**

BLOCK - I	
BLOCK - II	
BLOCK - III	
BLOCK - IV	

**PROPOSED AFFORESTATION UP TO LEASE PERIOD**

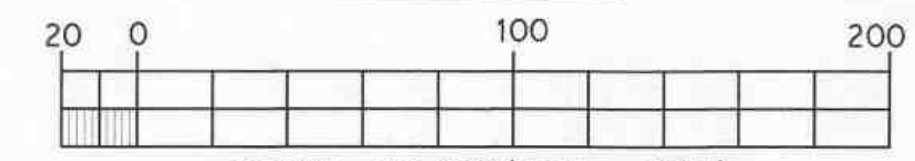
BLOCK - I	
BLOCK - II	
BLOCK - III	
BLOCK - IV	



DISTRICT : KARUR  
 TALUK : KULITHALAI  
 VILLAGE NAME : NAGANUR  
 VILLAGE No. : 54  
 FIELD No. : 120 Part  
 LEASE HOLD AREA : 10.12.0Ha.

PLATE No.8

**NAGANUR MULTI-COLOUR GRANITE QUARRY  
 PROGRESSIVE MINE CLOSURE PLAN  
 MINING PLAN**



SCALE= 1:2,000 (1CM = 20M)  
 ALL DIMENSIONS ARE IN METRES

APPLICANT : M/s.TAMILNADU MINERALS LIMITED,  
 No.31, KAMARAJAR SALAI,  
 CHEPAUK, CHENNAI - 600 005.

Certified that the PLAN is Correct.

**M. RAM SANKAR**  
 Mines Surveyor  
 Certificate No: SVR/789.  
 Tamil Nadu Minerals Limited.

**Dr. E.GANESAN, Ph.D., PGDELP**  
 Qualified Person,  
 Tamil Nadu Minerals Limited  
 Chennai - 600 005.

78° 23'44.1074"

78° 24'03.2847"

10° 44'18.4452"

10° 44'18.4452"

## Annexure 3 – 500m Radius Letter

From  
Thiru.S.Poornavel, M.Sc.,  
Assistant Director,  
Geology and Mining,  
Karur

To  
The Manager,  
Tvl.Tamil Nadu Minerals  
Limited,  
Opp. to Anna Sports Stadium,  
Race Course Road,  
Kaja Nagar Post,  
Trichy - 620 023.

**R.C. No.435/Mines/2016, Dated:06.02.2024**

Sir,

Sub: Mines and Minerals – Minor Mineral – Multicolour Granite – Kulithalai Taluk – Naganoor Village – Government land – S.F.No.120(Part) over an extent of 10.12.0 hectares - quarry lease granted to Tvl.Tamil Nadu Minerals Limited - Requested for existing/proposed/expired and abandoned quarries situated within 500 mts radial distance - details furnished – Regarding.

- Ref: 1. G.O.Ms.14, Industries (MME-1) Department,  
Dated:27.01.2005.
2. Tvl.Tamil Nadu Minerals Limited letter  
dated:03.02.2025.

In the reference 1<sup>st</sup> cited, Tvl.Tamil Nadu Minerals Limited had been granted quarry lease for Multicoloured Granite in S.F.No.120(Part) over an extent of 10.12.0 hectares of Government land in Naganur Village Kulithalai Taluk, Karur District.

In this regard, Tvl.Tamil Nadu Minerals Limited have requested to provide the details of existing/proposed/ expired and abandoned quarries with 500 meter radial distance from the lease granted area in the reference 2<sup>nd</sup> cited.

As requested by the lessee the particulars furnished as detailed below.

**I. Existing Quarries: -**

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period	Remarks
1	Thiru.M. Gandhi, S/o. Masanam, Karuttupatti Village, Andipatti Taluk,	Multicoloured Granite	Kulithalai Taluk & Naganur,	135/1A 136/1A 136/2	2.93.0	25.12.2008 to 24.12.2028	---
2	Tvl.TAMIN Ltd., 31.Kamarajar Salai Chepauk Chennai-5	Multicoloured Granite	Kulithalai Taluk & Naganur,	120 (Part)	10.12.0	06.03.2023 to 05.03.2043	Proposed area

3	M/s. P.R.P. Exports, Tberkkutheru Village, Metur, Madurai District.	Mulit coloured Granite	Kulithalai Taluk & Naganur,	149/3B (Part) 150/ (Part)	1.83.0	17.12.2008 to 16.12.2028	---
4	M/s. P.R.P. Exports, Tberkkutheru Village, Metur, Madurai District.	Mulit coloured Granite	Kulithalai Taluk & Naganur,	123/4 134/1	1.95.0	17.12.2008 to 16.12.2028	---
5	M/s.G.V. Granites, 19 G Main Road, Thogamalai, Kulithalai Taluk Karur District.	Mulit coloured Granite	Kulithalai Taluk & Naganur,	160/2B 160/5A 160/5C 449/1B	1.39.0	21.09.2004 to 20.09.2024	---
6	M/s.P.R.P. Exports, Vehu Complex, Madurai Main Road, Melur, Madurai Dt	Mulit coloured Granite	Kulithalai Taluk & Naganur,	149/1B1(P) 149/3A1(P) 149/3B (P) 150 (P)	2.01.5	08.06.2005 to 07.06.2025	---
7	Thiru.M. Singaram, 21/B Chathiram St Thogamalai Kulithalai Taluk	Mulit coloured Granite	Kulithalai Taluk & Naganur,	148/1F2(P) 160/2A1 160/3 160/4	1.01.5	06.07.2007 to 05.07.2027	---

### II. Proposed Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	-- Nil--					

### III. Lease Expired Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	-- Nil--					

### IV. Abandoned Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	-- Nil--					

*S. P. 1012/2025*  
Assistant Director,  
Geology and Mining,  
Karur.

*DBOLAS*

## Annexure 4 – Land Classification

நகர் ஊரமைப்புத்துறை

அனுப்புநர்  
திரு.ப.வேல்முருகன், பி.இ.  
உதவி இயக்குநர்,  
மாவட்ட நகர் ஊரமைப்பு அலுவலகம்,  
எண்.9, முதல் தளம்,  
இலட்சுமிபுரம் வடக்கு தெரு,  
கரூர் நகரம்,  
கரூர் மாவட்டம் - 639 001  
E mail: ad.karur.dist@gmail.com  
Ph.04324-260 625

பெறுநர்  
The Manager,  
Tamil Nadu Minerals Limited  
(An undertaking of Government of  
Tamilnadu).  
Opp. To Anna Sports Stadium,  
Race course road,  
Kaja Nagar post,  
Trichy - 620 023.

ந.க.எண். 116/2025 / கமா.

நாள். 10.02.2025

ஐயா.

பொருள்: நில உபயோகச் சான்று - மாவட்ட நகர் ஊரமைப்பு அலுவலகம் -  
கரூர் மாவட்டம் - குளித்தலை வட்டம் - குளித்தலை பிரிவு -  
நாகனூர் - சர்வே எண்.120 -ற்கு நில உபயோக விபரம் வழங்க  
கோரியது - தொடர்பாக.

பார்வை: 1. மனுதாரர் The Manager, Tamil Nadu Minerals Limited  
என்பவரின் விண்ணப்பம் பெறப்பட்ட நாள். 30.01.2025.  
2. நகர் ஊரமைப்பு இயக்குநர், சென்னை அவர்களின்  
சுற்றறிக்கை கடிதம் ந.க.எண்.17394/2011/முதி, நாள். 29.09.2011.  
3. அரசாணை எண்.79, வீட்டுவசதி மற்றும் நகர்ப்புற வளர்ச்சித்  
துறை, நாள்.04.05.2017.

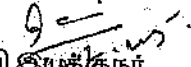
....

பார்வை(1)ல் கண்டுள்ள தங்களது கடிதத்தில் மேற்குறிப்பிட்ட இடத்திற்கு நில உபயோகச்  
சான்று கோரப்பட்டது தொடர்பாக கீழ்க்கண்ட விபரங்கள் தெரிவிக்கப்படுகிறது.

1. கரூர் மாவட்டம், குளித்தலை வட்டம், குளித்தலை பிரிவு, நாகனூர், சர்வே எண்.120 ல் நகர்  
ஊரமைப்புச் சட்டம் - 1971 - ன்படி இத்துறையால் எவ்வித நில உபயோகமும்  
வகைப்படுத்தப்படவில்லை. திட்டமில்லாத பகுதியில் மேற்கொள்ளப்படும் அனைத்து  
மேம்பாடுகளுக்கும், பார்வை(3) -ல் கண்டுள்ள அரசாணையில் வழங்கப்பட்ட நில உபயோக  
மாற்ற விதிகள் 2017-ன்படி உரிய நிலையன் மாற்றம் பெறப்பட்ட பின்னரே எவ்வித அபிவிருத்தி  
பணிகளும் மேற்கொள்ளப்பட வேண்டும்.
2. மேலும் மேற்கூறிய இடத்தில் எந்த உபயோகத்திற்காகவும் கட்டிடம் கட்டுவதற்கு முன் நகர்  
ஊரமைப்புச் சட்டம் - 1971, பிரிவு 47 A -ன்படி நகர் ஊரமைப்பு துறையின் முன் அனுமதி பெற்ற  
பின்னரே கட்டிடம் கட்டப்பட வேண்டும். இத்துறையின் அனுமதி பெறப்படாத மேம்பாடுகள்  
அனைத்தும் அனுமதியற்ற கட்டுமானமாக கருதப்படும். மனை இடத்தில் நிறுவனம்  
செயல்பட்டுவரும் பட்சத்தில், இத்துறையின் அனுமதி பெறப்படாத காரணத்தால், இந்த நில  
உபயோகச் சான்று இக்கட்டிடத்திற்கு பொருந்தாது.

3. நில உபயோக விபரம் தகவலுக்காக மட்டுமே வழங்கப்படுகிறது. இதனை இத்துறையின் சட்டப்படியான அனுமதியாகவோ / மனைப்பிரிவு / கட்டிட அனுமதி / நிறுவன அனுமதியாகவோ தடையின்மைச் சான்றாகவே கருதக் கூடாது எனவும் தெரிவிக்கப்படுகிறது. மேலும் இதனை நீதிமன்ற வழக்கு சம்பந்தமான ஆவணமாகவோ / பதிவுத்துறை சம்பந்தமாக ஆவணமாகவோ / நிறுவன அனுமதி தொடர்பான ஆவணமாகவோ பயன்படுத்தக் கூடாது எனவும் தெரிவிக்கப்படுகிறது.

மேலும், மனையில் கட்டுமானங்கள் ஏதும் இருப்பின் திட்ட அனுமதி / கட்டிட அனுமதிக்கு இத்துறையின் இணைப்பதளத்தில் விண்ணப்பிக்குமாறு விபரம் தெரிவித்து சான்று வழங்கப்படுகிறது.

  
உதவி இயக்குநர்,  
மாவட்ட நகர் ஊரமைப்பு அலுவலகம்,  
கரூர் மாவட்டம்.

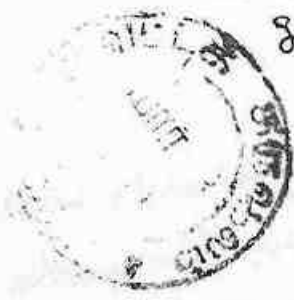
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10/2/25

## Annexure 5 – Lease Deed





347 11-9-23



Sent to TAMMV, Kulithal 04DD 238001  
 Se NO 68

Sub Treasury Officer,  
 KULITHALAL  
 2-2-05



ANNUAL AVERAGE SEIGNIORAGE AMOUNT	: Rs. 28,82,250/-
SECURITY DEPOSIT	: Rs. 20,000/-
AREA ASSESSMENT	: Rs. 40,480/-

(G.O. Ms No.14 Industries (MME1) Department, dated 27.01.2005)

APPENDIX I-A

(See Rule 8-C)

FORM OF LEASE FOR QUARRYING AND CARRYING AWAY GRANITE BY A STATE GOVERNMENT COMPANY OR CORPORATION OWNED OR CONTROLLED BY THE STATE GOVERNMENT

THIS INDENTURE MADE THIS... 7<sup>th</sup>... day of February 2005 between the Governor of Tamil Nadu (hereinafter referred to as "the lessor" which expression shall, where the context so admits include his successors in office and

AS per G.O  
 27-1-2005

Correction : Nil  
 Insertion : Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
 (P. GIRIDHARAN)  
 DIVISIONAL MANAGER

LESSEE



3393  
2005

Document No. 3393 of 2005  
of book 1... Contains 34 sheets...  
Sheet

*[Signature]*  
Sub-Registrar

Presented in the office of  
the Sub-Registrar of  
Anaparaai and fee of  
Rs. 500/- paid between  
the hours of 3.15  
on the 28.11.2005

Execution Admitted by

Left thumb



P. Jeyaraj, Sr. Paundirai Tamil Nadu Minerals Limited,  
Divisional manager Chennai High Dispensation of  
Income Tax Permanent Account Number  
AEFP 6196378, Verified representative  
of Tamil

Identified by

*[Signature]*

S/O S. Sureshwar

S/O S. Sureshwar

Chennai - 600 090

*[Signature]*

S/O. Sureshwar

S/O Sureshwar  
Chennai, Madras

I have satisfied myself as to the  
execution of this instrument by  
Thiru S. Sureshwar, Collector of Karur  
who is exempted from personal  
appearance under section 88 (1)  
of the Registration Act.

Registered as No. 3393 of 2005 of Book 1... 28th Day of... March... 2005  
2nd day of Decem... 2005

*[Signature]*  
SUB REGISTRAR

NOTE:- one duplicate copy registered with the  
original.

Date:- 28.3.05.

*[Signature]*  
Sub Registrar

349



Issued to TAMILNADU MINERALS LTD. 04DD 238002  
 SOND 69

Sub Treasury Officer,  
 KULITHALAI.

2  
 2-2-05



assigns) on the one part, and Tvl. Tamil Nadu Minerals Ltd., Chepauk, Chennai  
 an undertaking of Government of Tamil Nadu, (hereinafter called "the lessee" which  
 expression shall where the context so admits include its successors and assigns) on the  
 other part. (As Executed by Power Agent <sup>M. P. Giridharan</sup> as per document  
 NO. 188/2002 of Book 4) Registered at S. R. O. (Tirupur)

Correction ? Nil

Insertion. Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
 (P. GIRIDHARAN)  
 DIVISIONAL MANAGER

LESSEE



Handwritten text at the top: '2-1/2005' and other illegible scribbles.

Presented in the office of  
the Sub-Registrar of  
Manaparai for the  
purpose of...  
the...  
the...

Execution Admitted by  
Left thumb  
*[Signature]*

Impounding No: 56 / 2005  
I here by certify that a sum of Rs. 1,65,507/-  
(Rupees One Lakh Sixty Five Thousand + Seventy only)  
on account of deficit stamp duty and a sum of  
Rs. 100/- (Rupees One Hundred only)  
on account of penalty have been Levied in respect of  
this Instrument From M. Tamil Nadu Minerals Ltd.,  
Chepauk, Chennai

District Registrar Office, District Registrar  
Trichirapalli (Collector O/S. 32 of Indian Stamp  
Dated 26.10.05 (Act of 1899) Trichy.

*[Signature]*  
26/10/05

Document No. 3393 2005  
of book... 34 Sheets 2  
Sheet

*[Signature]*  
Sub-Registrar



351



Issued to TAMIN KUL  
 20 NO 70

Sub Treasury Officer,  
 KULITHALAI.  
 20.2.05

04DD 238003



Whereas the lessee has applied to the lessor for a lease of lands in the Karur District for the purpose of mining for Other types of Granite (Multi-Colour Granite) and has deposited with the Collector of Karur the sum of Rs. 20,000/- as security for the due and faithful performance by the lessee the covenants and conditions on the part of the lessee hereinafter contained.

Correction: Nil

insertion: Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
 (P. SRIDHARAN)  
 DIVISIONAL MANAGER

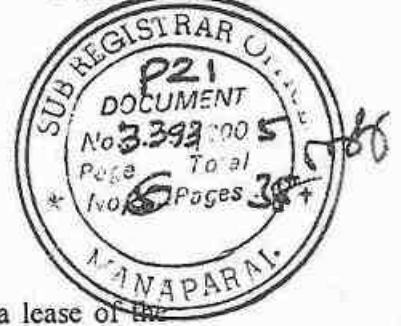
LESSEE

333



James & Co TAMMIL, Kulithalal 04DD 238004  
 Send 71

*[Signature]*  
 Sub Treasury Officer,  
 KULITHALAL.  
 2-2-05



And whereas the lessor has agreed to grant the lessee a lease of the lands and premises hereinafter described.

**NOW THESE PRESENTS WITNESS AS FOLLOWS:-**

1. The lessor hereby demises to the lessee all those several pieces or parcels of land situate in the village of Naganur in the sub-registration district of Manapparai in the State of Tamil Nadu being more particularly described in the schedule hereunder written and delineated in map or plan hereunto annexed and therein coloured.

Correction : Nil

Impostion : Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

**For Tamilnadu Minerals Limited**

*[Signature]*  
 (P. GIRDHARAN)  
 DIVISIONAL MANAGER

LESSEE

353



Issued to TAMIN, No. 2000 22

04DD 238005

*Sub Treasury Officer,*  
**KULITHALAI.**



2. There are included in the said demise and for the purposes thereof the liberties following:-

- (1) To get from the said demised pieces of land.
- (2) For the purpose aforesaid to use any water in or under the said demised pieces of land and to divert the same and to make or construct any water courses or ponds so, however, that nothing shall be done in the exercise of this authority which shall interfere with the rights of any adjoining owners or tenants of the lessor in respect of such water.

Correction: Nil

Insertion: Nil

For Tamilnadu Minerals Limited

*P. G. Gnanasudhan*  
 (P. G. GRIHARAN)  
 DIVISIONAL MANAGER

LESSEE

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

351



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 Sub Treasury Officer, 27  
 KULITHALAI.  
 2.2.05



(3) Generally to do all things which shall be convenient or necessary for getting the Other types of Granite (Multi-Colour Granite) hereby authorised to be got and for removing and disposing thereof as required under rule 8-D of the Tamil Nadu Minor Mineral Concession Rules, 1959.

3. There are excepted from and reserved to the lessor out of this demise:-  
 (1) All earth minerals and other substances not herein before expressly authorised to be got from the demised lands by the lessee.

Correction: Nil  
 Insertion: Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited  
*[Signature]*  
 (P. GINDHARAN)  
 DIVISIONAL MANAGER

LESSEE



359



Bound to TAMIN-1LU 22 NO 7 04DD 22 007

Sub Treasury Officer,  
KULITHALAI.  
2.2.05



(2) Liberty for the lessor or other persons authorised by him to search for, work, get, carry away and dispose of the excepted mineral and other substances and for such purposes to have the right of ingress, egress and regress over the said demised pieces of land and to make, create and use all pits, machinery, buildings, roads and other necessary works and conveniences provided that the rights hereby reserved shall be exercised in such a way as to cause as little obstruction as possible to the lessee in the use and enjoyment of his rights hereunder and that reasonable compensation for damages caused by any such obstruction shall be paid to the lessee the amount thereof in case of difference to be settled by arbitration as hereinafter provided.

Correction of Nil

Inspection of Nil

For Tamilnadu Minerals Limited

*P. Giridharan*  
P. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

361



Issued to TAMIN, Kulithalal 7504DD 238008

Sub Treasury Officer,  
KULITHALAL



4. The said premises shall be held by the lessee for the term of 20 years from the 27<sup>th</sup> day of January 2005, which shall however be determinable as hereinafter provided.
5. The lessee shall pay during the said term the area assessment, and Seigniorage fee or dead rent whichever is grater for the minerals removed or consumed at rates prescribed from time to time in Appendix II

Correction: NIL

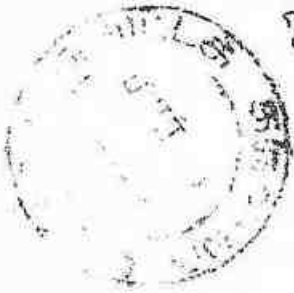
Insertion: NIL

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
P. G. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE



Issued to TAMILNADU MINERAL LTD NO 96 04DD 238009

*m*  
2.2.05  
Sub Treasury Officer,  
KULITHALAI.



- (1) The said area assessment of Rs. 2,024/- (Rupees Two thousand and twenty four only) per year payable by the lessee shall be paid in advance before the commencement of the period of each year of the lease; and
- (2) The said seigniorage fee for the mineral sought for removal at the rate of Rs. 1,575/- (Rupees one thousand five hundred and seventy five only) per cubic metre shall be paid before the mineral is removed from the said demised pieces of land.

Correction in Nil  
insertion in Nil

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

**For Tamilnadu Minerals Limited**  
*[Signature]*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER

LESSEE

365



Signed by TAMILNADU MINERALS LTD. 04DD 238010

Sub Treasury Officer,  
KULITHALAI.  
2.2.05



6. The lessee hereby covenants with the lessor as follows:-

- (1) To pay the area assessment, and Seigniorage fee or Dead rent whichever is greater on the days and in the manner aforesaid.
- (2) To bear, pay and discharge all existing and future rates, taxes, assessment, duties, impositions, out goings and burdens whatsoever imposed or charged upon the owner or occupier in respect thereof or payable by either in respect thereof except such charges or impositions as the lessee is or may hereby be by law exempted from.

Confidentiality of NLD

Integrity of NLD

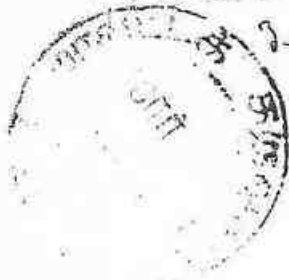
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*(Signature)*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER

LESSEE

367



Issued to RAMIN, I.L. S. NO- 28

04DD 238011

Sub Treasury Officer,  
KULITHALAI.

22.05



- (3) Before digging or opening any part of the said demised pieces of land for quarrying Other types of Granite (Multi-Colour Granite) carefully remove the surface soil to a depth of at least one metre and lay aside and store the same in some convenient part of the said demised piece of land until the land from which it has been removed is again restored to a state, fit for cultivation as hereinafter provided.
- (4) To effectually fence off the same demised pieces of land from the adjoining lands and to keep the fences in good repair and condition.

Correction : Nil

Insertion : Nil

DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

P. G. SRINIVASAN  
DIVISIONAL MANAGER

LESSEE

369



Issued to Admin, Kulasekhar 79

04DD 238012



Sub Treasury Officer,  
KULITHALAI.  
2-105



- (5) Not to assign underlet or part with the possession of the demised premises or any part thereof without first obtaining the written consent of the lessor.
- (6) After working out any part of the said demised pieces of land forthwith to level the same and replace the surface soil thereof and slope the edges where necessary so as to afford convenient connection with the adjoining land.

Correction: Nil

insertion: Nil

For Tamil Nadu Minerals Limited

*P. Giridharan*  
P. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

371



Issued to TAMIN, Kul SEN 04DD 238013

Sub Treasury Officer,  
KULITHALAI.



(7) That the lessee shall keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of the mineral obtained by the lessee from the said lands and also the number of persons employed in carrying on the said mining operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plan of all mines and workings in the said lands and shall allow, any officer thereunto authorized by the Government from time to time and at any time, to examine such accounts and any such plans and shall when so required supply and furnish to the Government all such information and returns regarding all or any of the matters aforesaid the Government shall from time to time require and direct.

Correction: Nil

Insertion: Nil

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
P. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE



Binded to TAMILNADU S.R. NO. 80 04DD 238014

Sub Treasury Officer,  
KULITHALAI.

2.2.05



(8) That the lessor's agents, servants and workmen shall be at liberty at all reasonable times during the said term to inspect and examine the works carried on by the lessee under the liberties herein before granted and the lessee shall and will from time to time and at all times during the said term hereby granted conform to and observe all orders and regulations which the lessor or his authorised agent as the result of such inspection may from time to time see fit to impose to keep the premises in good and substantial repair order and condition or in the interest of public health and safety.

Correction: 2 NU

Insertion: 2 NU

DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*P. Giridharan*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER.

LESSEE





Issued to TAMINU, Kulithalai  
 Sr no 66

01DD 792399



Sub Treasury Officer,  
 KULITHALAI.

ND  
 2.2.05



(9) That the lessee shall not without the express sanction in writing of the collector cut down or injure any timber or trees on the said lands but he may clear away brush wood or undergrowth which interferes with any operations authorised by these presents.

Correction: Nil

Insertion: Nil

DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*P. Giridharan*  
 (P. GIRIDHARAN)  
 DIVISIONAL MANAGER

LESSOR

375



Issued to - TAMMAN; Kulithalai  
 2205 - 67

Sub Treasury Officer,  
 KULITHALAI  
 2205

01DD 797400



(10) That if the lands shall be used for any purpose other than mining for other types of Granite (Multi-colour Granite) or if they are not at any time used for the said purpose the lessor shall be at liberty to terminate the lease without notice.

Correction: Nil

Insertion: Nil

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
 P. GRIDHARAN  
 DIVISIONAL MANAGER

LESSEE



Sumo → TO TAMILNADU MINERALS, KULITHALAI SONG 65  
04AA 607816

Sub Treasury Officer,  
KULITHALAI.

2.2.2005



(11) That this lease may be terminated in respect of the whole or any part of the premises by six months notice in writing on either side.

(12) That on such determination the lessee shall have no right to compensation of any kind.

Correction: NIL

Insertion: NIL

For Tamilnadu Minerals Limited

*P. Giridharan*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER

LESSEE

*J.M.*  
DISTRICT COLLECTOR  
KARUR.



Issued to TAMM-Kulithalai 22NO-62

Sub Treasury Officer,  
KULITHALAI.



(13) That the land assessment, cess and seigniorage payable under these presents shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864 (Tamil Nadu Act II of 1964) or any subsisting statutory modification thereof.

Correction : NO

insertion : NO

DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*E. Giridharan*  
E. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE



Issued to RAMIN Kulithalai SE NO-63

Sub Treasury Officer,  
KULITHALAI.



(14) At the determination of the lease, to deliver up the demised premises in such condition as shall be in accordance with the provisions of these presents save that the lessee shall, if so required by the lessor, restore in manner provided by the foregoing covenant in that behalf the surface of any part of the land which has been occupied by the lessee for the purpose of the works hereby authorised and has not been so restored.

Correction, ३ नु

insertion, ३ नु

DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*P. Giridharan*  
[P. GIRIDHARAN]  
DIVISIONAL MANAGER

LESSEE



Isudro Mining, Kulithalai sero-64

Sub Treasury Officer,  
KULITHALAI.



(15) That the lessee shall abide by the conditions laid down in the payment of Wages Act, 1936 (Central Act IV of 1936), the Mines Act, 1952 (Central Act XXXV of 1952) and Indian Explosives Act, 1884 (Central Act IV of 1884), and

Correction: N/D

Insertion: N/D

DISTRICT COLLECTOR  
KARUR.

for Tamilnadu Minerals Limited

*P. Giridharan*  
P. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE



Issued to A MIN, Kulithalai SINO-59

Sub Treasury Officer,  
KULITHALAI.

2.1.05



The lessor hereby covenant with the lessee that the lessee paying the land assessment, the cess and the seigniorage fee hereby reserved and observing and performing the several covenants and stipulations on the part of that lessee herein contained shall peacefully hold and enjoy the premises, liberties and powers hereby demised and granted during the said term without any interruption by the lessor or any persons rightfully claiming under or in trust for him.

Correction, १ नई

Insertion, १ नई

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
P. GIRIDHARAN  
DIVISIONAL MANAGER

LESSEE



Registered to TANIM, Kulithalai SOND. 60

Sub Treasury Officer,  
KULITHALAI

2.2.05



8. It is hereby further agreed between the parties as follows :-

- (1) If any part of the land assessment, cess or seigniorage hereby reserved shall be unpaid for thirty days after becoming payable (whether formally demanded or not) or if the lessee becomes insolvent or if any covenant on the lessee's part herein contained shall not be performed or observed, then and any of the said cases it shall be lawful for the lessor at any time thereafter to declare the whole or any part of the said security deposit of Rs.20,000/- to be forfeited and also to reenter upon the demised premises or any part thereof and thereupon the demises shall absolutely determine but without prejudice to the right of any other action of the lessor in respect of any breach of non-observance of the lessee's covenants herein contained.

Correction : Nil

Insertion : Nil

For Tamilnadu Minerals Limited

P. Giridharani  
(P. GIRIDHARANI)  
DIVISIONAL MANAGER

LESSEE

  
DISTRICT COLLECTOR  
KARUR.





Issued to TAMM, Kul SEND 68

Sub Treasury Officer,  
KULITHALAI.



- (2) At the determination of the lease, the lessee shall be at liberty to remove, carry away and dispose of all engines, machinery, plant, articles and things whatsoever (not being building or brick or stones), the lessee first paying any land assessment, cess and seigniorage and other sums which may be due and performing and observing the covenants on his part hereinbefore reserved and contained and also making good any damage done by such removal but any buildings which shall be erected on the said demised pieces of lands by the lessee and left thereon at the determination of lease shall be the absolute property of the lessor who shall not be bound to pay any price for the same.


Correction 7 Nil

Insertion 8 Nil

For Tamilnadu Minerals Limited

  
(P. CHIDHARAN)  
DIVISIONAL MANAGER

LESSEE

  
DISTRICT COLLECTOR  
KARUR.



Issued to TAMILNADU Minerals Ltd No. 56

Sub Treasury Officer,  
KULITHALAI.

22.05



(3) If the lessee shall have paid the land assessment, cess and seigniorage due to the Government and duly reserved and performed the covenants and conditions on his part herein contained, the said deposit of Rs. 20000/- shall be returned to him at the expiration of the said term of 20(Twenty) years.

Correction, # Nil

Insertion, # Nil

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER

LESSEE

39

50 Rs.



Issued to TAMINW, Kulithalai S/NV-58

Sub Treasury Officer,  
KULITHALAI.

22.05



**CONDITIONS SPECIFIED IN THE G.O. Ms. No.14 INDUSTRIES (MME1)**  
**DEPARTMENT DATED 27.01.2005.**

1. The permission granted to the lessee to quarry other types of granite (Multi-colour granite) in the said land for 20 years from 27<sup>th</sup> day of January 2005 to 26<sup>th</sup> day of January 2025.

Correction: 3 Nil

Insertion: 2 Nil

For Tamilnadu Minerals Limited

*P. Giridharani*  
 P. GIRIDHARANI  
 DIVISIONAL MANAGER

LESSEE

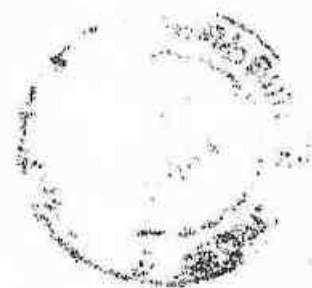
*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

393

10 Rs.



Issued to: Tamil Nadu Minerals Ltd, Karur  
 SENG - 53 JMD Treasurer Officer,  
 KULITHALAI,  
 2.2.2005



2. The lessee besides area assessment shall pay seigniorage fee or dead rent whichever is greater at the rates prescribed from time to time in the Appendix-II to the Tamil Nadu Minor Mineral Concession Rules, 1959. The lessee shall also pay such other levies as may be prescribed by the State Government from time to time.

Correction, 2 Nil

Insertion, 2 Nil

  
 DISTRICT COLLECTOR  
 KARUR.

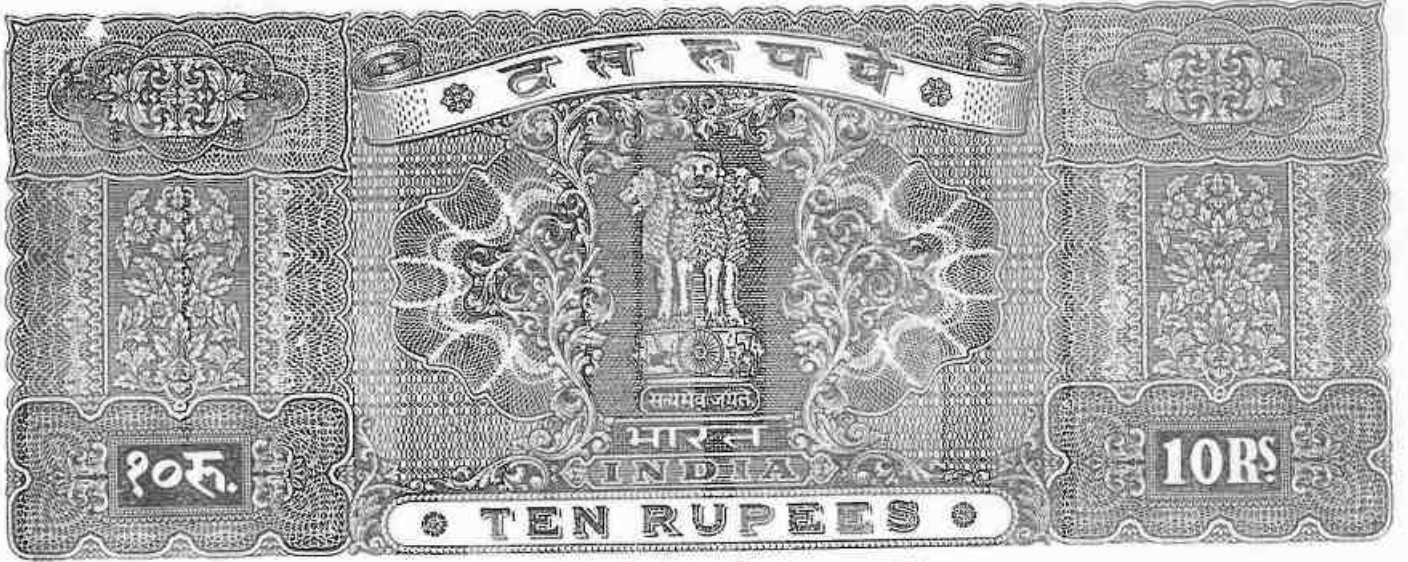
For Tamilnadu Minerals Limited

  
 (P. GIRIDHARAN)  
 DIVISIONAL MANAGER

LESSEE

395

10 Rs.



Issued to TN Minerals Ltd Sano-54

Sub Treasury Officer,  
KULITHALAI.

10  
2-2-25



3. The lessee shall remove and transport the mineral from the leasehold area after obtaining a transport permit from the District Collector concerned or any other officer authorised by him in this behalf subject to the condition and procedure laid down in this Rules.

Collection of ...

Inspection of ...

*[Signature]*  
 DISTRICT COLLECTOR  
 KARUR.

For Tamilnadu Minerals Limited

*[Signature]*  
 (P. GIRIDHARAN)  
 DIVISIONAL MANAGER

LESSEE

397

10RS.



Issued to **RAMIN, Kulithalai** SO. NO-55

*M*  
12.05  
**Sub Treasury Officer,**  
**KULITHALAI.**



4. The lessee shall carry out the quarrying operations in a skillful, scientific and systematic manner keeping in view the proper safety of the labourers conservation of minerals and preservation of environment and ecology.

Correction: 3 NO

Research: 3 NO

*[Signature]*  
**DISTRICT COLLECTOR**  
**KARUR.**

For Tamilnadu Minerals Limited

*[Signature]*  
**[P. GIRIDHARAN]**  
**DIVISIONAL MANAGER**

**LESSEE.**

399



552  
2/2/05

குதிரை காரை கிழவனாடம்  
கொட்டிமுலை

M. Krishnamoorthy (S)  
M. கிருஷ்ணமூர்த்தி,  
L. No. 4/2000  
கு. தா. விற்பனையாளர்,  
கொட்டிமுலை, கரூர்-DV.



5. The lessee should keep correct accounts showing the quantity and other particulars of all minerals obtained at the factory site and despatch from the factory.

6. The lessee shall allow any officer authorised by the State Government and the Commissioner of Geology and Mining or the District Collector or the District Forest Officer, as the case may be to enter upon the area and inspect for the purpose mentioned in sub-rule (9) and for any other purpose as may be required for implementation or adherence of the conditions of the lease or provisions or conditions stipulated in the Act or these rules or any other Act or Rules made by the Central Government or the State Government.

Correction, N.U.

Insertion, N.U.

  
DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER.

LESSEE

201

7. The execution of the lease deed and its registration be done at the cost of the lessee.

8. No hindrance shall be caused to the adjoining pattadars or public.

9. The lessee should restrict his mining operation strictly within the leasehold area as defined in the sketch.

10. The terms and conditions are also subject to any such further modifications, deletion and additional alternation as may be ordered by the Government to be included in the lease deed to be executed for this purpose.

11. The lessee should maintain at his cost proper sign boards indicating the survey numbers, year of the lease, name of the lessee and the lease period to the satisfaction of the District Collector / Director of Geology and Mining and maintain it at all times at the quarry site.

12. No working shall be made within a distance of 7.5 metres of the boundaries of the lease area.

13. The lessee should make their own arrangement to form the approach road from the public road to the place of its quarry.

14. The waste materials generated should be dumped in the area granted under lease.

15. The lessee should allow a safety distance of 10 metres for the water tank (Poramboke Kuttai) situated in S.F.No. 151 of Naganur Village.

16. The grant of renewal of lease ordered is subject to further modifications additions, and alterations as may be ordered by the Government to be included in the lease deed.

Correction, 3 Nil

Insertion, 3 Nil

DISTRICT COLLECTOR  
KARUR.

For Tamilnadu Minerals Limited

  
[P. GIRIDHARAN]  
DIVISIONAL MANAGER

LESSEE





(H03)

**THE SCHEDULE**

Name of Taluk	Number and Name of the Village	Survey Field Number	Extent in Hectares	Assessment	Boundaries North, South, West and East.
1	2	3	4	5	6

Kulithalai	Naganur	120 (Part)	10.12.0	Rs. 200/- per hectare per annum	North: Kalugur village.
------------	---------	---------------	---------	---------------------------------------	-------------------------

South: S.F. No. 117,  
120 (P), 151

East: S.F. No. 121, 122,  
123, 134

West: S.F. No. 118, 119.

Correction of nil

insertion of nil

**For Tamilnadu Minerals Limited**

*P. Giridharan*  
(P. GIRIDHARAN)  
DIVISIONAL MANAGER,

**LESSEE**

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.



405

IN WITNESS where of Thiru.A.Karthik ,I.A.S., acting for and on behalf of and by the order and direction of the Governor of Tamilnadu, and Tvl.Tamil Nadu Minerals Limited, Chennai have hereunto set their respective hands.

Signed by the above named.

*[Signature]*  
DISTRICT COLLECTOR  
KARUR.  
the lessor in the presence of

Witnesses :

1. *[Signature]*  
(R. SONDARAM)  
ASSISTANT  
GEOLOGY AND MINING  
KARUR DISTRICT.

2. *[Signature]*  
CA.R. MOORTHY)  
Special Revenue Inspector  
(Mines)

Signed by the above named

For Tamilnadu Minerals Limited

*[Signature]*  
IP. GIRIDHARAM  
DIVISIONAL MANAGER.  
the lessee in the presence of

Witnesses :-

1. *[Signature]*  
DIVISIONAL MANAGER,  
TAMILNADU MINERALS LIMITED

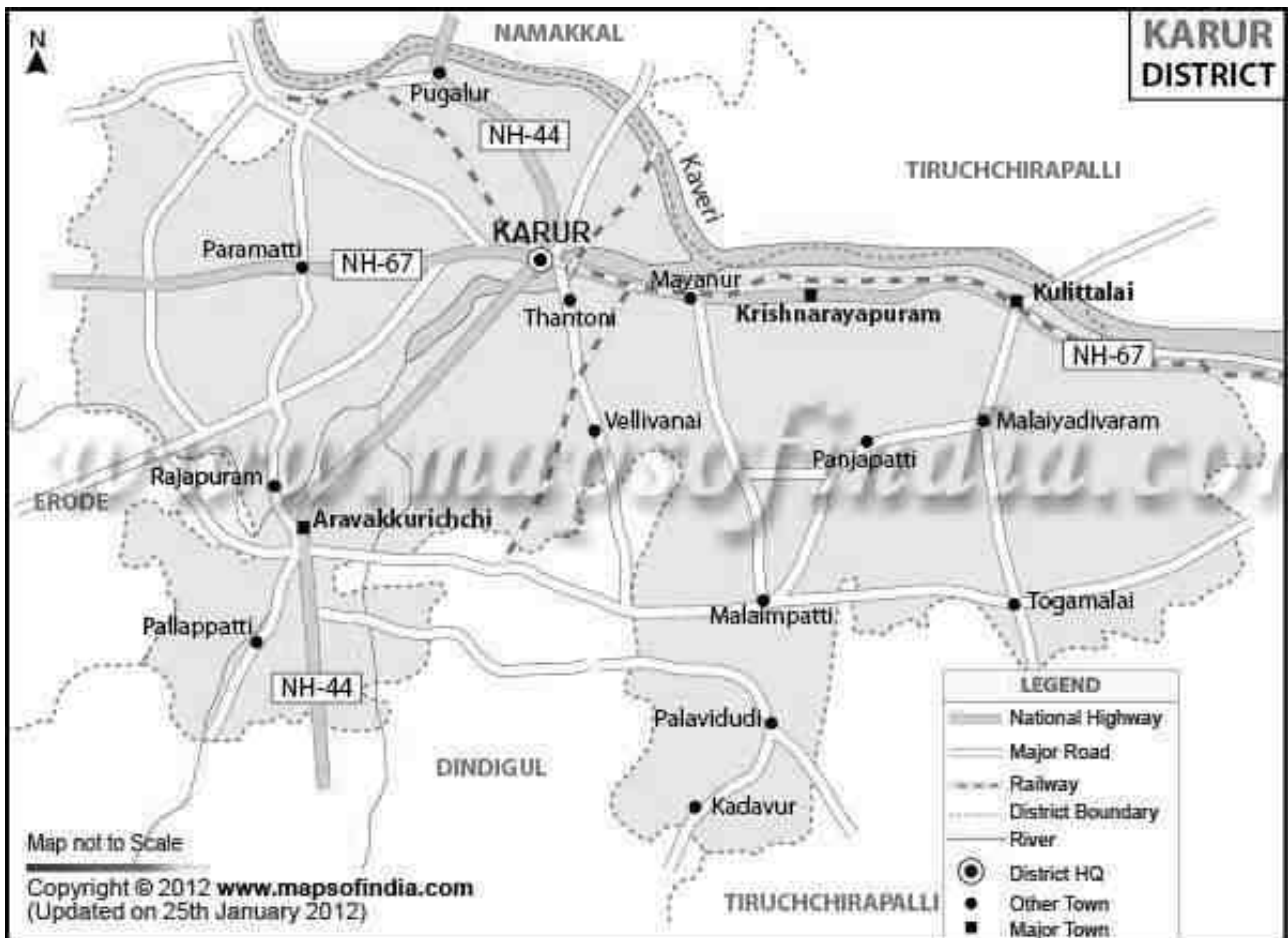
2. *[Signature]*  
CP. SURESH AMMAL  
SUPERVISOR  
TAMILNADU MINERALS LIMITED



# **Annexure 6 - District Survey Report**

# 1. Introduction:-

In pursuance to the Gazette Notification, Ministry of Environment, Forest and Climate Change, the **Government of India Notification No. S.O.3611 (E) dated 25.07.2018** laid procedure for preparation of District Survey Report of minor minerals other than sand mining or river bed mining. The main purpose of preparation of District Survey Report is to identify the mineral resources and developing the mining activities along with other relevant data of the District.



## 2. Overview of Mining Activity in the District:-

The Karur District forms part of the Archean complex of peninsular gneiss. The general rock types of this area are Charnockite, Biotite gneiss, Migmatites and Anorthosites. Karur District is blessed with good reserves of Crystalline Limestone known as “**Palayam belt**” in Varavanai, Thennilai, Gudalur etc., villages in Kulithalai Taluk and the occurrences of good quality of pegmatite veins constituting with glassy Quartz and potash Feldspar in lensoid patches in Nagampalli and Pungambadi areas in Aravakurichi Taluk. The major mineral such as Limestone, Quartz and Feldspar and Magnesite and Dunite are exploited in Karur District and utilized in the mineral based industries.

The **Charnockite and Granite Gneiss rocks** are found to occur in K.Paramathi, Athur, Thennilai, Punnam, Kuppam, Munnur, Karudayampalayam, Anjur villages in Karur and Aravakurichi Taluk are exploited to produce building materials and road metal (Jelly) and over burden soil appear as gray to reddish in colour called as gravel.

The commercially known “**ColoumboZubrana**” the unique type in the **Multicoloured Granite / Granite Gneiss** category is occurring in Thogamalai, Naganur and Kazhugur Villages in Kulithalai Taluk. These rock type belong to minor mineral category. The arrangement of alternate layers of felsic and mafic minerals in linear pattern and exhibits wavy pattern in the rock and giving very good structure for the rock type. The well developed gneissic pattern with linear arrangement, the rock type have attracted the granite market and found to be suitable for the exploitation of granite blocks.

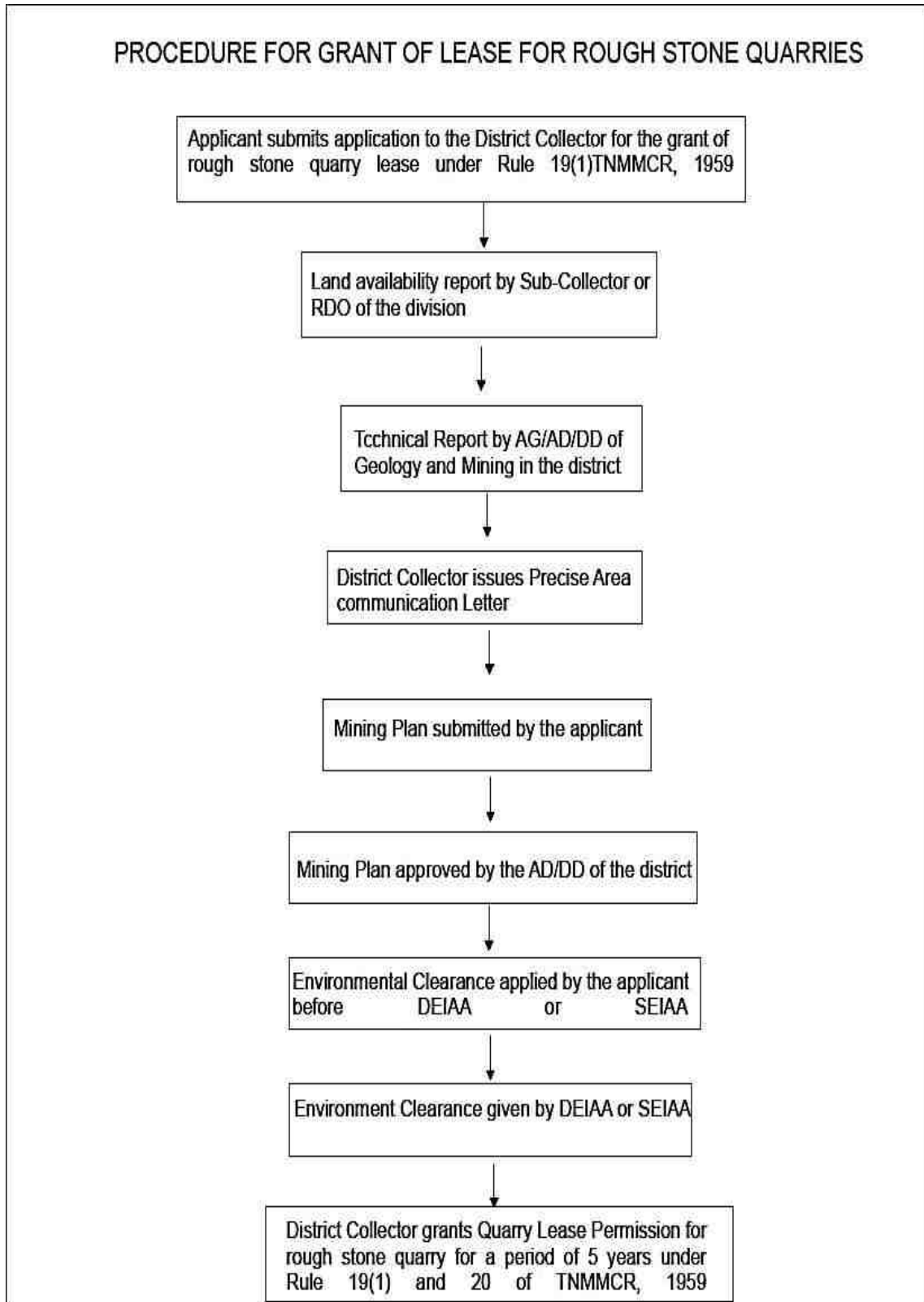
Calc-Gneiss (called as colonial white occurs in Pitchampatti Village of Karur Taluk are of export worthy quality commodity known at K.Pitchampatti Village.

**Details of minor mineral quarry leases in patta and Government (poromboke) lands in the district**

Table No.1 Details of quarrying leases in patta and poromboke lands in the district

<b>S. No.</b>	<b>Name of the Mineral</b>	<b>Classification of Land</b>	<b>No.of Existing leases</b>
1.	Limestone	Patta	14
		Government land	2
2.	Magnasite&Dunite	Patta	2
3.		Government land	-
4.	Quartz and Feldspar	Patta	55
		Government land	-
5.	Granite	Patta	49
		Government land	5
6.	Rough Stone	Patta Land	154
		Government Land	7
7.	Gravel/Earth	Patta	4

**Table No.**The Procedure for grant of lease for Quarry



The majority of the minerals available in this district and their brief details are as follows: -

**a) Limestone:-**

Low grade to Cement grade limestone is found extensively at Kulithalai Taluk (Thevarmalai, Melapaguthi, Varavanai, Vellalapatti, Keeranur, Pothuravuthampatti, Kalladai, Kaliyapatti etc., villages), at Aravakurichi Taluk (Esanatham, Ammapadi, Alamarathupatti, Thennilai etc., villages) and K.Pitchampatti of Karur Taluk. The limestone is being used at Cement industries, as fillers in the fertilizer and in the cement factories. Presently 30 leases are existing at Karur District.

**b) Magnesite & Dunite quarry:-**

Aravakurichi, Thenilai Latitude 10° 59' 03.29" Longitude 77° 53' 15.57".

**c) Granite:-**

There are good quality of hard rocks which are particularly available at Kulithalai and Aravakurichi Taluks. But the rocks available at Thogamalai, Naganur, Kalugur and Porunthalur of Kulithalai Taluk are of export worthy and they are being operated for the extraction of granite block both by M/s. TAMIN and private companies.

**d) Quartz and Feldspar:-**

Milky to glassy variety of Quartz and Potash feldspar with an average of 12% potash is the common economic mineral available extensively at Aravakurichi Taluk (Pungambadi-West, Nagampalli, Punjaikalakurichi, Pavithram, Soodamani, Venjamangudalur (East), Aravakurichi, Kodanthur (South), Rajapuram, Kodaiyur etc., villages) less prominently at Kulithalai Taluk (D.Edayapatti, Sengal, Varavanai, Pannapatti, Vadavambadi etc., Villages) and at Karur Taluk (Velliyanai South Village). High grade Quartz is being exported, low grade used in the manufacture of glass and Feldspar in the ceramic and tile manufacturing industries. Presently 42 leases are existing at Karur District.



### **e) Gemstones:-**

Apart from the above good quality of Gem variety such as Ruby (cordierite in the cordierite sillimanite gneiss) and beryl (aquamarine in the pegmatite vein in acicular shapes) are the common man's hunt at Keeranur, Muthunaickenpatti, Varavanai and Pannapatti villages of Kulithalai Taluk. Other gem variety such glassy crystallised quartz, amethyst and moonstone (catsey etc., are also found in this area).

### **f) Roughstone:-**

The Charnockite rocks are found to occur in K.Paramathi, Punnam areas etc., of Aravakurichi Taluk which are exploited to produce building materials and road metals.

## **3. General Profile of the District:-**

Karur district lies between 10 °63' and 11°14 ' north latitude and 77 °90' and 78° 61' east longitude. Karur town is located on the bank of Amaravathi river. Karur is one of the oldest towns in the State of Tamil Nadu and has played a very significant role in the history and culture of the Tamils. Its history dates back over 2000 years, and has been a flourishing trading centre even in the early Sangam days. In the ancient and medieval times, the area was ruled by the Cheras, Gangas and Cholas. Karur was the capital of Cheras during the past Karur district came to existence on 30<sup>th</sup> September 1995 by bifurcation of Tiruchirappalli district. According to 2011 census, Karur district had a population of 10,76,588 with a sex-ratio of 1,015 females for every 1000 males. The district average literacy is 81.74%. The total area of Karur district is 2,895 square kilometer.

Karur consist of 7 Taluks viz., 1. Karur, 2.Kulithalai, 3.Aravakurichi, 4.Krishnarayapuram, 5.Kadavur, 6.Manmangalam, 7.Pugalur.

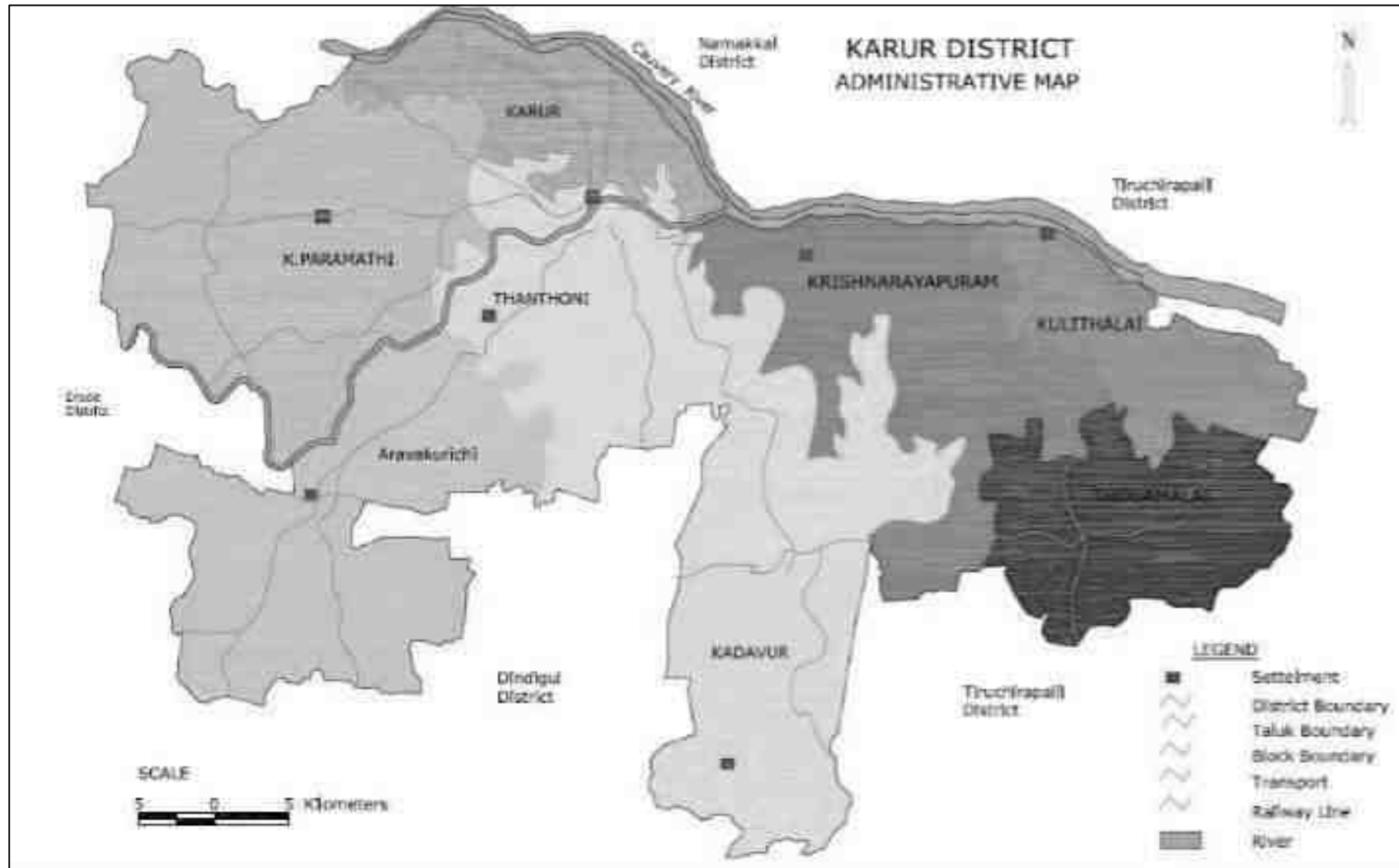
There are two national highways: NH-44 (North South Corridor Road (Kashmir to Kanyakumari)) Srinagar - Kanyakumari and NH-67 (Nagapattinam - Trichy - Karur - Coimbatore - Gudalur), which connect with other major towns.

The nearest airport is in Tiruchirappalli Airport (85 km). The nearest major sea port is at Thoothukudi (280 km).

**DISTRICT AT A GLANCE :**

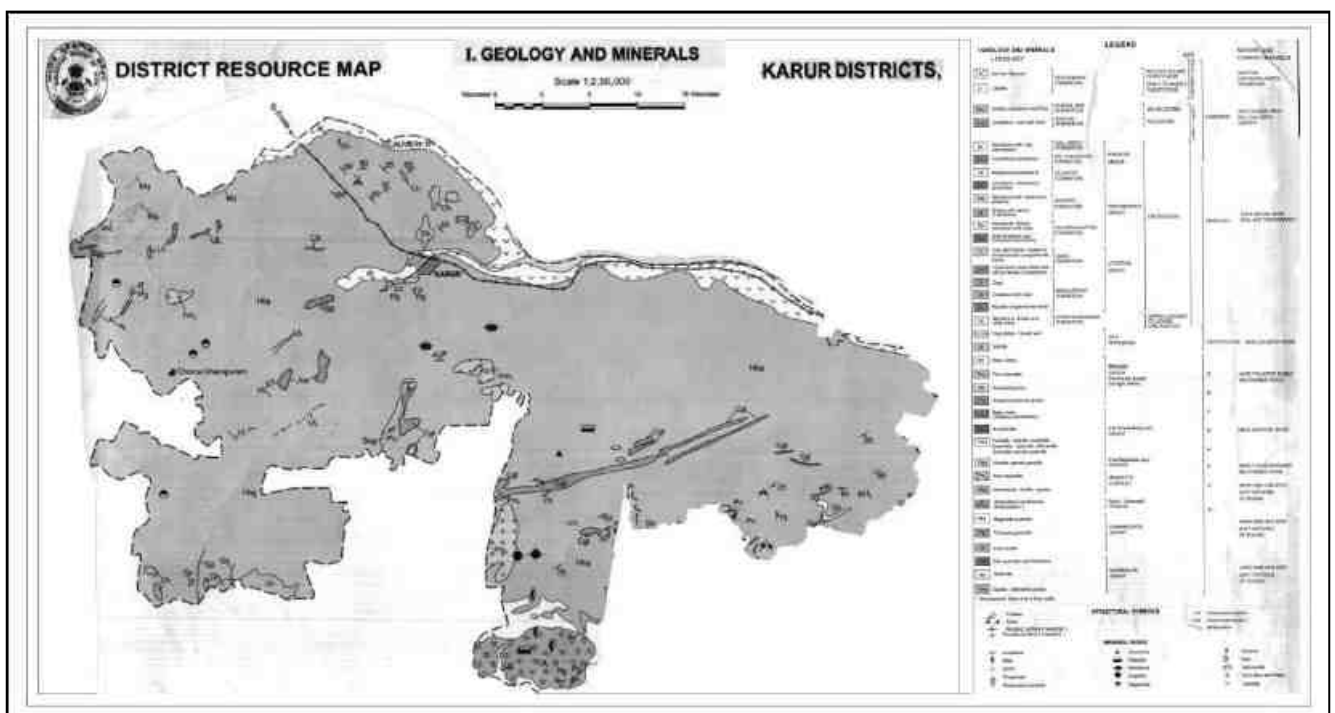
<b>Particulars</b>		<b>Statistics</b>	
<b>Geographical features</b>			
Geographical Data		2895.57 Sq.Kms	
i)Latitude		10.45" to 11.45" North	
ii)Longitude		77.45" to 78.07 East	
iii)Geographical Area			
<b>Administrative Units</b>			
i)Sub divisions		2	
ii)Tehsils		6	
iii)Sub – Tehsil		-	
v)Patwar Circle		-	
v)PanchayatSimitis		10	
vi) Nagar nigam		4	
vii) Nagar Palika 11		11	
viii) Gram Panchayat		158	
xi) Revenue villages		203	
x) Assembly Area			
<b>II.Population</b>			
Sex-wise			
i)Male		534392	
ii) Female		542196	
Rural Population		642415	
<b>III.Agriculture</b>			
Land Utilization			
i)Total Area		2010-2011	289557 Hec
ii)Forest Cover		2010-2011	6187 Hec
iii)Non Agriculture Land		2010-2011	37264 Hec
v)Cultivable Barren land		2010-2011	2901 Hec
<b>Forest</b>			
(i)Forest		2010-2011	6187 Hec
<b>Livestock &amp; Poultry</b>			
Cattle			
i)Cows		2007	143953
ii)Buffaloes		2007	73067
<b>Other Livestock</b>			
i)Goats		2007	173591
ii) Pigs		2007	10205
iii)Dogs & Bitches			31746
<b>IV) Railways (in km.)</b>			
(i)Length of rail line		2010-2011	93.85

<b>V) Roads</b>			
(a) National Highway	2010-2011		118.8
(b) State Highway	2010-2011		222.731
(c) Main District Highway	2010-2011		348.120
(d) Other district & Rural Roads	2010-2011		3769.03
road/Agriculture Marketing Board Roads	2010-2011		
f) Kachacha Road	2010-2011		
<b>VI) Communication</b>			
(a) Telephone Connection	2010-2011		118268
(b) Post offices	2010-2011		246
(c) Telephone center	2010-2011		100
(d) Density of Telephone	2010-2011	0 Person	126
e) Density of Telephone	2010-2011	.Per KM	40
(f) PCO Rural	2010-2011	No.	1339
(g) PCO STD	2010-2011	No.	295
(h) Mobile	2010-2011		373474
<b>(VII) Public Health</b>			
(a) Allopathic Hospital	2010-2011		6
(b) Beds in Allopathic Hospitals	2010-2011		419
(c) Ayurvedic Hospital			-
(d) Beds in Ayurvedic Hospital			-
(e) Unani Hospitals			-
(f) Community Health centers			-
(g) Primary health centers			36
(h) Dispensaries			104
i) Sub Health Centers			168
(j) Private Hospitals			32
<b>(VIII) Banking Commercial</b>			
(a) Commercial Bank			53
(b) Rural Bank Products			52
(c) Co-operative bank products			98
(d) PLDB Branches			03
<b>(IX) Education</b>			
(a) Primary School			568
(b) Middle Schools			186
(c) Secondary & Senior Secondary Schools			107
(d) Colleges			22
(e) Technical University			-



#### 4. Geology of the District:-

Geologically, the entire district can be classified into hard rock and sedimentary formations. Hard rock Formation: - More than 90 percent of the district is underlain by hard rock of Archaean age. The gneissic type of Formation is the major formation among the various types of hard rocks. Charnockite occurs in this district as pockets in Karur and Aravakurichitaluks. Quartzites which are resistant to weathering are also seen as patches in Charnockite and gneissic varieties and the above rock types are shown in Figure 3.5. Sedimentary Formation: - Recent alluvial deposits such as sand, silt, clay, gravel etc. which are transported sediments by river are found on either side of Cauvery river in Karur, Krishnarayapuram and Kulithalaiblocks. These formations are overlying the hard rock.



The entire area of the district is a pediplain. The Rangamalai hills and Kadavur hills occurring in the southern side of the district constitutes the remnants of the much denuded Eastern Ghats and rise to heights of over 1031m above mean sea level. The district general slopes gently towards north east and forms a vast stretch of plain country till the eastern boarder of the district. There are numerous small residual hills represented by Ayyarmalai, Thanthonimalai and Velayuthampalayam hills. The general elevation of the area is ranging between 100 m and 200m above mean sealevel. The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Structural hill, 2) Pediments, 3)Shallow Pediments, 4) Buried Pediments and 5) Alluvial plain.

#### 4.1 Soil:-

Soil types of the area are more important, since soil deposition is important for agricultural production and also for the recharge of groundwater. Different types of soil are derived from a geological formations. On the basis soil map of Karur district based on the survey by the Tamil Nadu Agricultural Department indicates four different types of soils viz., Red Soil, Thin Red Soil, Red Loam and River Alluvium Soil. The red soils are predominantly seen in Kadavur, Kulithalai, Krishnarayapuram, Thanthoni and Thogamalai blocks. The thin red soils are seen in Aravakurichi and K. Paramathy blocks. Major portion of Karur block is covered by red loom. Various types of crops raised in different types of soil in different parts of district.

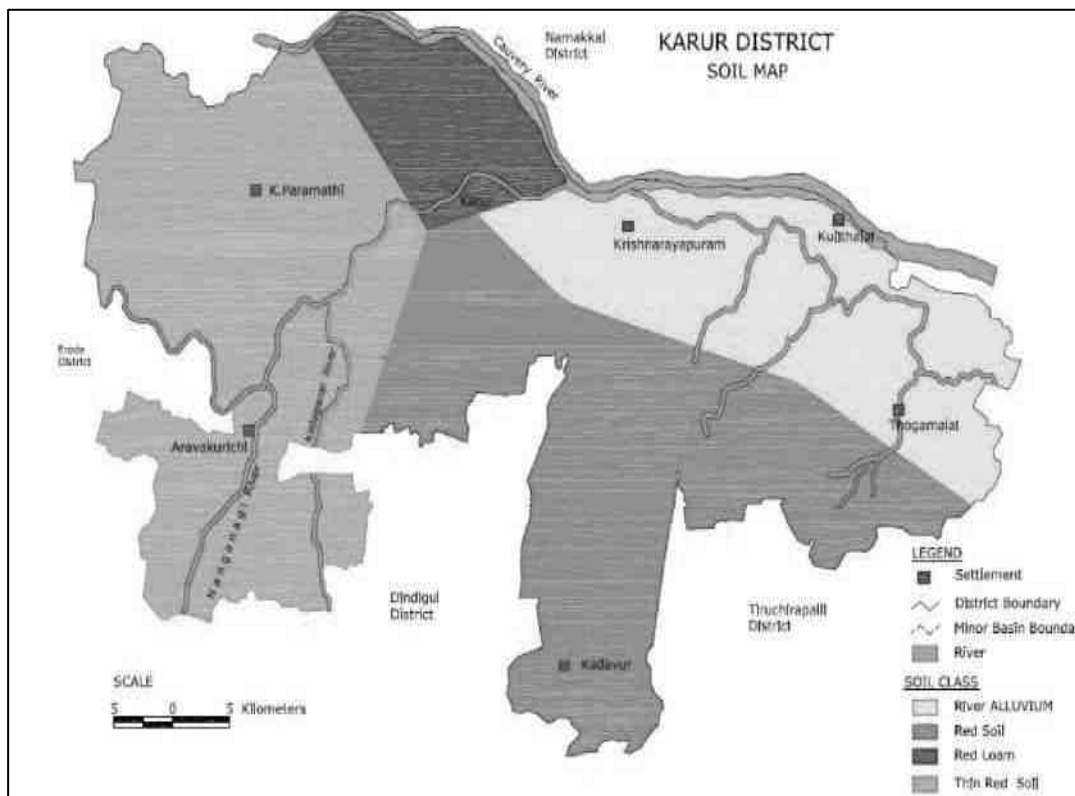


Fig: Karur District Soil Map

## 4.2. Geomorphology :-

The entire area of the district is a pediplain. The Rangamalai hills and Kadavur hills occurring in the southern side of the district constitutes the remnants of the much denuded Eastern Ghats and rise to heights of over 1031m above mean sea level. There are numerous small residual hills represented by Ayyarmalai, Thanthonimalai and Velayuthampalayam hills. The general elevation of the area is ranging between 100 m and 200m above mean sea level. The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Structural hill, 2) Pediments, 3) Shallow Pediments, 4) Buried Pediments and 5) Alluvial plain. An overall appraisal of groundwater occurrence in each geomorphic unit and the significance of its hydro geological characters are given, geomorphology and lineament details are given.

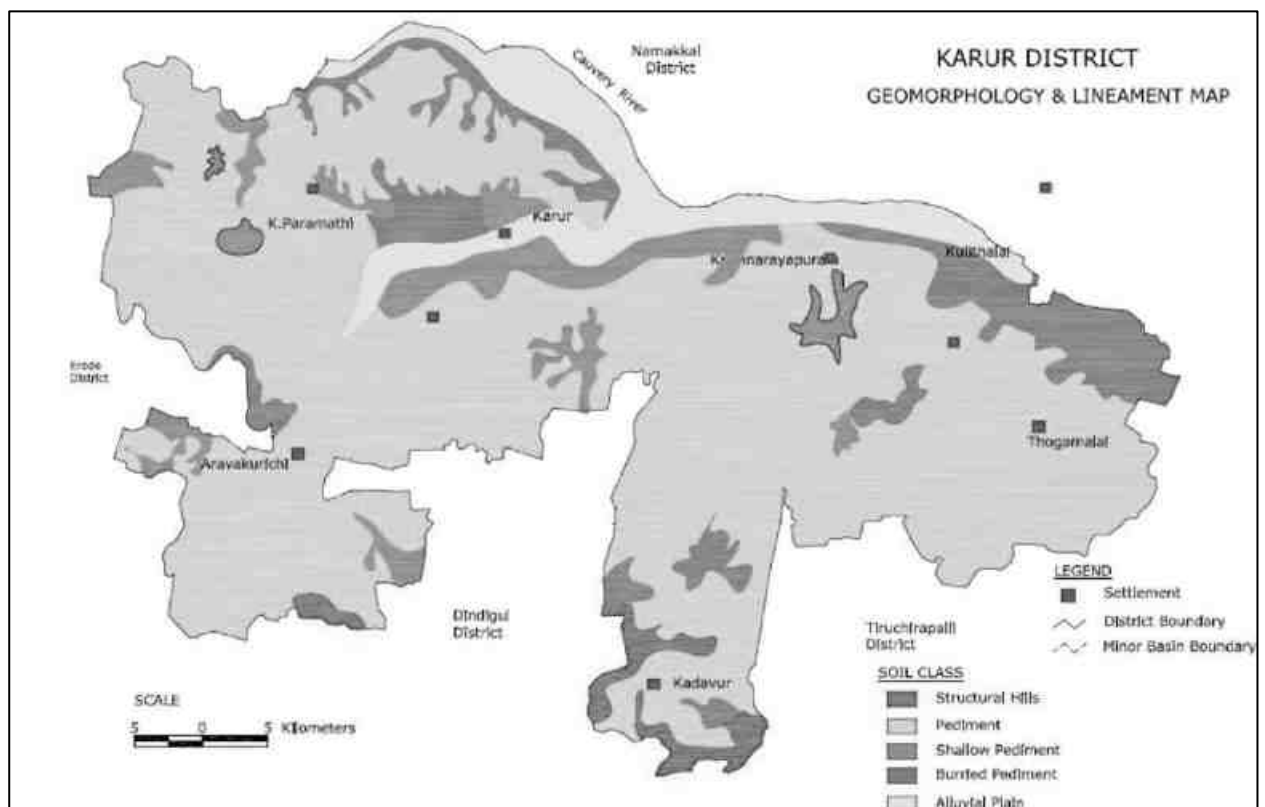


Fig: Karur District Geomorphology & Lineament Map



## 5. Drainage and Irrigation Pattern:-

Major part of Karur district is drained by Cauvery River. Amaravathi, Kodavanar and Pungar are the important rivers draining the western part of the district and the river Pungar drains in eastern part of the district. The drainage pattern, in general, is dendritic. All the rivers are seasonal and carry substantial flows during monsoon period.

S.No	Name of taluk	Area in ha.	No. of villages	Name of blocks	Area in ha.
1	Karur	60643	52	1. Karur	24335
2	Thanthoni	36308	26	2. Thanthoni	36308
26	2 Aravakurichi	97616	58	1. Aravakurichi	43689
22	2. K.Paramathi	53927	36	3 Kulithalai	49081
45	1. Kulithalai	18903	24	2. Thogamalai	30178
21	4 Krishnarayapur am	82217	48	1. Krishnarayapur am	39503
28	2. Kadavur	42714	20	Total	289557
203		289557	203		289557

**Source: Department of Statistics, Karur The river Cauvery is flowing on the northern and eastern boundaries.**

The river Amaravathi is flowing through Kparamathi, Aravakurichi, Thanthoni and Karur blocks and joins with Cauvery at Nerur. Kodavanar, which is one of the important tributary of Amaravathi River, drains the western part of the district. Originating in Rangamalai hills located in the boarder of Karur and Dindigul district,. It flows from south to north and joins with the river Amaravathi at Karuvadampatti. The Nanganji river, flowing in the western part of the district, has its origin from the Kottaivali hills in Dindigul district. It flows towards north through Aravakurichi and K.Paramathi blocks and joins with the river Amaravathi at Ariyur. The Pungar river, flowing across the eastern part of the district, has its origin in the Kadavur hills located in the southern part of Karur district. It flows towards north through Kadavur and Krishnarayapuram blocks and joins with the river Cauvery at Timmachalapuram.

### 1.4 Irrigation Practices

The nine-fold lands use classification for the district is given below.

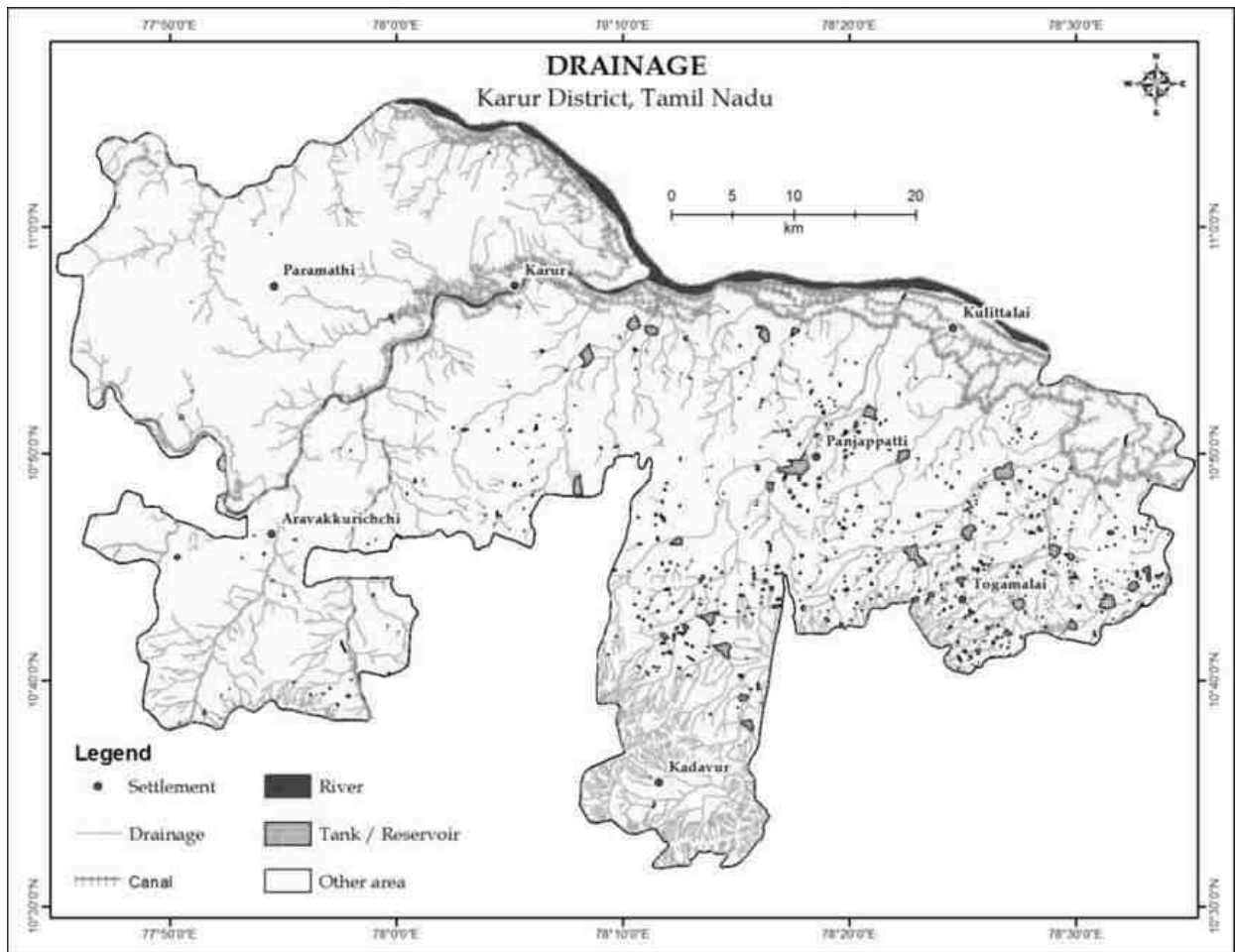
(2005-06)	S.No	Classification	Area (Ha)
1	Forests	6187	
2	Barren & Uncultivable Lands	2901	
3	Land put to non agricultural uses	37264	
4			

Cultivable Waste 67831 5 Permanent Pastures & other grazing lands 10801  
 6 Groves not included in the area sown 1278 7 Current Fallows 4774 8  
 Other Fallow Lands 46802 9 Net Area sown 111719 Total 289557 (Source:  
 Department of Economics & Statistics, Govt. of Tamil Nadu) The data  
 available indicate that an area of about 54709 ha, which is about 18.89  
 percent of the total geographical area of the district is under irrigated  
 agriculture.

Dug wells are the major source of water for irrigation in the district,  
 accounting for about 59.97 percent of the total area irrigated in the district.  
 Tube wells accounting for about 9.48 percent of the total area irrigated in  
 the district. Of the net are irrigated, the canal irrigated area is only 29.45  
 percent. The area irrigated under tank is 1.10 percent. It is observed that  
 the well irrigation is the highest in Thogamalai block followed by Kadavur  
 block. Canal irrigation is highest in Kulithalai block followed by  
 Krishnarayapuram, Karur and K.Paramathy blocks. Block wise and source  
 wise net area irrigated (2005-2006)

Sl.	Block	Canals	Tanks	Bore wells	Dug wells	Other Sources	Total Net Area Irrigated
1	Aravakurichi	0	39	1032	2908	0	3979
2	K.Paramathy	1605	0	864	1801	0	4270
3	Kadavur	0	140	954	5716	0	6810
4	Karur	2825	0	480	3458	0	6763
5	Krishnarayapuram	3225	163	460	5845	0	9693
6	Kulithalai	7654	104	140	1331	0	9229
7	Thanthoni	207	45	847	3918	0	5017
8	Thogamalai	598	110	410	7830	0	8948
9	Total	16114	601	5187	32807	0	54709

(Source: Department of Economics & Statistics, Govt. of Tamil Nadu).



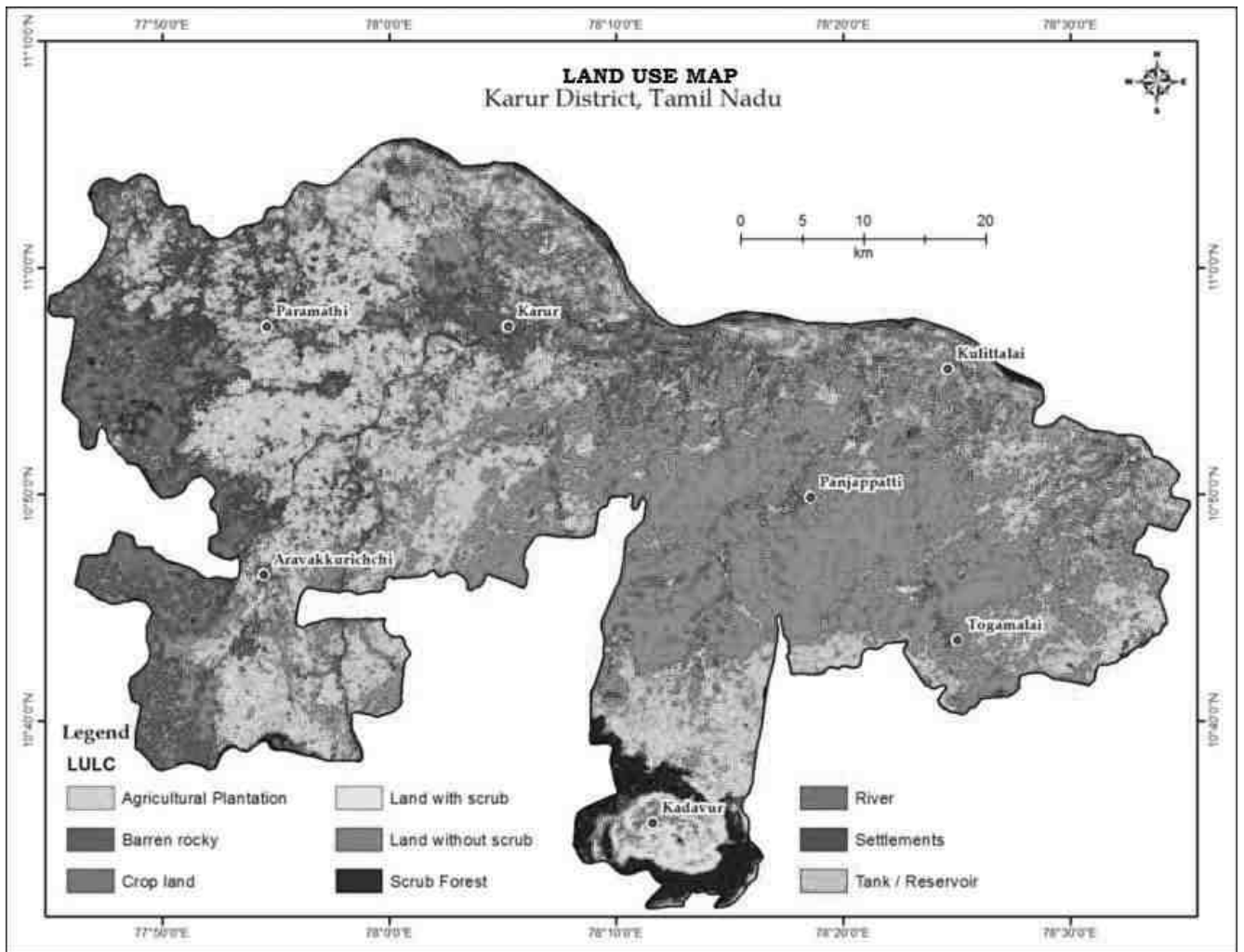
## 6. Land utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining, etc.,

Karur District is a part of cauvery delta region and utilization of land area in the district is up to 44.59%. 4.76% of the land area remains as other uncultivated land. 2.74% is forest area in Karur district. Black soil is the predominant soil type in this district accounting for 35.51% followed by laterite soil for 23.85%. The remaining 20.31% is sandy, coastal and alluvium soil. The main crops are paddy, banana, sugarcane, beetle leaf, grams&pulses, tapioca, kora grass, groundnuts, oilseeds, tropical vegetables, garland flowers, and medicinal herbs.

LAND UTILIZATION DETAILS:-

<b>Sl. No.</b>	<b>Particulars</b>	<b>Area in ha</b>	<b>% to the Total geographical area</b>
1	Total geographical area	289557	
2	Area under Forest	6187	2.14
3	Barren and uncultivable land	2901	1.00
4	Land put into non-agricultural uses	37264	12.87
5	Cultivable waste	67831	23.43
6	Permanent pastures and other grazing lands	10801	3.73
7	Miscellaneous tree crops and grooves not included in the net area sown	1278	0.44
8	Current Fallow	4774	1.65
9	Other Fallow	46802	16.16
10	Net Area Sown	111719	38.58
11	Area sown more than once	2835	0.98
12	Gross Cropped Area	114554	39.56

## LAND USE MAP OF KARUR DISTRICT



## **7. Surface Water and Ground water scenario of the District:-**

### **Ground Water:-**

Out of the total groundwater recharge, about 10% is kept reserved for natural recharge during non -monsoon period. The balance is earmarked as a suitable groundwater recharge for further development of irrigation. When the groundwater development is more than 100%, it is categorized as over exploited. When it is between 90 and 100%, it is categorized as critical. When it is between 70 and 90%, it is categorized as semi-critical. When it is less than 70% it is categorized as safe.

The groundwater quality is being monitored by PWD by analysing water samples from the monitoring wells in pre and post monsoon period. In Karur district 18 shallow open wells and 21 boreholes were selected for groundwater monitoring since 1972. In 2005 report PWD states that the groundwater quality of both shallow open well and borehole in Aravakurchitaluk is moderate with TDS values ranging between 818 to 1591 mg/L in the villages Karveli, Pudevadi, Thirumanickampatti, Vattamangalam, Karudayampalayam, Esanatham, Nagampalli, Kodanthuran Sendamangalam. The poor water quality for drinking purposes is observed in the villages of Paraiyur and Venjamangudalur with TDS value of 2570 and 2536 mg/L respectively. In Karur taluk in general the groundwater quality is moderate in the shallow open well and bore hole with TDS values ranging between 799 to 1703 mg/L in the villages of Kaliyappagoundanur, Puliur, Kakkavadi, Kuppachiplayam, Pudupalayam, 136 Jellipatti and Jagathapi. Only one village namely Kuppam is having poor quality water with TDS value of 6664 mg/L and the water is not suitable even for agricultural purposes. In Krishnarayapuram taluk, the quality of water is good in the villages of Devarmalai, Vengampatti and Kannimarpalayam with TDS values ranging between 321 to 500 mg/L both in shallow open well and bore holes. The moderate quality is observed in the villages of Manchanayakanpatti, Valayakaranpudur and Palaviduthi with TDS values between 566 to 1482 mg/L. The poor quality of water is observed in the village of Vayalur with TDS value of 5205 mg/L. In Kulithalaitaluk, the quality is moderate in all

villages of Pulitheri, Nachchalur, Nallur and Pillaigodangipatti with TDS values ranging between 532 to 1313 mg/L. The quality of water in this district is generally good for irrigation with sodium adsorption ratio (SAR) less than 10. However the quality of water in Kuppam villages of Karur taluk, Vayalur villages of Krishnarayapuram Taluk is having poor quality water for irrigation with SAR value 17.8 and 10.5 respectively.

Ground Water is found beneath the earth's surface and is an important source of water in most of the Districts in the State. Ground Water is withdrawn for Agriculture, Municipal and industrial use. The depth at which the ground water is found is called Ground water Table. The district is classified into different blocks based on the ground water abstraction rate.

<b>Over exploited (Greater than 100%)</b>	<b>Critical (Between 90 and 100%)</b>	<b>Semi - Critical (70 - 90%)</b>	<b>Safe (Less than 70%)</b>
K.Paramathy, Kadavur, Mailampatti, Pallapatti, Thennilai, Panjapatti, Thoranakalpatti, Vangal, Velliyanai, Thogaimalai	Kattalai, Pugalur, Thalapatti	Karur	Aravakurichi, Chinnadharapuram, Kulithalai, Nangavaram, Chinthlavadi

Source : State Ground and Surface water resources Data Centre.

### **Surface water:-**

- The entire area of this district is drained by the river Cauvery, which flows on the northern boundary of the district.
- The major river courses which come under Cauvery basin are Bhavani, Noyyal and Amaravathi.
- The tributary rivers namely Amaravathi, Kodaganar and Noyyal drain the western part of the district.

## **Hydrogeology:-**

Karur district is underlain entirely by Archaean Crystalline formations with Recent alluvial deposits occurring along the river and streams courses. Weathered, fissured and fractured crystal linerocks and there centalluvial deposits constitute the important aquifer systems in the district.

The porous formation sin the district are represented by river alluvium. These alluvial deposits are confined to the Major River and stream courses only. Ground water occurs under phreatic conditions. The maximum saturated thickness of the sea quifers is upto 10 m depending upon the topographic conditions.

The hard consolidated crystalline rocks of Archaean age represent weathered, fissured and fractured formations of gneisses, granites, charnockites and other associated rocks. Ground water occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones. The thickness of the weathered mantle of the hard rocks is varying from less than a meter to as much as 20.10 m. It is within the depth of 15m in major part of the district.

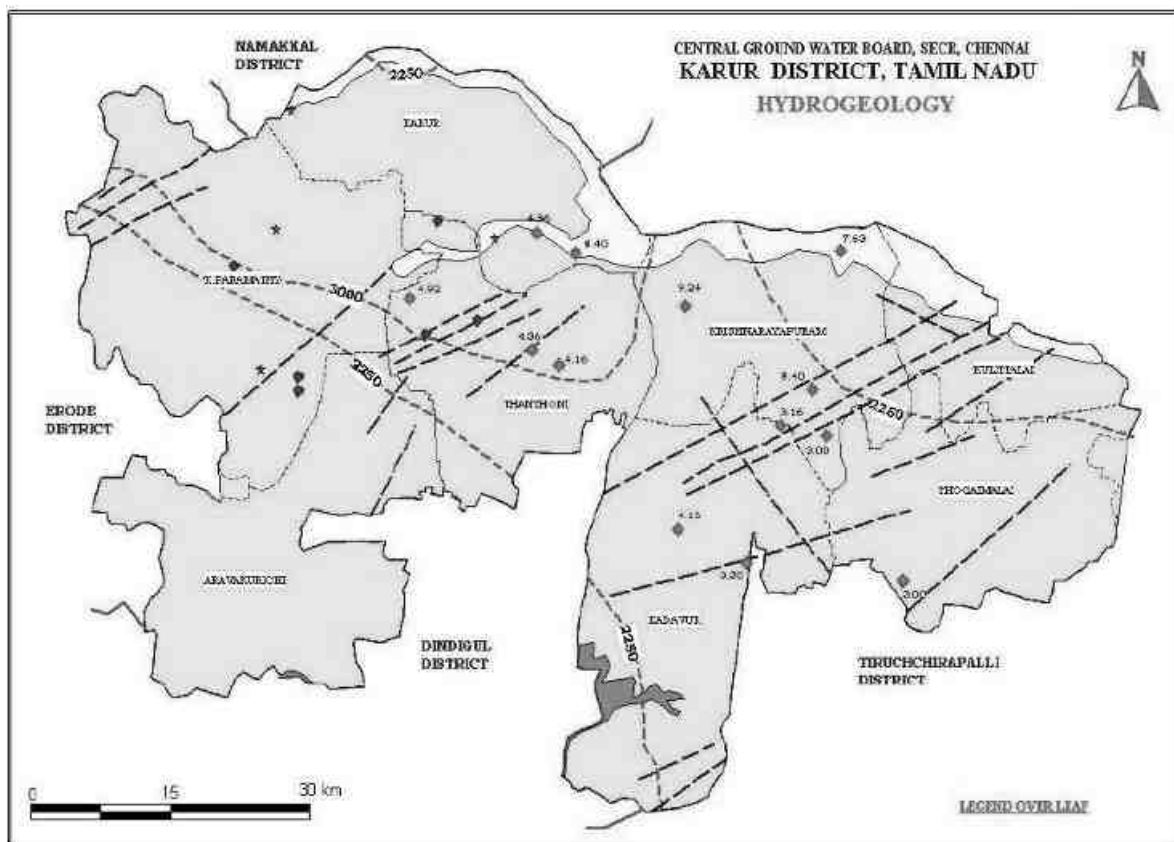
The Specific capacity of large diameter wells tested in crystalline rocks from 31 to 200 lpm / m. of drawdown. The yield characteristics of wells vary considerably depending on the topographic set-up, lithology and the degree of weathering.

The yield of bore wells drilled down to a depth of 70 to 100 m, by various state agencies mainly for domestic purposes ranged from 100 to 600 lpm. The yield of successful bore wells drilled down to a depth of 200 m bgl during the ground water exploration programme of Central Ground Water Board ranged from 0.50 to 14.00 lps. The aquifer and well parameters of the wells show wide variation.



The depth to water level in the district varied between 1.97 – 7.80 m bgl during pre- monsoon period (May 2006) and varied between 1.35 – 6.83 m bgl during post monsoon depth to water level (Jan 2007).

The seasonal fluctuation shows a rise in water level, which ranges from 0.46 to 1.98m. The piezometric head varied between 3.53 to 5.34 m bgl (May 2006) during pre monsoon and 2.04 to 7.59 m bgl during post monsoon.



**Basin and sub-basin:-**

Karur district is falling in Cauvery river basin as per the Irrigation Atlas of India. The district is divided into three minor basins, namely Kulithalai, Amaravathi and Thiruchimino basin.

## **8. Climate and Rainfall of the District:-**

### **Rainfall:-**

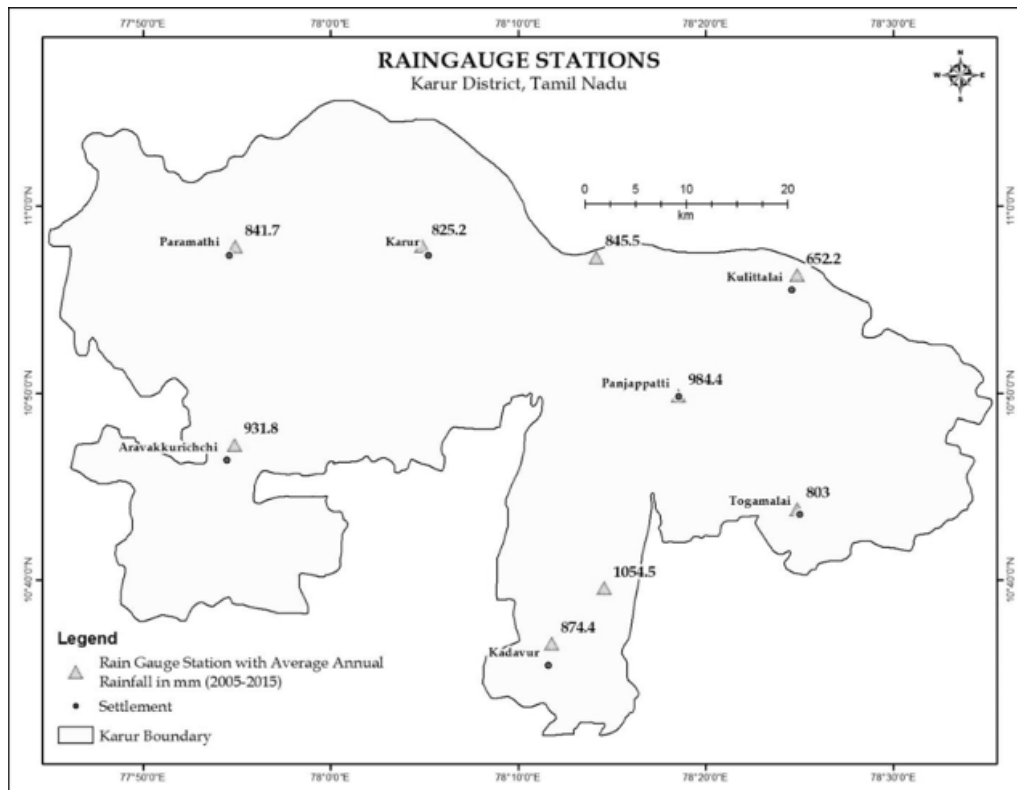
The district receives the rain under the influence of both southwest and northeast monsoons. The northeast monsoon chiefly contributes to the rainfall in the district. Most of the precipitation occurs in the form of cyclonic storms caused due to the depressions in Bay of Bengal. The southwest monsoon rainfall is highly erratic and summer rains are negligible. Rainfall data from three stations over the period 1901-2000 were utilised and a perusal of the analysis shows that the normal annual rainfall over the district varies from about 620 mm to 745 mm. It is the minimum around Aravakurichi (622.7mm) in the western part of the district. It gradually increases towards eastwards and attains a maximum around Kulithalai (744.6mm):

### **Climatic Conditions:-**

The district enjoys a tropical climate. The period from March to May is generally hot and dry. The weather is pleasant during the period from November to January. Usually mornings are more humid than afternoons. The relative humidities are generally between 40 and 80%. But in the period from February to July the air is comparatively drier in the afternoon.

The mean maximum temperature ranges from 26.7 to 38.56 °C and the mean minimum temperature ranges from 18.7°C to 29.3°C. The day time heat is oppressive and the temperature is as high as 43.9°C. The lowest temperature recorded is of the order of 13.9°C.

**Monthwise Rainfall details in Karur District for the last three years.**



## 9. Details of mining leases in the Districts per the following format:- GRANITE

Sl. No.	Name of the Miner	Name of the lessee	Address & Contact No of Lessee	Mining lease Grant Order No & date	Area of Mining lease (ha)	Period of Mining lease (Initial)		Period of Mining lease 1 <sup>st</sup> /2 <sup>nd</sup>		Date of commencement of Mining Operation	Status Working/Non working/T emp. Working for dispatch etc.)	captive/ Non-captive	Obtained Environmental clearance (yes/No), If Yes letter No with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)
						From	To	From	To					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.	Multico lour Granite	Tvl.TAMIN Ltd.,	31.Kamarajar Salai Chepauk	3(D)No.22 Ind. (MME2) Dept.,	3.47.5 out of 8.36.0	6.08.2002	25.08.2022	6.08.2002	25.08.2022	6.08.2002	Non-Operation	Nil		78 24' 20.91 E 10.43.59.76 N
2.	Multico lour Granite	Tvl.TAMIN Ltd.,	31.Kamarajar Salai Chepauk	3(D)No.22 Ind. (MME2) Dept.,	0.80.0 out of 20.22.5	22.03.2003	21.02.2023	22.03.2003	21.02.2023	22.03.2003-	Non-Operation	Nil	No	78 24' 37 E 10.43.46 N
3.	Multico lour Granite	Tvl.TAMIN Ltd.,	31.Kamarajar Salai Chepauk	(MS)No.97 Ind. (MME1) Dept.,	4.18.5 out of 8.36.0	27.12.2003	26.12.2023	27.12.2003-	26.12.2023	27.12.2003-	Non-Operation	Nil		78 24' 37 E 10.43.46 N
4.	Multico lour Granite	Tvl.TAMIN Ltd.,	31.Kamarajar Salai Chepauk Chennai-5	Go (MS)No.14 Ind. (MME1) Dept., dt:27.1.2005	10.12.0 out of 10.63.5	27.01.2005-	26.01.2025	27.01.2005-	26.01.2025	27.01.2005-	Non-Operation	Nil		78 24' 37 E, 10.43.46 N
5.	Multico lour Granite	Tvl.TAMIN Ltd.,	31.Kamarajar Salai Chepauk Chennai-5	Go 3(D) no.70. Industries MME1 Department Dt:22.10.2008	0.92.5	18.12.2008 to	17.12.2038	18.12.2008 to	17.12.2038	18.12.2008 to	Non-Operation	Nil		78 24' 37 E 10.43.46 N
6.	Multico lour Granite	Millennium	Granites, 127-B Cauvery Nagar, Kulithalai	3(D) No.1 Ind. (MMB2) Dept., dt:04.01.2001	1.48.0 0.09.5 1.12.0 2.69.5	09.02.2001 -	08.02.2021	09.02.2001 -	08.02.2021	09.02.2001 -	Non-Operation	Nil	No	10°52'55 N 78°023 E
7.	Multico lour Granite	M. Gandhi,	Karattupatti, Andipatti Taluk Theni District	3(D) No. 108 Ind. (MMB2) Dept., dt:29.12.2000	0.75.5	30.10.2001 -	29.10.2021	30.10.2001 -	29.10.2021	30.10.2001 -	Non-Operation	Nil	No	10°44 N 78°23'E

8.	Multicolour Granite	P.R.P. Granites,	Keelavalavu Post Melur Taluk Madurai District	3(D) No. 112 Ind. (MMB2) Dept.,	0.50.5 0.49.5	30.10.2001-	29.10.2021	30.10.2001-	29.10.2021	30.10.2001-	Non-Operation	Nil	No	10°44' N 78°23' E
9.	Multicolour Granite	P.R.P. Granites,	Keelavalavu Post Melur Taluk Madurai District.	3(D)No. 15 Ind. (MMB2) Dept., dt:14.02.2001	0.71.0 0.20.5 0.65.5 1.57.0	30.10.2001-	29.10.2021	30.10.2001-	29.10.2021	30.10.2001-	Non-Operation	Nil	No	10°44' N 78°23'E
10.	Multicolour Granite	P.R.P. Granites,	Keelavalavu Post Melur Taluk Madurai District.	3(D)No. 109 Ind. (MMB2) Dept., dt:29.12.2000	2.16.5	30.10.2001-	29.10.2021	30.10.2001-	29.10.2021	30.10.2001-	Non-Operation	Nil	No	10°44' N 78°23'E
11.	Multicolour Granite	K. YusuffBasha,	4/59 Bharathi Street, Swarnapuri, Salem	3(D)No. 111 Ind. (MMB2) Dept., dt:29.12.2000	0.07.0 0.27.5 0.29.5 0.30.0 0.06.0 0.27.0 0.61.0 <b>1.88.0</b>	20.06.2002-	19.06.2022	20.06.2002-	19.06.2022	20.06.2002-	Non-Operation	Nil	No	10° 43' 24 78° 25' 00
12.	Multicolour Granite	E. Rengar,	Pathiripatti, KulithalaiTk Karur District.	Go No. 7 Ind. (MMB2) Dept., dt:02.02.2001	0.20.0	20.06.2002-	19.06.2022	20.06.2002-	19.06.2022	20.06.2002-	Operation	Nil	No	10°45'45.77 N 78°24'55.52E
13.	Multicolour Granite	Sri Balaji Granites,	21/7A, ChathramStreet, Trichy Road, Thogamalai Kulithalai Taluk. Karur District.	Go No. 20 Ind. (MMB2) Dept., dt:28.07.2003	1.16.0	23.09.2003-	22.09.2023	23.09.2003-	22.09.2023	23.09.2003-	Not Yet Commenced	Nil	No	10°44'50 N 78°25'0E
14.	Multicolour Granite	G.V. Granites,	19 G Main Road, Thogamalai, Kulithalai Taluk Karur District.	3(D) No. 84 Ind. (MMB2) Dept., dt:10.08.2004	0.62.5 0.60.0 0.04.5 0.12.0 <b>1.39.0</b>	21.09.2004-	20.09.2024	21.09.2004-	20.09.2024	21.09.2004-	Operation	Nil	SEIAA/TN/F.N O.5215/E.C/1(A)3374/2016, DATED:25.7.2	10°43'46 N 78°23'43 E
15.	Multicolour Granite	P.R.P. Exports,	Velu Complex, Madurai Main Road, Melur, Madurai Dist	3(D)No.113 Ind. (MMB2) Dept., dt:21.12.2004	0.04.0 0.12.0 0.09.0 0.18.5 0.18.0 0.20.5 0.06.0 0.02.0 0.07.0 0.50.5 0.09.5 0.27.0 0.26.0 <b>2.10.0</b>	21.01.2005-	20.01.2025	21.01.2005-	20.01.2025	21.01.2005-	Non-Operation	Nil	No	10°45'00 N 78°24'00 E

16.	Multicolour Granite	P.R.P. Exports,	Velu Complex, Madurai Main Road, Melur, Madurai Dist	3(D)No. 13 Ind. (MMB2) Dept., dt:14.03.2005	0.05.0 0.08.0 1.33.0 0.55.5 <b>2.01.5</b>	08.06.2005-	07.06.2025	08.06.2005-	07.06.2025	08.06.2005-	Non Operation	Nil	No	10°45'00 N 78°24'00 E
17.	Multicolour Granite	P.R.P. Granites,	Keelavalavu Post Melur Taluk Madurai District.	3(D)No. 71 Ind. (MMB2) Dept., dt:21.07.2005	1.35.5	28.07.2005-	27.07.2025	28.07.2005-	27.07.2025	28.07.2005-	Non Operation	Nil	No	10°44'03 N 78°24'00 E
18.	Multicolour Granite	P.R.P. Exports, Melur, Madurai Dist	Velu Complex, Madurai Main Road,	3(D)No. 67 Ind. (MMB2) Dept., dt:21.07.2005	0.09.5 0.80.5 0.18.0 0.07.5 0.06.5 <b>1.22.0</b>	28.07.2005-	27.07.2025	28.07.2005-	27.07.2025	28.07.2005-	Non Operation	Nil	No	10°45'00 N 78°24'00 E
19.	Multicolour Granite	E. Rengar,	Pathiripatti, Kulithalai Taluk	3(D)No. 37 Ind. (MMB2) Dept.,	0.81.0	16.08.2005	15.08.2025	16.08.2005	15.08.2025	16.08.2005	Non Operation	Nil		
20.	Multicolour Granite	M. Gandhi,	Karattupatti Andipatti Tk., Theni Dist.	3(D)No. 75 Ind. (MMB2) Dept., dt:02.11.2006	0.50.5 0.50.0 0.33.0 <b>1.33.5</b>	14.11.2006-	13.11.2026	14.11.2006-	13.11.2026	14.11.2006-	Operation	Nil	No	10°45'00 N 78°24'00 E
21.	Multicolour Granite	M. Singaram,	21/B Chathiram St Thogamalai Kulithalai Taluk	3(D) No. 4 Ind. (MMB2) Dept., dt:05.01.2007	0.68.5 0.32.5 <b>1.01.0</b>	03.02.2007	02.02.2027	03.02.2007	02.02.2027	03.02.2007	Not Yet Commenced	Nil	No	10°43'46 N 78°27'08 E
22.	Multicolour Granite	Omega Granite	3/63 Anna Nagar Sankari Road Karuveppampatti Tiruchengode Tk., Namakkal Dist.	No. 2 Ind. (MMB2) Dept., dt:03.01.2007	0.49.0 0.87.0 0.35.5 0.11.5 0.56.0 1.61.0 <b>4.00.0</b>	07.02.2007-	06.02.2027	07.02.2007-	06.02.2027	07.02.2007-	Non Operation	Nil	No	10°54'59 N 78°02'3 E
23.	Multicolour Granite	M. Singaram,	21/B Chathiram St Thogamalai Kulithalai Taluk	3(D) No.84 Ind. (MMB1) Dept., dt:14.11.2006	0.61.0 0.07.5 0.25.0 0.08.0 <b>1.01.5</b>	06.07.2007	05.07.2027	06.07.2007	05.07.2027	06.07.2007	Not Yet Commenced	Nil	No	10°43'46 N 78°27'08 E
24.	Multicolour Granite	Tvl. Madhucon Granites,	1/7-70 jublipuraKhamma Andhrapradesh.	3 (D) No.81/Ind. (MMB 11)	0.50.0 0.88.5 <b>1.38.5</b>	5.12.2008	04.12.2028	5.12.2008	04.12.2028	5.12.2008	Operation	Nil	SEIAA-TN/F.NO.5105 /EC/01(A)/321	10 46'40 N78 03'45"E

25.	Multicolour Granite	M/s. P.R.P. Exports,	Tberkkutheru Village, Metur, Madurai District.	3(D) No.94/Ind. (MMB 11/ Dept. dt: 27.11.2008.	0.83.0 1.00.0 <b>1.83.0</b>	17.12.2008	16.12.2028	17.12.2008	16.12.2028	17.12.2008	Non - Operation	Nil	No	10°30'15 N 77°24'45E
26.	Multicolour Granite	M/s. P.R.P. Exports,	Tberkkutheru Village, Metur, Madurai District.	3(D) No.91 Ind. /MMB11 dept. dt: 27.11.2008	0.20.0 0.20.0 0.17.0 0.07.0 0.20.0 0.17.5 0.19.0 0.20.5 0.25.0 0.10.0 0.27.5 0.23.5 0.25.5 0.26.0 0.37.0 1.62.0 <b>4.77.5</b>	17.12.2008	16.12.2028	17.12.2008	16.12.2028	17.12.2008	Non - Operation	Nil	No	10°30'15 N 77°24'45 E
27.	Multicolour Granite	M/s. P.R.P. Exports,	Tberkkutheru Village, Metur, Madurai District.	3(D) No.96/Ind. MMB11/Dept. dt: 27.11.2008	0.83.5 1.11.5 <b>1.95.0</b>	17.12.2008	16.12.2028	17.12.2008	16.12.2028	17.12.2008	Non-Operation	Nil	No	10°30'15 N 77°24'45.E
28.	Multicolour Granite	M. Gandhi, S/o. Masanam,	Karuttupatti Village, Andipatti Taluk, Teni district.	3(D) No.123/Ind. MMB11 Dept. dt: 10.12.2008.	1.88.5 0.73.0 0.31.5 <b>2.93.0</b>	25.12.2008	24.12.2028	25.12.2008	24.12.2028	25.12.2008	Operation	Nil	No	9°25'00 N 78°22'30E
29.	Multicolour Granite	Thiru. M.Gandhi, S/o. Masanam,	Karuttupatti Village, Andipatti Taluk, Theni Dist.	3(D) nO.116/iND. mmb11 dEPT. DT:	0.20.0 0.19.5 0.41.0 0.97.5	26.12.2008	25.12.2028	26.12.2008	25.12.2028	26.12.2008		Nil	No	10°52'40 N 78°19'30 E
30.	Multicolour Granite	Thiru.K.S.Raja Mahendran,	Kudeer 2nd Floor, Valmiki Nagar, Thiruvanimiyur, Chennai.	3(D) No.25 /Ind/MMB2/Dept, Dated:27.05.2010.	0.22.0 0.02.5 0.02.5 0.01.5 0.02.5 0.05.5 0.50.0 0.61.5 0.28.0 0.53.5 <b>2.29.0</b>	14.06.2010	13.06.2030	14.06.2010	13.06.2030	14.06.2010 0	Non Operation	Nil	No	10 48'45 N78 07'40"E

31.	Multicolour Granite	Thiru.R.AnupkumarLohia,	2/467, 6th Main Road, Gomathipuram. Madurai.	G.O.(3D)No.15, Industries(MMB2) Department, dated :22.06.2012.	4.80.0	05.07.2012	04.07.2032	05.07.2012	04.07.2032	05.07.2012	Non Operation	Nil	SEIAA-TN/F.NO.2703/EC/01(A)/2429/2014, DATE;19.11.2015.	10 46'15"N78 03'34"E
32.	Multicolour Granite	Tvl.Blue Horse Granite	Survey No.133-1 2A Sivagangai Main Road Near Arabic College Varichur, Madurai District .	Go.No(3D) No.42 Industries (MMB2) Department Dt:20.09.2010	01.03.0	05.07.2013	04.07.2033	05.07.2013	04.07.2033	05.07.2013	Operation	Nil	SEIAA-TN/F.NO.4417/EC/01(A)/2822/2015, DATE;08.2.2016	10 41'42"N77 48'56"E
33.	Multicolour Granite	ThiruE.Dhanapal S/o ErrachiRddiyar	Old NO D/364 New No.D/11 UkkaraKaliyman Street Anna Nagar Thennur , Trichy District.	Go 3(D) No. 3 Industries (MMB2) Department Dt:12.02.2014	0.89.0 0.08.5 0.40.5 0.20.0 0.20.0 0.61.0 0.27.0 0.75.5 0.40.0 0.26.5 0.81.0 <b>4.89.0</b>	21.02.2014	20.02.2034	21.02.2014	20.02.2034	21.02.2014	Operation	Nil	SEIAA-TN/F.NO.2108/EC No.1(a)/998/2013, DATE;10.02.2014.	10'53'12" N 78'18'31" E
34.	Multicolour Granite	Thiru.P.Sathish Kumar S/o Paranasivam	22 Sasthallam Ponnagaram Broadway Madurai 625 010.	Go No 3(D) Industries (MMB2) Department Dt:28.02.2014	0.08.0 0.67.5 0.35.5 <b>1.11.0</b>	04.03.2014	03.03.2034	04.03.2014	03.03.2034	04.03.2014	Operation	Nil	SEIAA/TN/F.NO.2246/ E.C/1(A)1100/2013, DATED;27.2.2014	10'48'01" N 78'12'50" E
35.	Multicolour Granite	Tvl. Booma Stone Metals Karur District.	No.85 South Street Pasupathipalayam Post Karur Taluk	Go No 3(D) No.21 Industries (MMB2) Department Dt:16.07.2014	0.26.0 0.21.5 0.15.5 0.65.5 <b>1.28.5</b>	22.08.2014	21.08.2034	22.08.2014	21.08.2034	22.08.2014	Operation	Nil	SEIAA-TN/F.NO.2500/EC/01(A)/1425/2014, DATE;25.6.2014	10'51'12.41" N 78'15'85.9" E
36.	Multicolour Granite	M/s M.P.Granite	No.131/29 R.R.Complex KollapattiAnimoor Post Tiruchengodu Taluk Namakkal District.	Go No 3(D) No.10 Industries (MMB2) Department Dt: 23.01.2016	0.69.0 0.20.0 0.22.0 0.04.5 0.02.5 0.01.5 0.02.5 0.03.5 0.26.5 0.10.5 0.10.0	15.02.2016	14.02.2036	15.02.2016	14.02.2036	15.02.2016	Operation	Nil	SEIAA/TN/F.NO.4507/ E.C/1(A)2654/2015, DATED;04.1.2016	10'46'35" N 78'05'04" E



					0.14.0 0.06.5 0.06.5 0.07.0 0.06.5 0.10.5 0.14.0 0.01.5 0.02.0 0.02.5 <b>2.43.5</b>										
37.	Multicolour Granite	Thiru.P.Ramachandran S/o.Paramasivam	12 Bharathiyar 5 <sup>th</sup> Steet SS Colony Ward – 18 Madurai District.	Go No 3(D) No.37 Industries (MMB2) Department Date: 19.07.2016	1.09.0 0.45.5 0.32.5 0.05.5 0.44.0 0.48.0 <b>2.84.5</b>	05.08.2016	04.08.2036	05.08.2016	04.08.2036	05.08.2016	Operation	Nil	SEIAA/TN/F.NO.5073/ E.C/1(A)3293/2016, DATED;11.7..2016	10'46'48 15" N 78'04'72'23" E	
38.	Multicolour Granite	Thiru.S.Ramachandran	Proprietor M/s.Sand Rock Impex Old No D/364, New No. D/11 Ukkirakaliamman Kovil Street, Anna Nagar, Thennur Trichy	Go No 3(D) No.49 Industries (MMB2) Department Date: 25.07.2016	1.61.0 1.57.5 1.71.5 <b>4.90.0</b>	09.08.2016	08.08.2036	09.08.2016	08.08.2036	09.08.2016	Operation	Nil	SEIAA/TN/F.NO.5087/ E.C/1(A)3235/2016, DATED;06.7..2016	10'46'27 08" N 78'03'16'29" E	
39.	Multicolour Granite	TVI.S.R.P Rock Exports	12/51, Maruthupandiyar Street, K.K.Nagar Madurai District	Go No 3(D) No.27 Industries (MMB.2) Department Date: 19.10.2015	0.48.0 0.86.0 2.26.0 <b>3.60.0</b>	29.11.2016	28.11.2036	29.11.2016	28.11.2036	29.11.2016	Operation	Nil	SEIAA- TN/F.NO.3693/EC /1(A)/2185/2015, DATE;1310.2015.	10'47' 00" N 78'04'40" E	
40.	Multicolour Granite	Tmt.V.Shanthi W/o. Velusamy	Kunnagoundampatty Cudalore Village Kulithalai Taluk Karur District .	Go No 3(D) No.68 Industries (MMB.2) Department Date: 28.11.2016	1.41.0 0.72.5 <b>2.13.5</b>	09.12.2016	08.12.2036	09.12.2016	08.12.2036	09.12.2016	Operation	Nil	SEIAA- TN/F.NO.5875/EC No.3895/2016, DATE;18.11.2016.	10'47'16 25" N 78'23'13'50" E	
41.	Multicolour Granite	ThiruE.Dhanapal S/o ErrachiRddiyar	Old NO D/364 New No.D/11 UkkaraKaliyamman Street Anna Nagar Thennur Trichy District.	Go No 3(D) No.7 Industries (MMB.2) Department Date: 11.08.2017	2.38.0 1.05.0 0.74.0 0.08.0 <b>4.25.0</b>	18.08.2017	17.08.2037	18.08.2017	17.08.2037	18.08.2017	Operation	Nil	Deiaa clearance - Dia/TN/Min/7271/2017 /KRR EC No.62/2017/Mines/ dt:02.8.2017	10'46'27 08" N 78'03'16'29" E	

42.	Multicolour Granite	M/S.PRS Granite	D.No. Old No.7/2A New No.88 Gnanagiri Road Sivagasi	Go No 3(D) No.09 Industries (MMB.2) Department Date: 11.08.2017	0.18.0 0.61.0 0.33.5 0.45.0 0.05.5 0.31.0 0.04.0 0.06.5 0.14.0 0.03.5 0.14.0 0.03.0 0.17.5 0.08.2 <b>2.64.7</b>	18.08.2017	17.08.2037	18.08.2017	17.08.2037	---	Operation	Nil	Deiaa clearance - Dia/TN/MiN/6800/2017 /KRR EC No.60/2017/Mines/ dt:02.8.2017	10°45'31 15' 569" N 78'16'02 31'799" E
43.	Multicolour Granite	M/S.Himalaya Enter Prises	255/C4 Anna Nagar PillaiyarKoil Street Kulithalai Taluk, Karur District.	Go No 3(D) No.11 Industries (MMB.2) Department Date: 11.08.2017	3.31.5 0.23.0 <b>3.54.5</b>	18.08.2017	17.08.2037	18.08.2017	17.08.2037	---	Operation	Nil	Deiaa clearance - Dia/TN/MiN/7256/2017 61/KRR EC No.22/2017/Mines/ dt:02.8.2017	10°47'25 51" N 78'25'41 90 "E
44.	Multicolour Granite	M/s M.P.Granite	No.131/29 R.R.Complex KollapattiAnimoor Post Tiruchengodu Taluk Namakkal District.	Go No 3(D) No.10 Industries (MMB.2) Department Date: 11.08.2017	0.03.5 0.27.5 0.25.5 0.27.5 0.14.0 0.12.5 0.17.0 0.59.5 0.29.0 0.36.5 0.78.0 0.11.0 0.16.0 0.05.5 0.38.5 <b>4.01.5</b>	18.08.2017	17.08.2037	18.08.2017	17.08.2037	---	Operation	Nil	DEIAA-DIA/TN MINE/5622/2017-KRR-EC. NO.22/2017-MINES/02.8.2017	10°46'49 91" N 78'05'10 39 "E
45.	Multicolour Granite	M/S.Ananant ha Granites Hyderabad.	LLP Door No.8.2.293/82/A/5 01 Road No.36 Jubilee Hills	Go No 3(D) No.08 Industries (MMB.2) Department Date: 11.08.2017	1.21.5 0.66.0 0.35.0 <b>2.22.5</b>	21.08.2017	20.08.2037	21.08.2017	20.08.2037	---	Operation	Nil	Deiaa clearance - Dia/TN/MiN/6427/2017 /KRR EC No.41/2017/Mines/ dt:02.8.2017	10°43'00'879" N 78'04'01'45'311 "E

46.	Multicolour Granite	Thiru.K.Sakthivel S/o. Karuppannan	Porunthalur Village Kulithalai Taluk Karur District.	Go No 3(D) No.12 Industries (MMB.2) Department	<b>2.51.5</b>	05.09. 2017	04.09 .2037	05.09. 2017	04.09. 2037	---	Operation	Nil	Deiaa clearance - Dia/TN/MiN/5852/2017 /KRR EC No.17/2017/Mines/ dt:02.8.2017	10'47'38 84" N 78'27'00 25 "E
47.	Multicolour Granite	M/s. Patel Stone India,	No.24 & 25 HansaNivas, Second Floor, Supreme Layout Maruthi Nagar, Yelahanka, Bangaloru – 560064.	Go No 3(D) No.18 Industries (MMB.2) Department Date: 07.11.2017	0.40.5 0.34.5 0.19.5 0.11.0 0.23.5 0.21.0 0.84.5 0.04.0	22.11. 2017	23.11 .2037	22.11. 2017	23.11. 2037	--	Not Yet Commenc ed	Nil	Deiaa clearance - Dia/TN/MiN/7339/2017 /KRR EC No.66/2017/Mines/ dt:14.10.2017	10'45'13 57 195" N 78'15'46 13 091 "E
48.	Multicolour Granite	Sri Vigneshwara Enter Prises ,	6/152, KulithalaiManappa rai Main Road, A.udaiyapatty, Kalugur Village, Kulithalai Taluk, Karur District	Go No 3(D) No.17 Industries (MMB.2) Department Date: 07.11.2017	3.38.0 0.83.0 <b>4.21.0</b>	28.11. 2017	27.11 .2037	28.11. 2017	27.11. 2037	--	Not Yet Commenc ed	Nil	Deiaa clearance - Dia/TN/MiN/8048/2017 /KRR EC No.74/2017/Mines/ dt:14.10.2017	10'47'16 99" N 78'25'56 75 "E
49.	Multicolour Granite	M/s Apple Granites	S.F.No.299/1, 2 Kallai Village Kulithalai Taluk Karur Dt.	Go 3(D)No.3 Industries (MMB.2) Department Date:	0.46.0 0.03.5 0.03.0 0.31.0 0.43.0	21.02. 2018	20.02 .2038	21.02. 2018	20.02. 2038	--	Not Yet Commenc ed	Nil	Deiaa clearance - Dia/TN/MiN/9619/2017 /KRR EC No.88/2017/Mines/ dt:18.1.2018	10'47'36 45" N 78'27'04 12 "E
50.	Multicolour Granite	M/s V.B.S. Exports	No.38, Srinivasa Nagar 1 <sup>st</sup> street Thiran Nagar	Go No 3(D) No.05 Industries (MMB 2)	1.84.0 0.33.5 0.63.0 <b>2.80.5</b>	21.02. 2018	20.02 .2038	21.02. 2018	20.02. 2038	--	Operation	Nil	Deiaa clearance - Dia/TN/MiN/12199/201 8/KRR EC No.93/2018/Mines/	10'47'31 49" N 78'26'50 96 "E
51.	Multicolour Granite	Thiru.A.Irulap pan	D.No.2/135 Mallakottai village & Post Thirupathur TK	Go No 3(D) No.04 Industries (MMB 2)	0.94.0 0.17.0 0.18.5 0.13.5	21.02. 2018	20.02 .2038	21.02. 2018	20.02. 2038	--	Operation	Nil	Deiaa clearance - Dia/TN/MiN/11994/201 7/KRR EC No.92/2017/Mines/	10'51'35 35" N 78'12'25 66 "E
52.	Multicolour Granite	Thiru. K.Deivendran	4/143 Lake Area Uthangudi Madurai Dt	Go No 3(D) No.07 Industries (MMB 2)	0.07.5 0.23.0 0.14.0 0.12.0	20.03. 2018	19.03 .2038	20.03. 2018	19.03. 2038	--	Operation	Nil	Deiaa clearance - Dia/TN/MiN/13050/201 8/KRR EC No.95/2018/Mines/	10'52'40 80" N 78'16'58 82 "E

53.	Multicolour Granite	Thiru.P.Habib ullaSait, S/o.Peer Mohamed,	No.10/10-Pattai, Karungalakudi, Melur T.K, Madurai D.T	Go No 3(D) No.08 Industries (MMB.2) Department Date: 22.2.2018	0.01.5 0.08.0 0.04.0 0.06.0 0.12.0 0.27.5 0.12.0 0.05.25 0.14.0 0.06.0 0.08.0 0.04.0 0.07.0 0.03.0 0.02.0 0.02.0 0.08.0 0.12.0 0.20.25 0.12.0 0.40.5 0.39.0 0.31.0	04.4.2 018	03.04 .2038	04.4.2 018	03.04. 2038	Not Yet Commence d	Not Yet Commenc ed	Nil	DEIAA-DIA/TN MINE/12346/2018- KRR- EC. NO.94/2018- MINES/16.2.2018	10'44'48 25" N 78'20'17 74 "E
54.	Multicolour Granite	Smt.RajraniL ohia, W/o.Ravishan karLohia,	2/467, 6 <sup>th</sup> Main Road, Gomathi Puram, Madurai		2.39.5 0.34.0 1.55.0 <b>4.28.5</b>	06.12. 2018	05.12 .2038	06.12. 2018	05.12. 2038	Not Yet Commence d	Not Yet Commenc ed	Nil	Deiaa clearance - Dia/TN/Min/8381/2018 /KRR EC No.130/2018/Mines/ dt:02.11.2018	10'46'35 34" N 78'03'30 17 "E

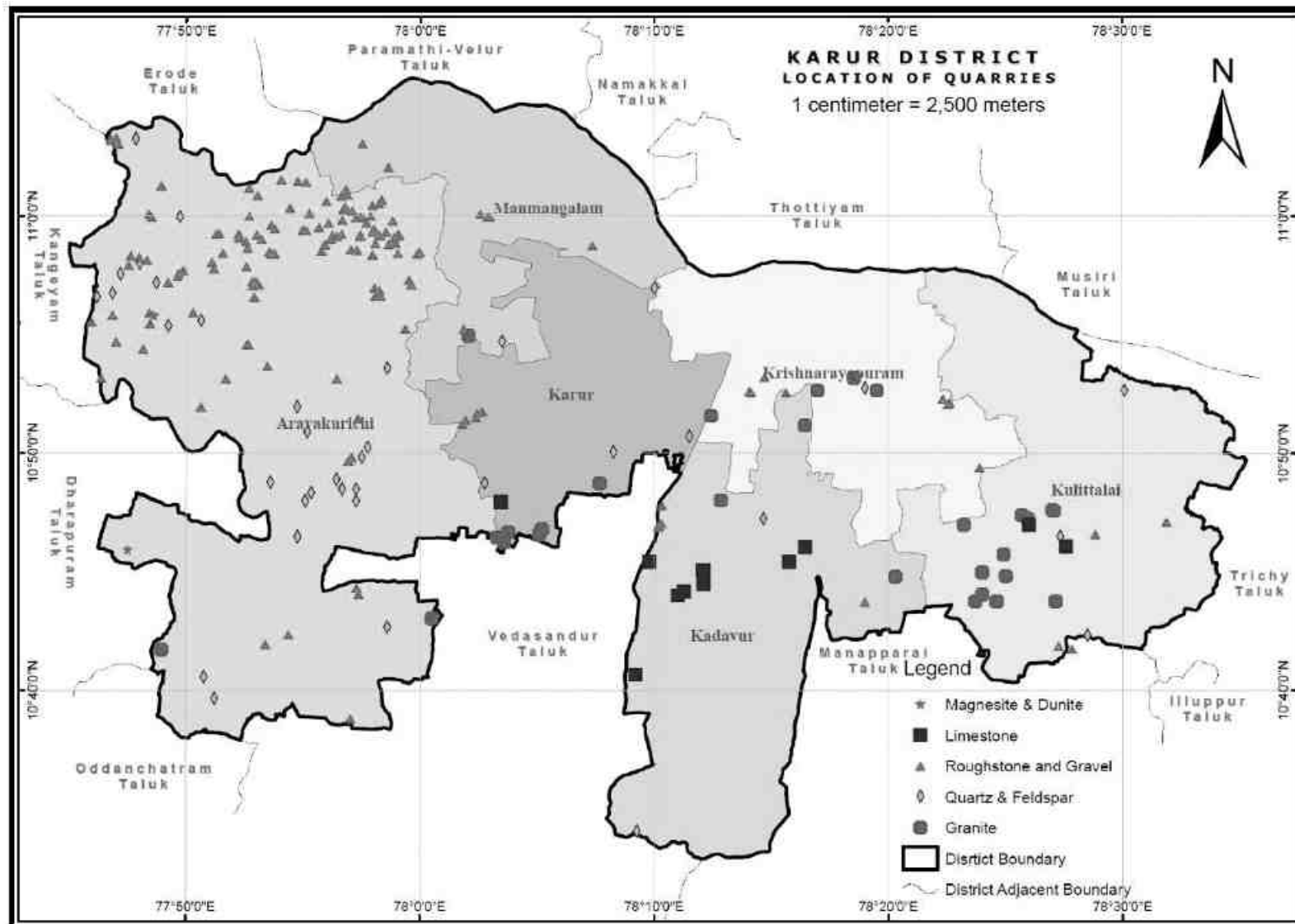
**10. Details of Seigniorage Fee Received in last three years (2016-17 to 2018-19):-**

<b>Year</b>	<b>Seigniorage Fee (In Rs.)</b>
2016 - 17	121848548
2017 – 18	87127646
2018 – 19	74304234

**11. Details of Production in last three years (2016-17 to 2018-19):-**

<b>Year</b>	<b>Production</b>
2016 - 17	53976.821
2017 – 18	40017.969
2018 – 19	31099.1

## 12. Mineral Map of the District:-



### 12.01. FIELD PHOTOGRAPHS OF THE GRANITE QUARRY:

There are good qualities of hard rocks which are particularly available at Kulithalai and Aravakurichi Taluks. But the rocks available at Thogamalai, Naganur, Kalugur and Porunthalur of Kulithalai Taluk are of export worthy and they are being operated for the extraction of granite block both by M/s. TAMIN and private companies. Calc-Gneiss (called as colonial white) occurs in Pitchampatti Village of Karur Taluk are of export worthy quality.



Tvl. Maducon Granites K/Pitchampatti, Karur Taluk latitude 10° 43' 50.34" Longitude 78° 24' 56.57" , Multicolour Granite.

**13.List of Letter of Intent (LOI) Holders in the District along with its validity as per the following format:-**

Sl. No.	Name of the Mineral	Name of the lessee	Address & contact no. of letter of Intent holder	Letter of Intent Grant order No. & date	Area of mining lease to be allotted (Ha)	Validity of LOI	Use (Captive/ Non-captive)	Location of the Mining lease (Latitude & Longitude)
1	Multicolour Granite	K.M.S Granites	Thiru.K.M.S Granites, No.3/65 A, S.K.linePhudhur Entry Road,Salem	R.C.No.268/Mines/2018 dated:29.05.2018	1.68.0	---	---	10'46'55.27 N to 10'47'02.38 N 78'03'40'87 to E 78'03'45'64 E
2	Multicolour Granite	P.Velmani,	Thiru.P.Velmani, S/o.Palanigounder, Narasingapuram Post, Nethaji Nagar, Attur Taluk, Salem District.	R.C.No.108/Mines/ 2018 dated:02..2018	2.02.5	---	---	10'46'55.27 N to 10'47'02.38 N 78'03'40'87 to E 78'03'45'64 E



#### 14. Total mineral reserves available in the District:-

The rocks type around Karur can be broadly classified into Khondalite and Charnockite Groups of rocks. Khondalite Group in this area is essentially made up of calc-granulite/ crystalline limestone and garnetiferoussillimanite gneiss, with minor bands of quartzite. Charnockite Group on the other hand includes the acid to intermediate charnockite with minor bands of two pyroxene granulite. Both the group of rocks were later migmatized and reconstituted giving rise to pink coloured migmatite comprising hornblende biotite gneiss, as well as garnet biotite gneiss and garnetiferousquartzofeldspathic granulite. The intrusions of younger pink granite as well as pink pegmatoidal granite had converted part of the grey migmatite into pink migmatitic gneiss and pink augen gneiss. The white garnetiferousquartzofeldspathic granulite occurring east of Karur is considered to be a reconstituted garnetiferoussillimanite gneiss while the pink augen gneiss well developed near Dindigul is due to blastic growth of pink potash Feldspar augens with in the grey biotite gneiss. A number of minor pegmatite and quartz veins represent the last stage intrusive activity in the area. The tentative geological succession of the rock types is as follows (TableI):

**Table I GEOLOGICAL FORMATION OF THE DISTRICT**

Quaternary	Recent	Laterite and soil Pegmatite veins/ quartz veins
Proterozoic	Acid intrusives	Pink augen gneiss and migmatite Pink medium grained granite/ pegmatoidal granite
	Pink Migmatite	Hornblende biotite gneiss/ Garnet biotite gneiss Garnetiferousquartzofeldspathic granulite
Archaean	Charnockite Group and KhondaliteGroup	Pyroxene Granulite Charnockite (acid to intermediate) Calc granulite/ Crystalline limestone Garnetiferoussillimanite gneiss/ Quartzite

	<b>ROCK TYPE</b>	<b>COMMERCIAL NAME</b>
i)	Garnetiferousquartzo-feldspathic granulite	Kashmir White
ii)	Pink migmatite/ Augen gneiss	Tiger Skin
iii)	Pink medium grained granite	Vanjinagaram Pink
iv)	Pink granite gneiss	Raw Silk

### **REGIONAL STRUCTURE**

Regional foliation trend of the rock types in Melur area swerves from NE-SW to ENEWSW direction dipping either east or westwards with dip amounts ranging between 50an 80 depicting a broad antiformal fold with axial plane trending along ENE-WSW direction and plunging at low angles towards ENE direction. The garnetiferousquartzo-feldspathicgranulite viz. Kashmir White bands are located mainly in the limb portions of the major fold. The pink medium grained granite viz.Vanjinagaram Pink has been intruded mainly along the weak plane of the above major fold axis and in turn has influenced the adjoining grey granite/ grey migmatite rocks with pink permeations, giving rise to the formation of pink and grey augen gneiss viz. Tiger Skin. Due to the cross folding of the above major fold mainly along NNW- SSE direction, puckering effect (microfolds) besides development of minor step like fractures are seen in the Tiger Skin deposit. Minor folds trending along ENE-WSW direction are also noticed mainly in the Kashmir White bands. Some of the fractures and cleavages are seen filled by pegmatites and quartz veins, especially in Tiger Skin deposit. Apart from the above mentioned structural features, no other major structural disturbance which may affect production of commercial granite could be deciphered in Melur area.

### **15. Quality/ Grade of Mineral available in the district: -**

Multi Coloured Granites are available in the District.

Characteristics of Granite

<b>Characteristics</b>	<b>Physical properties</b>
Moisture Content %	0.15
Dry Density	2.60 to 2.68
Apparent Resistivity	2.75
Water absorption	0.50
Porosity	1 to 2
Hardness	6 to 7

### **16. Use of Mineral:-**

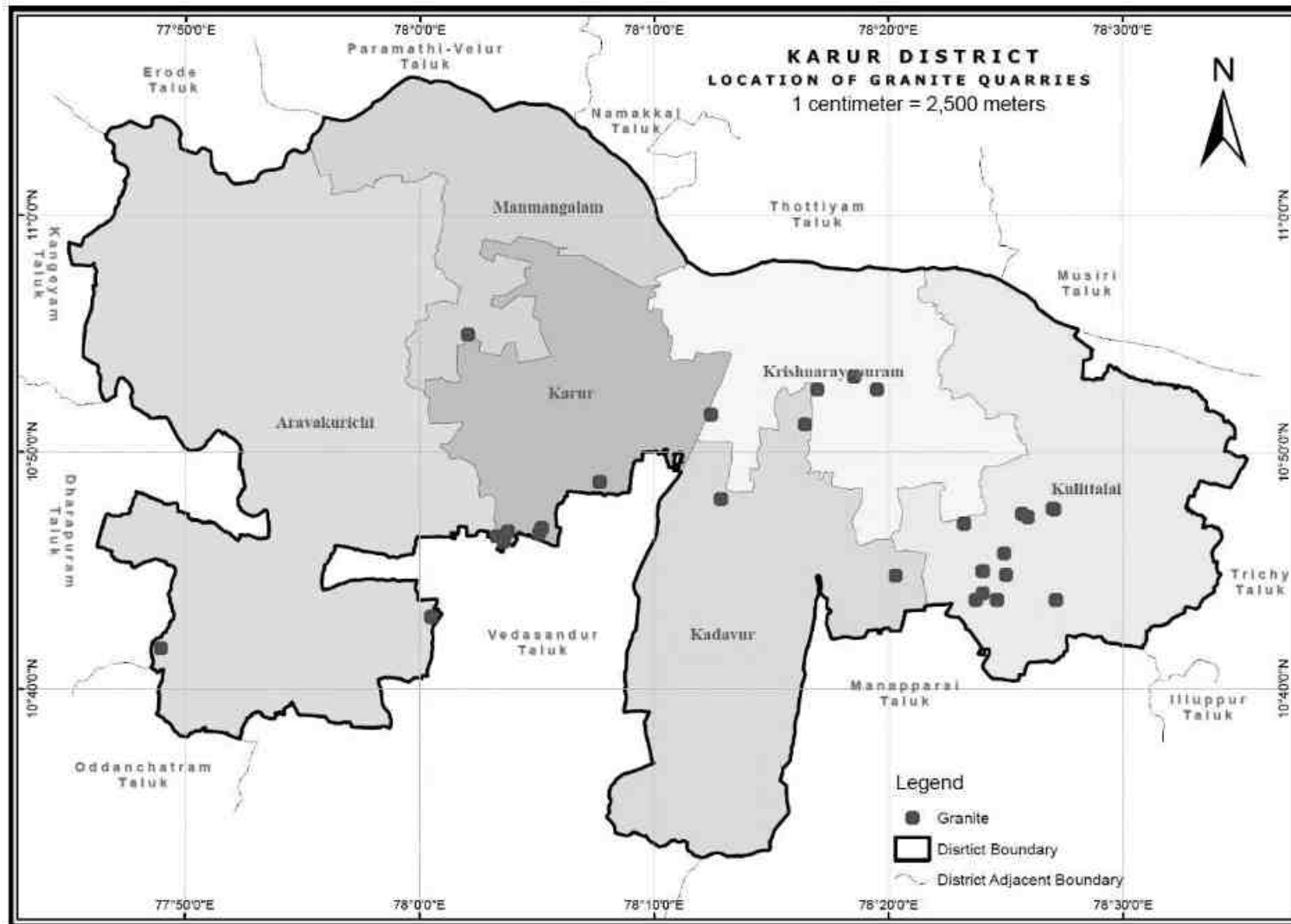
Granite is the most sought-after among all building stones. Presently, cut and polished granite slabs of 20 mm thickness are preferred for flooring, while tiles of 10 or 12 mm thickness are used for cladding. In addition, gravestones and monuments of various shapes and sizes are also in vogue. The flexibility of the cutting tools have engendered creation of many artifacts of granite for decorative purposes.

Granite also finds its application in making garden furniture, such as, benches, fountains and many other articles which are used for landscaping and/or decorative purposes. The cut-to-size small blocks are used as cobblestone, kerbstone, road sidings and for many other innovative purposes.

### **17. Demand and supply of the Mineral in the last three years:-**

The Multicolour Granit available in the district is mainly used as a raw material for construction work and Export.

**18. Mining leases marked on the Map of the District:-**



**19.Details of the area of where there is a cluster of mining viz., number of mining leases, location (latitude and longitude):-**

SlNo.	No.of quarrying leases	Name of village & Taluk	Location	
			Latitute	Longitude
1	7	Thogamalai Village, Kulithalai T.K.,	10.43.59.76 N	78 24' 20.91 E
2	12	Naganur village, Kulithalai T.K.,	10.43.46 N	78 24' 37 E,
3	6	Kalugur village, Kulithalai T.K.,	10°44' N	78°23'E
4	2	Kodaiyur village, Aravakurichi T.K.,	10°52'55 N	78°023 E
5	8	K.Pitchmapatty, Karur T.K.,	10 46'40 N	78 03'45"E
6	4	Veeriyapalayam village, Krishnarayapuram T.K.,	10°30'15 N	77°24'45 E
7	1	Pannappatty village, Kadavur T.K.,	10'48'01" N	78'12'50" E
8	1	Paganatham village, Karur T.K.,	10°51'12.41" N	78°15'85.9" E
9	1	Sengal village, Krishnarayapuram T.K.,	10°46'27 08" N	78°03'16'29" E
10	1	Sivayam village, Krishnarayapuram	10°47'16 25" N	78°23'13'50" E
11	1	Venjamankudalur village, Aravakurichi T.K.,	10°46'27 08" N	78°03'16'29" E
12	2	Thennilai village, Aravakurichi T.K.,	10°45'31 15' 569" N	78°16'02 31'799" E
13	2	Kallai village, Kulithalai T.K.,	10°47'36 45" N	78°27'04 12 "E
14	1	Kosur village, Kadavur T.K.,	10°44'48 25" N	78°20'17 74 "E
15	2	Gudalur village, Kulithalai T.K.,	10°47'25 51" N	78°25'41 90 "E
16	1	Nallur village, Kulithalai T.K.,	10°47'38 84" N	78°27'00 25 "E
17	1	Sithalavai village, Krishnarayapuram T.K.,	10°51'35 35" N	78°12'25 66 "E
18	1	Inunganoor village, Aravakurichi T.K.,	10 41'42"N	77 48'56"E
	<b>54</b>			

## **20. Details of Eco – Sensitive Area, if any, in the District:-**

Nil.

## **21. Impact on the Environment (Air, Water, Noise, Soil Flora & Fauna, Land use, Agriculture, Forest etc.) due to Mining Activity:-**

Generally, the Environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project, secondary impacts are those, which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the baseline environmental status for the entire ROM which is proposed to exploit from the mines.

### **Air**

Mining Operations are carried out by opencast semi mechanized/ Mechanized method, dust particles are generated due to various activities like, Excavation, Loading, handling of mineral and transportation. The air quality in the mining area depends upon the nature and concentration of emissions and meteorological conditions.

The major air pollutants due to mining activity includes:-

- Particulate Matter (Dust) of various sizes.
- Gases, such as, Sulphur Dioxide, Oxides of Nitrogen, Carbon Monoxide etc., from vehicular exhaust.
- Dust is the single Air pollutant observed in the open cast mines. Diesel operating drilling machines, small amount of blasting and movement of machinery/ vehicles produce NO<sub>x</sub>,SO<sub>2</sub>and CO emissions, usually at low levels. Dust can be of significant nuisance surrounding land users and potential health risk in some circumstances.

## **Water**

### **Impact**

The mining operation leads to intersect the water table cause ground water depletion.

Due to the interruption surface water sources like River, Nallah, Odai etc., surface water system, Drainage pattern of the area is altered.

### **Noise**

Noise pollution is mainly due to operation of Machineries and occasional plying of machineries. These activities will create Noise pollution in the surrounding area.

### **Land Environment**

The topography of the area will change, due to the Topographical changes the entire Eco system will be altered.

### **Flora and Fauna**

The impact on biodiversity is difficult to quantify because of its diverse and dynamic characteristics.

Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and floral status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

## **22. Remedial Measure to mitigate the impact of Mining on the Environment:-**

### **Air**

Mitigated measures suggested for air pollution controls are based on the baseline ambient air quality of the area

The following measures are proposed to adopted in the mines such as,

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust.
- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be considered.
- Transport of material in trucks covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine areas.
- Information on wind direction and meteorology will be considered while planning, so that pollutants, which cannot be fully suppressed by engineering technique, will be prevented from reaching the nearby agriculture area.
- Comprehensive green belt around overburden dumps has to be carried out to reduce to fugitive dust emissions in order to create clean and healthy environment.

## **Water**

- Construction of garland drains to divert surface run-off into the mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.



## **Noise**

### **Mitigation measures**

- Periodic maintenance of machinery, equipment's shall be ensured to keep the noise generated at minimum.
- Development of thick green belt around mining area and haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities. Workers and operators at work site will be provided with earmuffs.
- Conducting periodical medical checkup of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise level effects.
- Periodic noise monitoring at suitable locations in the mining area and nearby habitations to assess efficacy of adopted control measures.
- During the blasting, optimum Spacing, Burden and charging of holes will be made under the supervision of competent qualified mines foreman, Mate as approved by Director of Mines safety.

## **Biological Environment**

### **MITIGATION MEASURES:**

- Development of gap filling saplings in the safety barrier left around the quarry area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy leaves on the inactive mined out upper benches.
- Development of dense poly-culture plantation using local flora species in the mining area at conceptual stage.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.
- Construction of garland drains and settling tank to arrest silt wash off from lease area.

- Construction of retention walls around lower boundary of mining area to arrest silt washoff and roll down boulders.
- Retaining walls with weep hole will be constructed around the mine boundaries to arrest silt wash off.

**23. Reclamation of Mined out area (Best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan):-**

Under Rule 23A, Mine Closure Plan: Every mine shall have Mine Closure Plan, which shall be of two types:-

- (i) Progressive mine closure plan; and
- (ii) Final mine closure plan.

**Conceptual Final Landform-**

The broad rehabilitation objective for the post-quarry landform is to establish a similar land use on the disturbed areas, with the exception of the final void. The topography of the final landform will consist of a large number of stepped benches formed in an amphitheater configuration, each with a re-vegetated bench.

Figure 1 shows plan and sectional views of the final landform. Until such time that extraction has ceased, rehabilitation will occur around the perimeter of the pit only along the benches, and will not involve the pit floor. The primary purpose of rehabilitation during the operational phase is to mitigate any visual impacts.



**Figure 1: Example of Bench Rehabilitation**

Once operations have ceased, all buildings and infrastructure will be removed. These areas will be reshaped and ripped where necessary for top-soiling and re-vegetation. The top benches will be vegetated with appropriate native species. The lower benches will be formed as a shallow depression of retention pond/ rain water harvesting structure.

### **Rehabilitation and Re-vegetation**

Rehabilitation of the site will be undertaken once extraction is complete. As the extraction progresses through the resource, 5 m wide benches will be left every 5 m of depth to provide a horizontal platform on which native flora species will be established.

The plantation in the mine lease area also includes gap filling plantation on the safety barrier zone left around the mine lease area. Gap filling plantation has been carried out in the safety barrier zone left around the mine lease area from the beginning of the mining operations.

Additional plantation will be carried out in the inactive mining area. Grass and bushes will be planted in areas prone to erosion. Other areas will be spread with organic manures and planted with local species.

The characteristics of this vegetation will resemble that of the natural environment except for the early growth, which may be a protective cover crop of non-seeding annuals. Before re-vegetation, the land will be properly prepared by spreading the top soil, which is rich in organic contents along with mulches and organic manure. Vegetation will be self-sufficient after planting and require no fertilizers or maintenance.

The re-vegetation program will re-establish native tree / shrub / ground cover and will stabilize reshaped and benched areas. Benches will be deep ripped to actively promote infiltration of water which will enhance soil moisture requirements for direct tree seeding and minimize surface runoff to underlying benches. Re-vegetation will also visually screen disturbed areas and will re-establish habitat for native fauna.

#### **24. Risk Assessment & Disaster Management Plan:-**

The Disaster Management Plan (DMP) is supposed to be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated and personnel training through rehearsals/induction conducted by the respective department from time to time.

#### **General Responsibilities of Employees during an Emergency:**

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the workers in-

charge, should adopt safe and emergency shut down and attend any prescribed duty as essential employee. If no such responsibility is assigned, he should adopt a safe course to assembly point and await instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

#### Co-ordination with Local Authorities:

The mine manager who is responsible for emergency will always keep a jeep ready at site. In case any eventualities the victim will be taken to the nearby hospitals after carrying out the first aid at site. A certified first aid certificate holder will be responsible to carry out the first aid at site. The mine manager should collect and have adequate information of the nearby hospitals, fire station, police station, village panchayat heads, taxi stands, medical shop, district revenue authorities etc., and use them efficiently during the case of emergency.

#### **25. Details of the Occupation Health issues in the District. (Last five-year date of number of patients of Silicosis & Tuberculosis is also needs to be submitted):-**

As per the guidelines of the Mine Rules 1955, occupational health safety stipulated by the ILO/WHO. The proponent's will take all necessary precautions. Normal sanitary facilities should be provided within the lease area. The management will carry out periodic health checkup of workers.

Occupational hazards involved in mines are related to dust pollution, Noise pollution, blasting and injuries from moving machineries & equipment and fall from high places. DGMS has given necessary guidelines for safety against these occupational hazards. The management will strictly follow these guidelines.

All necessary first aid and medical facilities will be provided to the workers. The mine shall be well equipped with Personal Protective Equipment (PPE). Further all the necessary protective equipment's such as helmets, safety goggles, earplugs, earmuffs, etc. will be provided to persons working in mines as per Mines Rules. Alloperators and mechanics will be trained to handle fire-fighting equipment's.

## **26. Plantation of Green Belt development in respect of leases already granted in the District:-**

### ***Green Belt Development***

- ❖ A well planned Green Belt with multi rows (Three tier) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul rods to prevent air, dust noise propagation to undesired places. Efforts will be taken for the enhancement of survival rate since the soil is alkaline in nature.

### ***Species Recommended for Plantation***

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

- ❖ Natural growth of existing species and survival rate of various species.
- ❖ Suitability of a particular plant species for a particular type of area.
- ❖ Creating of bio-diversity.
- ❖ Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- ❖ Efficient in absorbing pollutants without major effects on natural growth.
- ❖ The following species may be considered primarily for plantation best suited for the prevailing climatic condition in the area.

## RECOMMENDED SPECIES TO PLANT IN THE GREENBELT

S.No	Name of the plant (Botanical)	Family Name	Common Name	Habit
1.	<i>Azadirachta indica</i>	<i>Meliaceae</i>	Neem, Vembu	Tree
2.	<i>Albizia falcataria</i>	<i>Fabaceae</i>	Tamarind, Puliyamaram	Tree
3.	<i>Polyalthia longifolia</i>	<i>Annonaceae</i>	Kattumaram	Tree
4.	<i>Borassus flabellifer</i>	<i>Areaceae</i>	Palmyra Palm	Tree

### 27. Any other information:-

The well developed Environmental management plan and Remedial measures is proposed to carry out in all mining areas in the District.

CER/CSR activities shall be carried out by providing social and welfare measures to the local community of the nearby villages. The main activities would be like drinking water facilities for the government schools children, public toilets to the local community and government schools, conducting free medical camps, providing solar lights to the villages besides encouraging the local cultural activities of the area. Any other CSR and CER activities as guided by the DEIAA/SEIAA during the grant of Environmental Clearance should be implemented.

This District Survey Report has been prepared in a short span of time by doing rapid field work. The details related to the occurrence of mineral resources and other data of the district are subject to updation from time to time. Before grant of any quarry lease, the parameters related to geosciences and sustainable developments are to be considered on the basis of ground reality.

The Karur District is having very large deposits of Charnockite rock which is the raw material for the production of aggregates and M-sand. M-sand is the need of the hour to replace the utilisation of river sand. The Charnockite / Rough Stones are crushed in the crushing units for the manufacture of aggregates and M-sand which gives direct and indirect employment to the local people. Preferences and encouragements can be given to the Entrepreneurs for set up of new units for the production of M-sand.

The Quartz deposits found in Karur District is poor quality and the quantity available is very less. The Quartz from this area is utilized in the glass industry. The Feldspar deposits are low in quality which is used in the ceramic tiles manufacturing industry.

The Granite deposits found in Karur District is Pink, Pale White and Bluish Grey in colour. Since these are not premium granite varieties, the demand in the market is very low and hence the production of granite blocks is very less.

The quantity of River Sand available in Karur District is very meagre which cannot be exploited for public purpose. The rate of replenishment is very very low.

The introduction of e-permit system and implementation of Mineral Dealers Rule and the despatch slips / transit permits with tampered proof security features and tracking of mined out minerals will fetch more revenue to the State Exchequer as well as sustainable development.

Deputy Director,  
Geology and Mining,  
Karur.

District Collector,  
Karur.





# **Annexure 7 - NABL Certificate**



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](http://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 8 - Monitoring Reports**



# Shrient Analytical and Research Labs Pvt. Ltd

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## TEST REPORT

Report No.	SARL/24/4781	Report Date.	16.12.2024
------------	--------------	--------------	------------

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4781	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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

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



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## TEST REPORT

Report No.	SARL/24/4782	Report Date.	16.12.2024
------------	--------------	--------------	------------

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4782	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4783	Report Date.	16.12.2024
------------	--------------	--------------	------------

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4783	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4784	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4784	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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## TEST REPORT

Report No.	SARL/24/4785	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4785	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Pail  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4786	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4786	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4787	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4787	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4788	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4788	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4789	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4789	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4790	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4790	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
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## TEST REPORT

Report No.	SARL/24/4791	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4791	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4792	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4792	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paal  
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J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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





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## TEST REPORT

Report No.	SARL/24/4793	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4793	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	43.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4794	Report Date.	16.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4794	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4808	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4808	Sample Received on	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4809	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4809	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. P.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4810	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4810	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4811	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4811	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.  
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J. GNANAPRAKASAM  
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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## TEST REPORT

Report No.	SARL/24/4812	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4812	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	40.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	18.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/4813	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4813	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	42.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	18.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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## TEST REPORT

Report No.	SARL/24/4814	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4814	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Pail  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4815	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4815	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

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J. P.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4816	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4816	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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## TEST REPORT

Report No.	SARL/24/4817	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4817	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. P.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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

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## TEST REPORT

Report No.	SARL/24/4818	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4818	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4819	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4819	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	57.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4820	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4820	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4821	Report Date.	23.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4821	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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## TEST REPORT

Report No.	SARL/24/4836	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4836	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	58.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	28.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4837	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4837	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Paal  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/4838	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4838	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4839	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4839	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4840	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4840	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Pail  
Verified



J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/4841	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4841	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
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J. GNANAPRAKASAM  
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## TEST REPORT

Report No.	SARL/24/4842	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4842	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
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## TEST REPORT

Report No.	SARL/24/4843	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4843	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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## TEST REPORT

Report No.	SARL/24/4844	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4844	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/24/4845	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4845	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/24/4846	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4846	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4847	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4847	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paal  
Verified



J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/4848	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4848	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/24/4849	Report Date.	30.12.2024
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4849	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4866	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4866	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
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J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4867	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4867	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. G.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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

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





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## TEST REPORT

Report No.	SARL/25/4868	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4868	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4869	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4869	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4870	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4870	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4871	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4871	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4872	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4872	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paal  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4873	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4873	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4874	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4874	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
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## TEST REPORT

Report No.	SARL/25/4875	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4875	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Pail  
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\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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

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



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## TEST REPORT

Report No.	SARL/25/4876	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4876	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4877	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4877	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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\*\*\*END OF THE REPORT\*\*\*

J. 4  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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

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## TEST REPORT

Report No.	SARL/25/4878	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4878	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4879	Report Date.	06.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4879	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

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J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4894	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4894	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4895	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4895	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

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\*\*\*END OF THE REPORT\*\*\*

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**Authorized Signatory**  
**J. GNANAPRAKASAM**  
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## TEST REPORT

Report No.	SARL/25/4896	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4896	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4897	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4897	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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## TEST REPORT

Report No.	SARL/25/4898	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4898	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4899	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4899	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4900	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4900	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4901	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4901	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4902	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4902	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4903	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4903	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	43.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4904	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4904	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4905	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4905	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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## TEST REPORT

Report No.	SARL/25/4906	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4906	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4907	Report Date.	13.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4907	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4924	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4924	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4925	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4925	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4926	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4926	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4927	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4927	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4928	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	AMBIENT AIR QUALITY		
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines		

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4928	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	42.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	18.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4929	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4929	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	43.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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

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





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## TEST REPORT

Report No.	SARL/25/4930	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4930	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. G.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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

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



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## TEST REPORT

Report No.	SARL/25/4931	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4931	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4932	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4932	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4933	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4933	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4934	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4934	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	62.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
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J. GNANAPRAKASAM  
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## TEST REPORT

Report No.	SARL/25/4935	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4935	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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

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## TEST REPORT

Report No.	SARL/25/4936	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4936	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4937	Report Date.	20.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4937	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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## TEST REPORT

Report No.	SARL/25/4952	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4952	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	61.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4953	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4953	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	58.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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

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



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## TEST REPORT

Report No.	SARL/25/4954	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4954	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4955	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4955	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4956	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4956	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4957	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4957	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4958	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4958	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4959	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4959	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4960	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4960	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4961	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4961	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4962	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4962	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4963	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4963	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Paal  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4964	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4964	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4965	Report Date.	27.01.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4965	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4982	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4982	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4983	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4983	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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

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





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## TEST REPORT

Report No.	SARL/25/4984	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4984	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4985	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4985	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.0	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.0	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/4986	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4986	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/4987	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4987	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4988	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4988	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.0	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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

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



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## TEST REPORT

Report No.	SARL/25/4989	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4989	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4990	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4990	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4991	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-4991	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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## TEST REPORT

Report No.	SARL/25/4992	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4992	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	61.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4993	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4993	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	59.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4994	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4994	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4995	Report Date.	06.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4995	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4997	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4997	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	60.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.0	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/4998	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-4998	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



\*\*\*END OF THE REPORT\*\*\*

J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/4999	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-4999	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.0	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5000	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5000	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5001	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5001	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5002	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5002	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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

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



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## TEST REPORT

Report No.	SARL/25/5003	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5003	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5004	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5004	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5005	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5005	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5006	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5006	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5007	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5007	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5008	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5008	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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## TEST REPORT

Report No.	SARL/25/5009	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5009	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5010	Report Date.	10.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5010	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5025	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5025	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5026	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5026	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

*S. Paul*  
**Verified**



\*\*\*END OF THE REPORT\*\*\*

*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5027	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5027	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	45.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5028	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5028	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	53.0	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/5029	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5029	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	43.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5030	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5030	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

For any Technical Issues & Complaints: [vimalnath@shrientanalytical.com](mailto:vimalnath@shrientanalytical.com)

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## TEST REPORT

Report No.	SARL/25/5031	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5031	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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

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



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## TEST REPORT

Report No.	SARL/25/5032	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5032	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5033	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5033	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5034	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5034	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5035	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5035	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	57.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5036	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5036	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5037	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5037	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	57.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5038	Report Date.	17.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5038	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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# Shrient Analytical and Research Labs Pvt. Ltd

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## TEST REPORT

Report No.	SARL/25/5053	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5053	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	60.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5054	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5054	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	54.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5055	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5055	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5056	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5056	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	55.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5057	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5058	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/5058	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5058	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5059	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5059	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
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**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5060	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOOR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5060	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5061	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5061	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.5	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5062	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5062	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5063	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5063	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5064	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5064	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5065	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5065	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	42.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	18.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5066	Report Date.	24.02.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGES
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5066	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	43.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.4	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
Verified



*J. Gnanaprakasam*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5081	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5081	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.0	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5082	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5082	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	44.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.7	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5083	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5083	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	.8.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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## TEST REPORT

Report No.	SARL/25/5084	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5084	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	46.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.0	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



\*\*\*END OF THE REPORT\*\*\*

J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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

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



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## TEST REPORT

Report No.	SARL/25/5085	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A6-KAZHUGUR VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5085	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	49.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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

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



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## TEST REPORT

Report No.	SARL/25/5086	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A7-THONDAMANGINAM VILLNGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5086	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.1	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5087	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5087	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	51.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. Gnanaprakasam  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/25/5088	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5088	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	50.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

**For Shrient Analytical and Research Labs Pvt. Ltd**

8 Feb  
**Verified**



J. K.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5089	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

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

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5089	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	48.7	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	6.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.6	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

*S. Paul*  
**Verified**



*J. Gnanaprakasam*  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5090	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A4-NAGANOUR COLONY
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-5090	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	47.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	8.8	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

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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

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## TEST REPORT

Report No.	SARL/25/5091	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5091	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	56.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	9.9	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
Verified



\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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## TEST REPORT

Report No.	SARL/25/5092	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5092	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	57.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	8.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	11	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

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J. G  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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

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## TEST REPORT

Report No.	SARL/25/5093	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A1-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-5093	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.2	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

  
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Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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## TEST REPORT

Report No.	SARL/25/5094	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	AMBIENT AIR QUALITY
Sampling Procedure	IS – 5182 (Part – 14: 2000 & Part – V: Reaffirmed - 2003), CPCB Guide lines

Sample Location	A2-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-5094	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 <sub>10</sub> )	IS:5182: Part 23:2006	µg/m <sup>3</sup>	52.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	7.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	10.3	80
5	Carbon monoxide (CO)	SARL/IOP/013 (Issue No:01, Issue Date – 01.03.2023)	mg/m <sup>3</sup>	BDL (D.L – 1.1)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Feb  
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\*\*\*END OF THE REPORT\*\*\*

J. K.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5095

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W1-NEAR LEASE AREA

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5095	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.48	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	569.5	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	342	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	133	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	22.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	18.4	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	56.6	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	76.8	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	155	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	140	1000



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## TEST REPORT

Report No.	SARL/25/5095
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Report Date.	10.03.2025
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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	45.6	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	3.22	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.36	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



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Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5096

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W2-METTUPATTI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5096	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.65	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1146	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	690	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	234	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	43.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	30.1	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	109	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	125	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	296	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	230	1000



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## TEST REPORT

Report No.	SARL/25/5096
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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	181	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	1.68	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



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Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5097

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W3-MOOTAKAMPATTI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5097	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.32	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	833.2	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	502	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	250	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	48.5	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	31.0	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	121	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	129	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	332	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	121	1000



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## TEST REPORT

Report No.	SARL/25/5097
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Report Date.	10.03.2025
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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	105	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.04	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	5.64	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.52	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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## TEST REPORT

Report No. SARL/25/5098

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W4-NAGANOOR COLONY

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5098	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.66	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1040	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24th Edition 2540-C: 2023	mg/L	626	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24th Edition 2340 C: 2023	mg/L	242	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	64.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	19.4	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24th Edition 3500 Ca B: 2023	mg/L	162	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24th Edition 3500 Mg B: 2023	mg/L	80.8	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24th Edition 2320 B: 2023	mg/L	235	600
12	Chloride (as Cl)	APHA 24th Edition 4500 Cl- B: 2023	mg/L	232	1000



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## TEST REPORT

Report No.	SARL/25/5098
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Report Date.	10.03.2025
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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	156	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.06	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.58	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.47	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5099

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W5-THOGAMALAI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5099	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.45	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1226	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	738	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	392	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	85.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	42.7	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	214	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	178	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	195	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	255	1000



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## TEST REPORT

Report No.	SARL/25/5099
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Report Date.	10.03.2025
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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	218	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	1.77	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

  
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\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5100

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W6-KAZHUGUR VILLNGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5100	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.63	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	826	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	496	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	84.0	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	29.2	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	2.80	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	73.0	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	11.5	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	452	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	104	1000



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## TEST REPORT

Report No.	SARL/25/5100
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Report Date.	10.03.2025
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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	23.5	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	BDL(D.L-0.01)	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	1.89	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

  
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J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/25/5101

Report Date. 10.03.2025

Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W7-THONDAMANGINAM VILLNGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-5101	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
<b>A.</b>	<b>Physical parameters</b>				
1	Odour	IS 3025 (Part 5): 2018	-	Agreeable	Agreeable
2	Turbidity	APHA 24 <sup>th</sup> Edition 2130 B: 2023	NTU	<1.0	5.0
3	pH at 25 °C	APHA 24 <sup>th</sup> Edition 4500 – H+ B: 2023	-	7.21	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1470	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	870	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	521	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	129	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	48.0	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	321	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	200	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	223	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	276	1000



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## TEST REPORT

Report No.	SARL/25/5101
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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	169	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	10.9	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.53	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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## TEST REPORT

Report No.	SARL/25/5102	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S1-PROPOSED MINE LEASE AREA		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5102	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	-	6.65
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	124.50
3	Dry matter content	IS 15106: 2002	%	96.57
4	Water Content	IS 15106: 2002	%	3.43
5	Organic Matter	IS 2720: Part 22: 1972	%	0.65
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	210
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	30.59
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	33.11
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	36.30
	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	0.55
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	840
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	392
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	%	14.5
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  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5103	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S2-METTUPATTI VILLAGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5103	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	-	7.25
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	138.40
3	Dry matter content	IS 15106: 2002	%	97.54
4	Water Content	IS 15106: 2002	%	2.46
5	Organic Matter	IS 2720: Part 22: 1972	%	0.77
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	270
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	4.01
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	33.64
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	62.35
	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	0.79
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	952
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	425
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	%	13.2
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	32

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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



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## TEST REPORT

Report No.	SARL/25/5104	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S3-MOOTAKAMPATTI VILLAGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5104	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	-	7.25
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	102.50
3	Dry matter content	IS 15106: 2002	%	94.58
4	Water Content	IS 15106: 2002	%	5.42
5	Organic Matter	IS 2720: Part 22: 1972	%	1.02
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	312
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	41.47
	i. Sand			
	ii. Silt			
	iii. Clay			
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.02
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	978
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	724
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	%	11.9
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

*S. Paul*  
Verified



*J. K.*  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5105	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S4-NAGANOOR COLONY		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5105	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	-	6.95
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	132.50
3	Dry matter content	IS 15106: 2002	%	97.63
4	Water Content	IS 15106: 2002	%	2.37
5	Organic Matter	IS 2720: Part 22: 1972	%	1.54
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	405
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	6.56
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	43.60
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	49.84
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	0.66
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	736
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	456
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	%	12.6
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	39

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5106	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S5-THOGAMALAI VILLAGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5106	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	-	7.31
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	97.54
3	Dry matter content	IS 15106: 2002	%	97.57
4	Water Content	IS 15106: 2002	%	2.43
5	Organic Matter	IS 2720: Part 22: 1972	%	0.62
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	126
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	29.87
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	34.38
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	35.75
	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	1.83
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	782
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	456
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	%	3.7
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	37

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5107	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S6-KAZHUGUR VILLNGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5107	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	-	7.57
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	103.70
3	Dry matter content	IS 15106: 2002	%	97.86
4	Water Content	IS 15106: 2002	%	2.14
5	Organic Matter	IS 2720: Part 22: 1972	%	1.21
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	175
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	31.42
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	39.86
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	28.72
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	2.28
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	820
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	479
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	%	3.5
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	37

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For Shrient Analytical and Research Labs Pvt. Ltd

  
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J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5108	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	SOIL		
Sample Mark	S7-THONDAMANGINAM VILLNGE		

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-5108	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	-	7.73
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	80.76
3	Dry matter content	IS 15106: 2002	%	93.85
4	Water Content	IS 15106: 2002	%	6.15
5	Organic Matter	IS 2720: Part 22: 1972	%	0.81
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	108
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	21.56
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	52.64
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	25.80
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	BDL (D.L.0.02)
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.59
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	656
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	342
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	%	3.8
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	36

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For Shrient Analytical and Research Labs Pvt. Ltd

  
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J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/25/5109	Report Date.	10.03.2025
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Customer Name & Address	Naganur Multi-Colour Granite Quarry Of Thiru.Tamin, Extent Of 10.12.0ha,120(Part), Naganur Village, Kulithalai Taluk, Karur District, Tamil Nadu.		
Sample Description	NOISE LEVEL DATA		

Customer Reference	As per work order	Sampling Method	SARL/IOP/023
Sample Reference No	SARL/NO/CHE-5108	Date of Monitoring	22.02.2025/ 23.02.2025
Sample Collected by	LABORATORY		

Time in hrs	N1	N2	N3	N4	N5	N6	N7
06.00	42.7	39.8	44.5	40.6	43.1	41.2	43.4
07.00	45.5	40.6	46.4	43.2	41.5	44.1	47.2
08.00	53.7	45.8	45.2	41.6	42.6	40.6	48.3
09.00	50.7	50.7	39.6	45.2	44.2	43.8	50.2
10.00	48.5	50.4	41.4	47.3	45.1	45.7	47.3
11.00	51.6	49.0	44.8	50.1	43.8	48.2	46.2
12.00	49.3	47.2	43.2	51.3	44.1	46.1	48.4
13.00	51.6	47.0	41.7	47.6	43.2	50.2	50.1
14.00	50.6	48.3	42.1	45.2	44.6	47.2	47.5
15.00	50.9	47.4	49.8	43.1	42.2	48.1	45.3
16.00	51.9	50.3	45.4	47.2	44.3	46.8	47.1
17.00	52.1	50.8	42	46.2	47.2	49.2	46.3
18.00	51.9	51.9	40.5	44.2	43.2	46.2	48.2
19.00	49.7	46.9	41.3	44.5	45.6	45.2	46.1
20.00	49.5	46.2	40.1	42.3	41.3	41.1	44.2
21.00	47.7	44.0	39.4	40.6	42.8	42.2	42.2
22.00	46.0	40.0	40.3	41.2	40.1	40.6	43.2
23.00	43.1	39.1	41.3	39.5	43.1	43.2	41.6
24.00	40.7	40.1	43	38.6	40.6	41.6	44.2
01.00	38.8	38.8	43.3	40.1	38.3	39.5	42.1
02.00	39.1	39.0	40.3	38.2	40.1	40.2	40.6
03.00	41.9	39.7	37.5	39.4	37.5	38.2	42.6
04.00	40.6	40.4	38	38.3	38.5	41.2	41.2
05.00	38.9	40.7	39.6	38.5	38.1	39.2	43.3

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

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## TEST REPORT

Report No. SARL/25/5109

Report Date. 10.03.2025

	N1	N2	N3	N4	N5	N6	N7
DAY EQUIVALENT	50.5	48.3	44.0	46.1	43.9	46.3	47.2
NIGHT EQUIVALENT	41.8	39.8	40.9	39.3	39.9	40.7	42.5
DAY & NIGHT EQUIVALENT	49.0	46.9	43.2	44.8	43	45.1	46.2

Remarks:

### LOCATIONS:

- N1-NEAR LEASE AREA
- N2-METTUPATTI VILLAGE
- N3-MOOTAKAMPATTI VILLAGE
- N4-NAGANOR COLONY
- N5-THOGAMALAI VILLAGE
- N6-KAZHUGUR VILLNGE
- N7-THONDAMANGINAM VILLNGE

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Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
**J. GNANAPRAKASAM**  
Technical Manager

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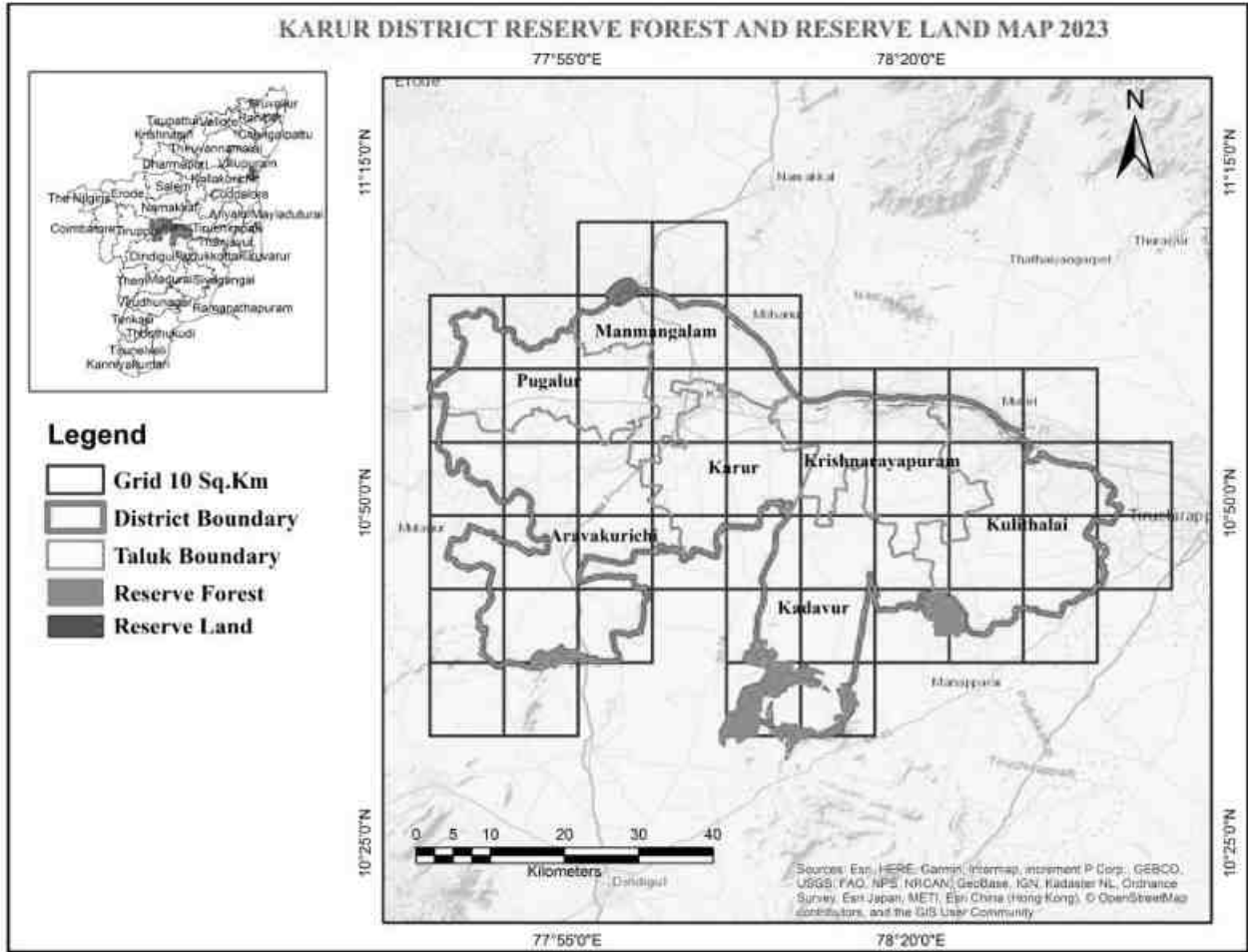
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## **Annexure 9 - Karur Forest Resources**

# Karur District Reserve Forest and Reserve land Map 2023



SACON Technical Report- PR223

Prioritization of forests of Karur and Dindigul Forest Divisions for  
the conservation of the grey slender loris  
*Loris lydekkerianus lydekkerianus*



Salim Ali Centre for Ornithology and  
Natural History



Tamil Nadu Forest Department

**Prioritization of forests of Karur and Dindigul Forest Divisions  
for the conservation of the grey slender loris  
*Loris lydekkerianus lydekkerianus***

SACON Technical Report – PR223

**Honnavalli N. Kumara<sup>1</sup>, Ramamoorthy Sasi<sup>1</sup>, Shantala Kumar<sup>2</sup> and  
Sanyukta Kasbekar<sup>1</sup>**

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## Prioritisation of forests of Karur and Dindigul Forest Divisions for the conservation of the grey slender loris *Loris lydekkerianus lydekkerianus*

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### Introduction

One of the suborders of primates is Strepsirrhini that includes lemurs (in Madagascar), galagos and pottos (in Africa), and lorises (India and Southeast Asia). The lorises found in India are slow loris and grey slender loris, where slow loris is confined to forests of the northeast while grey slender loris is largely confined to South India. The grey slender loris found in India is named *Loris lydekkerianus* which also occurs in Sri Lanka (Groves 2001). In India, two subspecies of slender loris are recognized: Malabar Grey Slender Loris, *Loris lydekkerianus malabaricus*, found in the wet evergreen forests of the Western Ghats, and Mysore Grey Slender Loris, *L. l. lydekkerianus*, found in the relatively drier regions of southern India (Groves 2001; Kumara et al. 2013). The Mysore grey slender loris is greyish-brown in coat colour with narrow circumocular patches and an adult male and a female weighed 275 g each, whereas the Malabar grey slender loris is reddish with large circumocular patches and smaller in size, and a male and a female weighed 180 g each (Kumara et al. 2006). Nekaris (2001) reported the mean body weight of an adult Mysore grey slender loris to be 294.4 g and of females to be 259.7 g. Although, there is no molecular work to establish the relatedness of these two subspecies, but variation is recorded in the body mass and morphology.



Malabar grey slender loris



Mysore grey slender loris

The first-ever distribution map of the two subspecies of the slender loris was constructed using anecdotal records from the literature by Schulze and Meier (1995). The lorises being nocturnal,

they have to be surveyed at night, thus they were not surveyed or studied till 1996. The systematic survey for the first time was conducted in a few sites in Dindigul in 1996 (Singh et al. 1999), later in southern Andhra Pradesh (Singh et al. 2000), large areas of Karnataka (Kumara et al. 2006), Kerala (Radhakrishna et al. 2011; Sasi and Kumara 2014), Tamil Nadu (Kumara et al. 2016), and Aralam Wildlife Sanctuary (Gnanaolivu et al. 2020). The extent of the distribution of the Malabar slender loris is from the southern tip of the Western Ghats up to 15.8° N in Karnataka, the subspecies occurring primarily in the wet forests on the western slopes of the Ghats (Singh et al 2021). While the Mysore slender loris, occurring from the southern tip of India in Tamil Nadu, has been observed up to 14.2° N in the Nellore district of Andhra Pradesh, and it is found in dry deciduous and scrub forests (Singh et al 2021).

The density of Malabar slender loris is very thin in its entire distributional range (Kumara et al. 2006; Radhakrishna et al. 2011; Sasi and Kumara 2014), however, their distribution is contiguous as their habitat is contiguous along the Western Ghats. The vegetation type and altitude determined their occupancy and abundance. While, the habitat of Mysore slender loris is highly fragmented and very few, but found in high density in those fragments (Singh et al. 1999, 2000; Kumara et al. 2006; Sasi and Kumara 2014; Kumara et al. 2016). Although the Mysore slender loris is recorded from the agricultural fields, those fields are adjoining to these forest fragments. Their abundance is high in umbrella thorn forests and Euphorbia open forests, croplands close to the forests, mixed deciduous forests, while relatively less in the dense forest or open or highly degraded habitat between 300 and 500 m asl. They largely use the medium and low canopy having contiguity.

Of all the surveyed areas i.e., Kerala, Tamil Nadu, Karnataka, and Andhra Pradesh (Singh et al. 1999, 2000; Kumara et al. 2006; Sasi and Kumara 2014; Kumara et al. 2016), the major population of Mysore grey slender loris is found in few districts of Tamil Nadu i.e., Tiruchirapalli: 2.21/km; Pudukottai: 1.95/km; Sivaganga: 1.41/km; Karur: 1.23/km; Dindugal: 1.1/km (Singh et al. 1999; Kumara et al. 2016). However, this information is from a one-time survey in select sites, nevertheless, that provides preliminary information on their abundance. The robust estimates of the population always come from the proper design of the study and effort. To demonstrate this, lorises were estimated using the line-transect technique following the principles of DISTANCE theory in 2005-07 by Kumara and Radhakrishna (2013) in the Dindigul district. Later using the same technique, forest patches were prioritized for conservation in Karnataka (Das et al. 2011). This indicates that many of these techniques can

be used to ascertain their population size. Kumara and Radhakrishna (2013) reported no difference in the estimate of density from the data collected at different timings of the night or moon phases. This demonstrated that the survey can be conducted at any time of the night.

Most of the Mysore slender loris range falls outside the protected area network, and their high-density patches are highly vulnerable due to many of the developmental activities and anthropogenic pressure. Although lorises are found outside the forest patches in agriculture fields, they are the dispersed animals from the source population that is found in the forest areas, thus, perhaps conserving such source populations is crucial. In order to achieve this goal, the systematic survey of Mysore grey slender loris was conducted in select reserve forests of Karur and the Dindigul districts of Tamil Nadu. The findings of the survey of slender loris are reported here.

## Methodology

**Survey sites:** A total of 15 reserved forests were selected to conduct the survey of slender loris in the Karur and Dindigul districts (Figure 1). Considering the area and access three reserved forests of Mullipadi are considered as one Mullipadi Reserved Forest, thus the number of sampled reserved forests is projected as 13 (Table 1).

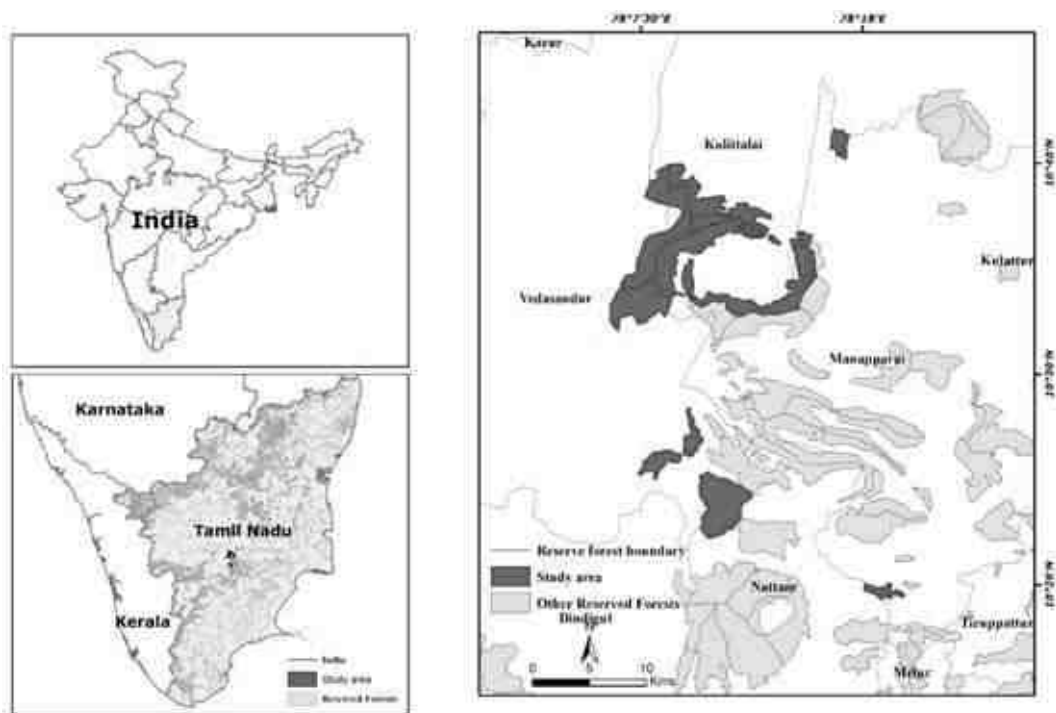


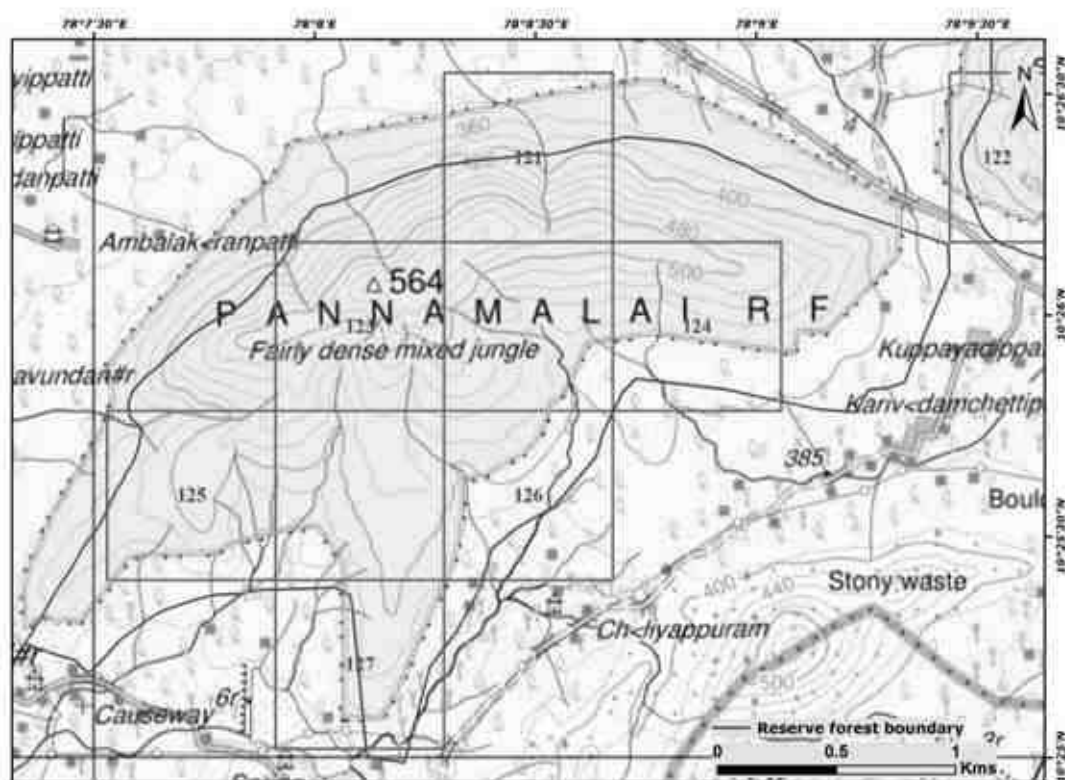
Figure 1. The select reserved forest to survey the slender loris in Karur and Dindigul districts.

Table 1. The select reserved forests in Karur and Dindigul districts to conduct a survey of slender loris

Sl. No.	Name of Division	Name of RF	Extent in Ha
1	Dindigul	Pannamalai RF	468.78
2	Dindigul	Thanneerkaradu RF	389.79
3	Dindigul	Chinnayampatti RF	252.93
4	Dindigul	Thoppasamimalai RF	3453.01
5	Dindigul	Mudimalai	1794.80
6	Karur	D. Edayapatty- Bit-I RF	1784.94
7	Karur	D. Edayapatty- Bit-II RF	402.85
8	Karur	D. Edayapatty- Bit-III RF	1255.12
9	Karur	D. Edayapatty- Bit-IV RF	243.21
10	Karur	Mullipadi RF	301.89
11	Karur	Palaviduthi RF	750.37
12	Karur	Sembianatham RF	961.80
13	Karur	Vaiyamalaipalayam RF	278.91

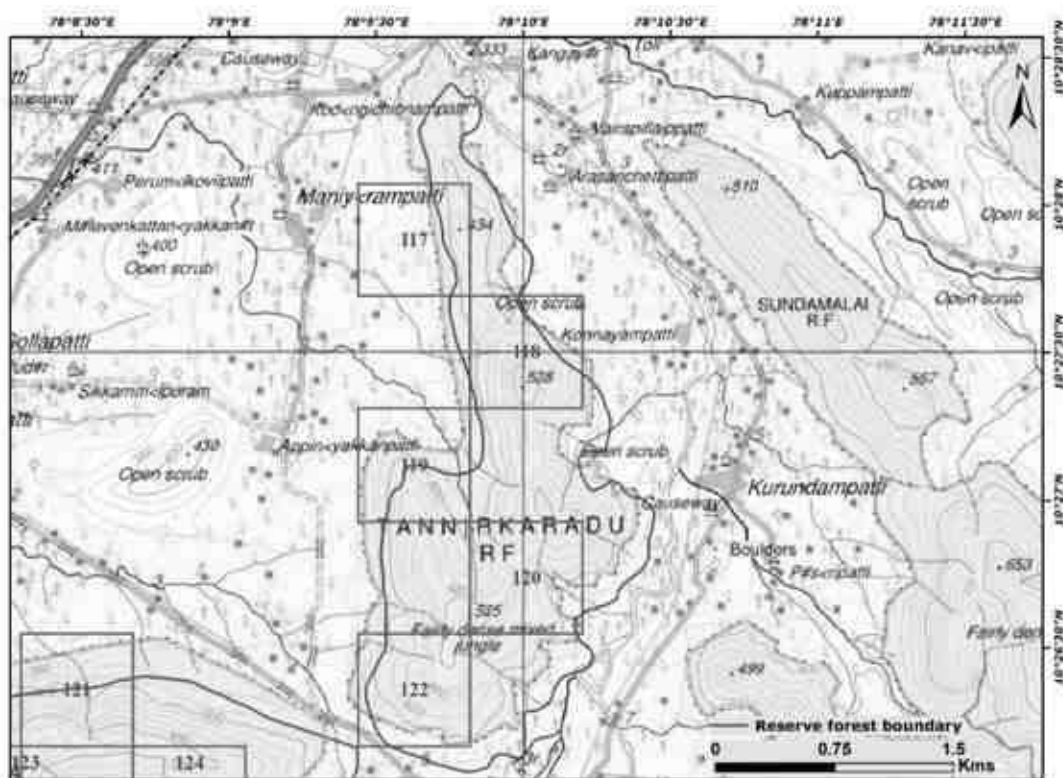
The area, physical features, forest type, and major flora for each reserved forest are provided in detail.

## Pannamalai RF



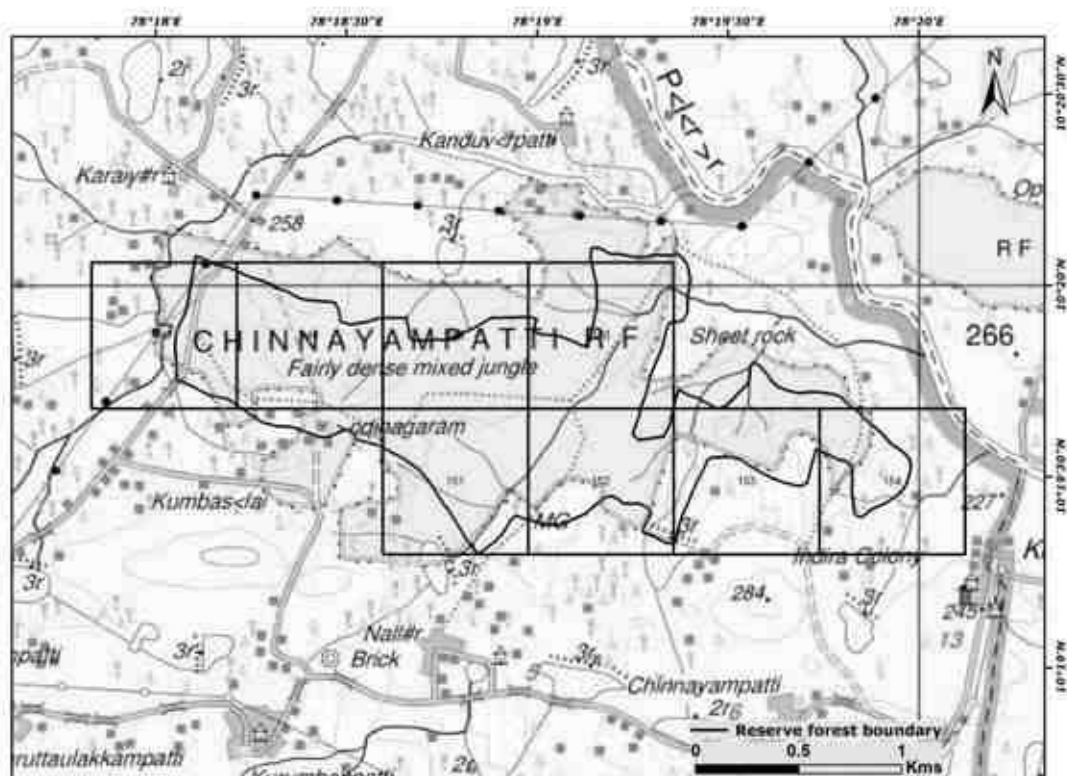
Division	Dindigul
Range	Ayyalur
Section	Senthurai
Beat	Ayyalur
Location	
Reserved Forest Formed in G.O.No.	169 dt. 29.3.1893
Area in Ha.	468.77
Enclosure Villages or hamlet	Nearby villages Ambalakaranpatti Kupadipatti
Altitudinal Range	200 – 564 Meters MSL
Details of existing roads	Path from Vadamadurai to Puthur is nearby
Forest type	6A/C2/DS 2 - Southern Euphorbia Scrub forest
Major Flora	<i>Acacia planifrons</i> , <i>Tamarindus indica</i> , <i>Albizia asnara</i> , <i>Wrightia tinctoria</i> , <i>Acacia fermgnia</i> , <i>Adina cardifolia</i> , <i>A/adirachta indica</i> , <i>Acacia leucophloea</i>
Non - Timber Forest Produce is available	Sundakai, Neem fruits, Usil leaves, Eachamar
Rainfall	900 mm P
Soil Type	Red gravelly and laterite soil

## Thanneerkaradu RF



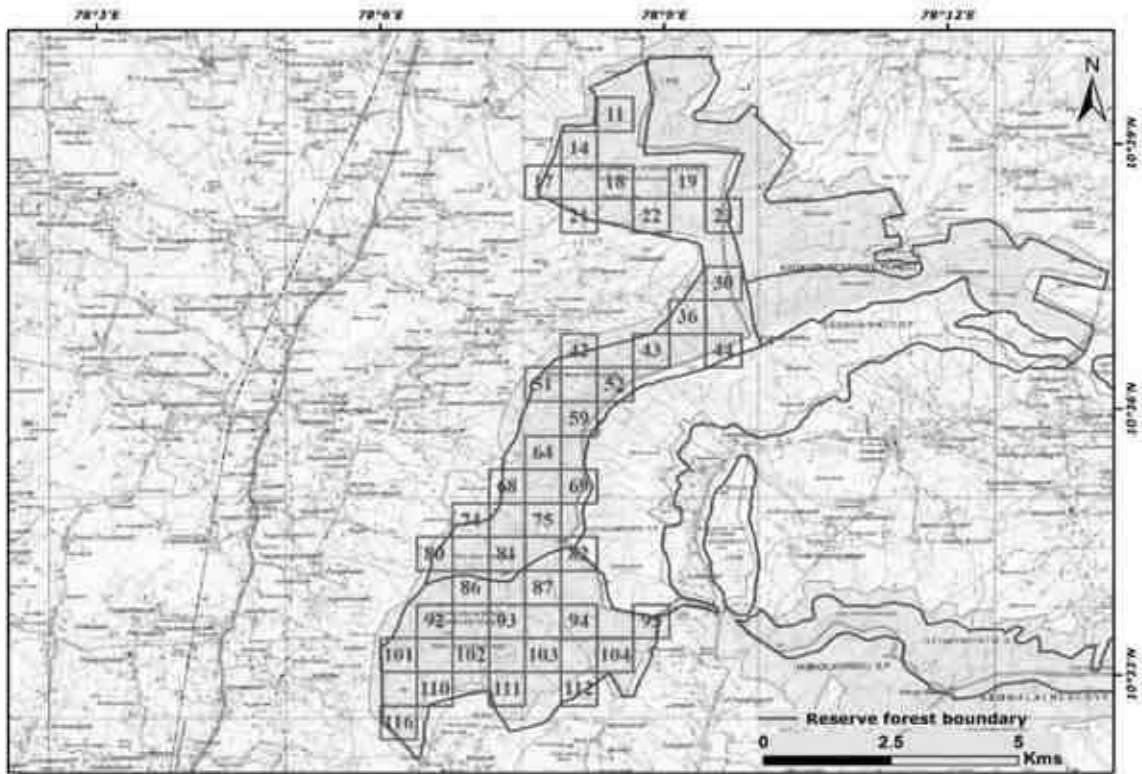
Division	Dindigul
Range	Ayyalur
Section	Senthurai
Beat	Ayyalur
Location	
Reserved Forest Formed in G.O.No.	101 dt 19.3.86
Area in Ha.	389.62 Ha..
Enclosure Villages or hamlet	Nearby villages kurudampatti, Ayyalur in the North and Kupadipati in the south
Altitudinal Range	200 – 528 Meters MSL
Details of existing roads	A path from Maniakaranpatti passes through (to
Forest type	6A/C2 - Southern Umbrella Thorn forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Acacia leucophioea</i> , <i>Adina cardifolia</i> , <i>Tamarindus indica</i> , <i>Wrightia tincioria</i> , <i>Cassia auriculata</i> , <i>Balsamodendron herrivi</i>
Non-Timber Forest Produce is available	Sundakai, Neem fruits, Usil leaves, Eachamar
Rainfall	900 mm P
Soil Type	Red gravelly soil- 75%, Sandy loam-15% others-10%

## Chinnayampatti RF



Division	Dindigul
Range	Natham Range
Section	Natham
Beat	Kuttupatty
Reserved Forest Formed in G.O.No.	144 dt. 11.3.1943
Area in Ha.	252.46 Ha.
Enclosure Villages or hamlet	Nearby villages Chinnayampatti Kosukurichi
Details of structure available	Chittambakoil
Details of existing roads	Road to Thuvarankurichi from Natham
Details of a live wire passing through Reserved Forest	E.B. wire passes through R.F.
Forest type	6A/C2 -Southern Umbrella Thorn forest
Checklist of Flora	<i>Albizia amara</i> , <i>Chloroxylon swietenia</i> , <i>Wrightia tinctoria</i> , <i>Acacia leucophloea</i> , <i>Albizia lebbek</i>
Non - Timber Forest Produce is available	Tamarind, Sundakai
Soil Type	Red gravelly soil 30%, Laterite 30%, Sandy loam 20%, Black cotton soil 20%

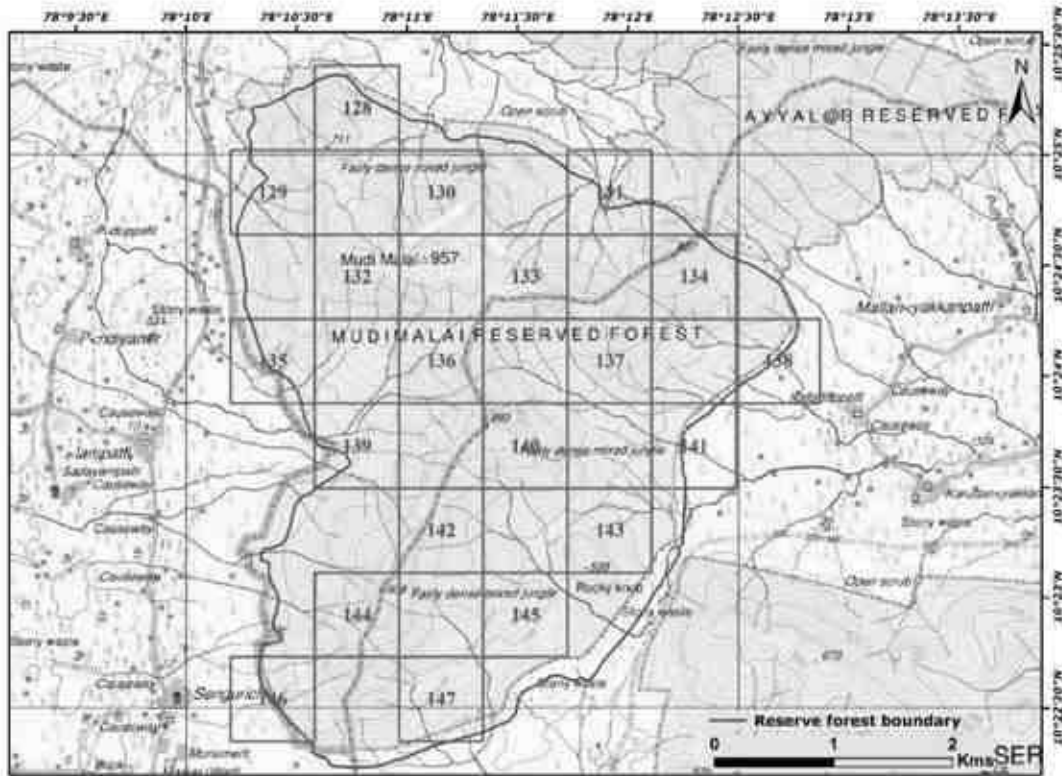
## Thoppasamymalai RF



Division	Dindigul
Range	Ayyalur
Section	Ehodu
Beat	Malaipatty Beat and R.Combai beat
Reserved Forest Formed in G.O.No.	453 dt. 18.11.1901
Area in Ha.	3452.98 Ho..
WATERSHED AREA	Kodavanar River
Enclosure Villages or hamlet	Nearby village kombai
Details of structure available	Mumapankoil near the banks of the stream varatar, Bomayasamikoil, Kannimarkoil, and
Details of existing roads	A path from the Kombai to Virarmullai passes through R.F.
Forest type	6A/C2/DS2 - Southern Euphorbia Scrub Forest 6A/C2 - Southern Umbrella Thorn Forest
Checklist of Flora	<i>Albizia amara</i> , <i>Thaaaku</i> , <i>Neem</i> , <i>Veppalai</i> , <i>Nelli</i> , <i>Sundakai</i> , <i>Tamarind</i> , <i>Vagal</i> .
Non - Timber Forest Produce is available	Sundakai, Bodhaigrass, Eachamar
Soil Type	Red Soil 5% Laterite soil - 30% other -65%

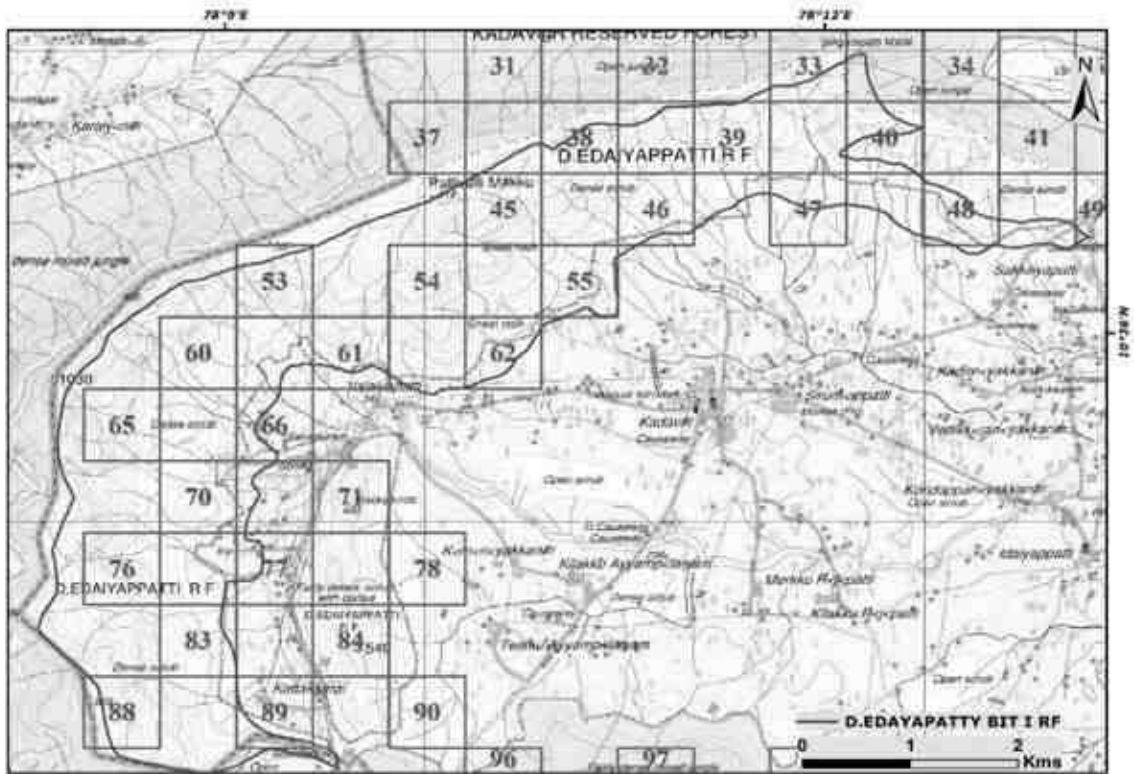


## Mudimalai RF



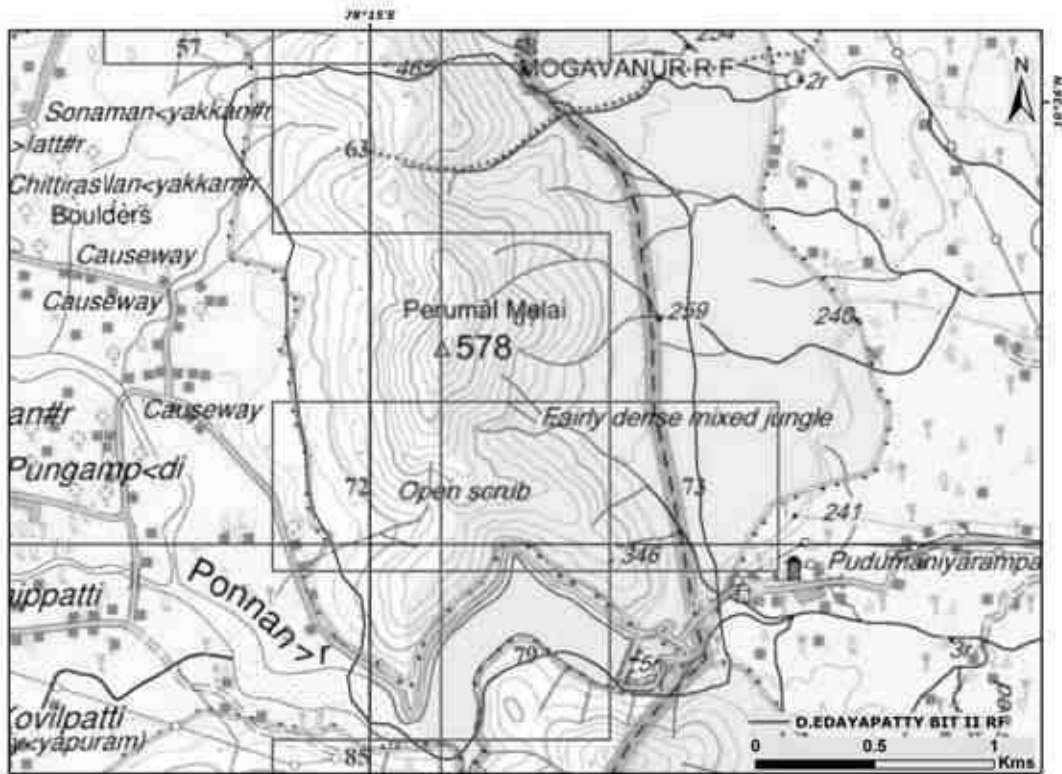
Division	Dindigul
Range	Ayyalur
Section	Senthurai
Beat	Puthur
Location	
Reserved Forest Formed in G.O.No.	187 dt. 11.10.83
Area in Ha.	1794.80 Ha
Enclosure Villages or hamlet	Senkurichi, nearby village,
Altitudinal Range	200 – 957Meters MSL
Details of existing roads	A path from Senkurichi along the boundary
Forest type	6 A/C2 – Southern Umbrella Thorn Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil - 40%, Laterite - 20%, Others 40%

## D.Edayapatty-Bit-1 RF



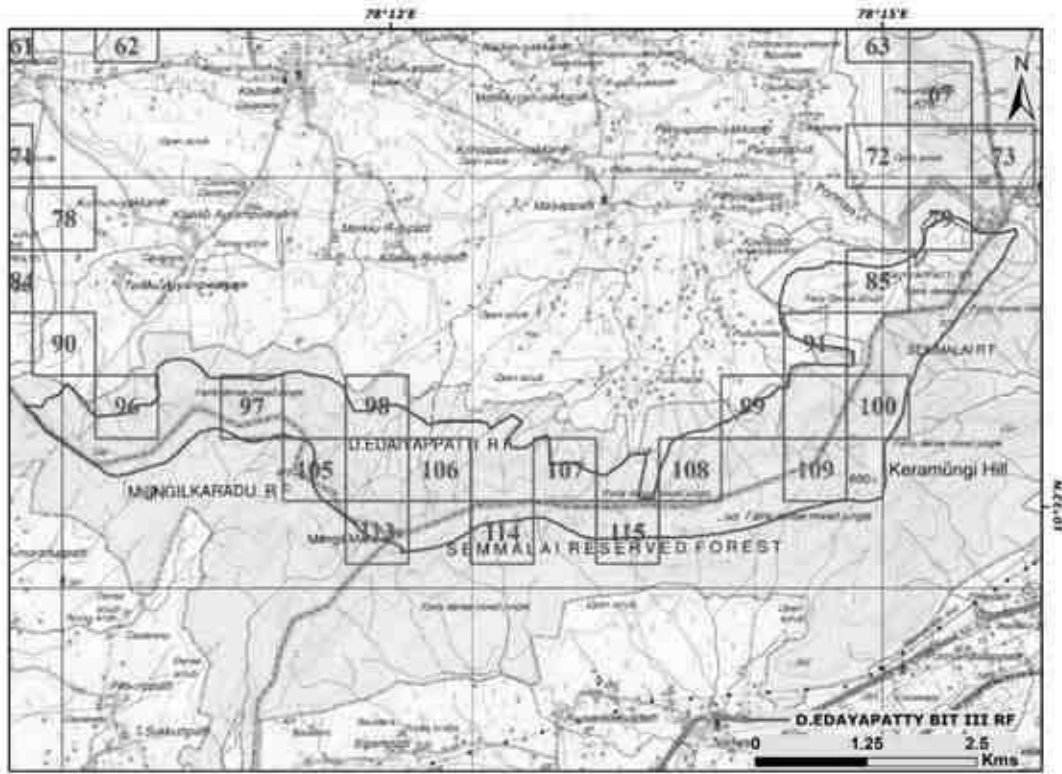
Division	Karur
Range	Karur
Section	Kadavur
Beat	D.Edayapatti west
Location	
Reserved Forest Formed in G.O.No.	No.92 EandF dt.26.04.2000
Area in Ha.	1784.94Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	200 – 1030 Meters MSL
Details of existing roads	Kadavur- Ayyalur and Kadavur -Mailampatty
Forest type	6 A/C2 – Southern Umbrella Thorn Forest 6A/C2/DS2 - Southern EuphorbiaScrub Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil - 40%, Laterite - 20%, Others 40%

## D.Edayapatty-Bit-2 RF



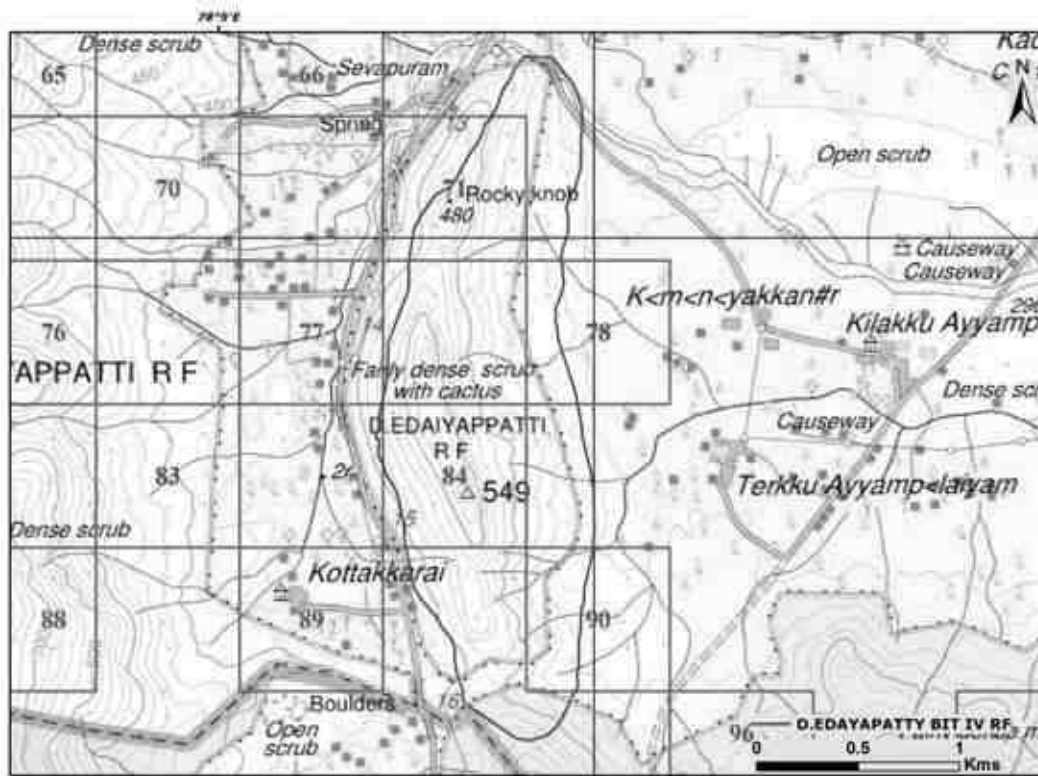
Division	Karur
Range	Karur
Section	Kadavur
Beat	D.Edayapatti East
Location	
Reserved Forest Formed in G.O.No.	No.297 E and F dt. 01.11.04
Area in Ha.	402.85Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	240 – 578 Meters MSL
Details of existing roads	Kadavur- Pudumaniyarampatti-Karungulam road passes alongside
Forest type	6 A/C2 – Southern Umbrella Thorn Forest 6A/C2/DS2 - Southern EuphorbiaScrub Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

## D.Edayapatty-Bit-3 RF



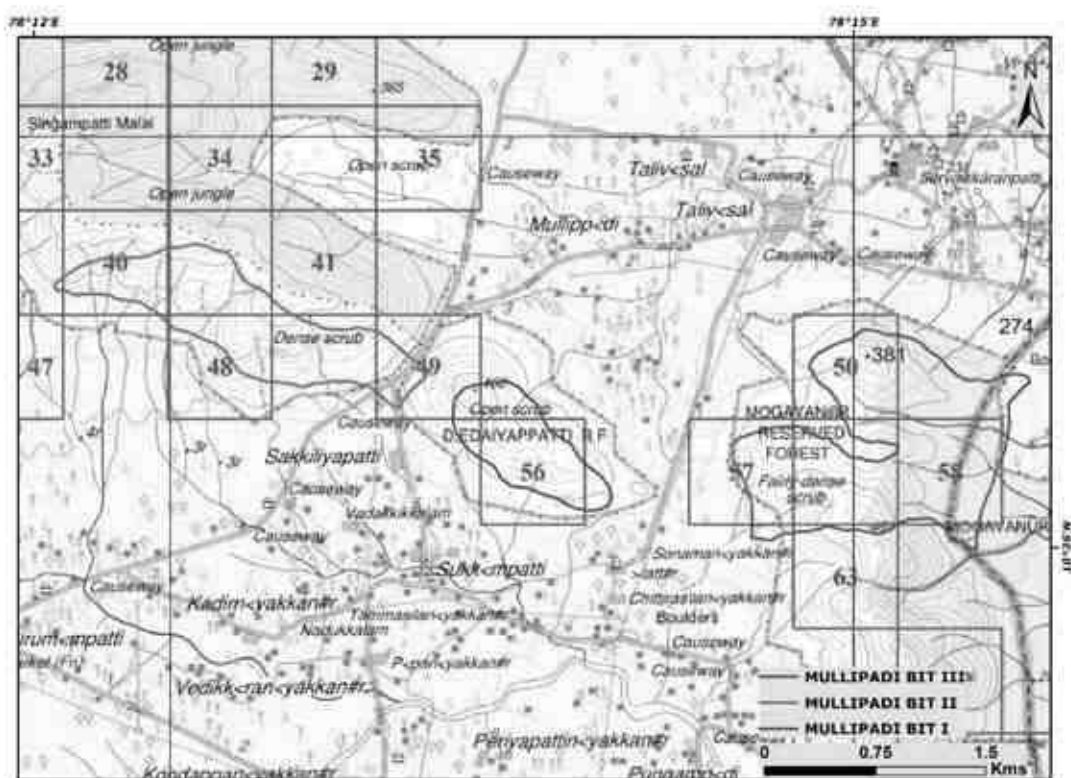
Division	Karur
Range	Karur
Section	Kadavur
Beat	D.Edayapatti East
Location	
Reserved Forest Formed in G.O.No.	No.80 E and F(FR-XIV) dt. 26.02.2004
Area in Ha.	1255.12Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	240 – 578 Meters MSL
Details of existing roads	Kadavur- Pudumaniyarampatti-Karungulam road passes alongside
Forest type	6 A/C2 – Southern Umbrella Thorn Forest 6A/C2/DS2 - Southern EuphorbiaScrub Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

## D.Edayapatty-Bit-4 RF



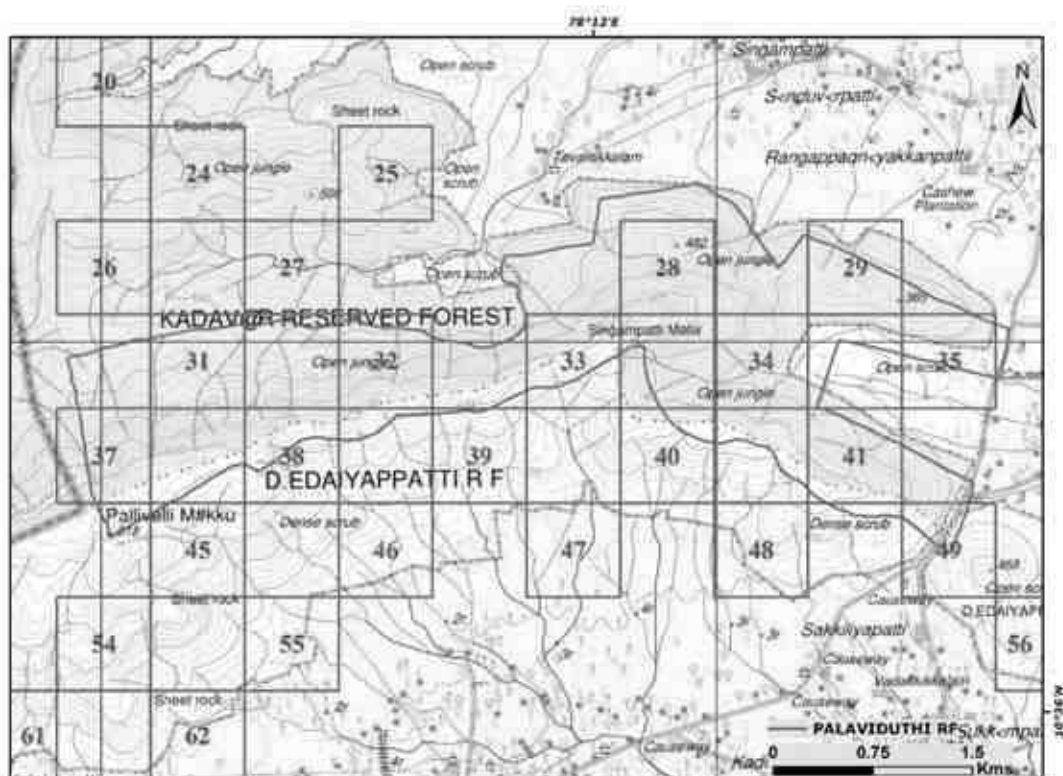
Division	Karur
Range	Karur
Section	Kadavur
Beat	D.Edayapatti west
Location	
Reserved Forest Formed in G.O.No.	No.281 EandF (FR-XIV) dt.22.09.1998
Area in Ha.	243.21Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	200 – 549 Meters MSL
Details of existing roads	Kadavur- Ayyalur road alongside
Forest type	6A/C2/DS2 - Southern EuphorbiaScrub Forest 6 A/C2 – Southern Umbrella Thorn Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

## Mullipadi-Bit-1,2and3 RF



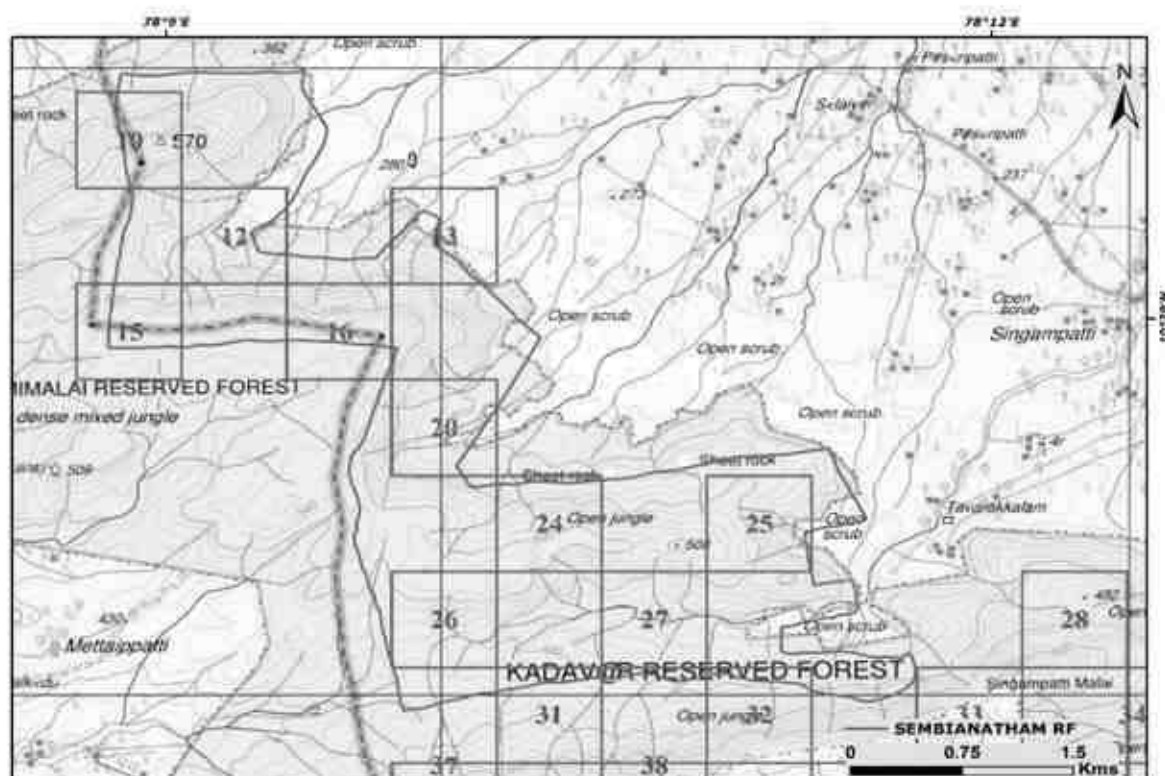
Division	Karur
Range	Karur
Section	Kadavur
Beat	Palaviduthi, Palaviduthi and D.Edayapatti west
Location	
Reserved Forest Formed in G.O.No.	No.842 FandF dt.21.06.1978, No.872 FandF dt. 05.10.1978 and No.839 FandF dt. 26.09.1998.
Area in Ha.	138.74Ha, 117.06Ha and 46.09Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	200 – 465 Meters MSL
Details of existing roads	Kadavur- Palaviduthi road alongside
Forest type	6A/C2/DS2 - Southern EuphorbiaScrub Forest 6 A/C2 – Southern Umbrella Thorn Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

## Palaviduthi RF



Division	Karur
Range	Karur
Section	Kadavur
Beat	Palaviduthi
Location	
Reserved Forest Formed in G.O.No.	No.461 FandF dt. 16.05.1979
Area in Ha.	750.37Ha
Enclosure Villages or hamlet	Kadavur nearby village,
Altitudinal Range	200 – 800 Meters MSL
Details of existing roads	Kadavur- Palaviduthi road alongside
Forest type	6 A/C2 – Southern Umbrella Thorn Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

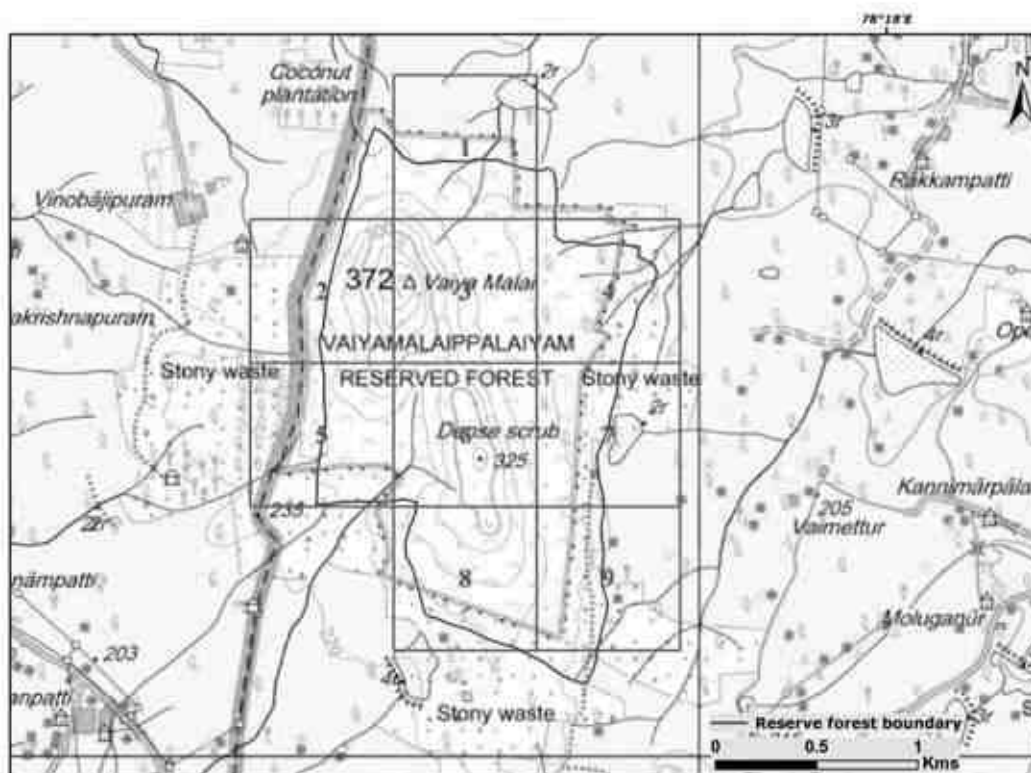
## Sembiyanatham RF



Division	Karur
Range	Karur
Section	Kadavur
Beat	Singampatti
Location	
Reserved Forest Formed in G.O.No.	No.474 FandF dt. 18.05.1979
Area in Ha.	961.80Ha
Enclosure Villages or hamlet	Sembiyanatham
Altitudinal Range	200 – 570Meters MSL
Details of existing roads	NIL
Forest type	6 A/C2 – Southern Umbrella Thorn Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite



## Vaiyamalaipalayam RF



Division	Karur
Range	Karur
Section	Kadavur
Beat	Singampatti
Location	
Reserved Forest Formed in G.O.No.	No.3047 dt. 21.09.1966
Area in Ha.	278.91Ha
Enclosure Villages or hamlet	Vaiyamalaipalayam
Altitudinal Range	200 – 372Meters MSL
Details of existing roads	NIL
Forest type	6A/C2/DS2 - Southern EuphorbiaScrub Forest
Major Flora	<i>Acacia planifrons</i> , <i>Albizia amara</i> , <i>Tamarindus indica</i> , <i>Adina cardifolia</i> , <i>Acacia ferrugioea</i> , <i>Cassia auriculata</i>
Non - Timber Forest Produce is available	Sundakai, Tamarind, Usil leaves
Rainfall	900 mm P
Soil Type	Red gravelly soil and Laterite

**Methods:** We overlaid 0.5 km<sup>2</sup> grid cells on the map of the select reserved forests to distribute the transects to cover spatially the entire reserved forests (Figure 2). All the 155 grid cells were numbered and used those numbers for the assessment. We identified a set of grid cells (n =33) to sample for the lorises as one sampling unit for the one team.

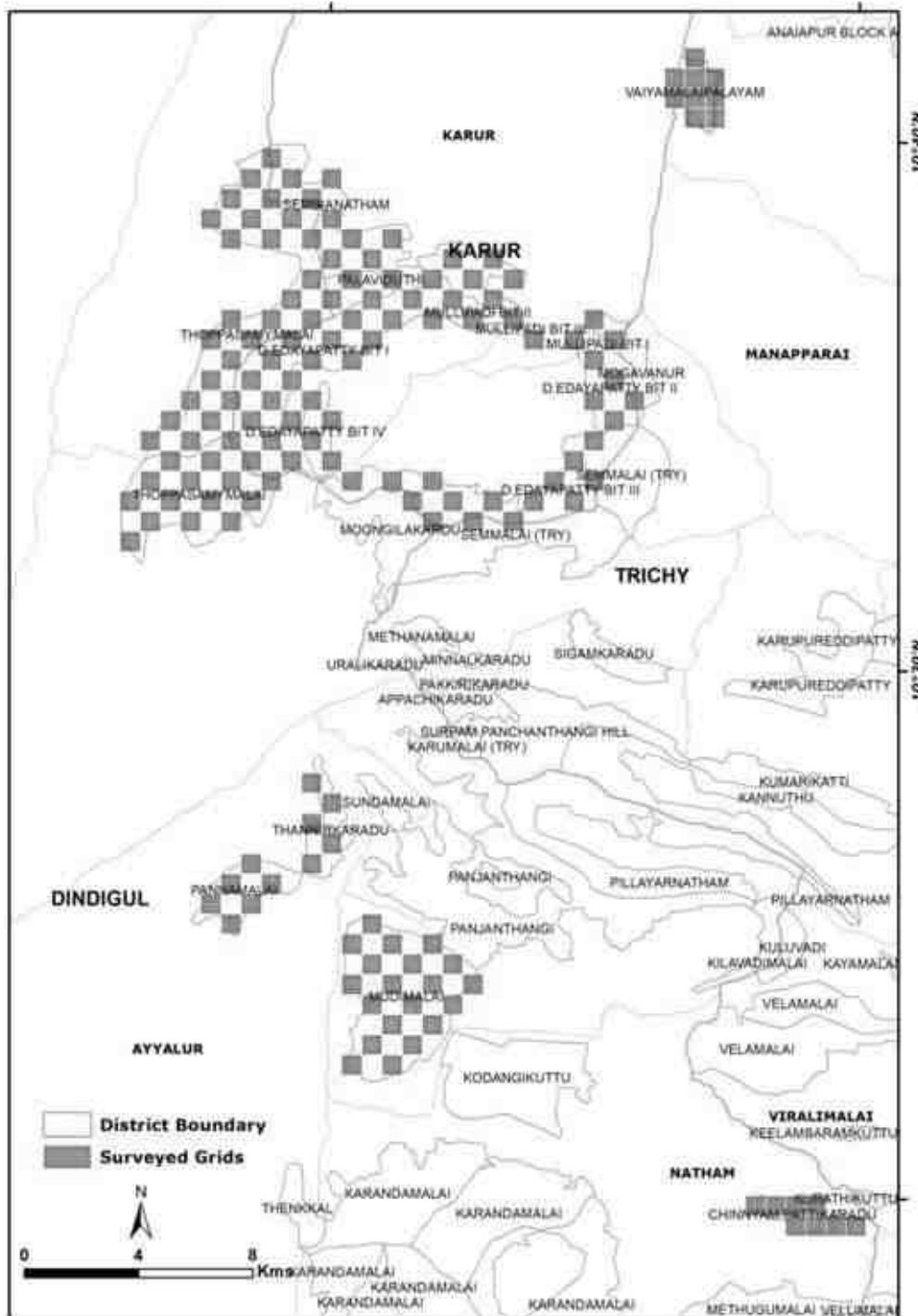


Figure 2. Sampling grids in the Karur and Dindigul districts

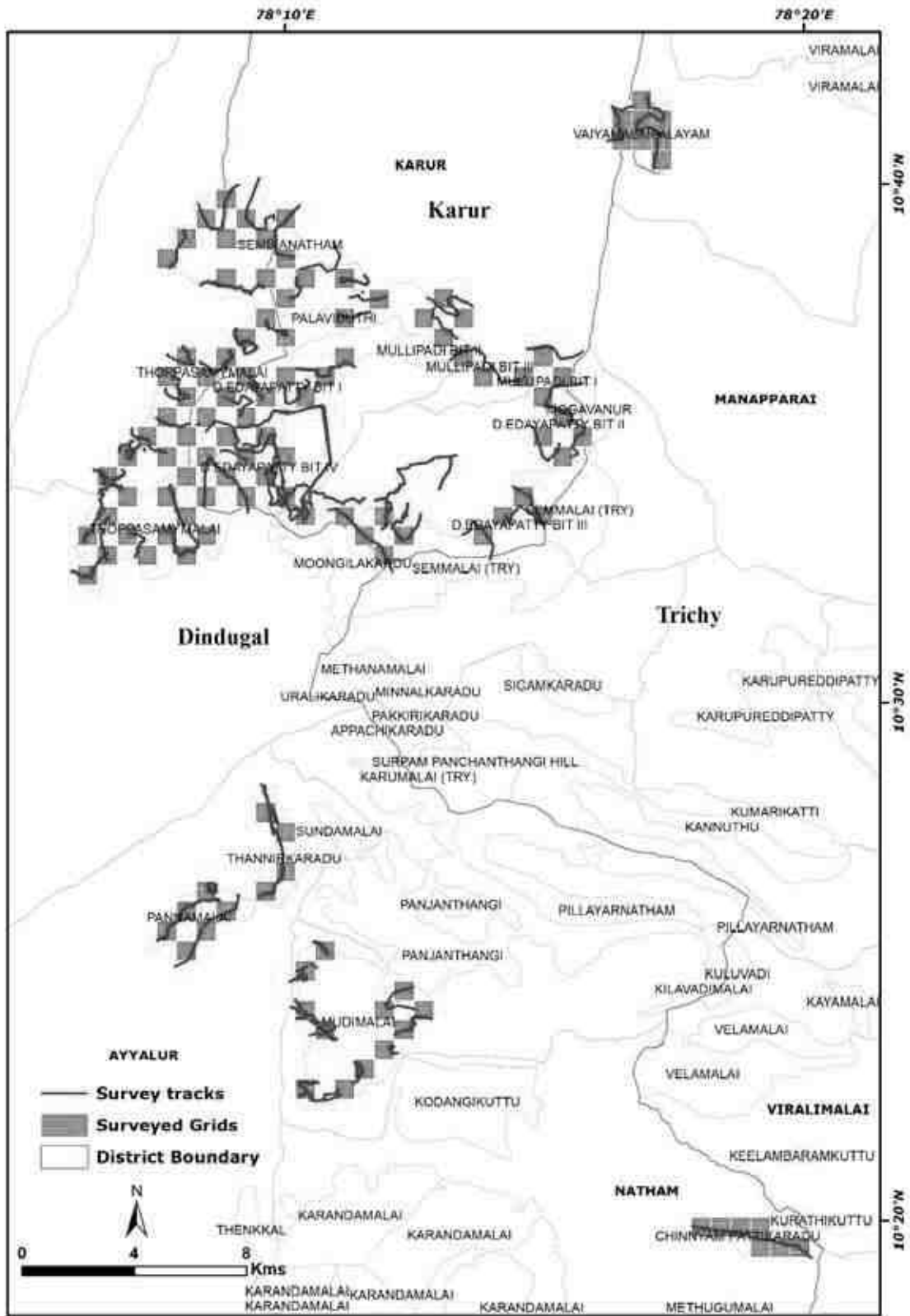


Figure 3. Sampled grids with the surveyed tracks in Karur and Dindugal districts

We trained the department personnel and also wildlife enthusiasts to use the handheld GPS, light, range finder, and compass. They were further trained to walk on the fixed transect line,

locating of the line using the handheld GPS, spot the loris at night, recording of the parameters. After the training, we formed 33 teams consisting of one department personnel and one trained wildlife enthusiast. They walked the transect between 1900 hours and 0100 hours to collect the data. Each transect was replicated four times. The assessment was done from 24<sup>th</sup> to 27<sup>th</sup> February 2022.

During the walk, once the loris is sighted, geocoordinate of the location using GPS, a number of individuals, animal to observer distance using range finder, angle of the animal to the transect line, height of the animal and height of the tree, activity of the loris when it was sighted and elevation of the located site was recorded in the datasheet. Using the GPS, the transect of the walk made was recorded (Figure 3).

### **Analysis**

Using the track recorded in the GPS in the suggested grid cells was downloaded and measured the distance walked and recorded. For each replication of the transect number of lorises sighted is computed from the datasheet. Using this, the number of lorises sighted per kilometer was computed. Using the encounter rate of each replication, the mean encounter rate and associated standard deviation were computed. The encounter rate is projected as an index of abundance in the current report. Using the computed encounter rate, the density was predicted for each reserved forest by developing the regression equation of known density and encounter rate of lorises across the studies.

The density estimates are available from six sites, where the line transects were established and systematically walked. Using the data from the transect, the estimate of loris was computed in the DISTANCE application. From those studies, the estimate of density and corresponding encounter rate of lorises were obtained and correlated the same to check the relationship (nonparametric - spearman). Although the relationship is not highly significant but it is significant at 0.05 level ( $r_s = 0.829$ ,  $N = 6$ ,  $p < .05$ ) (Figure 4). Thus, we regressed the relationship and came out with the regression line and equation ( $Y = -0.353 + 0.487$  (encounter rate)). Using the calculated encounter rate of lorises from the survey in the regression equation, we predicted the lorises per hectare. We presumed that the entire reserved forest is having a suitable habitat for the lorises, the predicted loris density was multiplied by the area of the reserved forests.

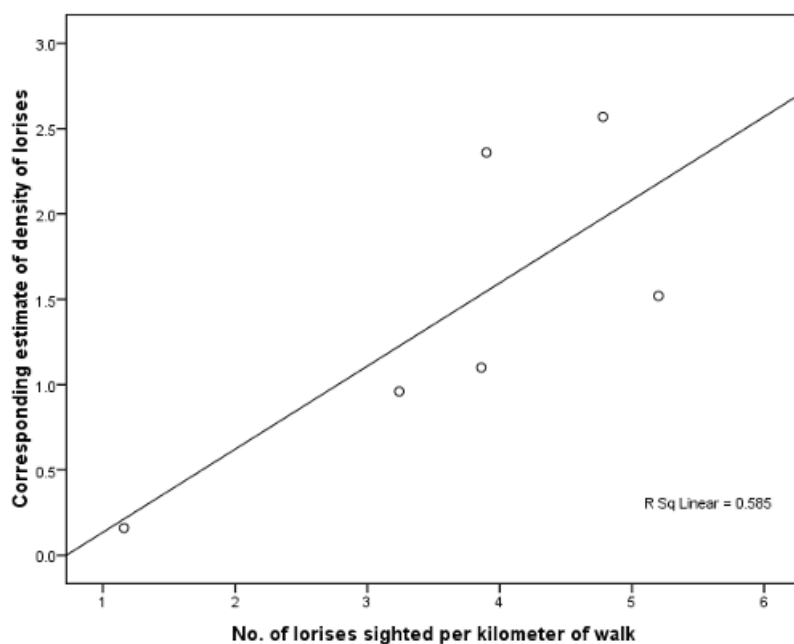


Figure 4. Relationship between encounter rate of lorises and the corresponding estimate of density in different studies (Kumara and Radhakrishna 2013; Das et al. 2011).

We also mapped all the detections on the map of reserved forests to visualize the locations of slender loris sightings.

## Results

A total of 155 grid cells were planned to sample for the slender lorises, however, due to various terrain and logistical issues, 123 grid cells were sampled in the select reserved forests of Karur and Dindigul districts. Of the 123 grid cells sampled, lorises were recorded in 100 grid cells that account for about 81 % of the sampled area had lorises (Figure 5).

A total of 374.11 km of transect walk was made in 13 reserved forests (Table 2). The number of transects and the kilometer walked was proportional to the area of the reserved forests. During this walk, a total of 1176 lorises were recorded (Table 2, Figure 6), which provided the encounter rate of 3.14 lorises per km walked.

The encounter rate of lorises varied from the lowest of 1.77 to the highest of 6.22 lorises per km walked (Table 3). Chinnayampatti RF and Pannamalai RF in the Dindigul district had the encounter rate of 6.22 and  $5.83 \pm 3.72$  lorises per km respectively, which was followed by

Mullipadi RF and Vaiyamalaipalayam RF of Karur district with the encounter rate of 4.21 and 4.04 lorises per km respectively. Lorises were recorded between 200 and 600 m of elevation, where more than 70% of them were in the elevation gradient between 200 and 400 m (Figure 7).

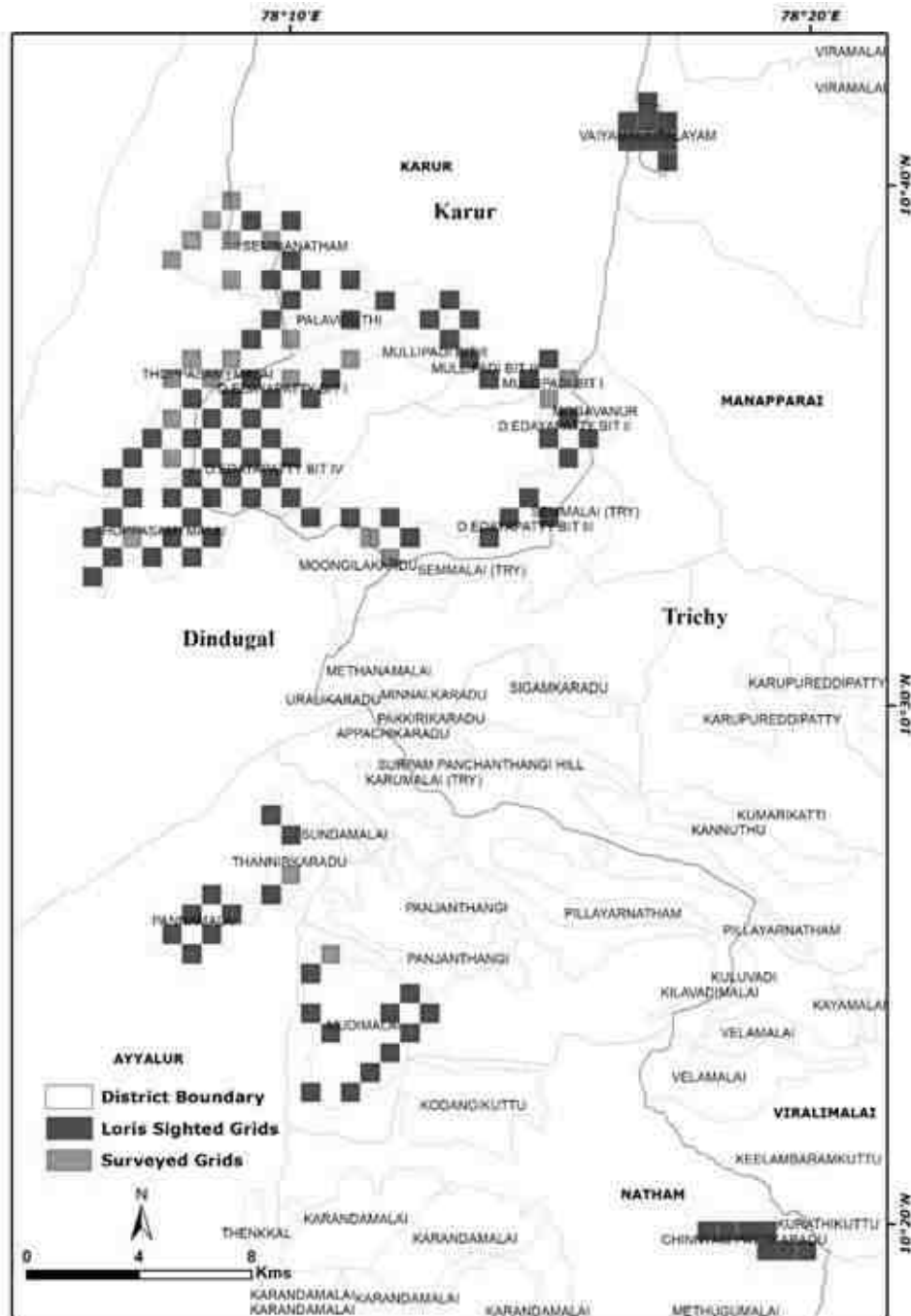


Figure 5. Surveyed grid cells with detection of slender loris in select reserved forests of Karur and Dindugal districts

Table 2. The effort to sample the slender lorises in the select reserved forests of Karur and Dindigul districts

Sl. No.	Name of Division	Name of RF	Km walked	No. of slender loris sighted
1	Dindigul	Pannamalai RF	23.57	111
2	Dindigul	Thanneerkaradu RF	9.40	23
3	Dindigul	Chinnayampatti RF	21.18	131
4	Dindigul	Thoppasamimalai RF	93.13	296
5	Dindigul	Mudimalai	42.15	121
6	Karur	D. Edayapatty- Bit-I RF	54.13	171
7	Karur	D. Edayapatty- Bit-II RF	17.42	34
8	Karur	D. Edayapatty- Bit-III RF	23.87	38
9	Karur	D. Edayapatty- Bit-IV RF	13.90	48
10	Karur	Mullipadi RF	8.53	30
11	Karur	Palaviduthi RF	24.04	78
12	Karur	Sembianatham RF	20.78	24
13	Karur	Vaiyamalaipalayam RF	22.00	71
		Total	374.11	1176

The same reserved forests also had the highest density of lorises among the surveyed forests i.e., 2.69, 2.48, 1.69, and 1.61 lorises per hectare in Chinnayampatti RF, Pannamalai RF, Mullipadi RF, and Vaiyamalaipalayam RF respectively. However, the population size that we extrapolated to the area of the reserved forests was in proportion to the area of the reserved forest. Thus, the Thoppasamimalai RF in Dindigul and Mullipadi RF in Karur district emerge as first and second having a population size of 4298 and 3042 lorises respectively. However, all the reserved forests surveyed had lorises with a decent population size.

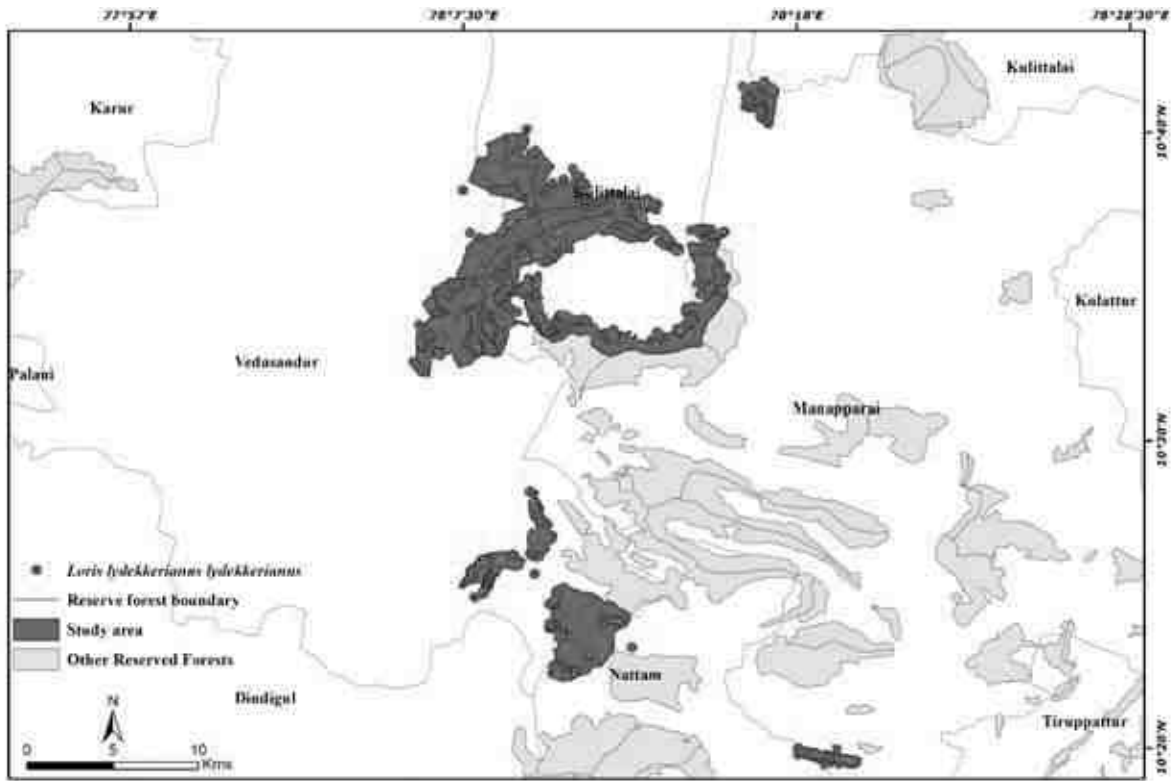


Figure 6. Detections of slender lorises in the sampled sites in the select reserved forests of Karur and Dindigul districts.

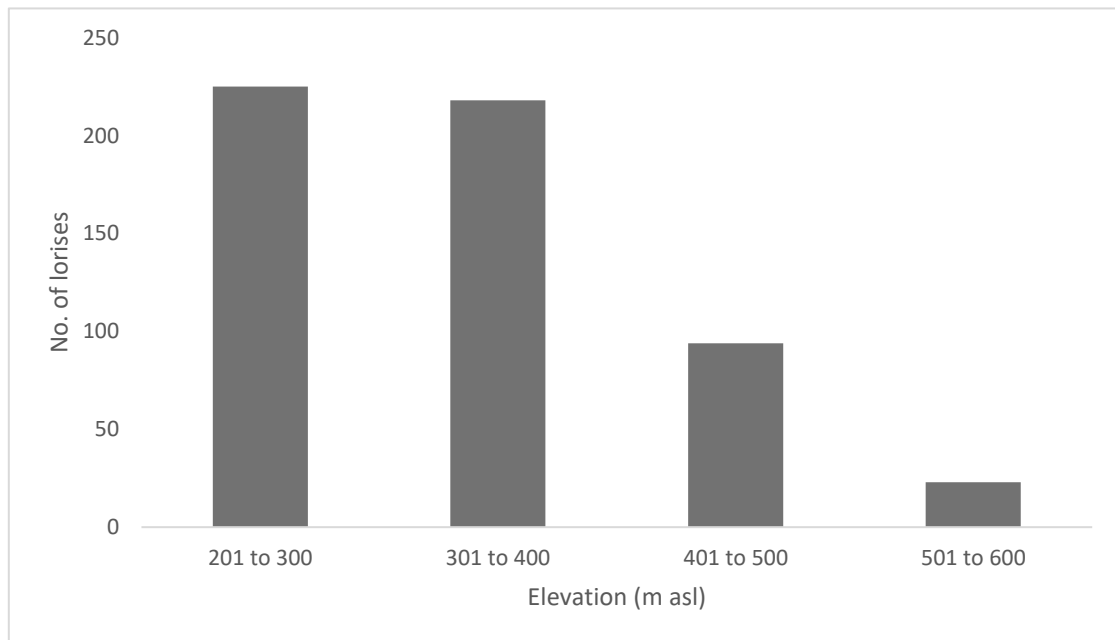


Figure 7. Number of lorises detected in different elevation gradients in Karur and Dindigul districts



Table 3. The abundance, predicted density, and population size of slender loris in the sampled reserved forests of Karur and Dindigul districts

Sl. No.	Name of Division	Name of RF	Loris abundance (No. of lorises/km (SD))	Predicted density (lorises/ha)	Predicted population size
1	Dindigul	Pannamalai RF	<b>5.83±3.72</b>	<b>2.48</b>	1165
2	Dindigul	Thanneerkaradu RF	2.20	0.72	280
3	Dindigul	Chinnayampatti RF	<b>6.22</b>	<b>2.69</b>	677
4	Dindigul	Thoppasamimalai RF	3.28± 2.26	1.15	4298
5	Dindigul	Mudimalai	3.00±2.66	1.11	1992
6	Karur	D. Edayapatty- Bit-I RF	3.74±1.36	1.47	2625
7	Karur	D. Edayapatty- Bit-II RF	2.28	0.76	306
8	Karur	D. Edayapatty- Bit-III RF	1.77±0.68	0.51	642
9	Karur	D. Edayapatty- Bit-IV RF	3.62±0.36	1.41	344
10	Karur	Mullipadi RF	<b>4.21</b>	<b>1.69</b>	3042
11	Karur	Palaviduthi RF	3.31±0.23	1.26	944
12	Karur	Sembianatham RF	1.77±0.45	0.51	490
13	Karur	Vaiyamalaipalayam RF	<b>4.04</b>	<b>1.61</b>	451

### Conservation implications

1. Since slender lorises are small, nocturnal, and insectivorous, they can survive with the insects available in the agricultural fields, on hedges or fences of agriculture fields, and on roadside trees with connectivity. Although lorises are known to occur in the agricultural field with some kind of canopy or habitat contiguity, the reserved forests cannot be ignored with the notion that lorises can survive anywhere which is not true. The survival rate of the lorises in the agricultural field or outside the forests has not been studied, but the rate of mortality due to collision with a vehicle on the road or occasionally killed by people is reported outside the forest. Thus, the population of lorises in these reserved forests acts as the **source population**.

2. Among the surveyed forests, Thoppasamimalai RF in Dindigul, and Mullipadi RF Bit-I, II and III, D Edayapatti Bit-I and IV, Palaviduthi, Sembinaatham in Karur districts are definitely an important large extent of forests with the largest population size of slender loris perhaps can be considered for notifying as a wildlife sanctuary. The Chinnayampatti RF, Pannamalai RF, and Vaiyamalaipalayam RF are also important with a high density of lorises and thus serve as important patches for conservation, thus these reserved forests can be considered for conservation reserves in the future.
3. Since the slender loris home ranges in the landscape vary between 1 hectare to 20 hectares, a minimum of 50 m to a maximum of 200 m may be considered for the eco-sensitive zone around the protected area.
4. The Chinnayampatti RF is being one of the reserved forests with the highest density of slender loris with gentle terrain, is suitable to develop for the public to visit the same can be called as “loris trail”. Small scale education tourism also can be developed.
5. Since the slender lorises in Tamil Nadu are largely confined to outside protected area networks, thus, giving importance to every reserved forest patch with lorises is important to restoring the habitat, even if they remain as reserved forests.
6. The major requirement of the slender loris is ‘forest cover with the canopy contiguity’ as they cannot jump or leap, thus requiring continuous canopy to move is important. Further, as they are not that dependent on water, focusing on water management may not be required, nevertheless, water management may be required for forest management or restoration of the habitat.
7. Earlier, the abundance of lorises was reported to be high in Tiruchirapalli, Pudukottai, Sivaganga, Karur, and Dindigul in Tamil Nadu (Kumara et al. 2016). The current survey was carried out only in Karur and Dindigul districts that too in few but important reserved forests. To prioritize the reserved forests for the conservation of slender loris, conducting the surveys in the cluster of the reserved forests of all the four districts is important as many other reserved forests may also be having much higher population size of slender lorises, or those reserved forests may be an important patch for the survival of the slender lorises as a corridor or serve as source population. Therefore, the prioritization has to be made after assessing the slender loris in reserved forests that are highlighted in Figure 8.

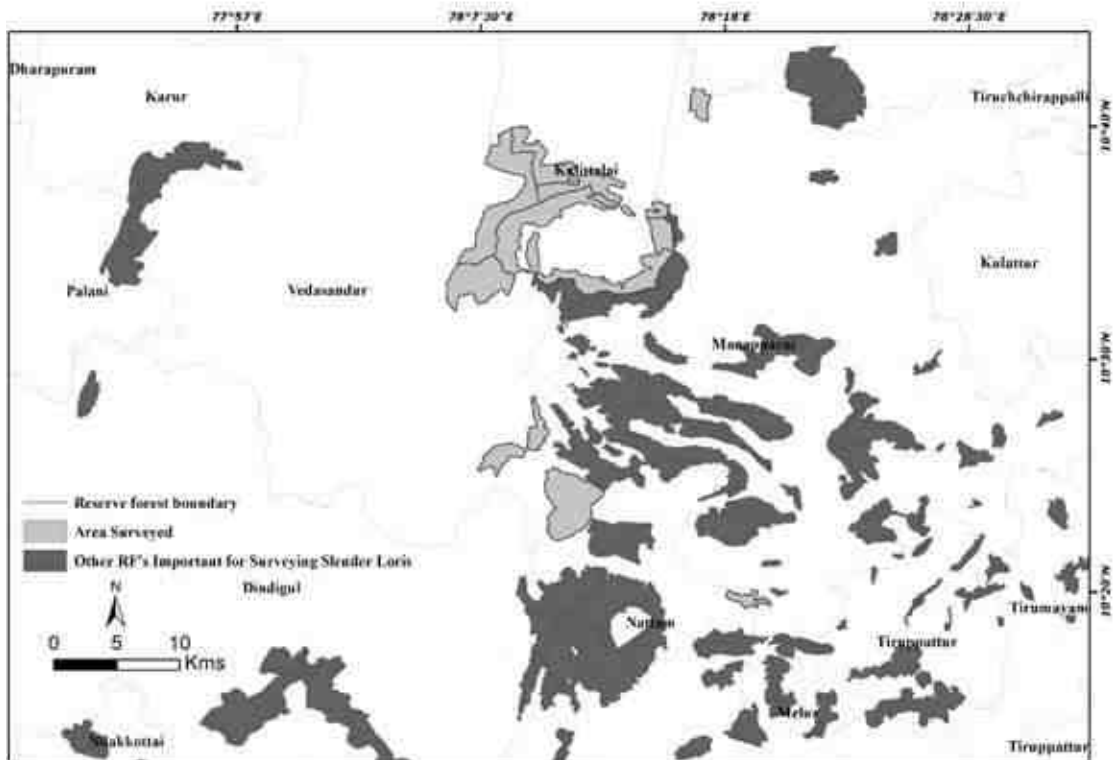


Figure 8. Other reserved forests of neighboring districts to be considered for the surveying lorises

8. A detailed study and documentation of its habitat is crucial before any manipulation of the forest from the point of habitat management. Involving one of the experts on slender loris while preparing the management plan is suggested as this is species-specific management.
9. A detailed study on the dispersal pattern of loris to the agriculture field and their survival rate is suggested to understand the management requirement of the species. Further, understanding the people's attitude towards the lorises would help the department to take the people in confidence to manage the species.
10. Developing a permanent field protocol to monitor the slender loris is required and also implementation of the same is suggested.
11. Developing awareness of the species among immediate stakeholders (people residing in and around these reserved forests and also people who are dependent on these forests).

