

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

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

**ToR Lr.No. SEIAA-TN/F.No.10551/SEAC/1(a)ToR-1667/2023, dated 08.02.2024**

PROPOSED QUARRY LEASE DETAILS	
<b>SURVEY NOS</b>	<b>361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4.</b>
<b>VILLAGE</b>	<b>NAMBARAI</b>
<b>TALUK</b>	<b>ARCOT</b>
<b>DISTRICT</b>	<b>RANIPET</b>
<b>EXTENT</b>	<b>4.04.50 HA</b>
<b>PROPOSED PRODUCTION</b>	<b>ROUGH STONE - 3,71,250 M3 (1-5 Years) ROUGH STONE - 1,37,575 M3 (6-5 Years) GRAVEL - 50,304 M3</b>
<b>LAND</b>	<b>PATTA LAND</b>

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

Category of the Project: B1 Cluster Mining, Total Cluster Area – 18.03.55 Ha  
Baseline Monitoring Period – February 2024 to April 2024

**APPLICANT**

**M/s.Dhana Blue Metals,  
(Proprietor: Thiru.S. Dhanakotti)  
No.6, GST Road, Pallavaram Taluk, Chengalpattu District.**

**ORGANIZATION**

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

**July - 2024**





**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

## AMENDMENT PAGE

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

M/s. Global Mining Solutions, Salem is very much thankful to M/s. Dhana Blue Metals, Lessee for the confidence and trust placed on the organization for carrying out Environmental Impact Assessment (EIA) study for the Proposed Rough Stone & Gravel Quarry over a lease extent of 4.04.50 Ha., & Cluster extent of 18.03.55 Ha., located at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State and formulating the Environmental Management Plan (EMP). We also gratefully acknowledge the cooperation and assistance provided by concerned government authorities for collection of secondary information for the preparation of Draft EIA/EMP report. Our sincere thanks to the local people of Nambarai and the nearby villages for their whole hearted cooperation and constant involvement during the entire field study without which the study would not have been possible.

*For: M/s. Global Mining Solutions*



(M. Prabu)

Managing Director



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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## **UNDERTAKING**

In line with MoEF OM No. J - 11013/41/2006-IA.II (I) dated 5<sup>th</sup> October 2011, we hereby give our undertaking for owning the content and information in the EIA/EMP report submitted for EC of the proposed Rough Stone & Gravel Quarry over a lease extent of 4.04.50 Ha. & Cluster extent of 18.03.55 Ha at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

*For: M/s. Global Mining Solutions*



*Name: Manikandan*

*EIA Coordinator - Mining*





**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

## **UNDERTAKING**

In Line with OM no. J-11013/41/2006-IA.II (1) dated 4<sup>th</sup> Aug 2009 and its Amendments, we hereby confirm that all Terms of Reference issued by Ministry of Environment, Forest and Climate Change vide Letter No.SEIAA-TN/F.No. 10551/SEAC/1(a) ToR-1667/2023, dated 08.02.2024 of Draft EIA/EMP report for the proposed Stone Quarry over a lease extent of 4.04.50 Ha., & Cluster extent of 18.03.55 Ha, at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State for the production of 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel from the proposed lease area and the details has been complied in the Draft EIA/EMP report is factually correct.

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

*For: M/s. Global Mining Solutions*






*Name: Manikandan*

*EIA Coordinator – Mining*



DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

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

 **National Accreditation Board for Education and Training** 

**Certificate of Accreditation**


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


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

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

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

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



  
Sr. Director, NABET  
Date: March 31, 2023

Certificate No.  
NABET/EIA/2326/IA 0110

Valid up to  
January 4, 2026

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## **ANNEXURE - VII**

Declaration by Experts contributing to the proposed Stone Quarry over a lease extent of 4.04.50 Ha., & Cluster extent of 18.03.55 Ha at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

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

EIA Coordinator Name: M. Manikandan

  
*Signature & Date*

Period of involvement: February 2024 to April 2024.

### **Contact information:**

**M/s Global Mining Solutions**


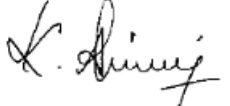



**Plot No.6, SF No. 13/2, A2, VS City, RC Chettypatty,**

**Kottamettupatty, Omalur,**



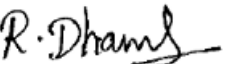
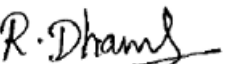
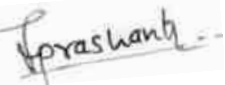
**Salem, Tamil Nadu – 636 455**



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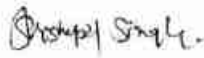
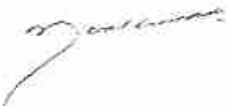
<b>S. No.</b>	<b>Functional areas</b>	<b>Name of the expert/s</b>	<b>Involvement (period and task**)</b>	<b>Signature and Date</b>
1	AP	Dhanalakshmi Ramanathan	Assessment of existing air quality, Impact of the project on ambient air and suggested mitigation measures for air pollution.  <u>Period: Feb 2024 to April 2024.</u>	
2	WP	Abirami Kaliaperumal	Assessment of existing water quality, impact of the project on surface and ground water quality, suggested mitigation measures for minimizing the impact.  <u>Period: Feb 2024 to April 2024.</u>	
3	SHW	Ramadoss N	Assessment of waste generated from the project, suggested waste management practices.  <u>Period: Feb 2024 to April 2024.</u>	
4	SE	Sarasvathy K	Baseline SE studies. Data compilation and assessment. Impact of the project on SE status of the area. Formulation of CER plan.  <u>Period: Feb 2024 to April 2024.</u>	
5	EB	Saravanan S	Baseline data collection of related to ecology of the area.  <u>Period: Feb 2024 to April 2024.</u>	

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6	HG	Ravinthiran N	Hydrogeological feature of the area. Ground water depth and impact of project on ground water of the area.  <u>Period: Feb 2024 to April 2024.</u>	
7	AQ	Srilatha Thiruveedhula	Air quality modeling utilizing the area source model. Predication of the ground level concentration of the dust. Suggesting suitable mitigation measures.  <u>Period: Feb 2024 to April 2024.</u>	
8	NV	Dhanalakshmi Ramanathan	Ambient noise study of the area. Incremental noise generation due to quarry operation and impact of the noise due to the project.  <u>Period: Feb 2024 to April 2024.</u>	
9	LU	Dhanalakshmi Ramanathan	Preparation of land use map based on satellite imagery. Land use classification and analysis. Impact prediction of the project on the surrounding land environment.  <u>Period: Feb 2024 to April 2024.</u>	
10	RH	S.V. Prashant	Identification of the Risk related to the mining activities. Preparation of emergency disaster management plan. Plan for supply of safety equipment for the worker.  <u>Period: Feb 2024 to April 2024.</u>	



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11	SC	Shisupal Sing	Soil monitoring, secondary data collection on soil type, soil management practices, utilization of topsoil. <u>Period: Feb 2024 to April 2024.</u>	
12	GEO	Valliappan Meyyappan	Geological map, stability of quarry and dump, management plan for mine stability, after use of mining quarry and geological feature of the area. <u>Period: Feb 2024 to April 2024.</u>	



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# **COMPLIANCE TO**

# **TERMS OF REFERENCE**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

<b>S.No</b>	<b>ToR Points</b>	<b>Reply</b>	<b>Pg. No</b>
<b>A. ToR in Addition to Standard ToR</b>			
1	The project proponent shall furnish the revised EMP based on the study carried out on impact of the dust & other environmental impacts due to proposed quarrying operations on the nearby agricultural lands for remaining life of the mine in the format prescribed by the SEAC considering the cluster situation.	There are four quarries within a 500-metre radius. The proponent will take the initiative to form a cluster management committee once environmental clearance is obtained for this quarry as well as the other proposed quarry.	
2	Details of Anganvadi School situated within the radial distance of 500m from the proposed mining area with school timings and no.of students enrolled, and staffs working in the school.	-	Complied. Enclosed as Annexure -5
3	Since the structures are situated within a radial distance of 500m, the PP shall carry out the scientific studies by involving anyone of these reputed Research and Academic Institutions-CSIR-Central Institute of Mining & Fuel Research/Dhanbad, NIRM/Bangalore, IIT-Madras, NIT-Dept of Mining Engg, Suratkal, and Anna University Chennai-CEG Campus to design the controlled blast parameters and safe blasting practices in the cluster of mines for reducing the blast-induced ground/air-vibrations and eliminating the fly rock from the blasting operations, through conducting the trial blasts in the adjacent operating quarry located in the same cluster to monitor the blast-induced ground & air vibration(noise) by installing the DGMS approved 'Vibration Monitoring System (VMS) near the all the structures(houses/ temples/ public roads) located within 500m radial distance from	Agreed. Will be complied.	-

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	the mine leases of the cluster and also at the distances of 750m & 1000m. Apart from the above, the PP shall capture the level & direction fly rock produced through slow-motion video. The PP shall submit a copy of the aforesaid report to the SEIAA during the time of appraisal for obtaining the EC after incorporating the same in the revised EIA being submitted at the Public Hearing.		
4	The PP shall prepare a conceptual working plan accommodating the remedial actions based on the scientific studies carried out to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions-CSIR Central Institute of Mining & Fuel Research /Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT Madras, NIT-Dept. of Mining Engg, Suratkal 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 slope stability action plan during the time of appraisal for obtaining the EC.	Agreed. Will be complied.	-
5	The PP shall undertake Hydrogeology study considering nearby existing wells, Aquifers, Ground Water & Surface water levels etc within the radius of 1 km	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7.	-
1	In the case of existing/operation mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity	Not applicable. This is a fresh quarry.	-



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	<ul style="list-style-type: none"> <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 lining lease area</li> <li>(viii) Condition of Safety zone/benches</li> <li>(ix) Revised/Modified Mining Plan showing the banches of not exceeding 6m height and ultimate depth of not exceeding 50m.</li> </ul>		
2	Details of habitations around the proposed mining area and latest VAO Certificate regarding the location of habitations within 300m radius from the pheriphery of the site.	-	Complied. Enclosed as Annexure 5.
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50m, (ii) 100m, (iii) 200m and 300m (v) 500m shall be enumerated with details such as dwelling house with number of occupants, where it belongs to the owner (or) not, places of worship, industries, factories, sedes, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	-	Complied. Enclosed as Annexure 10.
4	The PP shall submit a detailed hydrogeological report indicating the impact of proposed quarrying operations on the water bodies like lake, water tanks, etc are located within 1 km of the proposed quarry.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7.	-

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

5	The Project Proponent shall carry out Bio-diversity study through reputed institution and the same shall be included in the EIA report.	Complied. The biodiversity report of the study area to be incorporated at the time of final EIA submission.	109
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries. Tiger reserve etc. upto a radius of 25 km from the proposed site.	It will be complied. The DFO letter stating that the proximity distance of RF & PF to be incorporated at the time of final EIA submission.	-
7	In case of proposed lease in an existing (or old) quarry where the benches are not formed(or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to bt constructed and existing quarry wall, by involving any one of the reputed Research and Academic institutions-CSIR Central Institute of Mining & Fuel Research/Dhanbad, NIRM/ Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Suratkal 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.	Agreed. Will be complied.	-
8	However, in case of the fresh/virgin quarries, the project shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30m below ground level.	-	-
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	-	-

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent		
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site	Agreed. Will be complied.	-
11	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	The details to be incorporated at the time of final EIA Submission.	-
12	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines	Not applicable. This is a fresh quarry project.	-
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	Not applicable. This is a fresh quarry project.	-
14	Quantity of minerals mined out. <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>	Not applicable. This is a fresh quarry project.	-

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15	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Project coordinates superimposed in satellite imagery and given as Figure No – 2.1 in Chapter – 2. The geology and geomorphology map are provided in Figure No.3.23, 3.24 Chapter 3.  The Soil map are provided under Figure No. 3.25, Chapter-3. The 10km Radius Index plan showing buffer zone is given in Figure No.3.1 & Figure 3.2 in Chapter – 3.	69 & 129
16	The PP shall carry out Drone video survey covering the cluster, Green belt, fencing etc.,	This compliance is under process.	-
17	The proponent shall furnish photographs of adequate fencing, greenbelt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan	There is no trees within ML area. Fencing and plantations are under process. Greenbelt / Plantation will be carried out in the safety zone to enhance the vegetative growth and aesthetic in the safety zone area. In the post mining stage, an area of 1.49.50 Ha will be under greenbelt and plantation.	-
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding, environment and the remedial measures for the same	The geological reserves is estimated to be 1804050 m3 of rough stone and Gravel 80180 m3.  The mineable reserves is 508825 m3 of Rough stone and Gravel 50304 m3.	73 &74
19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR" 1961 for carrying out the quarrying operations scientifically and systematically in order to	Complied. Please refer Fig. 10.1	184

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	ensure safety and to protect the environment.		
20	The Project Proponent shall conduct the Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD/TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitoring data, it may clearly be shown whether working all intersect ground water. Necessary data and documentation in this regard may be provided.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7.	198
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality& flora/fauna including traffic/vehicular movement study.	The baseline data for all environments is collected for the winter season (February to April 2024).	85
22	The Proponent shall carry out the cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Detailed cumulative impact study has been carried and the same is incorporated in the Chapter 4.  Accordingly, a detailed Environment Management Plan is prepared considering air, water, noise and soil environment and the details are given in Chapter 10.	148 & 180
23	Rain water harvesting management with recharging details along with water balance	Rain water harvesting Plan is given in chapter 4.	136

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	(both monsoon & non-monsoon) be submitted.		
24	Land use of the study area delineating forest area, agricultural land, grazing land. Wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Satellite imagery has been used to study the lease area and the details of land use is given in Chapter 3.	112
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable. There is no generation of the OB & waste.	-
26	Proximity to Areas declared as 'Critically Polluted'(or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	No proximity to Critically polluted areas.	-
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The impact of the mining operations due to this quarry on water environment is studied and mitigation measures are proposed. Rain water harvesting plan is given Chapter 4.	136
28	Impact on local transport infrastructure due to the Project should be indicated	Since the production is very less, only few trucks of 5/10T will be used for transport. The effect of transport on local transport will be negligible.	-

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29	A tree survey shall be carried out (Nos. name of species, age, diameter, etc) both within the mining lease applied area & 300m buffer zone and its management during mining activity	There are no trees within 300m buffer zone of the project area.	-
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific	Detailed mine closure plan is given in Chapter 7.	176
31	As part of the study of flora and fauna around the vicinity of the proposed site, the EIA Coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, where ever possible	Accepted. It will be done.	-
32	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix – I in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Green belt is proposed in an area of 1.49.50 Ha. Green belt development plan provided.	136
33	Taller/one year old saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/horticulturist with regard to site-specific choices. The proponent shall earmark the green belt area with GPS coordinates all along the boundary of the project site with at least 3 m wide and in between blocks in an organized manner	Accepted. The photographs showing green belt will be provided once it is completed.	-

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34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan is prepared and the details are given in Chapter 7.	176
35	A risk assessment and Management plan shall be prepared and included in the EIA/EMP report for the complete life of the proposed quarry or till the end of the lease period	Risk assessment and its management is given in Chapter 7.	165
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health Impacts of the project and preventive measures are detailed under Chapter 4.	156
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No major impact on public health will be there since the villages are located more than 1km from the lease area. Details of CER and CSR are discussed under Chapter No. 8	-
38	The Socio-economic studies should be carried out within a 5km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Socio economic study is conducted both by visits and secondary data collection.  Details are given in Chapter 3	120
39	Details of litigation pending against the project, if any, with direction /order passed by any Court of law against the Project should be given.	No litigation is pending	-



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40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project is given in Chapter 8	180
41	If any quarrying operations were carried out in the proposed quarrying site for which now EC is sought, the project proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai or the concerned DEE/TNPCB.	Not applicable. This is a fresh quarry project.	-
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	-	-
43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the condition mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986	Agreed	-
<b>Annexure 'B'</b>			
<b>Cluster Management Committee</b>			
1	Cluster management committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry	There are four quarries within a 500-metre radius. The proponent will take the initiative to form a cluster management committee once environmental clearance is obtained for this quarry as well as the other proposed quarry.	-
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	Agreed. Will be complied.	-

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3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Agreed. The list of members of the committee formed will be submitted to AD/mines after obtaining Environmental Clearance.	-
4	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Agreed. Details of the Operation plan for cluster mining operations will be submitted once we get environmental clearance for all quarries proposed in the cluster area.	-
5	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	Risk management plan for the individual quarry is given in this report. As far as cluster working condition is concerned, once the committee is formed, risk management as a cluster including inundation of clusters and the evacuation plan will be elaborated and the same will be submitted to the EIA.	-
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Environmental policy for the cluster will be framed by the cluster management committee and the policy will be in accordance with EPA Act, 1986 and its amendments, guidelines by MoEF&CC/SEIAA and other regulatory bodies. This policy will be displayed in the quarry.	-
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	Agreed. It will be complied as mentioned in the Point No.4	-
8	The committee shall furnish the Emergency Management plan within the cluster.	Agreed. It will be complied as mentioned in the Point No.4.	-
9	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	Agreed. It will be complied as mentioned in the Point No.4.	-
10	The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.	Agreed. It will be complied as mentioned in the Point No.4.	-

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11	The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.	Agreed. It will be complied as mentioned in the Point No.4.	-
<b>Impact study of mining</b>			
12	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following,		-
a	Soil health & soil biological, physical land chemical features	Complied. The details are given in Chapter 3 of the Draft EIA report.	109
b	Climate change leading to Droughts, Floods etc.	The proposed quarry is a very small scale Opencast Semi-Mechanized mining method and the anticipated impacts to the climate change, droughts, floods, etc. will be very marginal.	-
c	Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people	Considering that the quantum of production is less, only 1 excavator, 3 tippers will be engaged. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 1700 number of plants will be planted in and around the lease area.	81
d	Possibilities of water contamination and impact on aquatic ecosystem health	The total water requirement is 8.0 KLD. It will be outsourced from the nearby villages. So no impact in the project area due to water usage. The wastewater generation in the form of runoff water during rainy season will be collected in the bottom quarry through proper drainage pattern and the collected water will be used for plantation and dust separation during dry season. However, there is no wastewater discharge from this quarry is being anticipated. So, possibilities of water contamination and impact on	-

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		aquatic ecosystem health is not envisaged.	
e	Agriculture, Forestry & Traditional practices	There are no forest area and traditional practices within the project area. However there are some agricultural land around the project site. It may be affect due to the quarry operation as such dust particles sedimentation in the agricultural land. It will be controlled at the source level by proper dust separation as such wet drilling, controlled blasting and water sprinkling on the project roads and project surrounding roads. As per Air Quality Modelling the impact of the air quality limited to 400m radius. So, there is no impact for the Agriculture, Forestry & Traditional practices located within 10km radius.	-
f	Hydrothermal/Geothermal effect due to destruction in the Environment	The proposed quarry operation is Opencast Semi-Mechanized operation with drilling, blasting, excavation, loading and transportation. So the effect of Hydrothermal/Geothermal is not envisaged.	-
g	Bio-geochemical processes and its foot prints including environmental stress	This is a simple mining operation, so bio-geochemical processes is not envisaged.	-
h	Sediment geochemistry in the surface streams	Timiri Lake is located at a distance of 2.9 km in north Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction due to mining operation there may be minimum impact to the said water bodies due to dust sedimentation. It will be controlled by wet drilling, water sprinkling and plantation.	-
<b>Agriculture &amp;Agro-Biodiversity</b>			
13	Impact on surrounding agricultural fields around the proposed mining Area.	Complied. The details are given in Chapter 4.	138
14	Impact on soil flora & vegetation around the project site.	Complied. The details are given in Chapter 3.	109

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15	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Complied. The details are given in Chapter 3.	109
16	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Complied. The details are given in Chapter 3.	109
17	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	The detailed action plan has been described in the EMP (Chapter 10) for the sustainable management for the project area and its surroundings.	180
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	Complied. The details are given in Chapter 4.	109
<b>Forests</b>			
19	The project proponent shall detailed study on impact of mining on Reserve Forests free ranging wildlife.	There is Kannamangalam RF-7.8km (W) Punganur RF-8.5 KM (NW) and no other reserved forest located in the buffer zone. The fauna commonly found in the core and buffer zone is given in Chapter 3.	104
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	Complied. The details are given in Chapter 3.	104
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	Not Applicable. This is a dry barren land.	-
22	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	There is Kannamangalam RF-7.8km (W) Punganur RF-8.5 KM (NW) and no other reserved forest located in the buffer zone. There is no, National Parks, Corridors and Wildlife pathways.	-

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**Water Environment**

23	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	The hydrogeological study from a reputed institute is in progress; however, the final EIA submission report will be incorporated into Chapter 7.	178
24	Erosion Control measures.	There is no waste generation (OB) in this quarry has been envisaged. However, there may be erosion due to rainy season and that is limited within quarry area. The control measures are explained in Chapter 8.	158
25	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.	Complied. The details are incorporated in Chapter 3.	109
26	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Not applicable.	-
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	Fragmentation impact on environment may be due to drilling and blasting. The anticipated impacts and mitigation measures are discussed in Chapter 4.	83
28	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	An ecological and biodiversity study has been conducted and the same is incorporated in the Chapter 3 of the Draft EIA/EMP report. However, there is no any features mentioned in this condition within the M.L area. However, the impacts anticipated with respect to the environment of	109 & 199

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		the project area is very negligible and it will be minimized within the project area. The details are described in Chapter 10.	
29	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	Agreed.	-
30	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	Complied. The details are described in Chapter 3.	109
<b>Energy</b>			
31	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.	Complied. The details are described in Chapter 4.	85
<b>Climate Change</b>			
32	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Complied. The details are described in Chapter 4.	145
33	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Complied. The details are described in Chapter 4.	145
<b>Mine Closure Plan</b>			
34	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Complied. Mine Closure Plan has been incorporated in the approved Mining Plan and the same is incorporated in the Chapter 10.	179
<b>EMP</b>			
35	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Complied. The details are described in Chapter 10.	179
36	The Environmental Impact Assessment should hold detailed study on EMP with budget	Complied. The details are described in Chapter 10.	179

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	for Green belt development and mine closure plan including disaster management plan.		
<b>Risk Assessment</b>			
37	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	Complied. The details are described in Chapter 7.	165
<b>Disaster Management Plan</b>			
38	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/unto ward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Complied. The details are described in Chapter 7.	176
<b>Others</b>			
39	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.	-	-
40	As per the MoEF& CC office memorandum F.NO.22-65/2017-1A.11I dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted. It will be complied in the Final EIA/EMP report.	-
41	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water	Nil	-



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	systems due to activities, contemplated during mining may be investigated and reported.		
<b>C. Standard ToR</b>			
1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	This is a new project. No mining has been carried out in this lease area so far by the proponent.	-
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	-	-
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.	Complied. All the documents 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).	Complied. Project coordinates superimposed in satellite imagery and given as Figure 2.3 in Chapter II. The geology and geomorphology map are provided as Figures 2.23 & 3.24 in Chapter-III. The Soil map is provided as Figure 3.25 in Chapter-III.  The 10km Radius Index plan showing buffer zone is given 3.1 as in Chapter-III.	54 89 69 69  108

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5	Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Complied. The details are given in Chapter 2.	89
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The proposed Mine Lease area is owned patta land and the Land use pattern details given chapter -2 Table 2.5.	75
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.	The proposed quarry is small scale magnitude operation and controlled by lessee individually by engaging optimum statutory personals.  Based on magnitude of the operation the PP has framed Environmental Policy and the same is incorporated in Chapter 10.	184

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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.	Risks are identified and the management is given in Chapter 7.	166
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.	The study area of 10km comprising core zone and buffer zone is used for the study. All details given in Chapter - 3.	109
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Satellite imagery has been used to study land use and the details of land use in the core and buffer zone is given in Chapter 3.	109
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.	The entire material quarried out will be sold. No waste generation from this quarrying operation.	-
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	Not Applicable. There is no forest land in the lease area.	-

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	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.	Not Applicable. There is no forest land in the lease area.	-
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. There is no forest land in the lease area.	-
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	There is no forest land in the lease area. However, study are forest details are given in Chapter – 2.	118
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.	No wildlife sanctuary or national parks or any areas of ecological importance is found in the 10km area.	-
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	Not Applicable. Nil within 10 km radius.	-

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	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.	Flora and fauna composition in the core and buffer zone of the project has been studied through primary field surveys. The details are furnished in Chapter 3.	109
19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable	-

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not Applicable	-
21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programme of linedepartments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shilling of village(s) including their R&R and socio- economic aspects should be discussed in the Report.	Not applicable. No habitation within 300 meter of the radius.	-
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	Baseline data for meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna are collected winter season (Feb 2024 to April 2024) and detailed in Chapter-3.	101

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	<p>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.</p>		
23	<p>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.</p>	<p>Modelling is done using AERMOD and the projected values are found to be within the norms. Hence, there is no major impact due to this mining project. Cumulative impact of mining is also studied and the same is found to be within norms. The detail are given in Chapter 4.</p>	169
24	<p>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.</p>	<p>The entire water requirement for the project is 8.0KLD which will be sourced from outside agencies. Negligible sewage will be generated, for which a septic tank with soak pit will be set up. The water balance diagram is shown in Chapter 4.</p>	146
25	<p>Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.</p>	<p>Not Applicable.  The required water will be outsourced from the nearby village.</p>	-

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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.	Details of water conservation plan is given chapter 10.	198
27	Impact of the Project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.	The surface water condition and ground water condition in the study area is given in Chapter 3.	109
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.	Water table is 60m (BGL, proposed ultimate pit level is 27 m (BGL) - (1-5 Years) and 47m (BGL) - (6-10 Years). So, the proposed mine working will not intersect the ground water table.	-
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.	Not applicable.  There is no stream, seasonal or otherwise, passing through the lease area.	-
30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	Details of site elevation and depth are given in Chapter 3.	109
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant	In the lease area, safety barrier 10 m left as safety zone. Greenbelt/Plantation will be carried out in and around the lease area to	-



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	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.	enhance the vegetative growth and aesthetic in the area.	
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 Roads Congress(IRC).	This is a small quarry and the production is very less. 3 Nos. of 5T/10T tippers will be used for transport. The trips will be minimum. Hence no major impact on transport is expected.	-
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Onsite shelter and facilities will be provided to mine workers	-
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	The post mining land use/conceptual land use of the study area is given in Chapter 4.	136

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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	Occupational health and safety study is given in Para 4.11 of Chapter-4.	158
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	No major impact on public health will be there since the villages are located more than 1km from the lease area.	-
37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	This project provides employment to 30 people directly & indirectly. Local people will be hired for unskilled labour. Through CSR, nearby schools, villages will be benefitted. For CSR, INR 10 Lakh is allocated. Based on the demand of the people during public hearing, further funds will be allocated, if necessary.	-
38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	Environmental Management plan details are given in Chapter 10.	182
39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	During public hearing process, the opinions and demands of the people will be noted. The replies and commitment made by the proponent along with time bound action plan wherever applicable will be provided in Final EIA/EMP report.	-

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40	Details of litigation pending against the project, if any, with direction /order paced by any Court of Law against the Project should be given.	There is no litigation pending against the project.	-
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	The cost details including break-up of various costs are given in Chapter 2.	84
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	The disaster and its management plan is given in Chapter-7.	179
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.	This project will contribute financially through payment of taxes like royalty, GST, etc. The project will also contribute via CSR. The demands of people during public hearing will also be considered by the project proponent. This project provides employment to 30 people directly. Local people will be hired for unskilled labour. Through CSR, nearby schools, hospitals will be benefitted. For CSR, INR 10 Lakhs has been allocated.	-
44	Besides the above, the below mentioned general points are also to be followed.		-
	a) Executive Summary of the EIA/EMP Report	Yes, Complied.	-
	b) All documents to be properly referenced with index and continuous page numbering.	Yes, Complied.	-
	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.	Yes, Complied.	-
	d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise, etc. using the MoEF & CC/NABL	Yes, Complied.	-

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	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.	Yes, Complied.	-
	f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	Yes, Complied.	-
	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 4 <sup>th</sup> August 2009 which are available on the website of this Ministry, should be followed.	Yes, Complied.	-
	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.	Yes, Complied.	-
	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 Environmental Clearance for the existing operations of the project, should be obtained	Yes, Complied.	-

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	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.	Yes, Complied.	-



## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 PURPOSE OF THE REPORT**

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

M/s. Dhana Blue Metal, has obtained Precise Area communication letter from The Assistant Director, Department of Geology and Mining Collectorate, Ranipet District, to quarry out 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel over an extent of 4.04.50 Ha., located at the Survey No. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State. Hence, this proposed quarry falls under the cluster situation due to the following proposed and abandoned quarries located within 500m radius. The details are given below.

<b>Table 1.1 Cluster Mines Details</b>					
Sl. No	Name and address	Village and Taluk	SF.No	Extent (in Ha)	Period of lease
<b>Existing Quarries</b>					
1	Thiru.A.V. Srathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-11)	0.80.00	10 Years 25.01.2018 to 24.01.2028
2	Thiru.A.V.Srathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-10)	0.80.00	10 Years 18.07.2018 to 17.07.2028
3	Tmt. Subanithyadeepa	Arcot/ Anaimallur	374/5 (Part-9)	2.00.00	10 Years 26.03.2018 to 25.03.2028

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4	Tmt.S.Arut Selvi	Arcot/ Anaimallur	374/5 (Part-12)	4.50.00	10 Years 18.11.2021 to 17.11.2031
5	M/s. Argunt Aggregate Pvt.Ltd (K.Chandrasekara)	Arcot/ Anaimallur	374/5 (Part-14)	2.00.00	10 Years 10.06.2021 to 09.06.2031
6	Aggregate Engineering Thiru.P.Radhakrishn an	Arcot/ Anaimallur	374/5 (Part-13)	0.61.00	10 Years 23.01.2022 to 22.01.2032
<b>Extent:10.71.0 Ha</b>					
<b>Abandoned Quarries:</b>					
1	R.Adikesavelu	Arcot/ Anaimallur	433 (Part-2)	1.00.00	10 Years 10.08.2009 to 09.08.2019
2	G.S.Venkatesh	Arcot/ Anaimallur	374/5 (Part-7)	1.00.00	10 Years 20.09.2010 to 19.09.2020
3	M.A.Sangeethkumar	Arcot/ Nambarai	433 (Part-1)	0.80.00	10 Years 04.08.2009 to 03.08.2019
4	M.Sathishkumar	Arcot/ Anaimallur	374/5 (Part-2)	0.80.00	10 Years 04.11.2008 to 03.11.2018
<b>Extent:3.60.0 Ha</b>					
<b>Proposed Quarries</b>					
S.No.	Name and address	Village / Taluk	S.F.No.	Extent (in Ha)	Remarks
1.	M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti	Nambarai/ Arcot	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4	4.04.50	Proposed
<b>Extent:4.04.50Ha</b>					
<b>Total Extent: 18.03.55 Ha</b>					

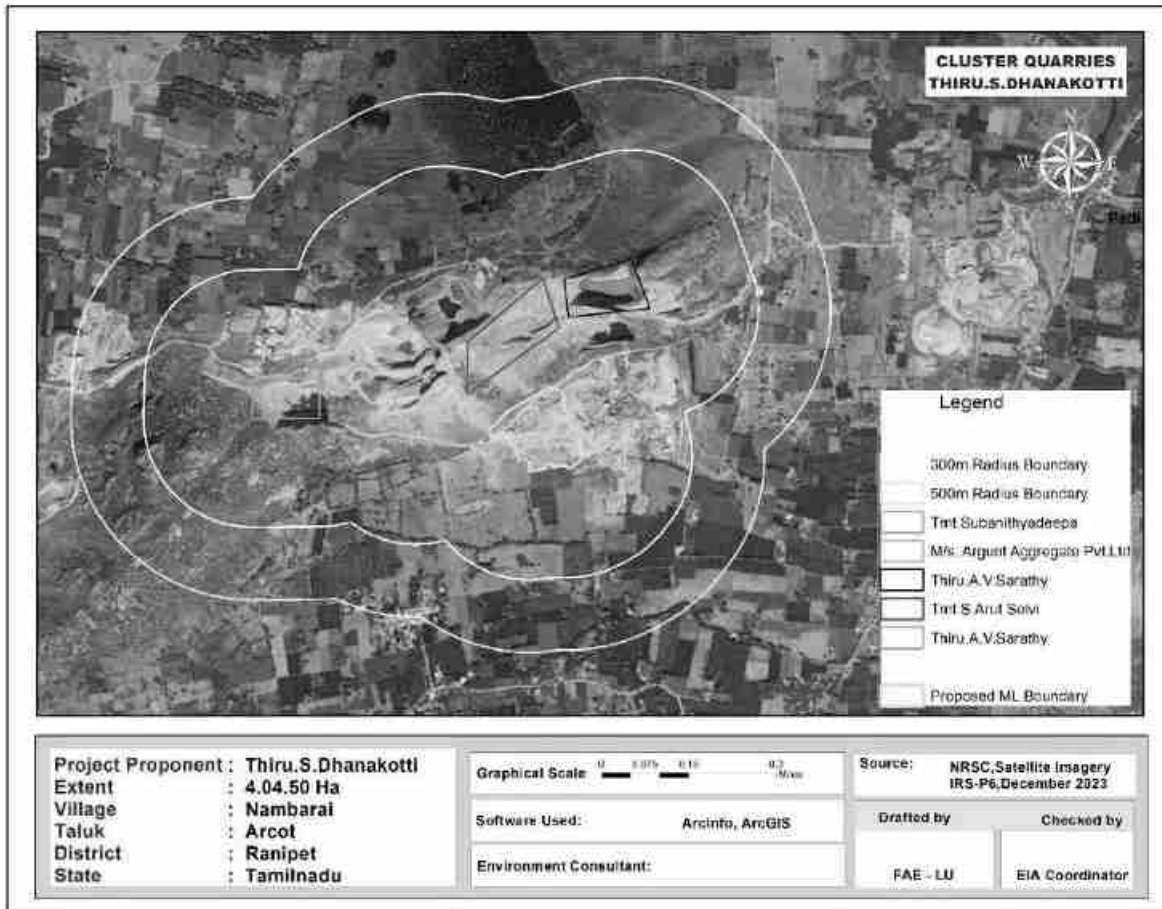
As per EIA notification, 2006 and its subsequent amendments the proposed "Dhana Blue Metal Rough Stone & Gravel Quarry of Thiru.S. Dhanakotti, cluster is falls under Schedule 1(a) Mining of Minerals. It is further classified under Category B1 due to



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the overall extent of cluster area is 18.03.55 Ha which is >5 Ha. Satellite image of Quarries in Cluster is shown in Fig 1.1.

**Figure1.1 Satellite Image showing cluster quarries**



The ToR for preparation of EIA/EMP was approved vide letter No.SEIAA-TN/F.No.10551/SEAC/1(a)ToR-1667/2023, dated 08.02.2024. This report has been prepared in line with the approved TOR for production of maximum excavation of 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel.

## 1.2 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

The proposed project is for mining of Rough Stone and Gravel quarry (under cluster) from the S.F. No. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5,

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367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 located in in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State. As per EIA notification, 2006 and its subsequent amendments the project comes under Schedule 1 (a) under Category B1 (Lease area >5 to 250 Ha). The proposed project details are given below.

**(a) Proposed project details**

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone & Gravel quarry
4.	Type of Lease	Proposed quarry
5.	Extent of the lease	4.04.50 Ha
6.	Proposed depth of mining	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)
7.	Method of mining	Conventional Opencast Semi-mechanized
8.	Proposed lease period	5 Years
9.	Proposed Environmental Clearance	5 Years
10.	Proposed production quantity for five years	Rough Stone: 3, 71,250 m <sup>3</sup> (1-5 years) Rough Stone: 1,37,575 m <sup>3</sup> (6-10 years) Gravel: 50,304 m <sup>3</sup>

**(b) Profile of the project proponent**

The proposed lessee M/s. Dhana Blue Metals, Proprietor: Thiru.S.Dhanakotti” is an individual with sound experience in the identification of quarry, operation and marketing in the field of Rough Stone. The proposed land is owned patta land, please refer **Annexure no –6.**

**(c) Project proponent details**

Name of the proponent : M/s. Dhana Blue Metals,  
Proprietor: Thiru.S.Dhanakotti

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Status of the Proponent : Proprietor  
 Address M/s. Dhana Blue Metals,  
 Proprietor: Thiru.S.Dhanakotti,  
 No.6, GST Road, Pallavaram Taluk,  
 Chengalpattu District.

### 1.3 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The proposed quarrying operation Opencast Semi-Mechanized method with 5m bench height, 5m bench width and overall bench slope is less than 45°. The quarry operation involves shallow jackhammer drilling, slurry blasting, excavation, loading and transportation.

### 1.4 SIZE AND LOCATION OF THE PROJECT

#### (a) Size of the project

<b>Table1.2 Proposed project details</b>		
<b>Sl. No.</b>	<b>Feature</b>	<b>Description</b>
1	Type of land	Owned Patta land
2	Extent of lease area	4.04.50 Ha
3	Type of lease	Proposed quarry
4	Geological Resource	Rough Stone - 18,04,050 m <sup>3</sup> Gravel - 80180 m <sup>3</sup>
5	Mineable Resource	Rough Stone - 5,08,825 m <sup>3</sup> Gravel - 50,304 m <sup>3</sup>
6	Proposed production	Rough Stone: 3, 71,250 m <sup>3</sup> (1-5 years) Rough Stone: 1,37,575 m <sup>3</sup> (6-10 years) Gravel: 50,304 m <sup>3</sup>
6	Proposed depth of mining	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)

#### (b) Location of the project

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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The proposed project site is located in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State and its Latitude 12°49'11.77"N to 12°49'19.36"N and Longitude 79°16'15.96"E to 79°16'25.31"E with Survey of India Topo Sheet No. 57 P/05.

### **1.5 IMPORTANCE OF THE PROJECT TO THE COUNTRY AND REGION**

There is an increasing demand for rough stone in India and other countries. Since the construction industry is rapidly growing now, there is an increasing demand for rough stone. Thus, this project will contribute not only to the demand of Rough Stone, but also provide employment opportunities to the nearby villages.

### **1.6 SCOPE OF THE STUDY WITH DETAILS OF REGULATORY SCOPING**

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

For the purpose of preparing EIA/EMP the SEIAA, Tamilnadu has issued a Terms of Reference vide letter No.SEIAA-TN/F.No.10551/SEAC/(1a)ToR-1667/2023, dated 08.02.2024 in accordance with the provisions of EIA Notification 2006 and its subsequent amendments. This EIA study includes both Core and Buffer zone i.e., the lease area and 10km radius of the project area respectively. This EIA report prepared based on the data generated from the winter season (February to April 2024). and all individual components of environment are described in detail. An in-depth analysis of available information has been made for working out an effective Environmental Management Plan.

## **1.7 PRESENT STUDY**

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

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

## **1.8 STATUS OF LITIGATIONS**

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

### **a. Precise Area Communication:**

The Project Proponent has obtained Precise Area Communication from The Assistant Director, Department of Geology and Mining Collectorate, Ranipet District vide Rc.No.149/2023(Mines) dated 29.09.2023. The letter copy enclosed as **Annexure – 2.**

**b. Mining Plan Approval Letter:**

The project proponent has prepared mining plan under rule 19(1), 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the same has been approved by the Assistant Director, Dept. of Geology & Mining, Ranipet vide Rc.No.149/Mines/2023 dated 05.10.2023. The approval letter along with approved plan is enclosed as **Annexure – 3.**

**c. 500m radius quarry features:**

The project proponent has obtained an official letter from the Assistant Director, Dept. of Geology & Mining, Ranipet vide RC.No.149/2023 (Mines), dated 06.10.2023. The letter copy enclosed as **Annexure – 4.**

**d. Project Proponent undertaking affidavit:**

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

**e. Land document of the proposed lease area:**

It is patta land registered in the name of S.Dhanakotti (Proprietor of M/s.Dhana Blue Metals), vide patta No. 1481, 1200, 1215, 1217, 1214. The copy of the land documents are enclosed as **Annexure -6.**

## **CHAPTER 2**

### **PROJECT DESCRIPTION**

#### **2.1 TYPE OF PROJECT**

The type of the project is opencast semi-mechanized mining method to excavate Rough Stone and Gravel quarry within the proposed Mine Lease area with drilling, blasting, loading and transportation. This project is located at S.F. No. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 over an extent of 4.04.50 Ha in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the project comes under Schedule 1 (a) under Category B1 (Lease area >5 to 250 Ha), considering cluster situation and the total cluster area is 18.03.55 Ha. The details of mines located in the cluster area is certified by The Assistant Director, Department of Geology and Mining Collectorate, Ranipet District 500m radius letter vide Rc.No.149/Mines/2023 dated 06.10.2023.

<b>Cluster Mines Details</b>					
Sl. No	Name and address	Village and Taluk	SF.No	Extent (in Ha)	Period of lease
<b>Existing Quarries</b>					
1	Thiru.A.V. Srathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-11)	0.80.00	10 Years 25.01.2018 to 24.01.2028
2	Thiru.A.V.Sarathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-10)	0.80.00	10 Years 18.07.2018 to 17.07.2028
3	Tmt. Subanithyadeepa	Arcot/ Anaimallur	374/5 (Part-9)	2.00.00	10 Years 26.03.2018 to 25.03.2028
4	Tmt.S.Arut Selvi	Arcot/ Anaimallur	374/5 (Part-12)	4.50.00	10 Years 18.11.2021 to 17.11.2031

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

5	M/s. Argunt Aggregate Pvt.Ltd (K.Chandrasekara)	Arcot/ Anaimallur	374/5 (Part-14)	2.00.00	10 Years 10.06.2021 to 09.06.2031
6	Aggregate Engineering Thiru.P.Radhakrishnan	Arcot/ Anaimallur	374/5 (Part-13)	0.61.00	10 Years 23.01.2022 to 22.01.2032
<b>Extent:10.71.0 Ha</b>					
<b>Abandoned Quarries:</b>					
1	R.Adikesavelu	Arcot/ Anaimallur	433 (Part-2)	1.00.00	10 Years 10.08.2009 to 09.08.2019
2	G.S.Venkatesh	Arcot/ Anaimallur	374/5 (Part-7)	1.00.00	10 Years 20.09.2010 to 19.09.2020
3	M.A.Sangeethkumar	Arcot/ Nambarai	433 (Part-1)	0.80.00	10 Years 04.08.2009 to 03.08.2019
4	M.Sathishkumar	Arcot/ Anaimallur	374/5 (Part-2)	0.80.00	10 Years 04.11.2008 to 03.11.2018
<b>Extent:3.60.0 Ha</b>					
<b>Proposed Quarries</b>					
S.No.	Name and address	Village / Taluk	S.F.No.	Extent (in Ha)	Remarks
1.	M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti	Nambarai/ Arcot	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4	4.04.50	Proposed
<b>Extent:4.04.50Ha</b>					
<b>Total Extent: 18.03.55 Ha</b>					

The proposed production is 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel by open cast semi mechanized mining method.



## **2.2 SALIENT FEATURES OF THE PROJECT**

The salient features of the proposed Rough Stone & Gravel quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti.

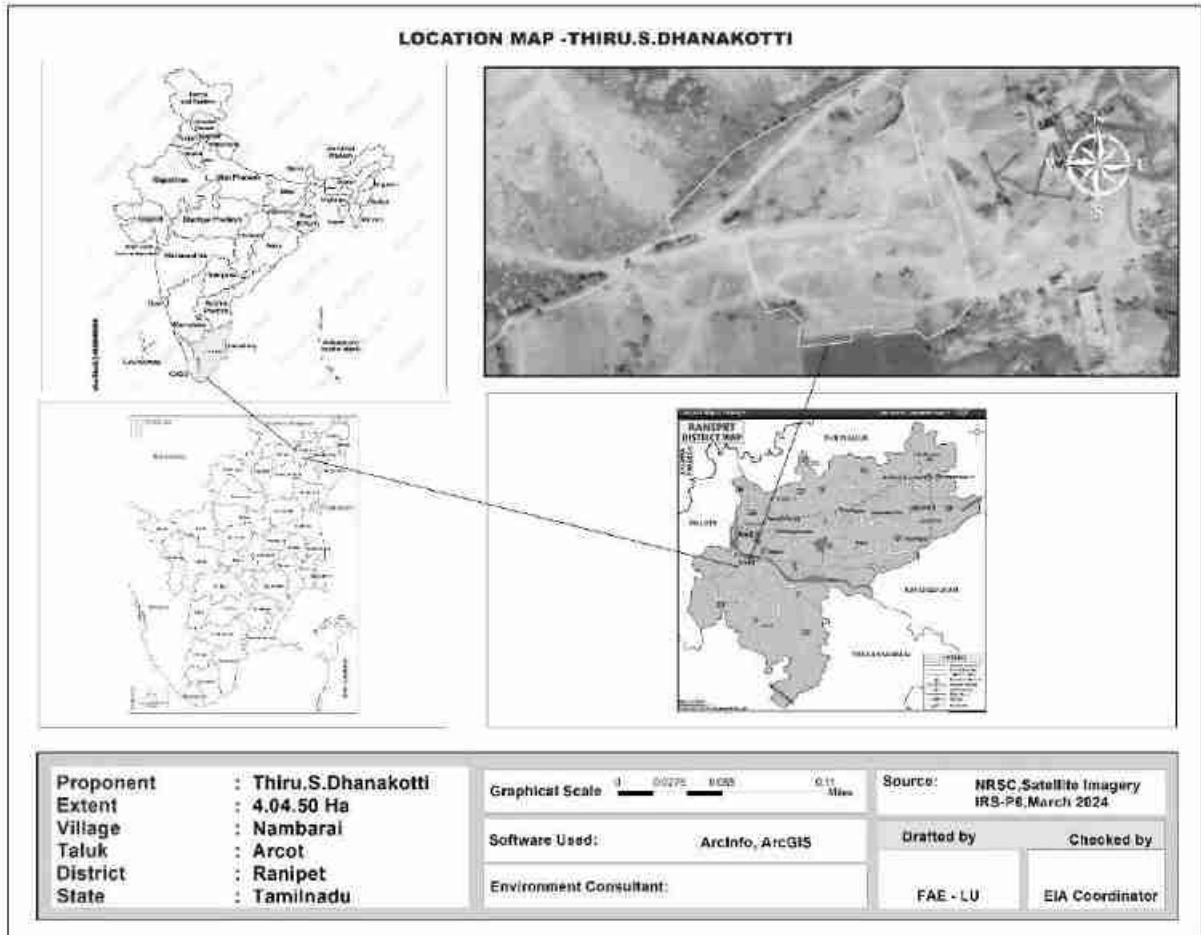
<b>Table 2.1 Salient features of the project</b>		
<b>S.No.</b>	<b>Type of Detail</b>	<b>Description</b>
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	New Project
3	Category	B1
4	Nature of mineral	Minor mineral
5	Life of the mine	10 years
6	Production Quantity for five years	Rough Stone: 3, 71,250 m <sup>3</sup> (1-5 years) Rough Stone: 1,37,575 m <sup>3</sup> (6-10 years) Gravel: 50,304 m <sup>3</sup>
7	Waste generation and management	Nil
8	Bench height and width	Proposed bench height & width is 5.0m respectively and number of proposed benches is 10 Nos (BGL)
9	Ultimate pit depth	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)
10	End use	The excavated Rough Stone and Gravel is used for construction industries for Government & Public sector projects besides catering domestic housing and infrastructure projects in and around the district.

## **2.3 LOCATION**

This project site is located in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State. Nearest Railway line is Vellore – Tiruvannamalai line which is about 13.5Km on the Southwestern side of the area. The Nearest National Highway (NH-48) Chennai – Krishnagiri which is about 10.3Km on the Northern side of the area. The State Highway (SH-129) Arcot – Kavanur is about 3.0Km on Western side of the area. The general location is given in Figure 2.1. The specific location is given in Figure 2.2.

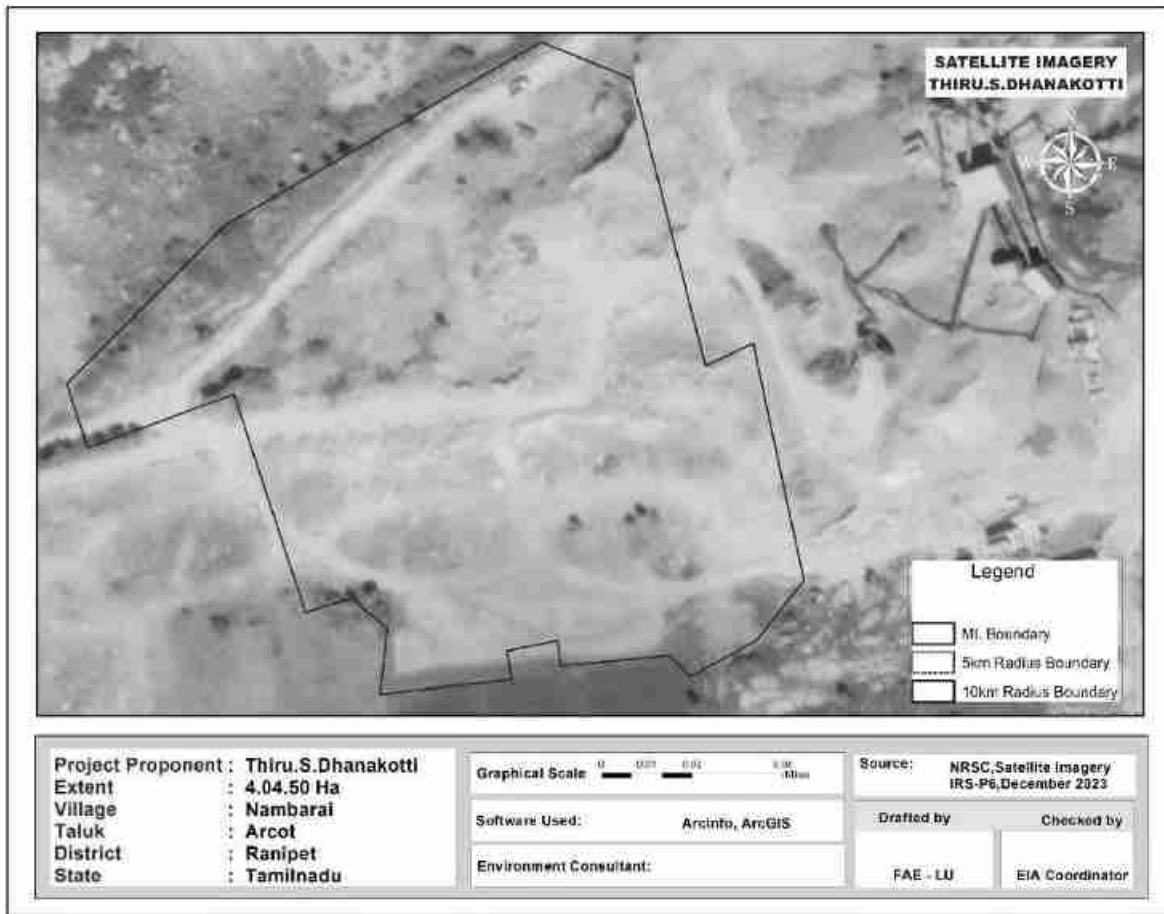
**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.1 LOCATION MAP**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.2 MAP OF THE PROJECT AREA**



As shown in the map above, the project is approachable from Pettai - Vilapakkam road which is located in the northern side. The State Highway (SH-129) Arcot - Kavanur is about 3.0Km on Western side & Chennai - Krishnagiri (NH-44) which is about 10.3Km on the Northern side of the project site.

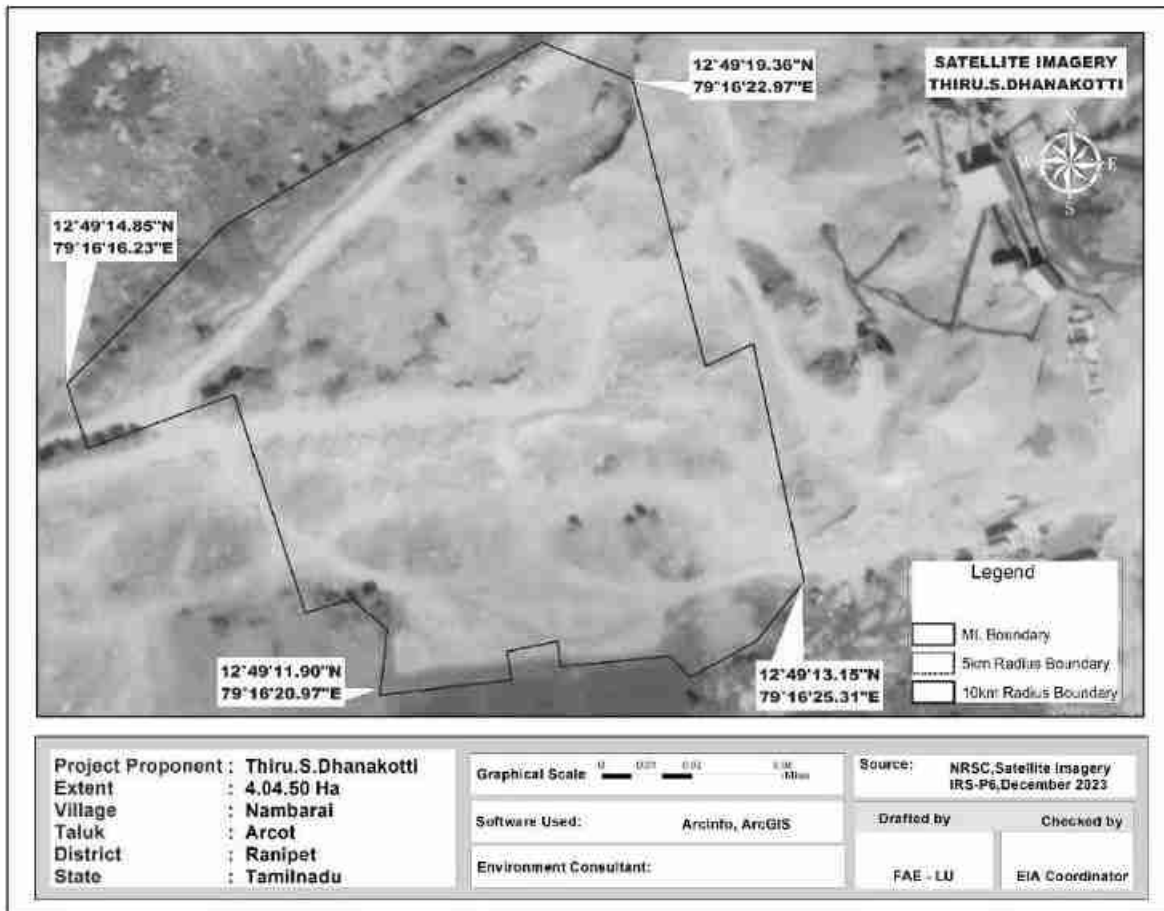
## **2.4 PROJECT BOUNDARY AND PROJECT SITE LAYOUT:**

The lease area has 21 corners and the latitude and longitude values are given below.

<b>Table 2.2 Co-Ordinates of the Project Site</b>			
<b>Corners</b>	<b>Co-Ordinates</b>		<b>Distance between the corners</b>
	<b>Latitude</b>	<b>Longitude</b>	
1	12° 49' 12.71"N	79° 16' 18.48"E	1-2 = 82.2m
2	12° 49' 15.29"N	79° 16' 17.78"E	2-3 = 48.8m
3	12° 49' 14.85"N	79° 16' 16.23"E	3-4 = 24.2m
4	12° 49' 15.59"N	79° 16' 15.96"E	4-5 = 80.2m
5	12° 49' 17.31"N	79° 16' 17.96"E	5-6 =124.4 m
6	12° 49' 19.34"N	79° 16' 21.52"E	6-7 = 43.6m
7	12° 49' 19.36"N	79° 16' 22.97"E	7-8 = 45.8m
8	12° 49' 17.92"N	79° 16' 23.36"E	8-9 = 72.4m
9	12° 49' 15.69"N	79° 16' 24.14"E	9-10 = 16.0m
10	12° 49' 15.82"N	79° 16' 24.65"E	10-1= 184.4m
11	12° 49' 13.15"N	79° 16' 25.31"E	11-12 =20.4m
12	12° 49' 12.66"N	79° 16' 24.85"E	12-13 =61.6m
13	12° 49' 11.96"N	79° 16' 22.94"E	13-14= 8.2m
14	12° 49' 12.20"N	79° 16' 22.86"E	14-15 =42.0m
15	12° 49' 12.06"N	79° 16' 21.47"E	15-16 = 8.4m
16	12° 49' 12.33"N	79° 16' 21.44"E	76-17 =14.4m
17	12° 49' 12.32"N	79° 16' 20.96"E	17-18 =12.6m
18	12° 49' 11.90"N	79° 16' 20.97"E	18-19= 49.0m
19	12° 49' 11.77"N	79° 16' 19.35"E	19-20= 26.8m
20	12° 49' 12.64"N	79° 16' 19.27"E	20-21 = 11.6m
21	12° 49' 12.89"N	79° 16' 18.98"E	21-1 =16.6m

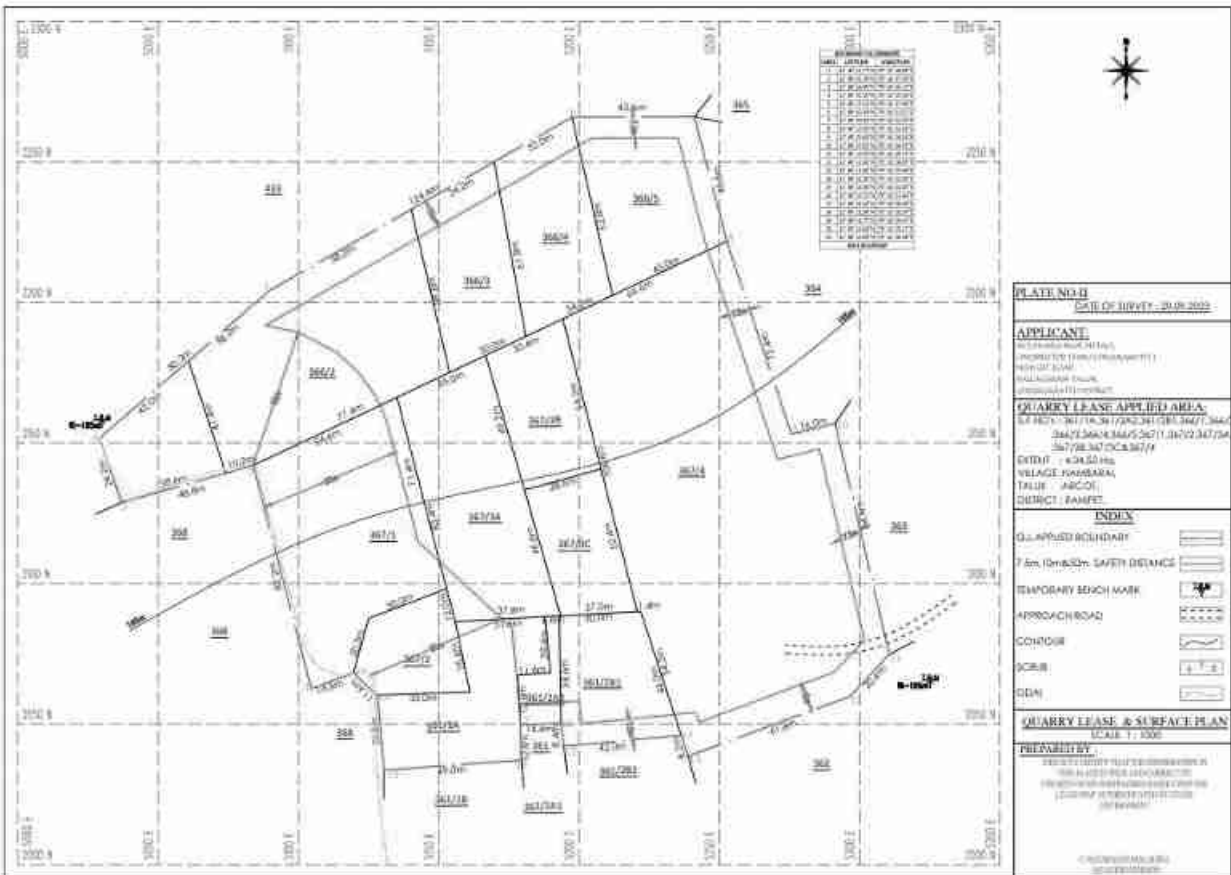
**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.3 GOOGLE IMAGE SHOWING PROJECT SITE**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.4 SURFACE PLAN OF THE PROJECT AREA**



DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIGURE 2.5 SITE PHOTOS**



### **Site Connectivity**

<b>Sr.No</b>	<b>Salient Features</b>	<b>Description</b>
1	Nearest Roadway	<ul style="list-style-type: none"> <li>• There is an existing road from the area leads to Towards Muhamad Pettai-Vilapakkam village road on eastern side of the area.</li> <li>• The Nearest Railway line is Vellore – Tiruvannamalai line which is about 13.5Km on the Southwestern side of the area.</li> <li>• The National Highway NH-48) Chennai – Krishnagiri which is about 10.3Km on the Northern side of the area.</li> <li>• The State Highway (SH-129) Arcot – Kavanur is about 3.0Km on Western side of the area.</li> </ul>
2	Nearest Village	Anaimallur -1.4 km – NE Kavanur-2.3 km – NW Moganavaram-400 m – SW Timiri-2.5Km – SE
3	Nearest Railway	Vellore – Tiruvannamalai line which is about 13.5Km on the Southwestern side of the area
4	Nearest Airport	Chennai International Airport – 119.0 km – NE

## **2.5 GEOLOGY AND TOPOGRAPHY**

### **a. Topography**

The mine lease area of 4.04.50 Ha is covered in the Survey of India Toposheet 57 P/05 is bounded by Latitude: 12°49'11.77"N to 12°49'19.36"N and Longitude 79°16'15.96"E to 79°16'25.31"E. No major river is found nearby the lease applied area. Water table is found at a depth of 60m. Temperature of the area is reported to be 18°C to a maximum of 42°C during summer. Rainfall of this area is about 800mm to 900 mm during the both NE & SW monsoons. The topomap showing the lease area of the proposed quarry is given in Figure 2.2 and Satellite map showing proposed lease area is given in Figure 2.3.



The elevation of the proposed quarry is 195m (maximum). There is no forest land in the mine lease area. The project site is dry land which is not fit for any cropping.

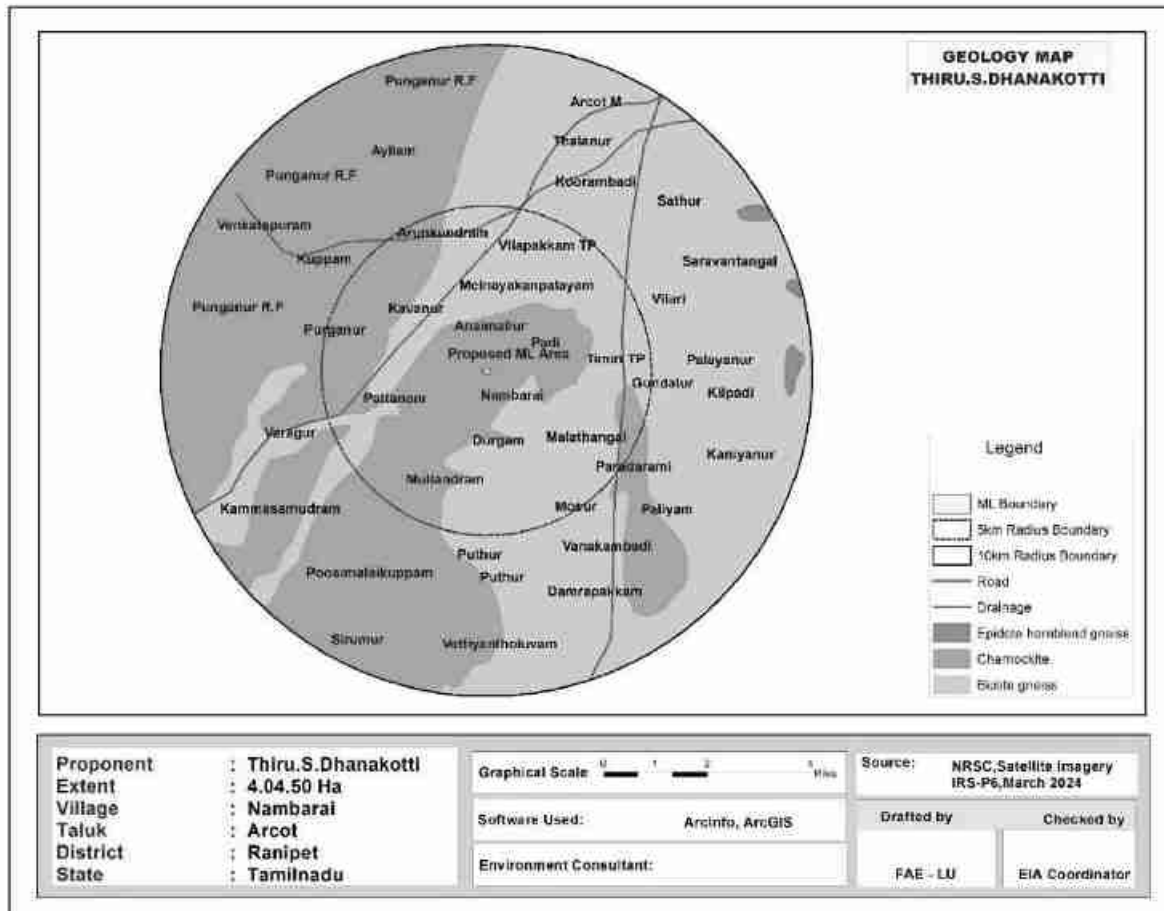
### **b. Regional Geology**

Geologically Ranipet District is mostly underlain by the Archaean crystalline and metamorphic complex. The geology of the district is charnockite, pyroxene granulite and banded magnetite quartzite of the Charnockite Group, along with the banded magnetite quartzite, biotite gneiss and pink migmatite of the Migmatite Group. The Charnockite and migmatite Group are the parts of the Southern Granulite Terrain (SGT) that belongs to the Neo Archaean to Meso Proterozoic age. The lithologies of the Southern Granulite Terrain are mostly found to the south of the Palar river at south of Arcot, Puduppadi and west of Kalavai with a few Charnockite deposits found to the north of the Palar River near Melpadi, east of Tivuvallam and south of Sholinghur, migmatite gneiss, pink migmatite and pink hornblende migmatite gneiss of the Peninsular gneissic complex II Group occur. The PCG-II is part of the Peninsular Gneissic Complex Supergroup with an age ranging from Palaeo to Meso Proterozoic.

The Proterozoic epidote hornblende gneiss occurs in the N-S belt and covers the major parts of the district area in the east. The epidote-hornblende gneiss, a product of retrograde metamorphism of Charnockite and emplaced as alkali-carbonate metasomatism during the Neoproterozoic and is mostly confined along the shear zone. The epidote hornblende gneiss occurs near Kalavai, Kaveripakkam, Nagavedu and Arakkonam. These lithologies are cross-cut by basic intrusives like numerous Dolerite dykes belonging to the Palaeo Proterozoic age. Some of the dykes are continuous for nearly 5km in strike length with a width varying between 20-60m in NE-SW, ENE-WSW, N-S and E-W directions. The Neoproterozoic acid intrusives like granite, pegmatites and Quartz veins occur in the northeastern part of the district. While pegmatite and quartz veins of 2-3m length and up to 30cm in width intruded in epidote hornblende gneiss. Regional Geology map for the 10 Km radius from the proposed project site is given as Figure 2.6.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.6 REGIONAL GEOLOGY OF 10 Km RADIUS FROM PROJECT AREA**



**c. Local Geology**

The area is underlain by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places. The geological formations found in the district are Archaean rocks like Gneisses, Granites, Charnockites, basic granulites and calc-gneisses. The younger formations are Quartz veins and pegmatite. The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses,

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

a high grade metamorphic rock. The strike of the Charnockite formation is N10°E – S10°W with dipping towards SE70°.The general geological succession of the area is given as under.



**d. Geological Resources**

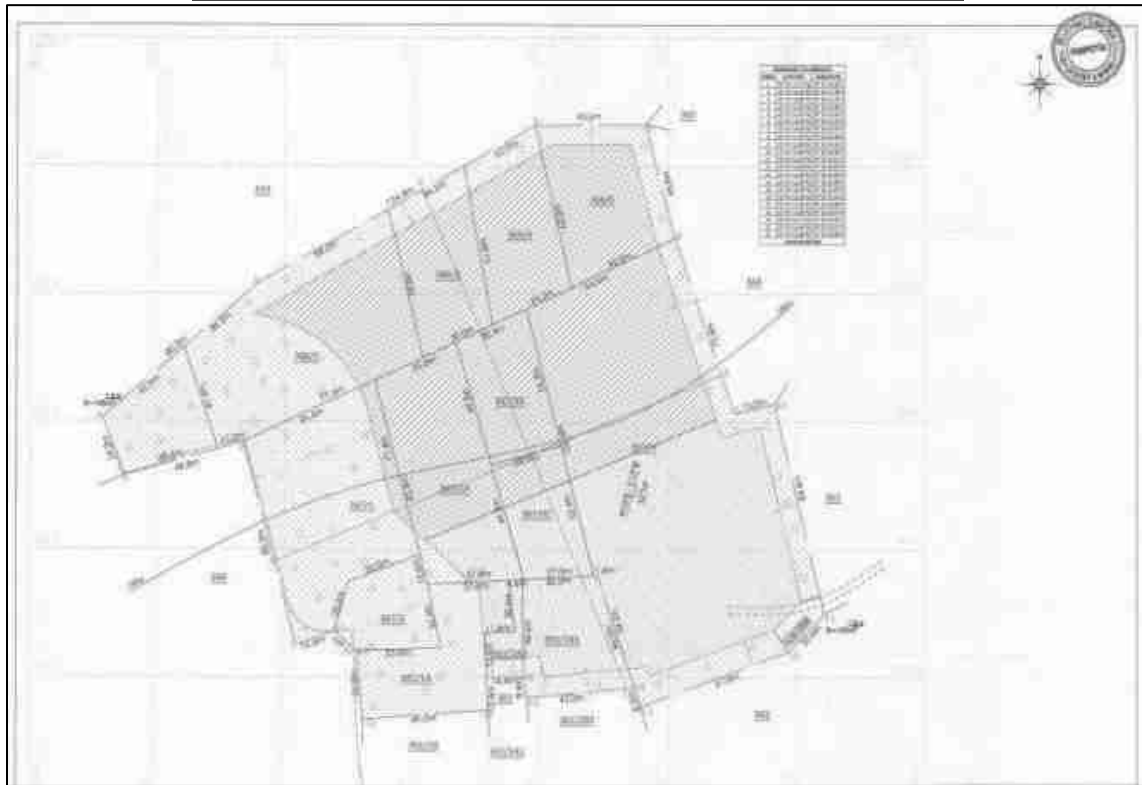
The geological cross sections are prepared across the strike of the ore body. The area of individual litho units in each cross section is calculated separately. Section wise sectional area is measured and multiplied by the influence to obtain the volume in m3. The volume is multiplied by Rough Stone – 18,04,050 m3 Gravel - 80180 m3 (bulk density) to calculate the resource of rough stone in MT. The total Geological resources are calculated after depletion of existing quarry pits.

Table 2.3 Geological resources in the lease area								
Section	Topography	Bench	Length (m)	Width (m)	Dept (m)	Volume (m <sup>3</sup> )	Gravel Formation (m <sup>3</sup> )	Geological Resources of Rough stone (m <sup>3</sup> )
XY-AB	Below Ground level	I	211	190	2	80180	80180	
		II	211	190	45	1804050		1804050
<b>Total</b>							80180	1804050

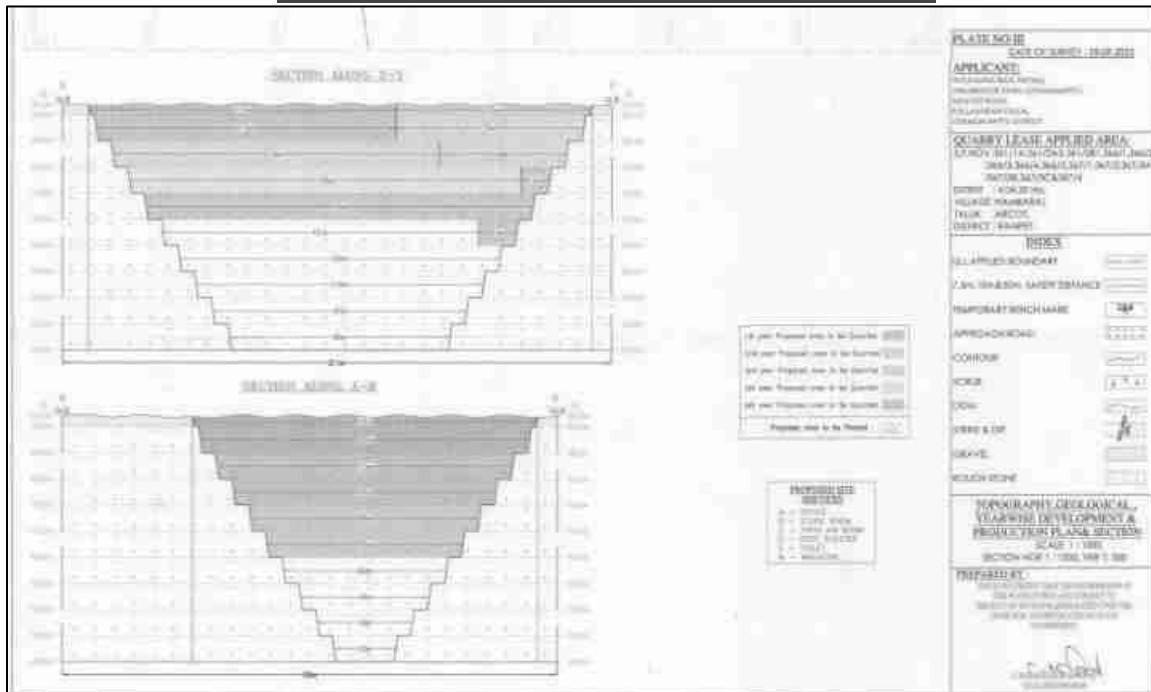
Available Geological Resources of Rough stone 1804050 m3 and Gravel 80180 m<sup>3</sup>

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE - 2.7 GEOLOGY MAP OF PROJECT AREA**



**FIGURE - 2.8 GEOLOGY CROSS SECTION**



## **2.6 AVAILABLE MINEABLE RESERVES**

Mineable reserve is getting restricted due to the formation of benches, leaving the statutory safety distance in the inner boundary, mineral lock up in the benches itself, ultimate depth of mining, bench slope adopted etc. So, the mineable reserve is estimated after reducing the rough stone blocked in the safety distance, benches and existing pit. The Rough stone reserves are given below.

<b>Table 2.4 Mineable Resources in the Lease Area</b>								
<b>Section n</b>	<b>Topography</b>	<b>Bench</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Volume m<sup>3</sup></b>	<b>Gravel in m<sup>3</sup></b>	<b>Mineable Reserve of Rough stone in m<sup>3</sup></b>
XY-AB	Blow ground level	I	192	131	2	50304	50304	
		II	188	127	5	119380		119380
		III	175	113	5	98875		98875
		IV	162	101	5	81810		81810
		V	149	88	5	65560		65560
		VI	136	75	5	51000		51000
		VII	123	62	5	38130		38130
		VIII	110	49	5	26950		26950
		IX	97	36	5	17460		17460
		X	84	23	5	9660		9660
<b>Total</b>							<b>50304</b>	<b>508825</b>

## **2.7 NEED FOR THE PROJECT**

The construction industry is growing at a very faster rate so there is an increasing demand for Rough Stone. Also, in the international market there is a good demand for Indian cut and raw stones. Thus, this project will contribute to the demand of rough stone and provide employment opportunities to the nearby villages.

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## **2.8 SIZE OR MAGNITUDE OF OPERATION**

The proposed production is Rough stone 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel by Opencast Semi mechanized mining method.

## **2.9 LAND USE OF THE PROJECT AREA**

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

<b>Table 2.5 Current Land Use Pattern</b>			
<b>S. No.</b>	<b>Land Use</b>	<b>Present Area (Hect)</b>	<b>Area in use during the quarrying period (Hect)</b>
1	Quarrying Pit	Nil	2.52.00
2	Infrastructure	Nil	0.01.0
3	Roads	Nil	0.02.0
4	Green Belt	Nil	1.49.50
5	Unutilized	4.04.50	Nil
	<b>Total</b>	<b>4.04.50</b>	<b>4.04.50</b>

## **2.10 LAND USE AT MINE CLOSURE STAGE**

<b>Table 2.6 Land Use at Mine Closure Stage</b>		
<b>S. No.</b>	<b>Land Use</b>	<b>Area in use during the quarrying period (Hect)</b>
1	Area left for water body	2.52.00
2	Green Belt	1.49.50
3	Remaining area	0.03.0
	<b>Total</b>	<b>4.04.50</b>

## **2.11 METHOD OF MINING**

Conventional Opencast method of semi mechanized mining with 5.0 m height 5.0m width and overall, 45<sup>o</sup> slope of the bench. It is proposed to excavate Rough Stone - 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel. No wastage is envisaged as the entire material available is Rough Stone and Gravel only.

## **2.12 TIMING**

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

## **2.13 BENCH GEOMETRY**

Height (max) and Width (max) of the benches will be maintained as 5m each and overall slope angle will be at around 45° with the horizontal.

## **2.14 DEVELOPMENT OF MINING FACES**

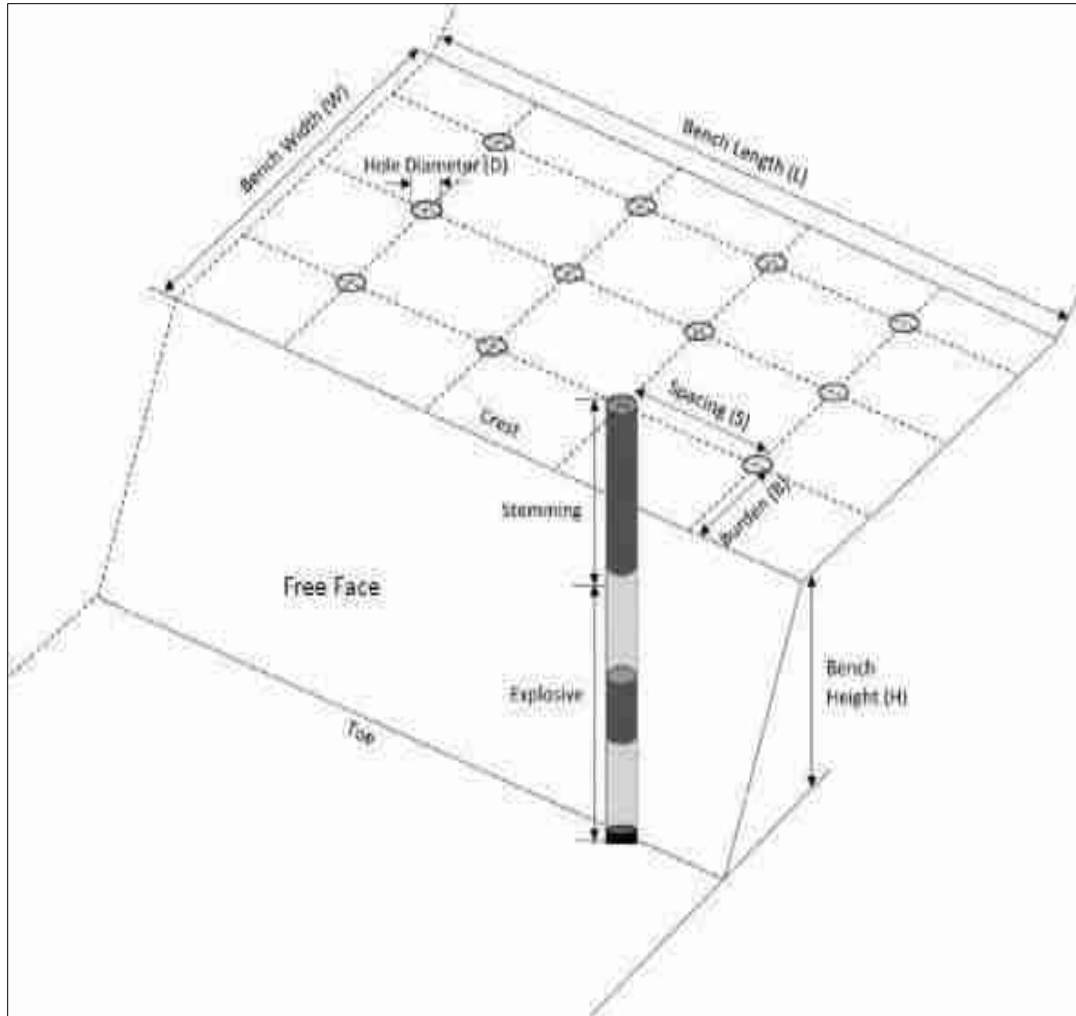
The proposed mining method is Opencast Semi Mechanized mining. Site preparation as such bush cleaning, approach road, office and sanitary facilities will be done after obtaining all the statutory clearances as such Environmental Clearance, Consent to Operate, Lease Deed, etc., Once site is ready will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

## **2.15 DRILLING & BLASTING**

Drilling will be done upto maximum depth of 27 m (BGL) - (1-5 Years) and 47m (BGL) – (6-10 Years) and drilling diameter will be 32-36 mm. Jackhammer will be used for drilling with water spray. Powder factor of explosives for breaking such hard rock shall be in the order of 6 to 7 Tonnes per Kg of explosives. Small dia 25mm slurry explosive are proposed to be used for shattering and heaving effect for removal of Rough Stone. The proposed blasting pattern is given as Figure 2.9.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIGURE 2.9 BLASTING PATTERN**



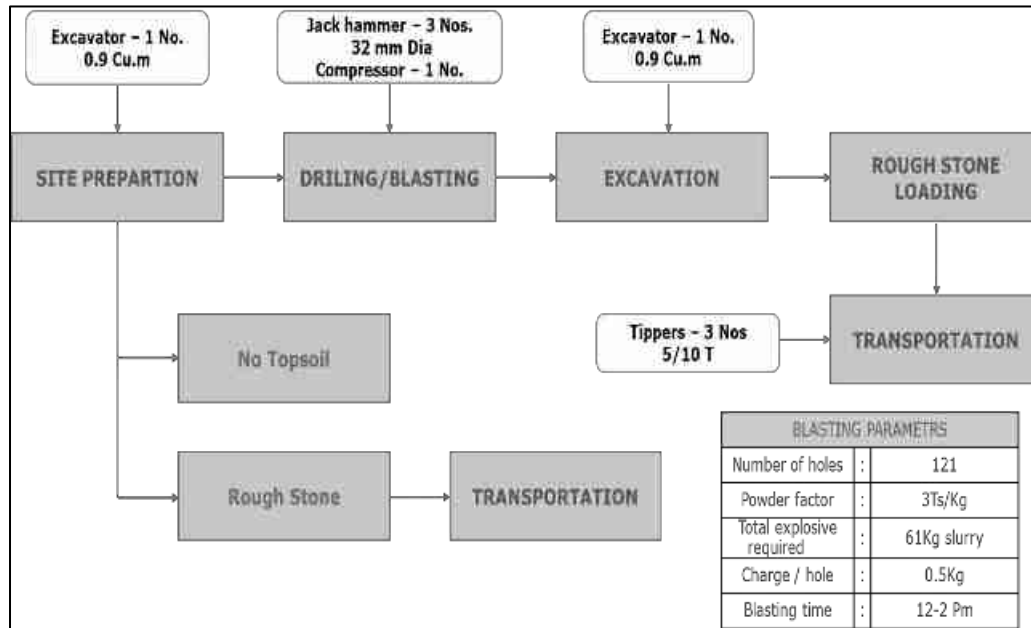
**2.16 LOADING & TRANSPORTATION OF ROUGH STONE & GRAVEL**

Hydraulic excavator will be used for lifting and loading of the rough stone & Gravel. This excavator in combination with Tippers (5/10Ts) capacity of 3 nos will be used.



## 2.17 PROCESS FLOW CHART FOR MINING OF ROUGH STONE & GRAVEL

**FIGURE 2.10 FLOW CHART OF THE QUARRY OPERATION**



## 2.18 LAYOUT

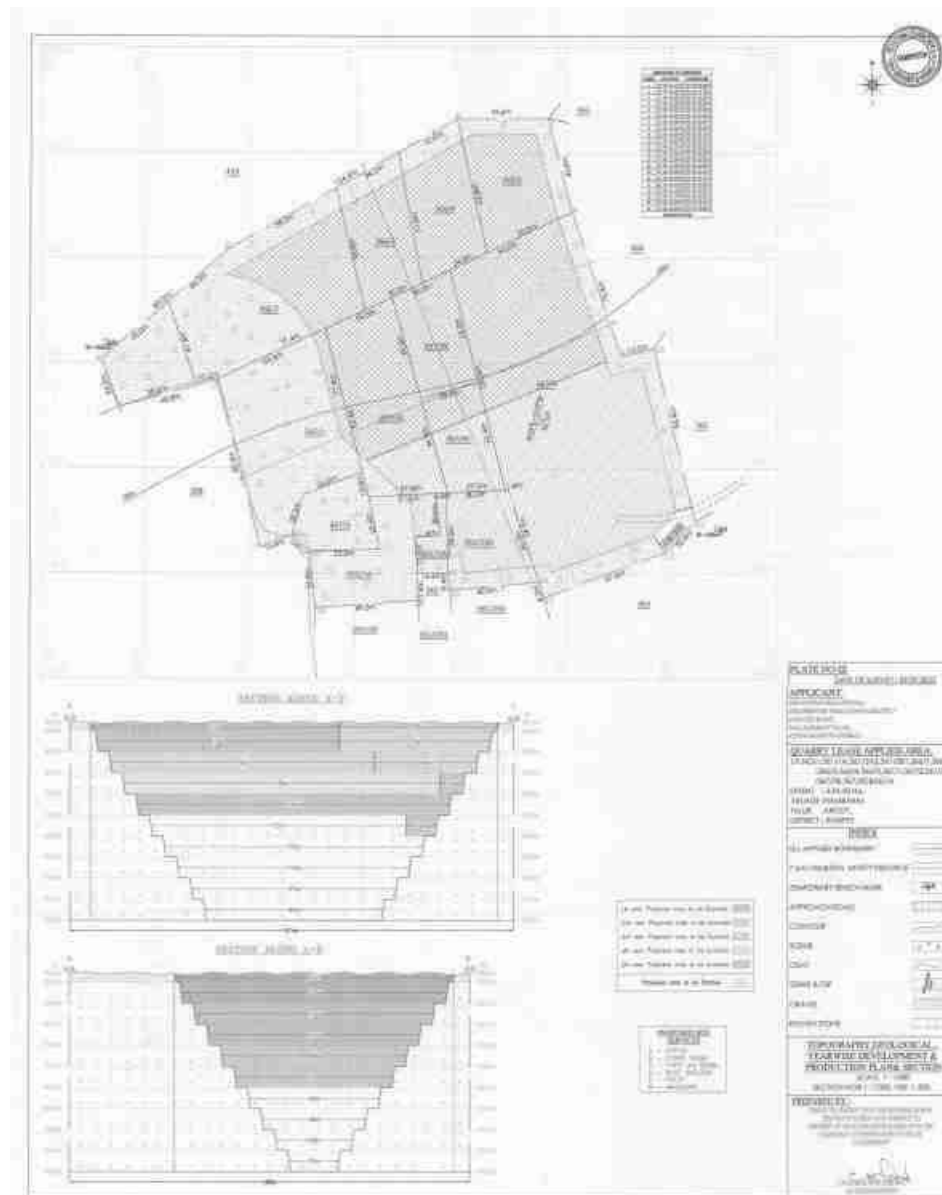
Layout of the proposed quarry working has been shown in development Plan/Sections (Figure 2.11) Coloring has been done distinctly for easy identification of year wise excavation programme.

## 2.19 MACHINERY DETAILS

Table 2.7 Machineries involved in the project				
S.No.	Particulars	Size capacity	Motive Power	Nos
1.	Jack hammer (32mm dia hole)	1.2m - 6.0m	Compressed air	6
2.	Compressor	1 psi	Diesel drive	2
3.	Excavator with Bucket and Rock Breaker	0.9 m <sup>3</sup>	Diesel drive	1
4.	Tippers	5/10 Ts	Diesel drive	3

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**FIGURE 2.11 PROJECT LAYOUT PLAN AND SECTIONS**



**2.20 PROPOSED SCHEDULE FOR IMPLEMENTATION**

Year wise Production of Rough stone from the area will be upto maximum capacity. The recovery factor is up to 100% hence no waste expected to be generated. All

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excavated quantity is saleable. The summary of proposed development and production during the mine plan period is given in Table 2.8.

<b>Table 2.8 Summary of production For 5 Years</b>									
<b>Year</b>	<b>Section</b>	<b>Topography</b>	<b>Bench</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Volume m<sup>3</sup></b>	<b>Gravel in m<sup>3</sup></b>	<b>Reserve of Rough stone in m<sup>3</sup></b>
I	XY-AB	BGL	I	117	131	2	30654	30654	
			II	115	127	5	73025		73025
<b>Total</b>								<b>30654</b>	<b>73025</b>
II	XY-AB	BGL	I	75	131	2	19650	19650	
			II	73	127	5	46355		46355
			III	49	113	5	27685		27685
<b>Total</b>								<b>19650</b>	<b>74040</b>
III	XY-AB	BGL	VI	126	113	5	71190		71190
<b>Total</b>									<b>71190</b>
IV	XY-AB	BGL	VII	150	101	5	75750		75750
<b>Total</b>									<b>75750</b>
V	XY-AB	BGL	IV	12	101	5	6060		6060
			V	149	88	5	65560	65560	
			VI	15	75	5	5625	5625	
<b>Total</b>									<b>77245</b>
<b>Grand Total</b>								<b>50304</b>	<b>371250</b>
<b>Summary of production For 6-10 Years</b>									
<b>Year</b>	<b>Section</b>	<b>Topography</b>	<b>Bench</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Volume m<sup>3</sup></b>	<b>Gravel in m<sup>3</sup></b>	<b>Reserve of Rough stone in m<sup>3</sup></b>
VI	XY-AB	BGL	VI	74	75	5	27750		27750
<b>Total</b>									27750
VII	XY-AB	BGL	VI	47	75	5	17625		17625
			VII	32	62	5	9920	9920	
<b>Total</b>									<b>27545</b>
VIII	XY-AB	BGL	VII	91	62	5	28210		28210
IX	XY-AB	BGL	VIII	110	49	5	26950		26950
<b>Total</b>									
X	XY-AB	BGL	IX	97	36	5	17460		17460
			X	84	23	5	9660	9660	
<b>Total production for the year 6-10</b>								<b>Nil</b>	<b>1,37,575</b>
<b>Total Production for the year 1-5</b>								<b>50,304</b>	<b>3,71,250</b>
<b>Grand Total Productions for 10 years</b>								<b>50,304</b>	<b>5,08,825</b>

## **2.21 CONCEPTUAL PERIOD**

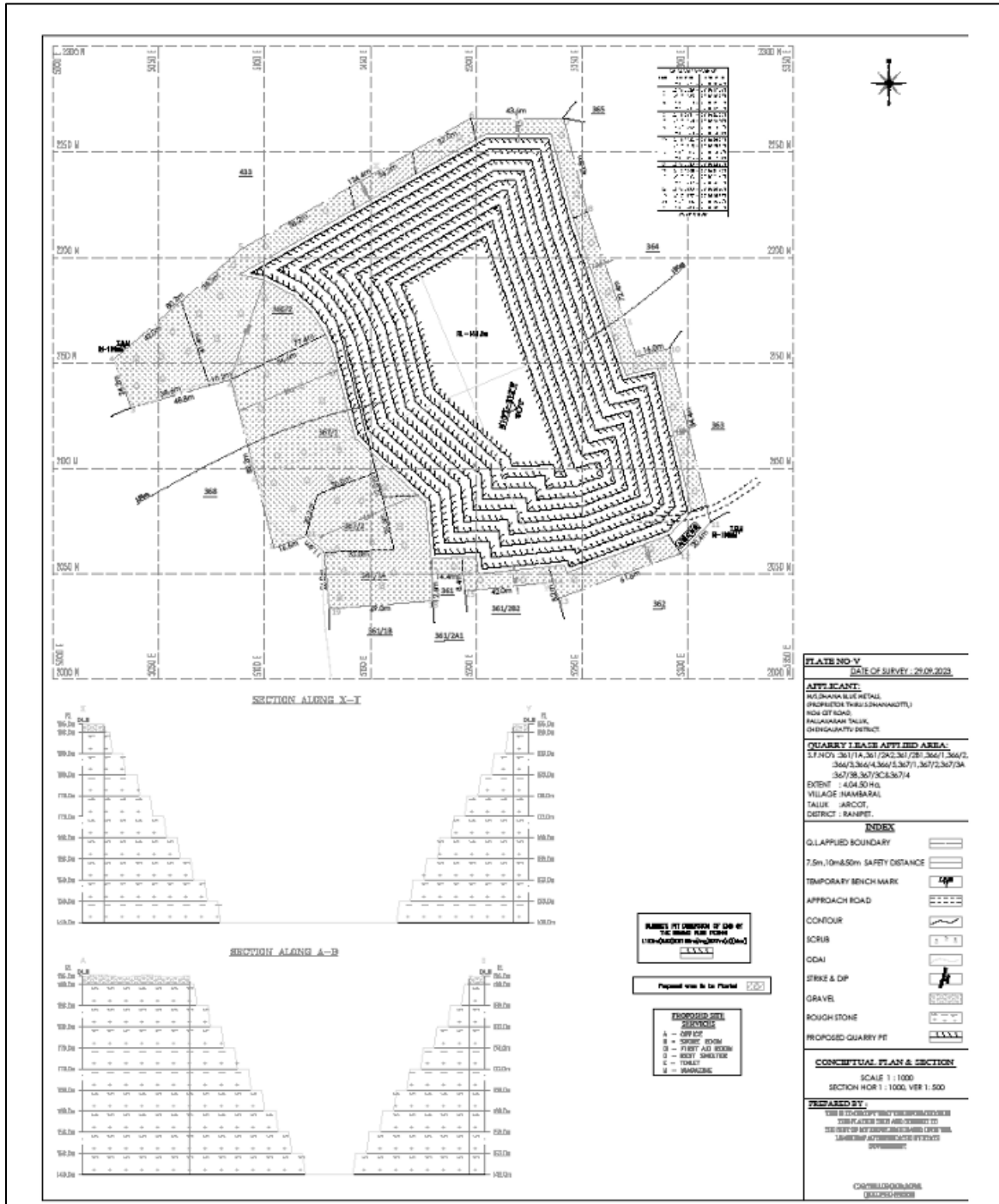
During conceptual stage the mined-out area will be converted into water reservoir and safety zone as well as upper benches will be used for plantation at the conceptual period. It will also serve the purpose as socio economic and corporate social responsibility of the lessee by way of supplying water for irrigation purpose or at will of the local people. This will help in ground water recharging as well. The conceptual plan and section of mine lease area is given in Figure 2.12. Ultimate extent and size of the quarry at the conceptual stage is given below as Table 2.9 and Land Use pattern is given as Table 2.10. The conceptual plan is given as Figure 2.12.

<b>TABLE 2.9 Ultimate Pit Dimension</b>			
<b>Pit No.</b>	<b>Length (max) (m)</b>	<b>Width (Avg) (m)</b>	<b>Depth (max) (m)</b>
I	192	131	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)

<b>TABLE 2.10 Land Use at Mine Closure Stage</b>		
<b>S. No.</b>	<b>Land Use</b>	<b>Area in use during the quarrying period (Ha)</b>
1	Area left for water body	2.52.00
2	Green Belt	1.49.50
3	Remaining area	0.03.0
<b>Total</b>		<b>4.04.50</b>

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**FIGURE 2.12 CONCEPTUAL PLAN**



Green belt development plan is proposed for the 5 year period.

S.No.	Year	Species	No. of trees	Spacing	Survival
1	I	Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc.,	1700	3m x 3m	85%
2	II		-		
3	III		-		
4	IV		-		
5	V		-		
<b>Total</b>			<b>1700</b>		

## **2.22 TECHNOLOGY AND PROCESS DESCRIPTION**

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 45° slope using conventional opencast semi-Mechanized method.
- The quarry operation involves splitting of rock mass of considerable volume from the parent rock by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone & Gravel from pithead to the needy customers.
- Occasionally hydraulic excavator is attached with rock breakers for fragmentation to avoid secondary blasting.

## **2.23 PROJECT REQUIREMENTS**

<b>TABLE 2.11 Project Requirements</b>		
S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 8 KLD which will be procured from the outside agencies. Out of 8 KLD, drinking water requirement is 3.0 KLD, Green belt development is 3.0 KLD and for dust suppression is 2.0 KLD.
2	Power requirement	No electricity is needed for mining operations.
3	Manpower requirement	Total Manpower 30 Nos. Permanent employee – 20, Temporary employee – 10
4	Financial requirement	The total Project Cost as per EMP will be INR 1,32,33,000/ including Operational cost, Fixed Asset cost and EMP cost
5	Funds for Socio economic development	INR 10,00,000 is allocated.

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## 2.24 Project Cost

The budget of the project is given below.

<b>TABLE 2.12 Budget of the Project</b>		
<b>S.No.</b>	<b>Details</b>	<b>Cost (in INR)</b>
<b>FIXED ASSET COST</b>		
1	Land cost	39,63,000
2	First aid room and accessories	1,00,000
3	Labour Shed	1,00,000
4	Sanitary Facility	1,00,000
<b>TOTAL</b>		<b>42,63,000</b>
<b>OPERATIONAL COST</b>		
1	Machineries	80,00,000
2	Fencing cost	2,50,000
<b>TOTAL</b>		<b>82,50,000</b>
<b>EMP COST</b>		
1	Air Quality Sampling	10,55,000
2	Water Quality Sampling	2,40,000
3	Noise Monitoring	50,000
4	Implementation of EC, Mining Plan & DGMS Condition	17,25,000
5	Afforestation	4,30,000
6	Additional Key EMP Expenses	5,50,000
<b>TOTAL</b>		<b>40,51,000/-</b>





## **CHAPTER 3**

### **DESCRIPTION OF THE ENVIRONMENT**

#### **3.1. DESCRIPTION OF THE STUDY AREA**

The project area is located in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State over an extent of 4.04.50 Ha. The project area is considered as Core zone and the area in the surrounding 10km radius is considered as Buffer Zone. The baseline environmental monitoring was conducted by Shrient Analytical & Research Labs Private Limited, Chennai it is an NABL and MOEF recognized laboratory for various components of environment, viz. Air, Noise, Water, Land was carried out during winter season (February to April 2024) in the study area covering 10 km radial distance from the rough stone mine. Other environmental data on flora and fauna, land-use pattern, forest etc. were also generated through field surveys and secondary information collected from different State Govt. departments. Sampling methods and analysis. Socio-economic survey was conducted, through interaction with the people, sarpanch and medical officers by floating questionnaires and collection of information are supported by census data for demographic structures, amenities, and infrastructure availability within the study area. Baseline values for various environmental components are discussed in this Chapter.

The components included are:

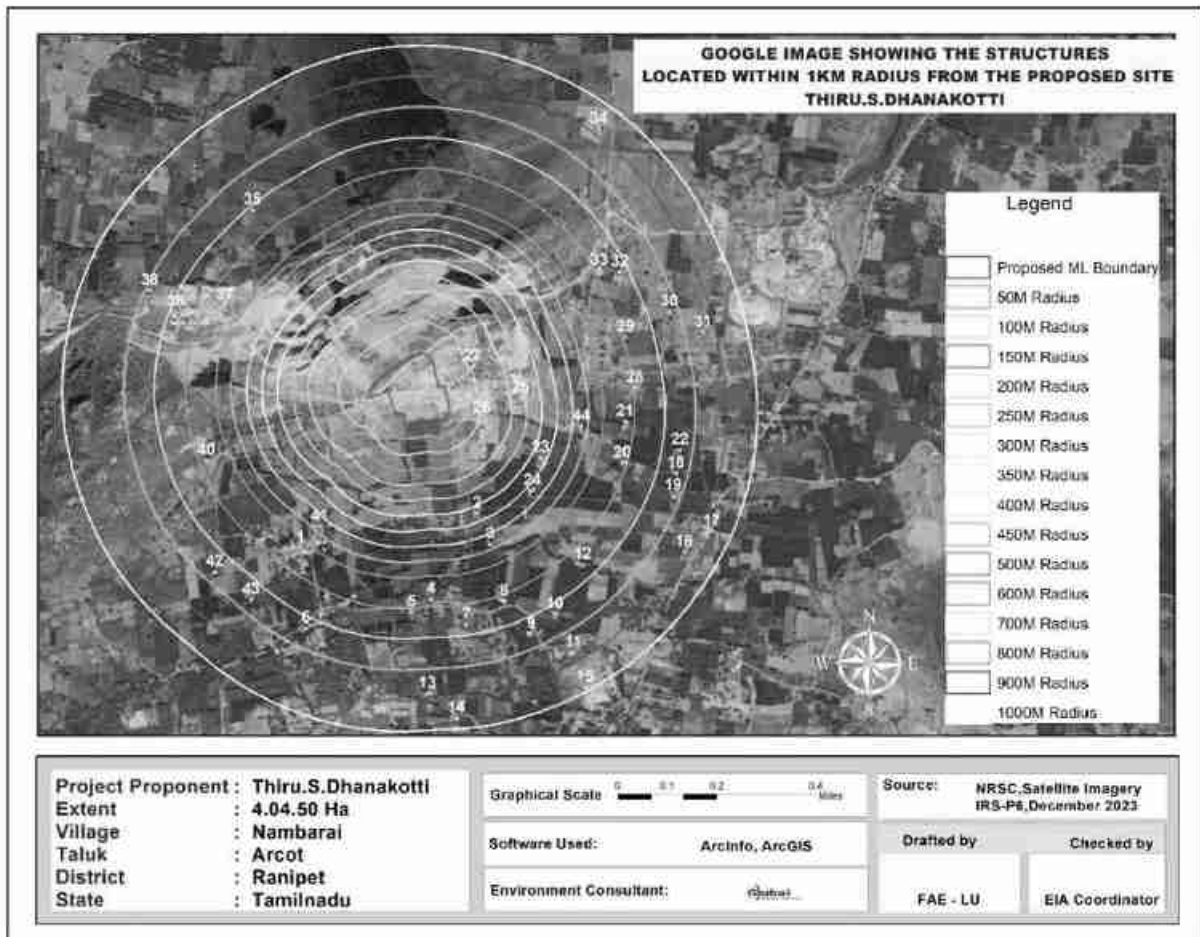
- Meteorological environment
- Air environment
- Water environment
- Noise environment
- Soil environment
- Biological environment
- Land use
- Socio economic environment
- Hydrogeology

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**3.2. ENUMERATION OF THE STRUCTURES LOCATED WITHIN 1KM RADIUS FROM THE PROPOSED QUARRY SITE**

A site survey has been conducted to identify and list structures located within a 1km radius from the proposed Quarry and are detailed below. There are 44 nos of structures located within a 1km radius from the project site. The PP has obtained a letter from Village Administrative Office (VAO), Nambarai stating that there are no structures situated within 1 km radius.

**FIG 3.1 GOOGLE MAP SHOWING 50M INTERVAL FOR 1KM RADIUS FROM THE LEASE AREA**



### 3.3. DESCRIPTION OF ENVIRONMENT IN THE STUDY AREA

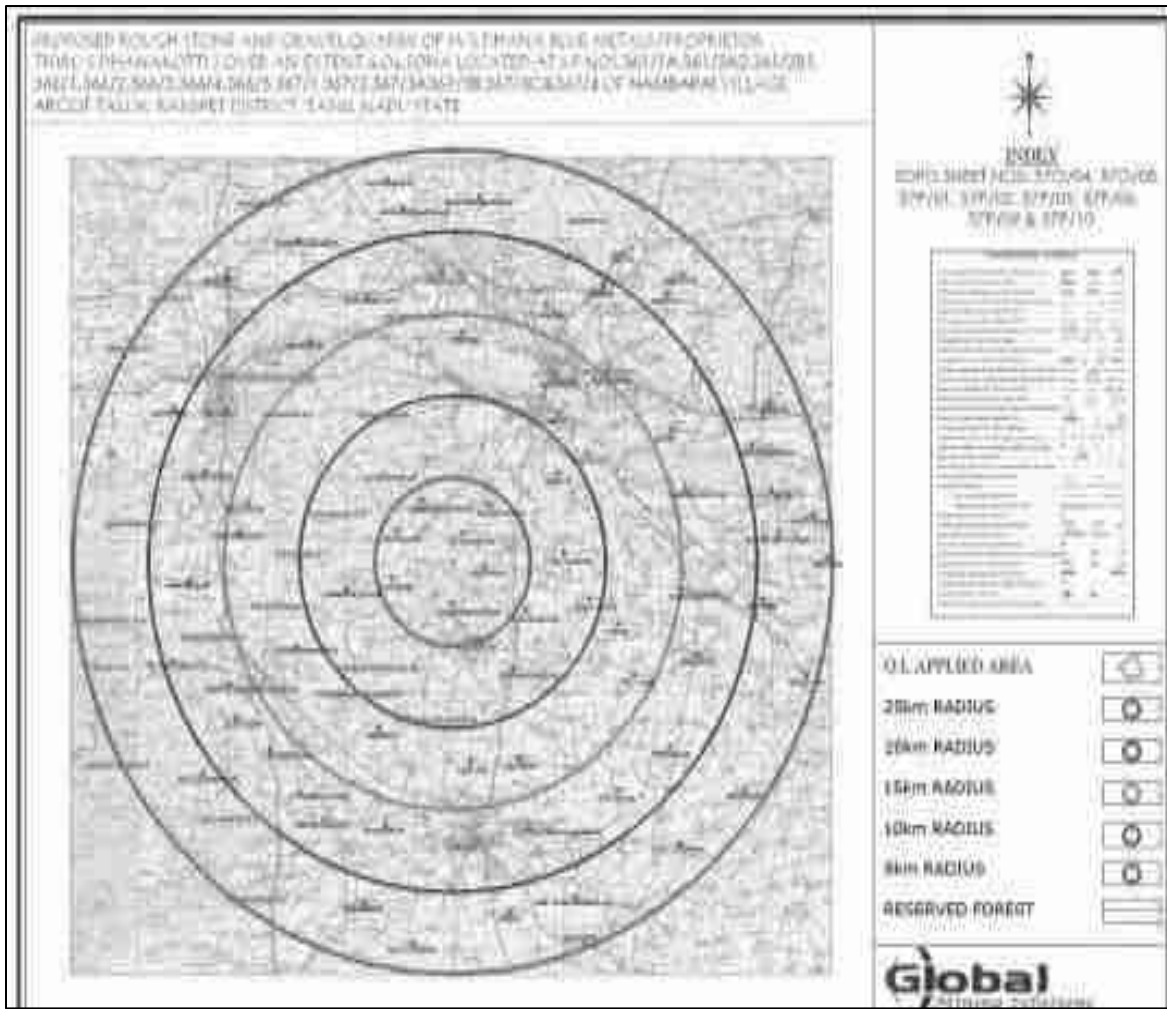
Table 3.1 Description of the lease area				
S.No.	Areas	Distance from project site		
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius		
2	Areas which are important or sensitive for ecological reasons			
A	Wetlands, water courses or other water bodies,	<b>Water bodies</b>	<b>Distance (Km)</b>	<b>Direction</b>
		Timiri Lake	2.9	NE
		Palayanur Big Lake	6.2	NE
		Kilpadi Lake	7.42	NE
		Punnapadi ake	6.4	E
		Shri Gokul krishna lake	4.62	SE
		Pachayamma n Temple Lake	4.71	S
		Ponniyamman Temple Lake	3.16	W
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests	Kannamangalam RF-7.8km (W) Punganur RF-8.5 KM (NW)		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 15km radius		
4	Inland, coastal, marine or underground waters	Nil within 15km radius		
5	State, National boundaries	Nil within 15km radius		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 15km radius		
7	Defense installations	Nil within 15km radius		
8	Densely populated or built-up area	Timiri – 2.5 km in S		

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9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Timiri – 2.5 km in S
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.

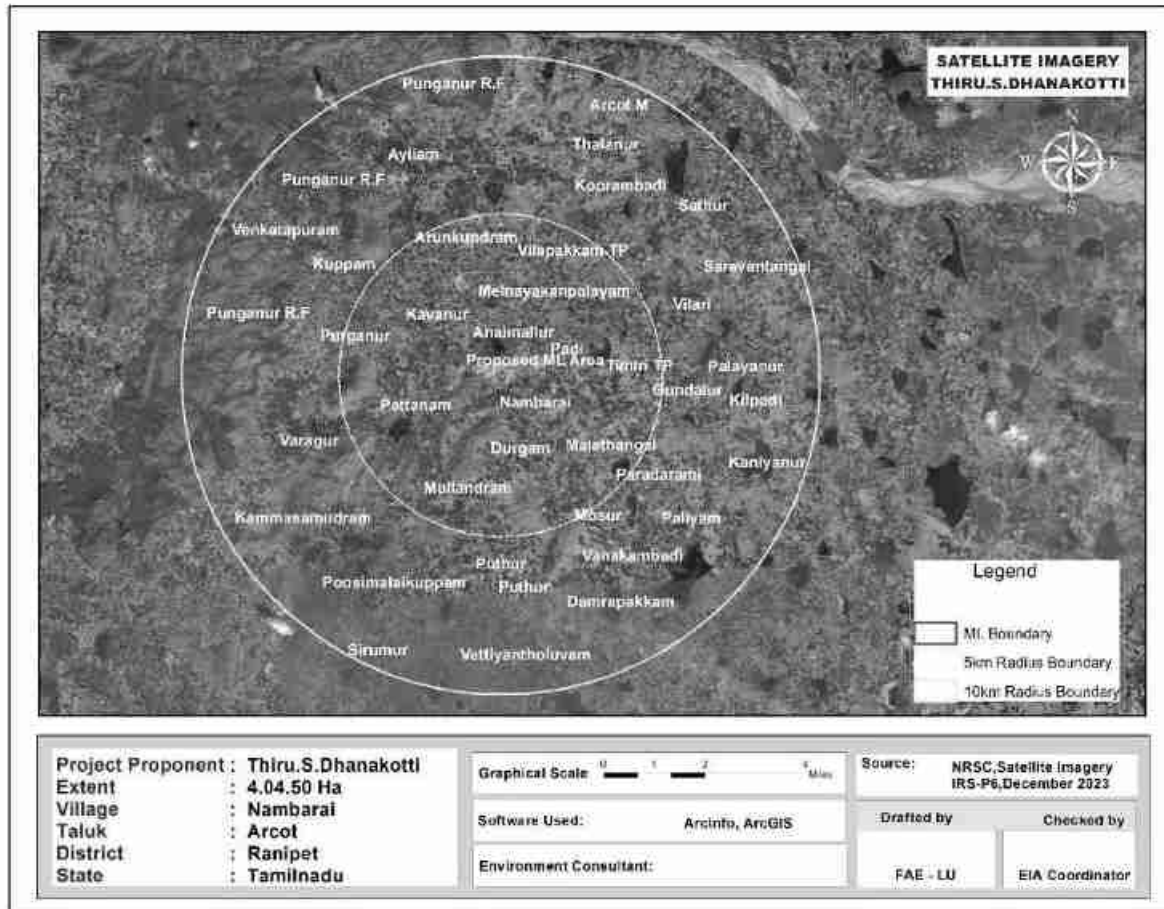
**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.2 TOPO MAP OF THE PROJECT 10 KM RADIUS**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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



### 3.4. METEOROLOGICAL ENVIRONMENT

#### 3.4.1 Meteorological conditions prevailing in the buffer zone is given below

##### Climate

The climate of Ranipet District is tropical. The period from the weather is pleasant during the period from November to January. The temperature of the area is reported to be 18<sup>0C</sup> to a maximum of 42<sup>0C</sup> during summer.

## **Rainfall**

Ranipet district generally experiences hot and humid climate conditions. The district receives rain under the influence of both southwest and northeast monsoons. Most of the precipitation occurs in the form of cyclonic storm caused due to depressions in Bay of Bengal chiefly during NE monsoon period. The SW monsoon is highly erratic and summer rains are negligible. During the period from February to April Rainfall of this area is about 800 mm to 900 mm during the both NE & SW monsoons. The excess rainfall is 192% (Source: Mausam.imd.gov.in)

Rainfall received from 2017 to 2021 is given below.

<b>Table 3.2 Rainfall data</b>					
<b>Actual Rainfall in mm</b>					<b>Normal rainfall in mm</b>
<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	
1251.3	799.2	1071.9	1034.5	1592.2	985

## **Relative Humidity**

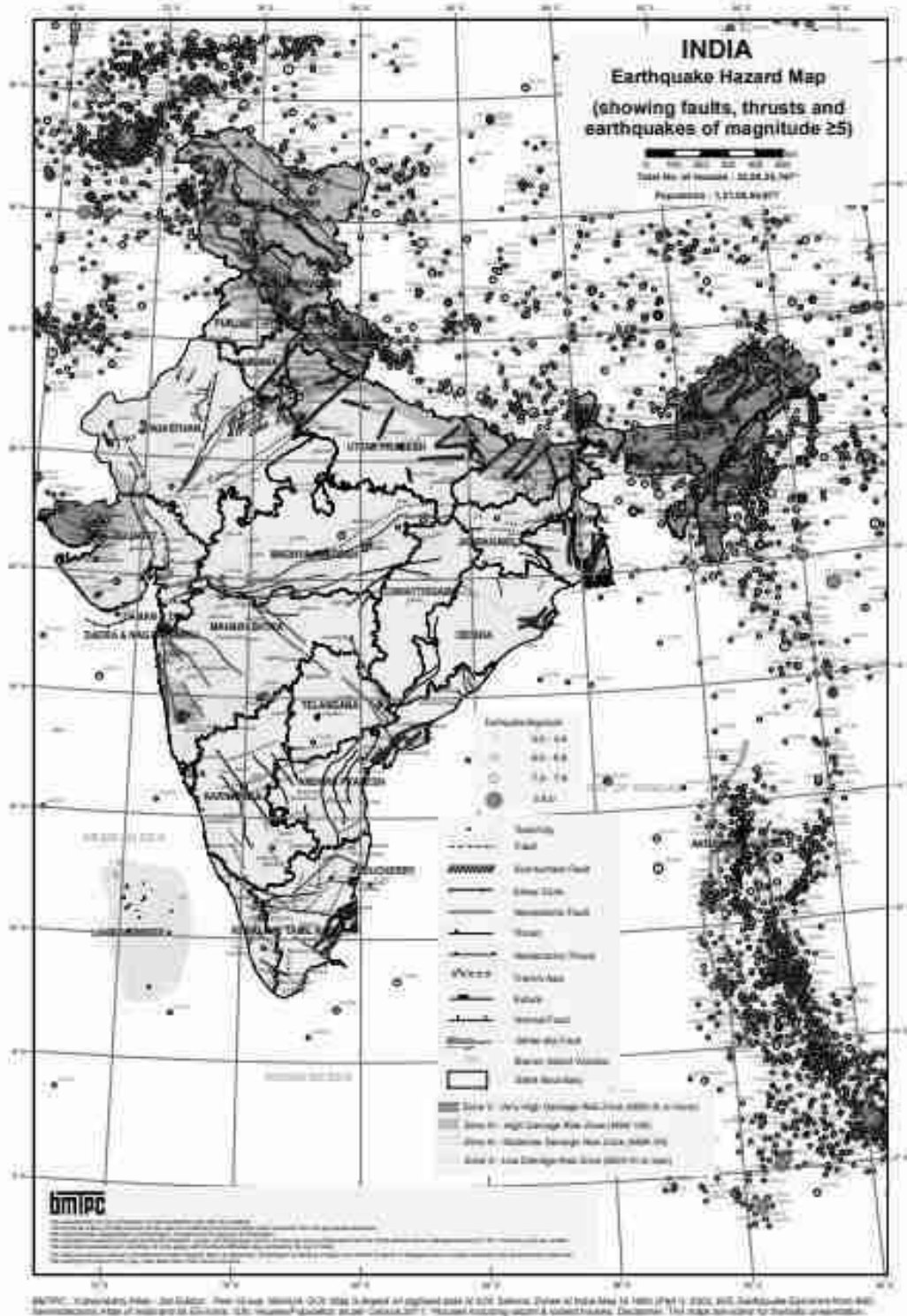
High relative humidities between 58% and 84% prevail throughout the year. Relative humidity is maximum in the morning and minimum in the evening.

## **Seismic information**

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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

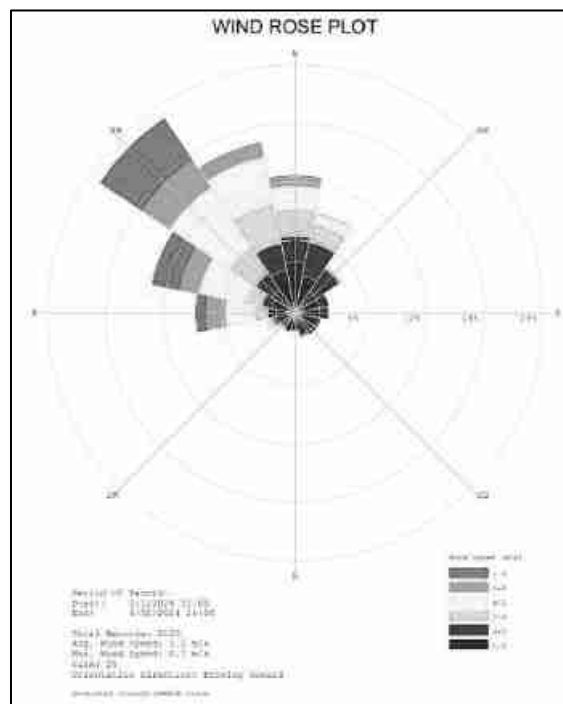
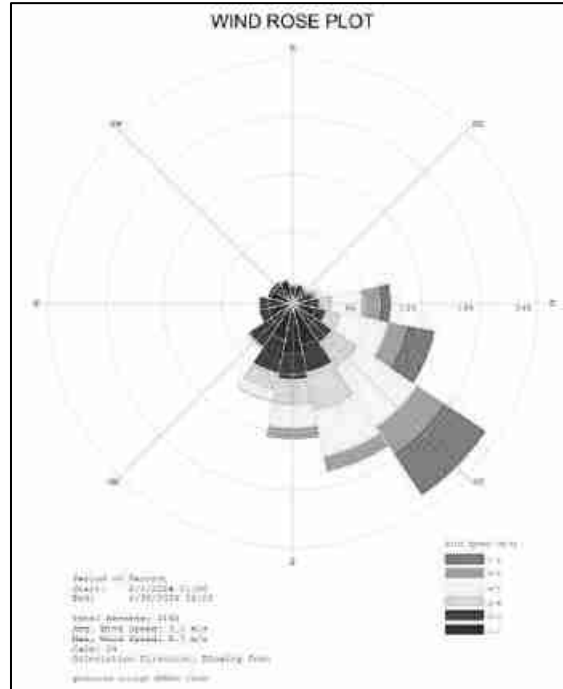
**FIG 3.3 SEISMIC MAP OF INDIA**





**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.4 WIND ROSE PLOT DURING FEB TO APRIL 2024**  
**WINDROSE FLOWING FROM**



**WINDROSE FLOWING TOWARDS**

### **Meteorological data of the project area**

The meteorological data collected in the study area from February 2024 to April 2024 which includes Temperature, Wind speed, Wind direction and Relative humidity. The predominant wind blows from West. Temperature range was from 18<sup>0</sup>C to a maximum of 42<sup>0</sup>C during summer.

### **3.5. AMBIENT AIR MONITORING DATA**

Ambient air quality monitoring has been carried out in 6 locations. One in the core zone and remaining four locations in the buffer zone areas. Monitoring locations have been chosen such that the measurement represents the overall air condition prevailing in the area. The study area represents mostly rural environment with stone mining quarries & crushers.

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

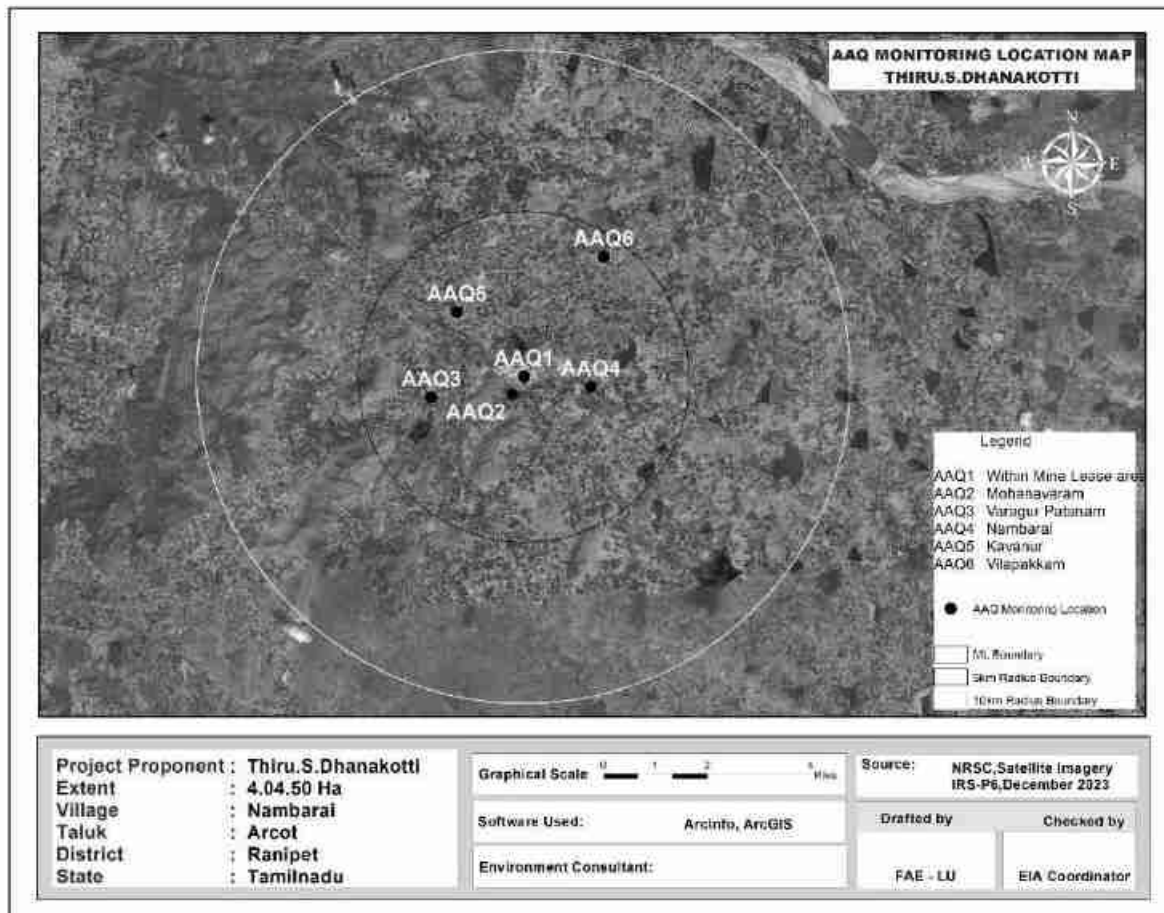
The levels of Respirable Particulate Matter (PM<sub>10</sub>), Fine Particulates (PM<sub>2.5</sub>), Sulphur Dioxide (SO<sub>2</sub>) and Oxides of Nitrogen (NO<sub>x</sub>) were monitored for establishing the baseline status. PM<sub>10</sub> were sampled with the help of Respirable Dust Samplers on filter papers and SO<sub>2</sub> & NO<sub>x</sub> were absorbed in the respective absorption media in the impingers attached to RD samplers and analyzed Spectro-photometrically. PM<sub>2.5</sub> was monitored with the help of Fine Particulate Samplers. The monitoring locations for ambient air study are given in Table – 3.3 and Figure 3.5 below.

<b>TABLE 3.3: DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS</b>				
<b>S. No.</b>	<b>Station Code</b>	<b>Locations</b>	<b>Distance &amp; Direction</b>	<b>Coordinates</b>
1	AAQ1	Within Mine Lease area	Core Zone	12°49'15.65"N & 79°16'20.66"E
2	AAQ2	Mohanavaram	0.54 km, S	12°48'56.00"N & 79°16'7.44"E

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

<b>TABLE 3.3: DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS</b>				
<b>S. No.</b>	<b>Station Code</b>	<b>Locations</b>	<b>Distance &amp; Direction</b>	<b>Coordinates</b>
3	AAQ3	Varagur Patanam	2.79 km, SW	12°48'55.75"N & 79°14'45.06"E
4	AAQ4	Nambarai	2.00 km, N	12°49'4.08"N & 79°17'29.1"E
5	AAQ5	Kavanur	2.77 km, NW	12°50'21.37"N & 79°15'12.28"E
6	AAQ6	Vilapakkam	4.36 km N	12°51'14.39"N & 79°17'46.16"E

**FIG 3.5 AMBIENT AIR MONITORING LOCATIONS**



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

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

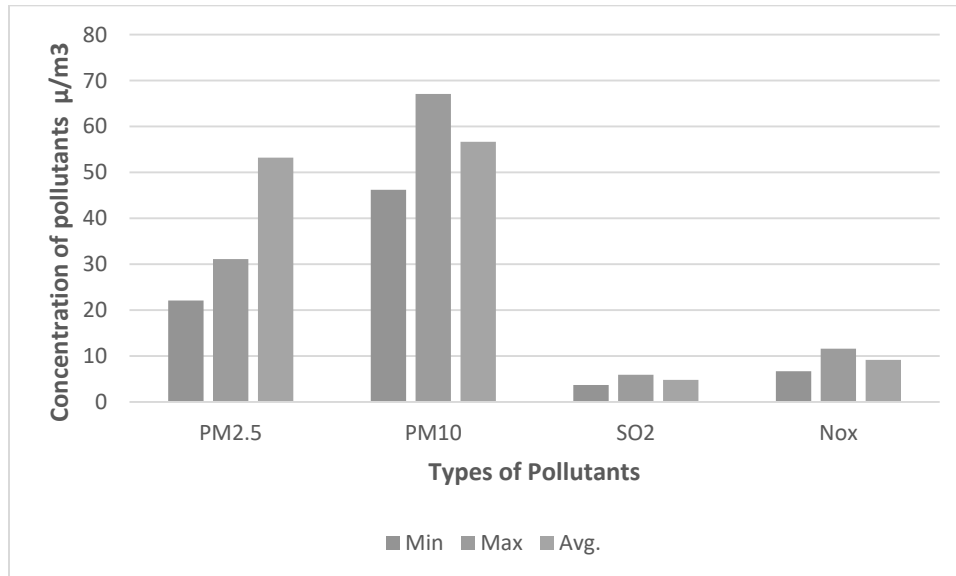
**Table.3.4 Results of Air sampling Analysis in 6 locations**

Station ID	Min	Max	Avg.
<b>Particulate matter PM-2.5 (<math>\mu\text{g}/\text{m}^3</math>)</b>			
AAQ-1	22.1	31.1	53.20
AAQ-2	22.7	27.3	25.00
AAQ-3	19.9	30.8	25.35
AAQ-4	22.1	28.4	25.25
AAQ-5	20.1	23.9	22.00
AAQ-6	21.3	25.7	23.50
<b>CPCB NAAQS 2009 for PM<sub>2.5</sub> - 60 <math>\mu\text{g}/\text{m}^3</math></b>			
<b>Particulate matter PM-10 (<math>\mu\text{g}/\text{m}^3</math>)</b>			
AAQ-1	46.2	67.1	56.65
AAQ-2	48.1	61.8	54.95
AAQ-3	42.2	55.4	48.80
AAQ-4	46.8	60.9	53.85
AAQ-5	44.2	53.6	48.90
AAQ-6	45.4	57.2	51.30
<b>CPCB NAAQS 2009 for PM<sub>10</sub> - 100 <math>\mu\text{g}/\text{m}^3</math></b>			
<b>Sulphur Di-oxide as SO<sub>2</sub> (<math>\mu\text{g}/\text{m}^3</math>)</b>			
AAQ-1	3.7	5.9	4.80
AAQ-2	3.4	5.7	4.55
AAQ-3	4.4	5.8	5.10
AAQ-4	3.5	5.6	4.55
AAQ-5	3.1	4.6	3.85
AAQ-6	3.4	5.6	4.50
<b>CPCB NAAQS 2009 for SO<sub>2</sub> - 80 <math>\mu\text{g}/\text{m}^3</math></b>			
<b>Oxide of Nitrogen as NO<sub>2</sub> (<math>\mu\text{g}/\text{m}^3</math>)</b>			
AAQ-1	6.7	11.6	9.15
AAQ-2	6.7	8.4	7.55
AAQ-3	8.1	10.5	9.30
AAQ-4	6.2	11.8	9.00
AAQ-5	5.8	12.3	9.05
AAQ-6	6.1	13.1	9.60
<b>CPCB NAAQS 2009 for NO<sub>2</sub> - 80 <math>\mu\text{g}/\text{m}^3</math></b>			

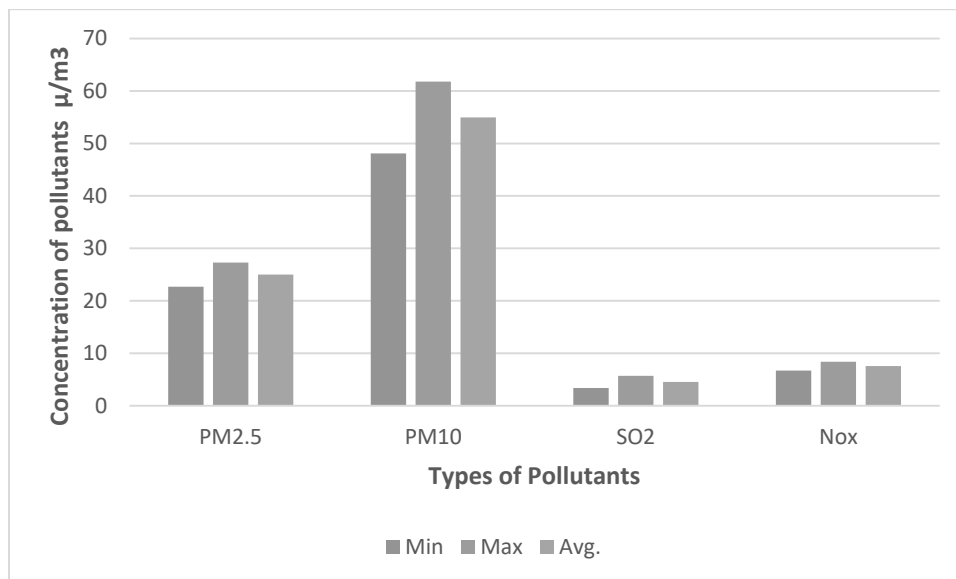
The results are summarized in graph and given as below Fig. 3.6 – 3.10.a

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIG 3.6 AMBIENT AIR QUALITY DATA A1 - MINE LEASE AREA**

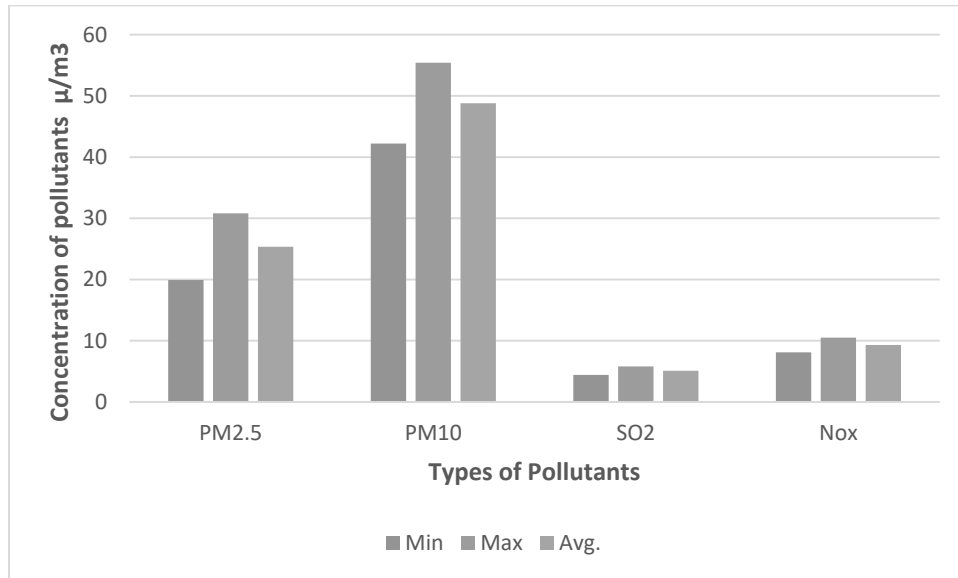


**FIG 3.7 AMBIENT AIR QUALITY DATA A2 - MOHANAVARAM VILLAGE**

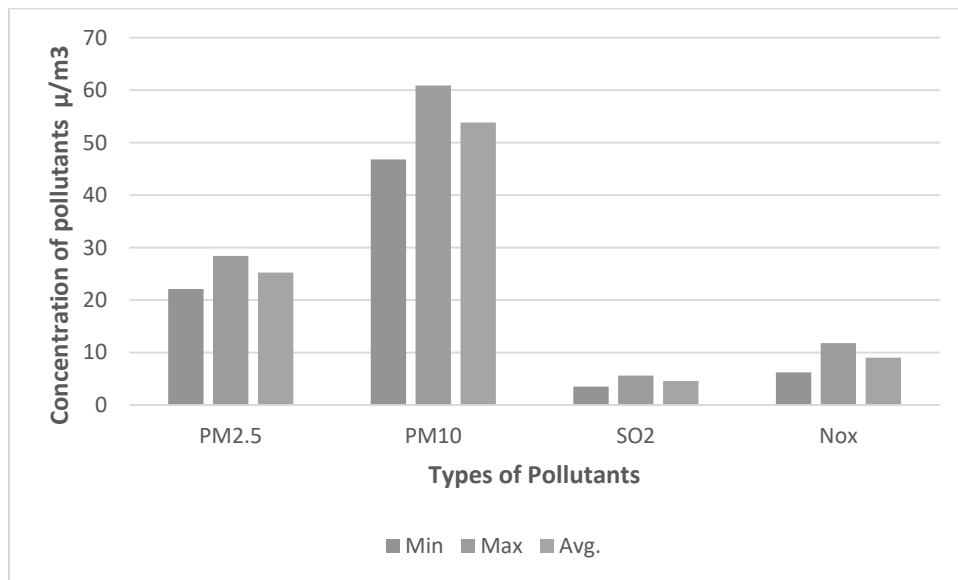


**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.8 AMBIENT AIR QUALITY DATA A3 - VARAGUR PATANAM VILLAGE**

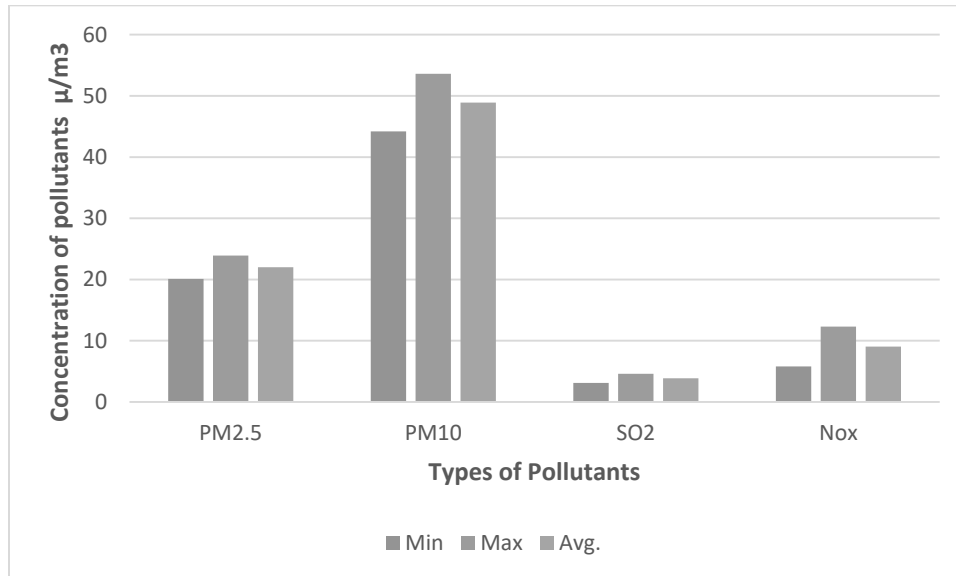


**FIG 3.9 AMBIENT AIR QUALITY DATA A4 - NAMBARAI VILLAGE**

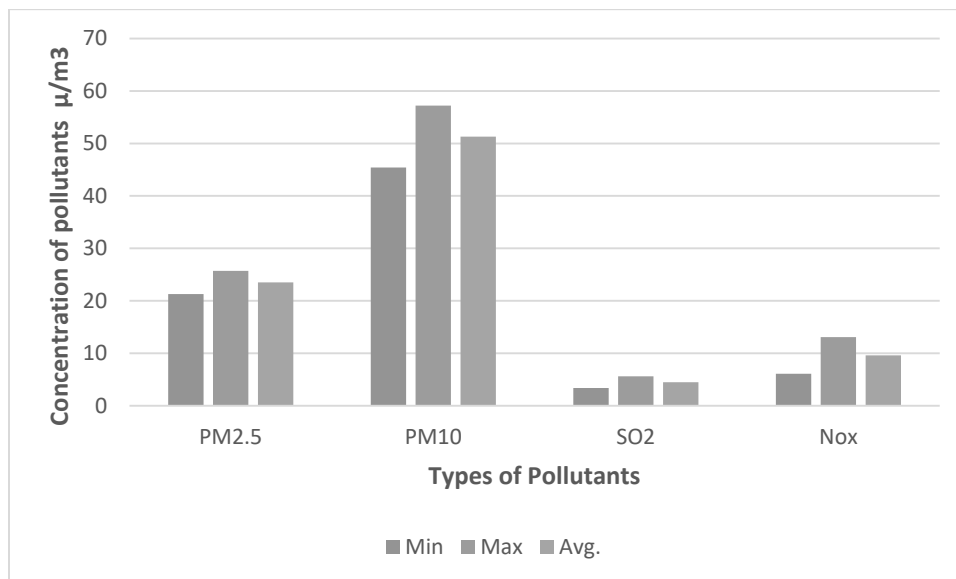


**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.10 AMBIENT AIR QUALITY DATA A5 - KAVANUR VILLAGE**



**FIG 3.10a AMBIENT AIR QUALITY DATA A6 - VILAPAKKAM VILLAGE**



From the above results, it is observed that the ambient air quality with respect to PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>2</sub> at all the monitoring locations was within the permissible limits specified by CPCB.

### **3.6. WATER ENVIRONMENT**

Assessment of baseline data on water environment includes:

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

#### **3.6.1 Surface Water**

There is Timiri Lake is located at a distance of 2.9 km in north Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of lease area. The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater. The prevailing status of surface water quality has been assessed during the study period. Surface water quality locations and results are provided in Table 3-14 and Figure 3.11.

#### **3.6.2 Ground Water**

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



### 3.6.3 Sampling Locations

Two (2) surface water samples and six (6) ground water samples were collected from the study area and were analyzed for physio-chemical, heavy metals and bacteriological parameters in order to assess the effect of mining and other activities on water bodies. The samples were analyzed as per the procedures specified by CPCB, IS-10500:2012. The water sampling locations are given in Table 3.6 and shown as Figure 3.11.

The monitoring locations were selected based on:

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

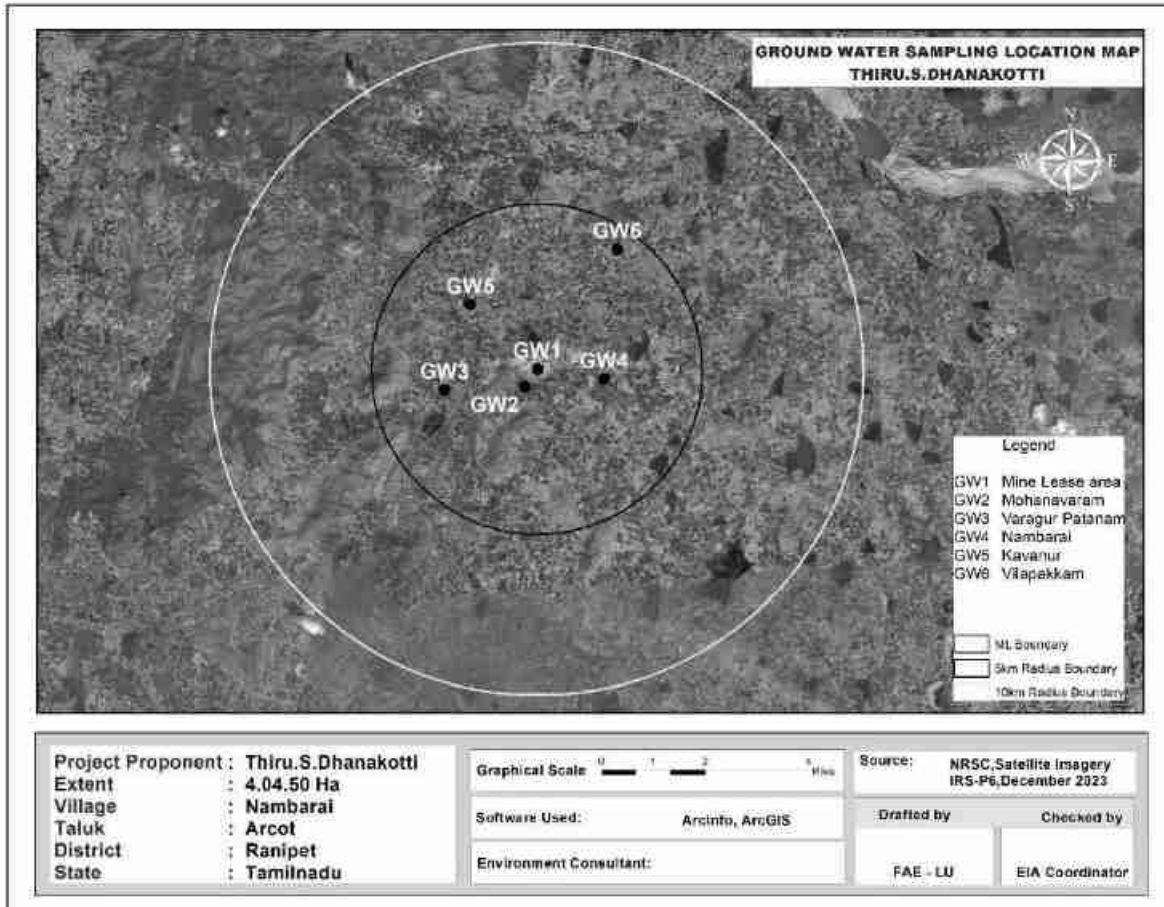
Water bodies nearby

**Table 3.5 Water Sampling Locations**

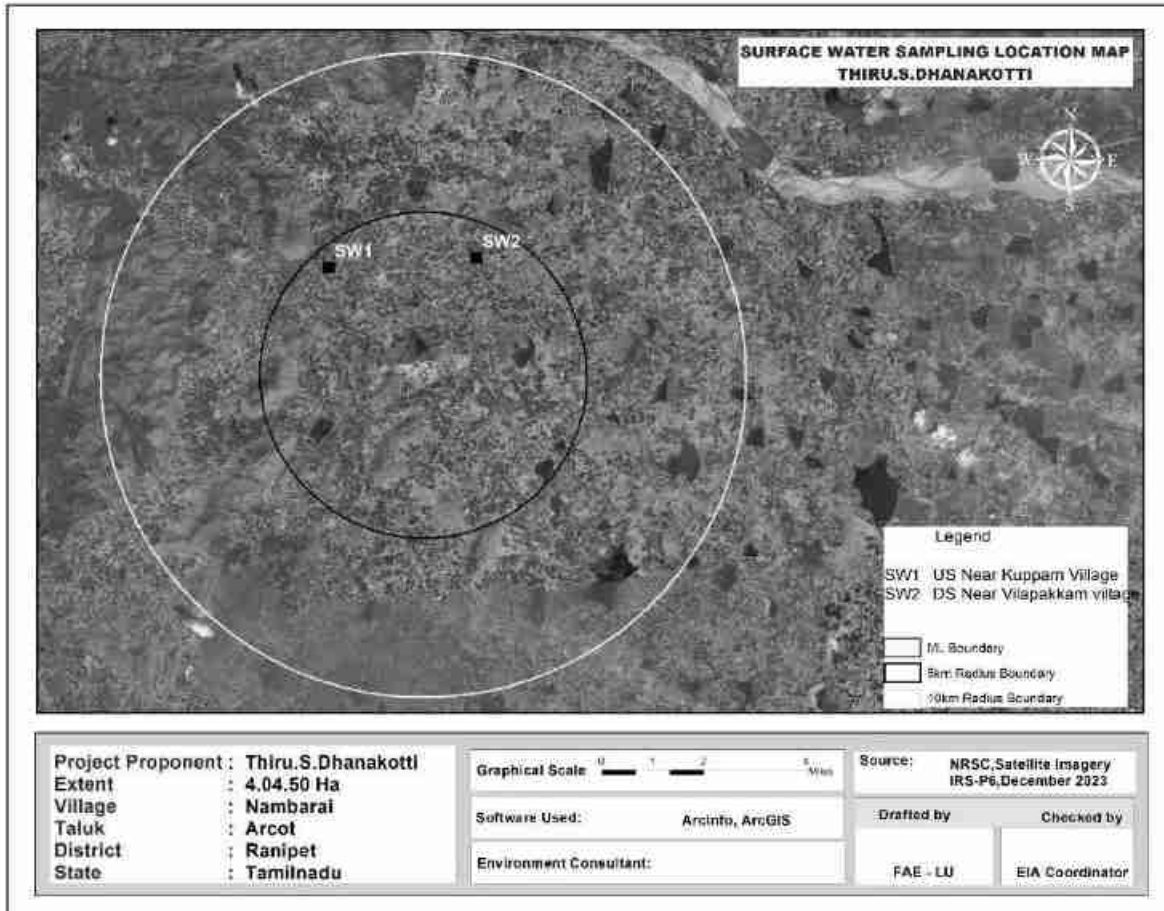
S.NO	Location Code	Monitoring Locations	Latitude and longitude
<b>Surface Water</b>			
1	SW1	Up- stream near Kuppam Village	12°48'55.62"N & 79°14'45.04" E
2	SW2	Downstream near Vilapakkam village	12°48'55.32"N & 79°14'45.41" E
<b>Ground Water</b>			
1	GW1	Within Mine Lease area	12°49'15.65"N & 79°16'20.66" E
2	GW2	Mohanavaram	12°48'56.00"N & 79°16'7.44" E
3	GW3	Varagur Patanam	12°48'55.75"N & 79°14'45.06" E
4	GW4	Nambarai	12°49'4.08"N & 79°17'29.1" E
5	GW5	Kavanur	12°50'21.37"N & 79°15'12.28" E
6	GW6	Vilapakkam	12°51'14.39"N & 79°17'46.16" E

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.11 WATER SAMPLING LOCATION**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**



DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**Table 3.6 Surface Water Analysis Results**

Parameter	Unit	SW1	SW2	Surface water standard s (IS 2296 Class-A)
Odour	-	agreeable	Agreeable	-
Turbidity	NTU	<1	<1	1
pH at 25 °C	-	7.29	7.38	6.5-8.5
Electrical Conductivity	µS/cm	259	372.7	-
Total Dissolved Solids	mg/l	155	226	500
Total Suspended Solids	mg/l	72.4	226	-
Total hardness as CaCO <sub>3</sub>	mg/l	72.4	95.0	300
COD	mg/l	BDL(DL-4.0)	BDL(DL-4.0)	-
Calcium as Ca	mg/l	32.1	43.6	-
Magnesium as Mg	mg/l	9.7	51.5	-
BOD	mg/l	BDL(DL-4.0)	BDL(DL-4.0)	-
Total alkalinity as CaCO <sub>3</sub>	mg/l	94.6	137	-
Chloride as Cl-	mg/l	42.3	48.9	250
Sulphates as SO <sub>4</sub> <sup>2-</sup>	mg/l	20.5	34.6	400
Iron as Fe	mg/l	0.15	0.21	1.0
Nitrate as NO <sub>3</sub>	mg/l	2.36	2.67	20
Fluoride as F	mg/l	0.16	0.19	1.5
Manganese as Mn	mg/l	BDL(D.L-0.05)	BDL(D.L-0.05)	0.5

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

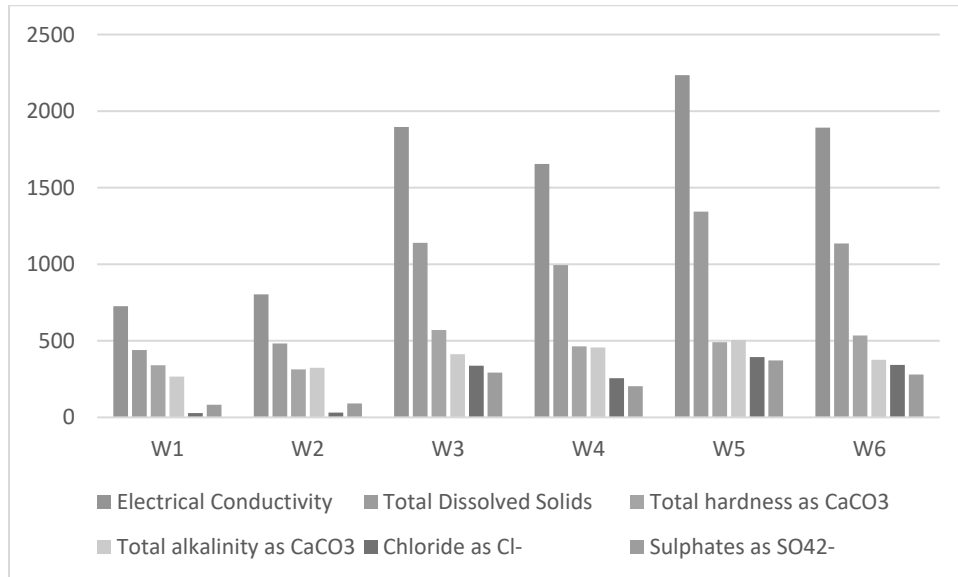
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<b>Table 3.7 Results of Ground Water sampling Analysis in 6 locations</b>							<b>Specification/ Limit (As per IS:10500: 2012 )</b>	
	W1	W2	W3	W4	W5	W6	Desira ble	Permissi ble
Odour	AGREEABLE	AGREEABLE	Agreeable	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	
Turbidity	<1	<1	<1.0	<1	<1	<1	AGREEABLE	
pH at 25 °C	7.69	7.4	7.23	7.22	7.32	6.9	6.5 - 8.5	No Relaxati on
Electrical Conductivity	726.5	803.6	1896	1655	2235	1892	1	5
Total Dissolved Solids	440	482	1140	995	1344	1136	500	2000
Total hardness as CaCO3	341	313	570	463	491	535	1	15
Calcium as Ca	87.1	85.5	96.6	105	101	124	200	600
Magnesium as Mg	29.5	23.8	78.9	48.5	57.0	54.2	200	600
Calcium as CaCO3	218	214	242	261	253	309	75	200
Magnesium as CaCO3	123	99.0	329	202	238	226		
Total alkalinity as CaCO3	267	323	412	457	505	376		
Chloride as Cl-	27.6	31.5	337	256	394	342	250	1000
Free Residual chlorine as Cl-	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	30	100
Sulphates as SO42-	82.3	90.8	292	204	372	280	45	No
Iron as Fe	0.03	0.05	0.05	0.04	0.06	0.07	200	400
Nitrate as NO3	2.36	2.14	3.67	3.98	4.56	3.79	1	No Relaxati on
Fluoride as F	0.15	0.19	0.41	0.24	0.12	0.17	0.1	0.3
Manganese as Mn	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	Not Specifi ed	Not Specifie d

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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

**FIG 3.12 VALUES OF FEW COMMON PARAMETERS IN WATER ANALYSIS**



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

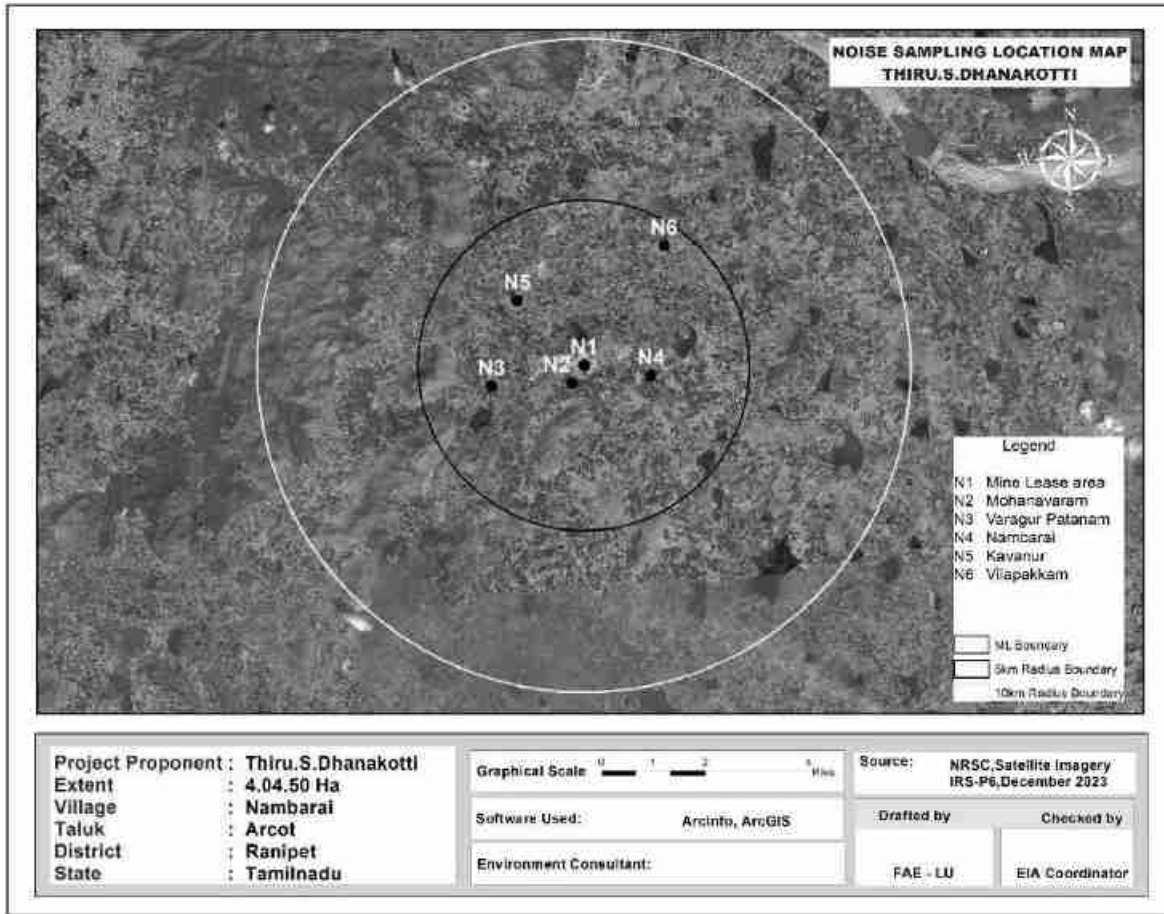
### **3.7. NOISE MONITORING**

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

The noise monitoring locations are given in Fig 3.13

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.13 NOISE MONITORING LOCATIONS**



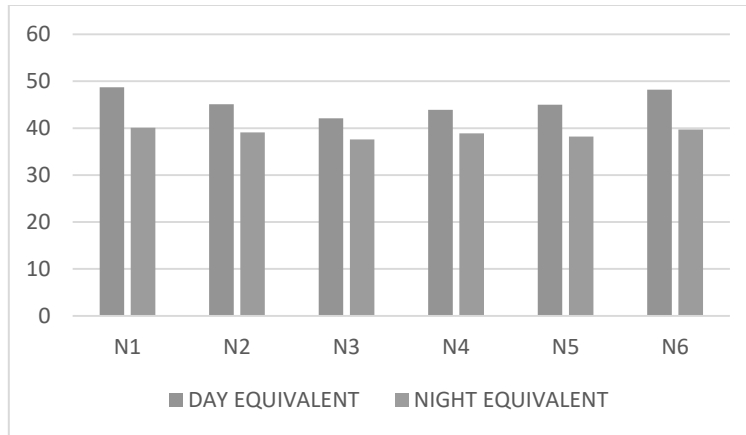
The results are given in Table below.

<b>S. No</b>	<b>Location</b>	<b>Day equivalent</b>	<b>Night equivalent</b>	<b>Day equivalent limits by CPCB</b>	<b>Night equivalent limits by CPCB</b>
1	Within Mine Lease area	48.7	40.1	75	70
2	Mohanavaram	45.1	39.1		
3	Varagur Patanam	42.1	37.6		
4	Nambarai	43.9	38.9		
5	Kavanur	45.0	38.2		
6	Vilapakkam	48.2	39.7		

The results are plotted as below.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.14 DAY AND NIGHT EQUIVALENT VALUES IN 6 LOCATIONS**

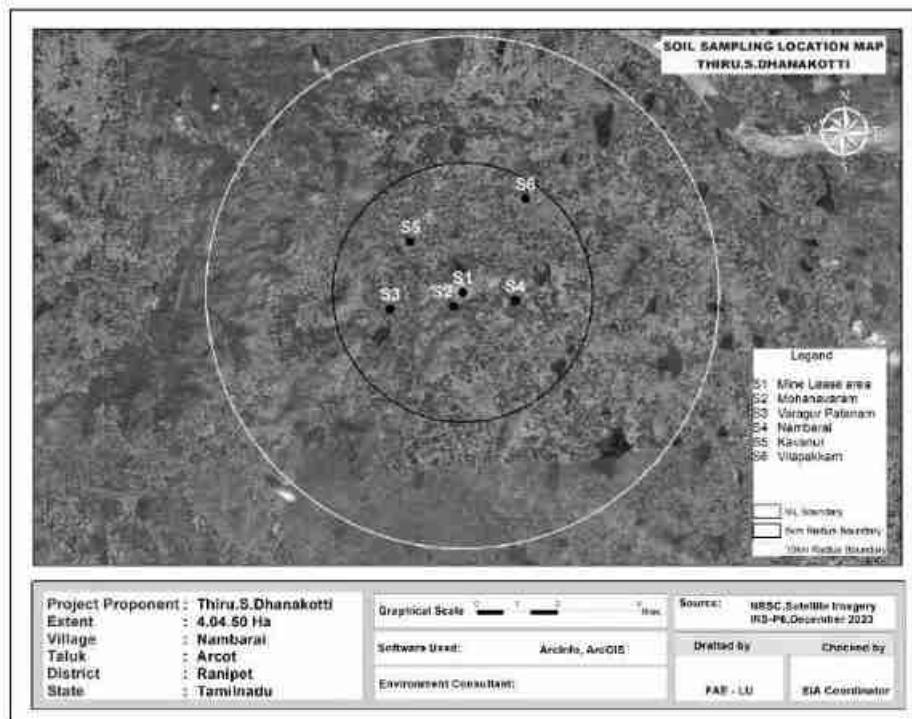


All the values are found to be within CPCB norms.

**3.8. SOIL SAMPLING ANALYSIS**

Soil samples have been collected from the mine lease area and 6 other locations from Within Mine Lease area, Mohanavaram, Varagur Patanam, Nambarai, Kavanur and Vilapakkam village. The locations are shown in figure below.

**FIG 3.15 SOIL SAMPLING LOCATIONS**





**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

The results are summarized in the table below.

<b>Table 3.9 Results of Soil Sample Analysis</b>								
S. No	Parameter	Unit	S1	S2	S3	S4	S5	S6
S. No	Parameter	Unit	Results	Results	Results	Results	Results	Results
1	pH at 25 °C	-	7.62	6.12	7.54	7.28	7.11	7.36
2	Electrical Conductivity	µmhos/cm	62.47	54.89	76.58	104.5	45.68	87.11
3	Dry matter content	%	95.14	96.68	97.04	93.91	95.91	93.55
4	Water Content	%	4.86	3.32	2.96	6.09	4.09	6.45
5	Organic Matter	%	0.87	1.02	0.56	0.73	0.81	1.40
6	Soil texture	-	SILT LOAM	SILT LOAM	LOAM	LOAM	SILT LOAM	LOAM
7	Grain Size Distribution	%	30.56	27.02	44.36	40.58	23.86	45.7
	i. Sand							
8	ii. Silt	%	51.16	61.50	45.42	47.24	57.83	43.82
9	iii. Clay	%	18.28	11.49	10.22	12.18	18.32	10.48
10	Phosphorous as P	mg/kg	0.89	1.63	1.58	2.81	1.53	1.92
11	Sodium as Na	mg/kg	700	674	799	594	831	402
12	Potassium as K	mg/kg	765	733	897	683	959	539
13	Nitrogen and Nitrogenous Compounds	mg/kg	221	329	165	193	249	442
14	Total Soluble Sulphate	%	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)
15	Porosity	%	23.2	25.2	27.4	22.3	29.8	21.5
16	Water Holding Capacity	Inches/foot	3.1	3.4	3.6	2.9	3.8	3.5

### 3.9. BIOLOGICAL ENVIRONMENT

The biological study of the area has been conducted in order to understand the ecological status of the existing flora and fauna to generate baseline information and

evaluate the probable impacts on the biological environment. The details are given below.

### 3.9.1 Flora in the study area

Field survey is done. For measuring the extent of flora present in the study area, the area is divided in to 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Also, data from the State forest department is used. The quadrants used for each type are given below:

#### Core Zone

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

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

#### Buffer zone

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

S.No.	Scientific name	Vernacular/English name	Type of flora
1	Azadirachta indica	Neem	Trees
2	Carica papaya	Papaya	
3	Mangifera indica	Mango	
4	Acacia leucophloea	Velamaram	
5	Acacia nilotica	Karu- velamaram	
6	Moringa oleifera	Murungai	
7	Tamarindus indica	Puli	
8	Tectona grandis	Theku	
9	Manilkara zapota	Sappota	
10	Musa paradisiaca	Valzhlai	
11	Borassus flabelliformis	Panna-maram	
12	Ficus benghalensis	Alamaram	

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13	Ficus religiosa	Arasamaram	Shrubs
14	Phyllanthus emblica	Nelli	
15	Calotropis gigantea	Yerukku	
16	Cassia auriculata	Aavarai	
17	Ricinus communis	Aamanakku	
18	Tecoma stans	Arali	
19	Aloe vera	Kathalai	Herbs
20	Catharanthus roseus	Nithyakalyani	
21	Acalypha indica	Kuppaimeni	Climbers
22	Coccinia grandis	Kovai	
23	Cissus quadrangularis	Pirandai	
24	Jasminum angustifolium	malli	
25	Ziziphus oenoplia	Ilandai	Grasses
26	Cymbopogon	Kanam	
27	Cyperus rotundus	Kora grass	
28	Cynodon dactylon	Arugu	

### 3.9.2 Fauna in the study area

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

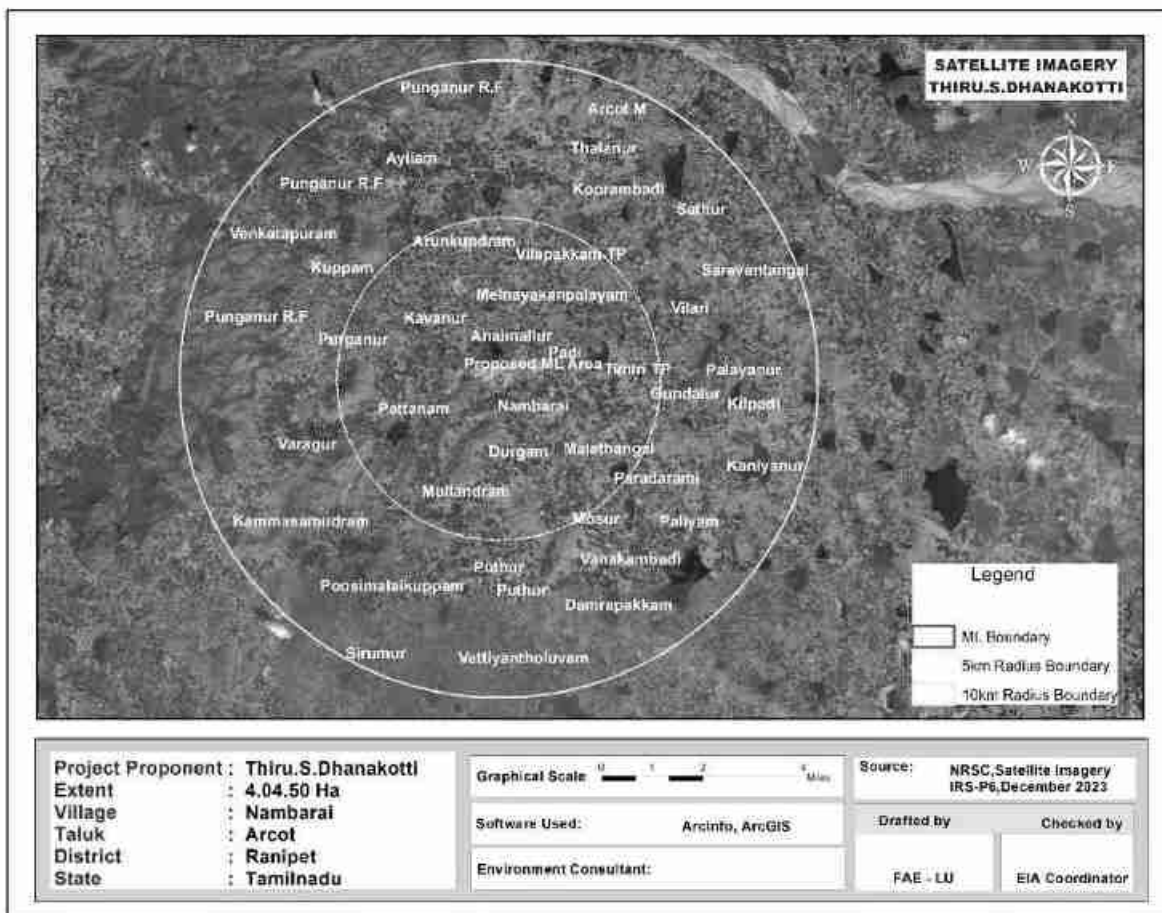
S.No.	Scientific name	Common name	Type of fauna	Schedule to which the species belong
1	Canis familiaris	Common dog	Mammals	IV
2	Felis catus domesticus	Domestic cat		IV
3	Golunda ellioti	Indian bush rat		IV
4	Funambus palmarum	Squirrel		IV
5	Lepus nigricollis	Indian hare		IV
6	Bos indicus	Domestic cow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

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

### 3.10. LAND USE

#### Remote Sensing Satellite Data Used for the Study

For Land-use and land cover study, sensing satellite data of Geo EYE has been used. A land use map showing 10 Km radial distance. The geographical coordinates of the project are Latitude 12°49'11.77"N to 12°49'19.36"N & Longitude 79°16'15.96"E to 79°16'25.31"E.



**Figure No. 3.16: Remote Sensing Satellite Image**

Selection of remote sensing satellite image (RSI) is on the availability of cloud free data and interpretability of predominant landuse and land cover (LULC) category. The examination of satellite data showed that the region is always covered by clouds with lesser percentage during summer due to cluster habitation. But rained crops are

cultivated during southwest monsoon and hence a data acquired during first onset of precipitation is preferred so as to delineate crop and fallow land parcels of agricultural category.

Delineation of scrub land is also possible since land with scrub could be easily distinguished from crop vegetation and separated. This may be an arduous task during monsoon since the entire area would be witnessed with sudden sprout of lush natural vegetation, mostly *prosopis*, with first onset of precipitation.

### **Methodology Adopted for the Land Use Study**

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

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

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

Using the image elements such as color, tone, texture, size, shape and associated elements various landuse units are delineated following the categorization and nomenclature adopted for the national level landuse classification system as recommended by National Remote Sensing Centre (NRSC), Department of Space, Government of India.

**Field Verification:**

Field verification involved collection, verification and record of the different surface features that create specific spectral signatures / image expressions on FCC. In the study area, doubtful areas identified in course of interpretation of imagery is systematically listed and transferred on to the corresponding SOI topographical maps for ground verification. In addition to these, traverse routes were planned with reference to SOI topographical maps to verify interpreted LU/LC classes in such a manner that all the different classes are covered by at least 8 sampling areas, evenly distributed in the area. Ground truth details involving LU/LC classes and other ancillary information about crop growth stage, exposed soils, landform, nature and type of land degradation are recorded and the different land use classes are taken the Land use map.

**Table No.3.13: Major Landuse Units of the Study Area**

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

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

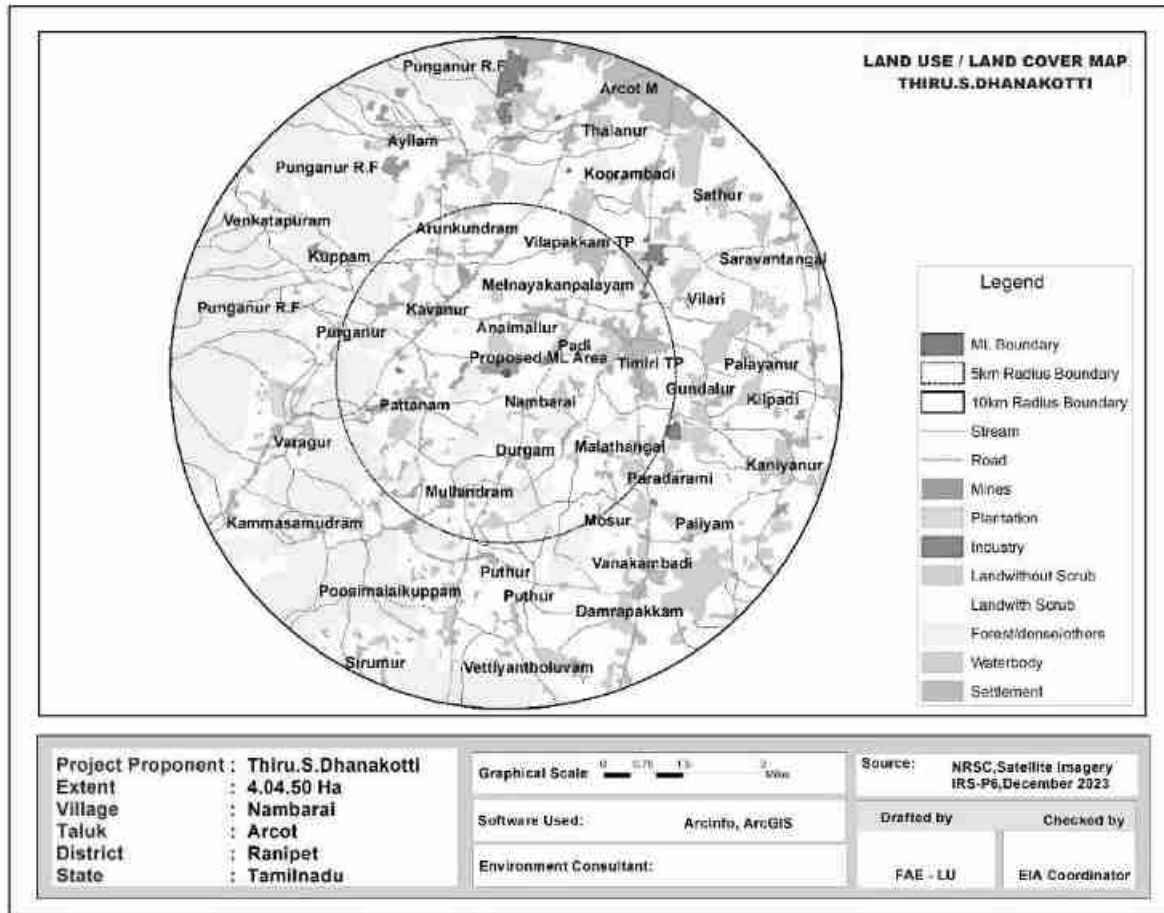
The existing land use pattern and land cover distribution of the whole acquired block, have been studied from the satellite imagery and subsequent ground checking during the field surveys.

It mainly comprises of agricultural land with bi-annual crops of Kharif (Kharif: Jowar, Bajra, Cotton, etc. Season: July to October) and Rabi (Rabi: Wheat, Rai etc. Season: December to March). The presence of the agricultural land is followed by few dense settlements Mine Lease area, Arcot M, Timiri TP, Nambarai, Kavanur and Vilapakkam village natural or man-made pond etc. The shortage of rainfall, availability of ground water at deeper level and other climatic condition do not support good agricultural productivity inspite of having enough land. There is no demarcated forest land within the study area, however, some scattered forest is found throughout the 10 km radius, especially along the periphery of the villages.

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

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.17 LAND USE /LAND COVER MAP OF THE STUDY AREA**



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

### **Built-up / Settlements**

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

Interpretation of settlement from the satellite image is based upon the image elements such as color, tone, texture and association. It is delineated by their typical



red color. Association with linear features such as roads reaffirmed the presence of delineation of settlements. The spatial extent of settlement is estimated as 21.90 sq. km representing 6.80 % of the study area and Industrial + Commercial area covers 1.79 sq. km with 0.56%.

### **Agricultural Land**

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

Crop and Fallow land are interpreted using their image elements such as light to green, smooth to medium tone, they are the second most predominant landuse category delineated in the buffer area. As explained earlier, cultivation mostly depends upon river, canal and rainfall and majority of the land parcels are tilled and ready for cultivation with even a scanty Canal. Hence, cropland is the predominant category estimated at 186.9 Sq.km representing 58.04 % of the buffer area, plantation area covers 2.70 sq km with 0.84 %.

### **Wasteland**

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

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

land with scrub an area of 2.91 sq.km representing 0.90 % of the total core and buffer area.

Land without scrub, on the other hand is interpreted using brown to white color, medium tone and medium texture and is generally restricted around land covered with scrub and fallow land. They occur as small patches and very minimal area covering 4.65 sq.km representing 1.44 % of the buffer area.

### **Water bodies**

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

Most of the water bodies retain water for a shorter period after precipitation due to the soil constraint and hence go dry soon. Spatial extent of rivers, stream and water bodies is estimated at 20.53 sq.km and 6.38 %.

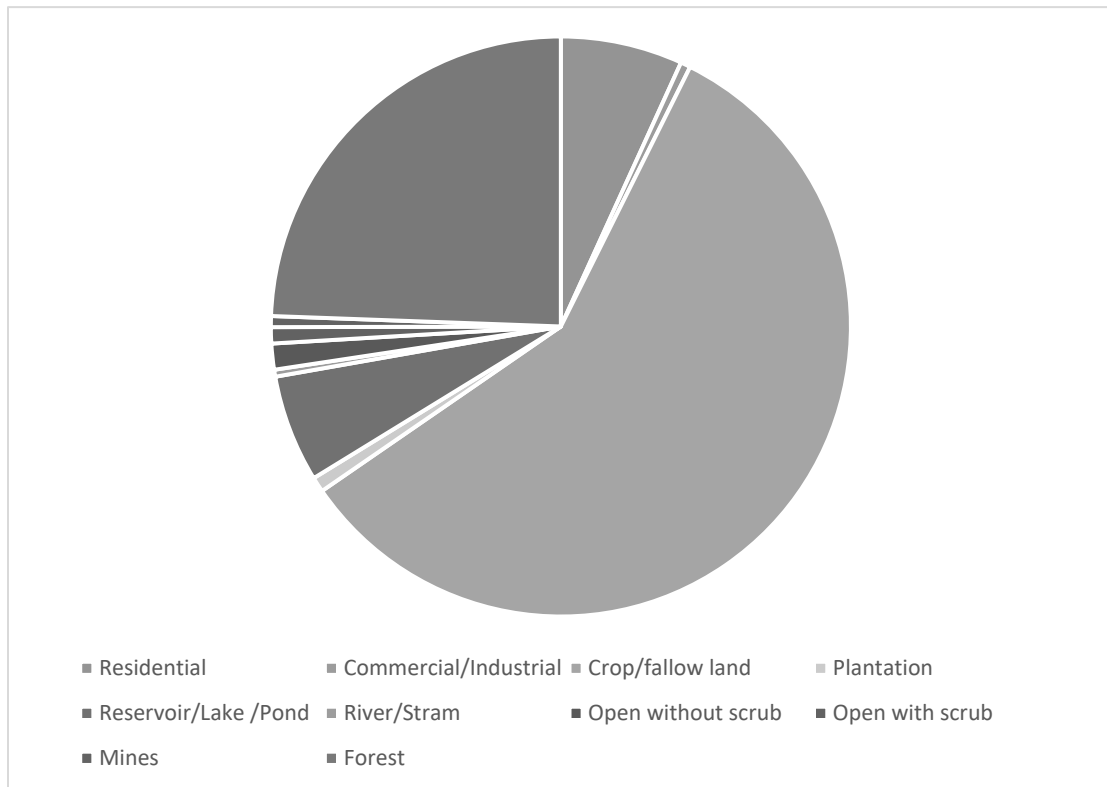
### **Mining area and Forest cover**

Mining and forest are seen in the study area distributed all over the study area. Major domestic income from mining business. Spatial extent of mining and forests is estimated at 80.62 sq.km and 25.04 %.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	23.69	7.36	Residential	21.90	6.80
				Commercial/Industrial	1.79	0.56
2	Agriculture	189.6	58.88	Crop/fallow land	186.9	58.04
				Plantation	2.70	0.84
3	Water bodies	20.53	6.38	Reservoir/Lake /Pond	19.28	5.99
				River/Stram	1.25	0.39
4	Waste Land	7.56	2.35	Open without scrub	4.65	1.44
				Open with scrub	2.91	0.90
5	Others	80.62	25.04	Mines	1.97	0.61
				Forest	78.65	24.43
Total					322	



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

### 3.11. SOCIOECONOMIC ENVIRONMENT

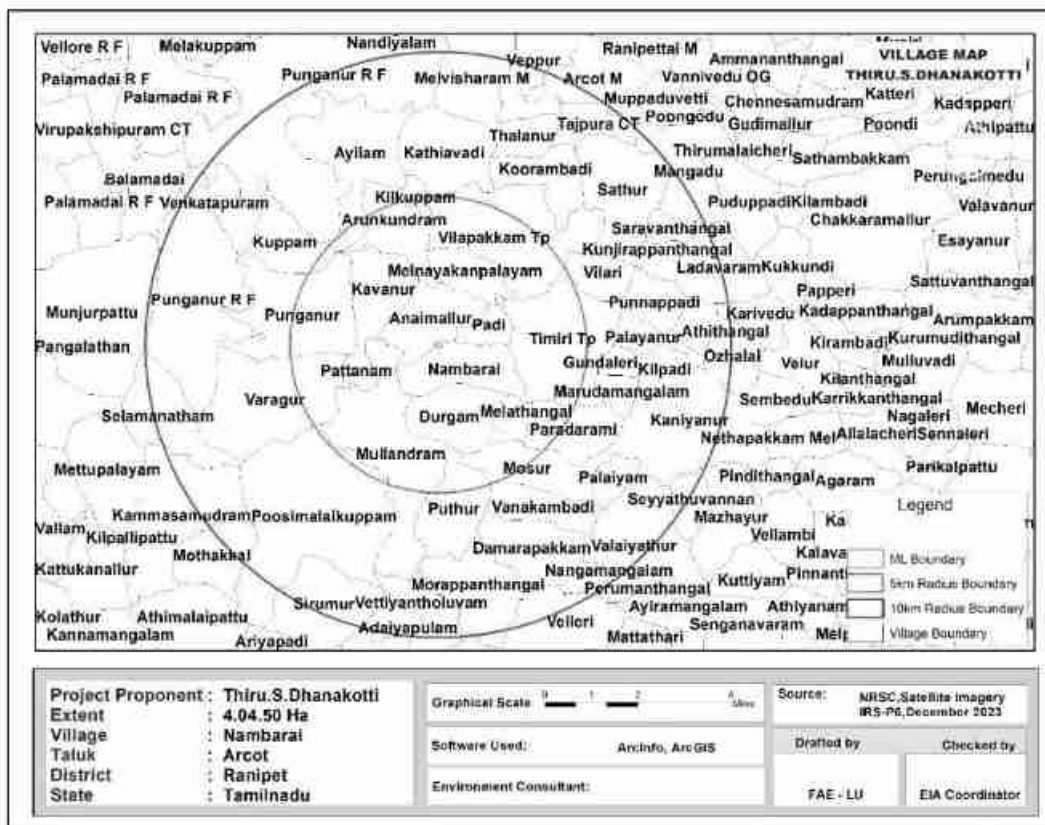
The socio-economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used. The following data area collected from secondary data:

- Demographic pattern.
- Health pattern
- Occupational structure.
- Amenities available.

#### 3.11.1 DETAILS OF VILLAGES

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

**FIG 3.18 VILLAGE MAP OF THE STUDY AREA**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

### **DETAILS OF VILLAGES**

The project is located in Nambarai Village, Arcot Taluk, Ranipet District. The total population is 23783 which comprise of 12230 males and 11553 females. There are 20 rural villages and one urban area in the study area. List of villages are given below.

<b>Table 3.15 Village details in study area</b>				
<b>S.No.</b>	<b>Village/Town Name</b>	<b>Radius</b>	<b>Taluk Name</b>	<b>District Name</b>
1	Punganur	1-5km	Arcot	Ranipet
2	Varagur			
3	Pattanam			
4	Kavanur			
5	Nambarai			
6	Timiri Tp			
7	Vilapakkam Tp			
8	Melnayakanpalayam			
9	Anaimallur			
10	Durgam			
11	Paradarami			
12	Melathangal			
13	Padi			
14	Marudamangalam			
15	Gundaleri	5-10km	Arcot	
16	Mosur			
17	Damarapakkam			
18	Vanakambadi			
19	Palaiyam			
20	Kuppam			
21	Vilari			
22	Arcot M			
23	Tajpura CT			
24	Kunjirappanthangal			
25	Punnappadi			
26	Athithangal			
27	Ozhalai			
28	Sathur			
29	Saravanthangal			
30	Mangadu			
31	Ladavaram			
32	Punganur R F			
33	Punganur R F			
34	Kaniyanur	Kalavai		
35	Nangamangalam			

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36	Valaiyathur		Wallajah	Tiruvannamalai
37	Palayanur			
38	Kilpadi			
39	Melvisharam M			
40	Ayilam			
41	Koorambadi			
42	Kathiavadi		Arani	
43	Mullandram			
44	Poosimalaikuppam			
45	Morappanthangal			
46	Puthur			
47	Sirumur			
48	Vettiyantholuvam			

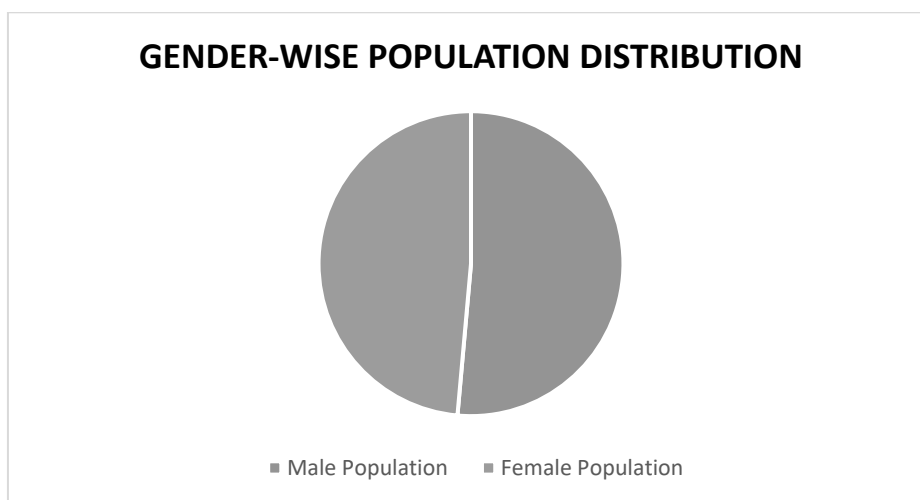
**Table 3.16 Population profile of the study area**

<b>Particulars</b>	<b>No of Population</b>	<b>Percentage (%)</b>
<b>A. Population break-up by Gender</b>		
Male Population	12230	51.42
Female Population	11553	48.58
Total	23783	100
<b>B. Population break-up by Caste</b>		
Scheduled Caste	36834	96.73
Scheduled Tribes	1244	3.27
Others	-	-
Total	38078	100
<b>C. Literacy Level</b>		
Male Literate Population	87615	39.45
Female Literate Population	73253	32.98
Male Illiterate	23271	10.48
Female Illiterate	37978	17.09
Total		
<b>D. Occupational structure</b>		
Main workers	80996	-
Marginal workers	13741	-
<b>Total Workers</b>	<b>94737</b>	<b>42.65</b>
<b>Total Non-workers</b>	<b>127380</b>	<b>57.35</b>
<b>Total</b>	<b>222117</b>	<b>100</b>

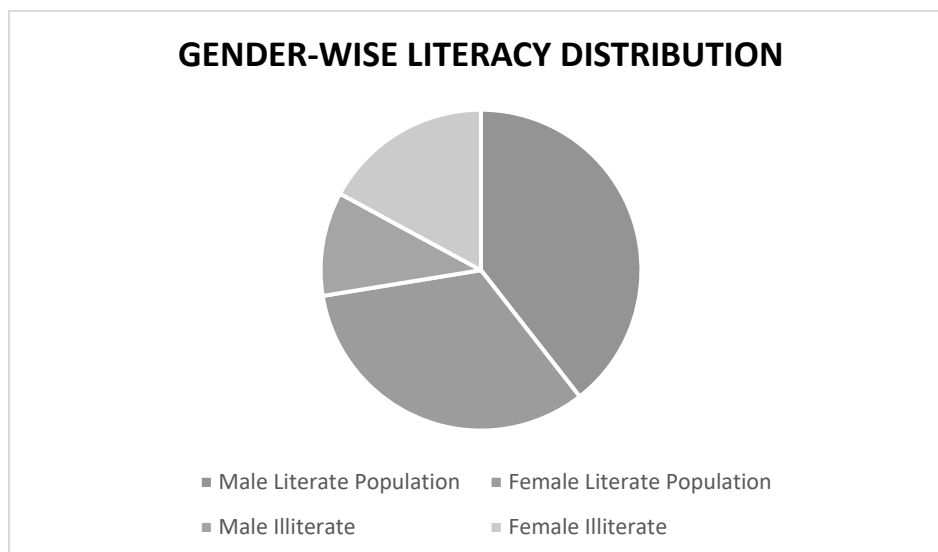
**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

The above table shows that the male and female population ratios are almost equal. Among the total population 3.27 % belong to Scheduled Tribes, 96.73 % are Scheduled Caste. Among the total population, 72.43 % of the people are literate. Among the total population, 39.45 % are literate males and 32.98% are literate females. Also the total population, 10.48 % are Illiterate males and 17.09 % are Illiterate females. This shows that the male literates are higher than the female literates. The results are plotted in figures below.

**FIG 3.19 GENDER-WISE POPULATION DISTRIBUTION**

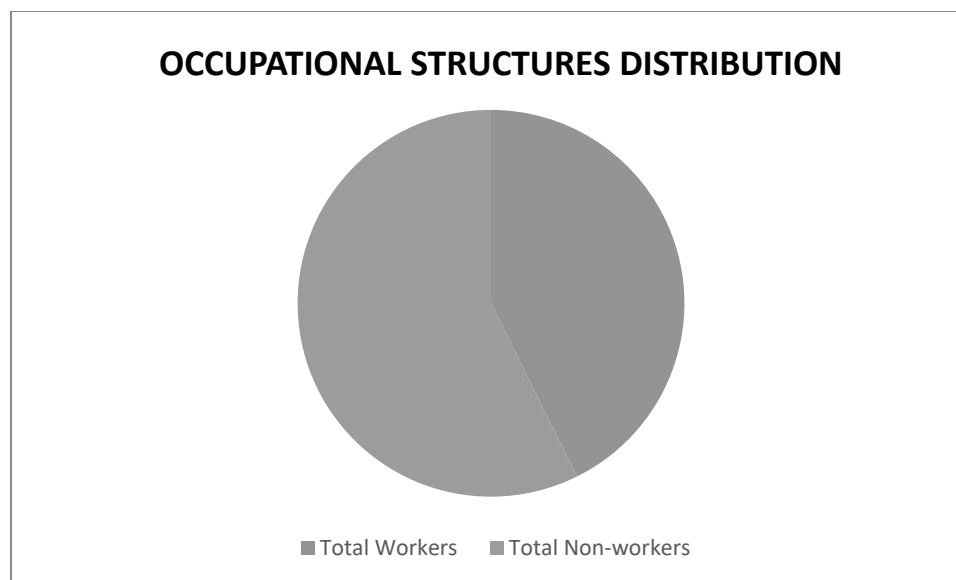


**FIG 3.20 GENDER WISE LITERACY DISTRIBUTION**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 3.21 OCCUPATIONAL STRUCTURE WITHIN BUFFER ZONE**



### Infrastructure facilities in the study area

#### Education

<b>Table 3.17 Educational infrastructure</b>		
<b>S. No.</b>	<b>Particulars</b>	<b>Available in village (Nos)</b>
1	Govt. Primary School	Arcot -17
2	Govt. Middle School	12
3	Govt. Secondary School	15
4	Govt. Senior Secondary School	8
5	Govt. Arts and Science Degree College	34
6	Govt. Engineering College	0
7	Govt. Medicine College	0
8	Govt. Management Institute	0
9	Govt. Polytechnic	0
10	Govt. Vocational Training School/ITI	0

In the study area, there are totally 17 Primary Schools functioning in these 12 rural villages. Among them 5 villages have 2 primary school, 7 villages have 3 primary schools & 2 villages have more than 2 primary school.



## Healthcare

In the study area, the following facilities are available.

<b>Table 3.18 Medical Infrastructure</b>		
<b>S.No.</b>	<b>Particulars</b>	<b>Available in village (Nos)</b>
1	Community Health Centre	1
2	Primary Health Centre	3
3	Primary Health Sub Centre	12
4	Maternity And Child Welfare Centre	10
5	TB Clinic	5
6	Hospital Allopathic	0

## Other Infrastructure

The other infrastructure facilities available are given below.

<b>Table 3.19 Other Infrastructure</b>		
<b>S.No.</b>	<b>Particulars</b>	<b>Available in village</b>
1	Tap Water-Treated	21
2	Covered Well	9
3	Hand Pump	3
4	Tube Wells/Borehole	14
5	Post office	6
6	Public bus services	15
7	Commercial Bank	4
8	Cooperative bank	9

## Sample Survey

The expert visited 6 villages in the study area namely Timiri, Vilari , Mohanavaram, Nambarai and Varagur Patanam, villages. Discussions were held with the people from nearby locality to study the social and economic conditions prevailing in the area. The expert also visited nearby hospitals, primary health centres and Timiri. The following observations were made.

Primary schools are available in many villages. For hospital facilities, people in the locality have to go to hospital in Arcot which is about 3.00 km from the lease area.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

Major schools with higher secondary and senior secondary schools are located in Timiri. The major Timiri Union located in the area is Arcot. Facilities like petrol pump stations, ATM facility are available in Timiri.

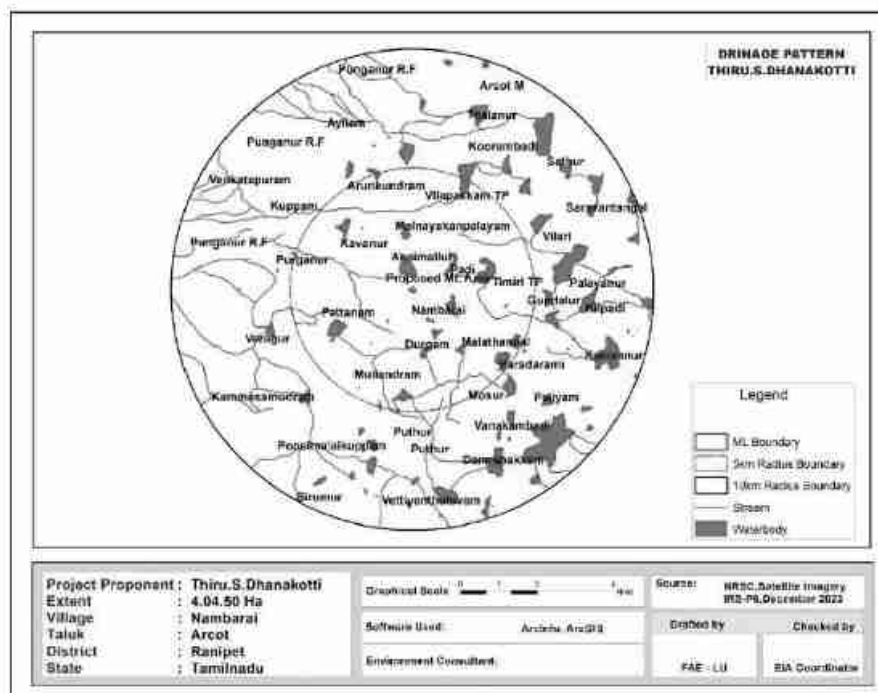
### 3.12. HYDROGEOLOGY OF THE STUDY AREA

Since there is Timiri Lake is located at a distance of 2.9 km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed site, the hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

#### 3.12.1 HYDROGEOLOGICAL STUDY

To assess the hydrogeological condition of the surrounding proposed mine lease area. The study area is located in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State is considered to understand the nature of the general hydrogeological conditions of the surrounding proposed mine lease area.

**FIGURE 3. 22 10 KILOMETER RADIUS OF THE DRAINAGE MAP**



### **3.12.2 PHYSIOGRAPHY AND DRAINAGE**

**Physiography:** The area applied for quarry lease is plain topography covered by rough stone formation. The massive Charnockite formation is clearly visible right from the surface and gentle towards Southwestern side of the area, the altitude of the area is above 194m (maximum) from MSL.

**Drainage:** The drainage pattern study reveals that from the proposed mine lease area with around 1 Km radius and 10 Km study observed in Figure 3.20. There is Timiri Lake is located at a distance of 2.9km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed site.

### **3.12.3 GEOLOGY, GEOMORPHOLOGY AND SOIL**

#### **Geology:**

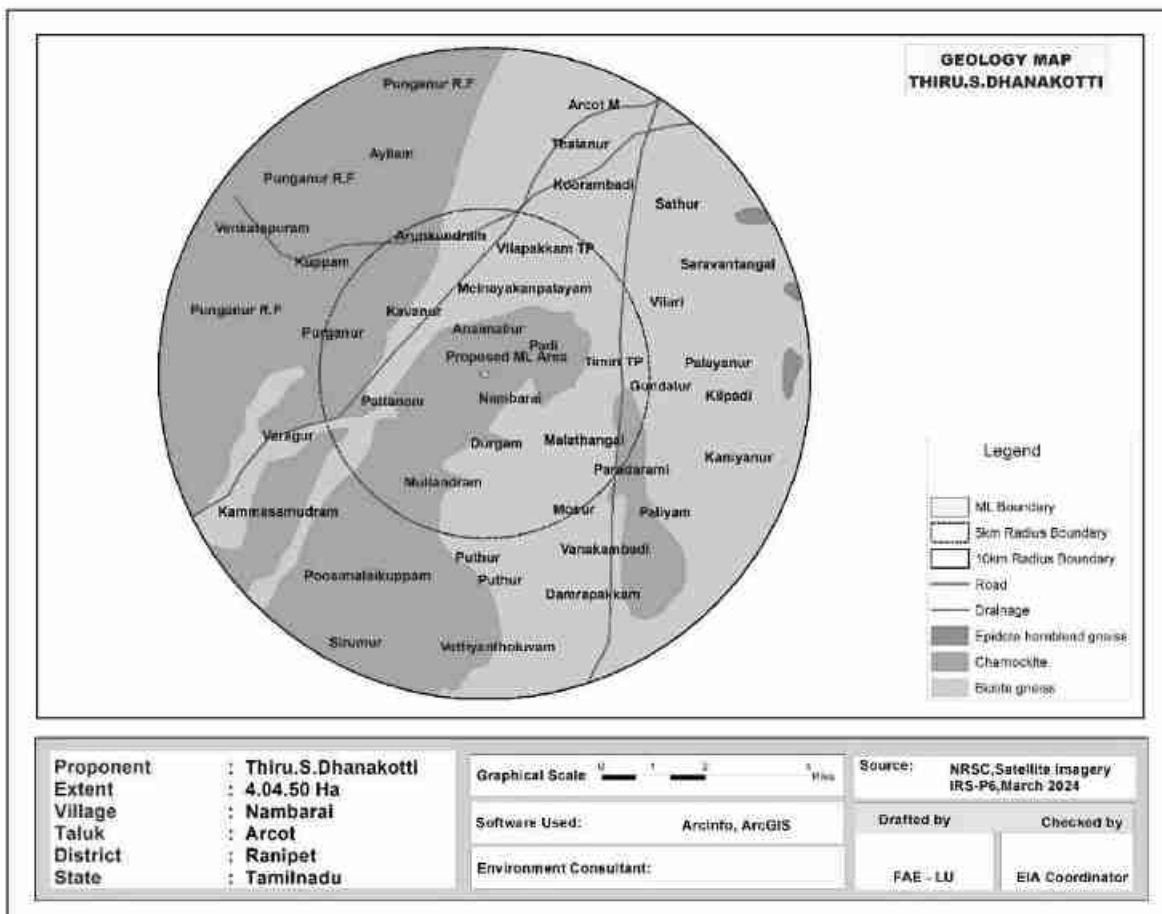
Geologically Ranipet District is mostly underlain by the Archaean crystalline and metamorphic complex. The geology of the district is charnockite, pyroxene granulite and banded magnetite quartzite of the Charnockite Group, along with the banded magnetite quartzite, biotite gneiss and pink migmatite of the Migmatite Group. The Charnockite and migmatite Group are the parts of the Southern Granulite Terrain (SGT) that belongs to the Neo Archaean to Meso Proterozoic age. The lithologies of the Southern Granulite Terrain are mostly found to the south of the palar river at south of Arcot, Pudukkudi and west of kalavai with a few Charnockite deposits found to the north of the Palar River near Melpadi, east of Tivuvallam and south of Sholinghur, migmatite gneiss, pink migmatite and pink hornblende migmatite gneiss of the Peninsular gneissic complex II Group occur. The PCG-II is part of the Peninsular Gneissic Complex Supergroup with an age ranging from Palaeo to Meso Proterozoic..

The Proterozoic epidote hornblende gneiss occurs in the N-S belt and covers the major parts of the district area in the east. The epidote-hornblende gneiss, a product of retrograde metamorphism of Charnockite and emplaced as alkali-carbonatite metasomatism during the Neoproterozoic and is mostly confined along the shear

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

zone. The epidote hornblende gneiss occurs near kalavai, Kaveripakkam, Nagavedu and Arakkonam. These lithologies are cross-cut by basic intrusives like numerous Dolerite dykes belonging to the Palaeo Proterozoic age. Some of the dykes are continuous for nearly 5km in strike length with a width varying between 20-60m in NE-SW, ENE-WSW, N-S and E-W directions. The Neoproterozoic acid intrusives like granite, pegmatites and Quartz veins occurs in the northeastern part of the district. While pegmatite and quartz veins of 2-3m length and upto 30cm in width intruded in epidote hornblende gneiss.

**FIGURE 3. 23 10 KILOMETER RADIUS OF THE GEOLOGY MAP**

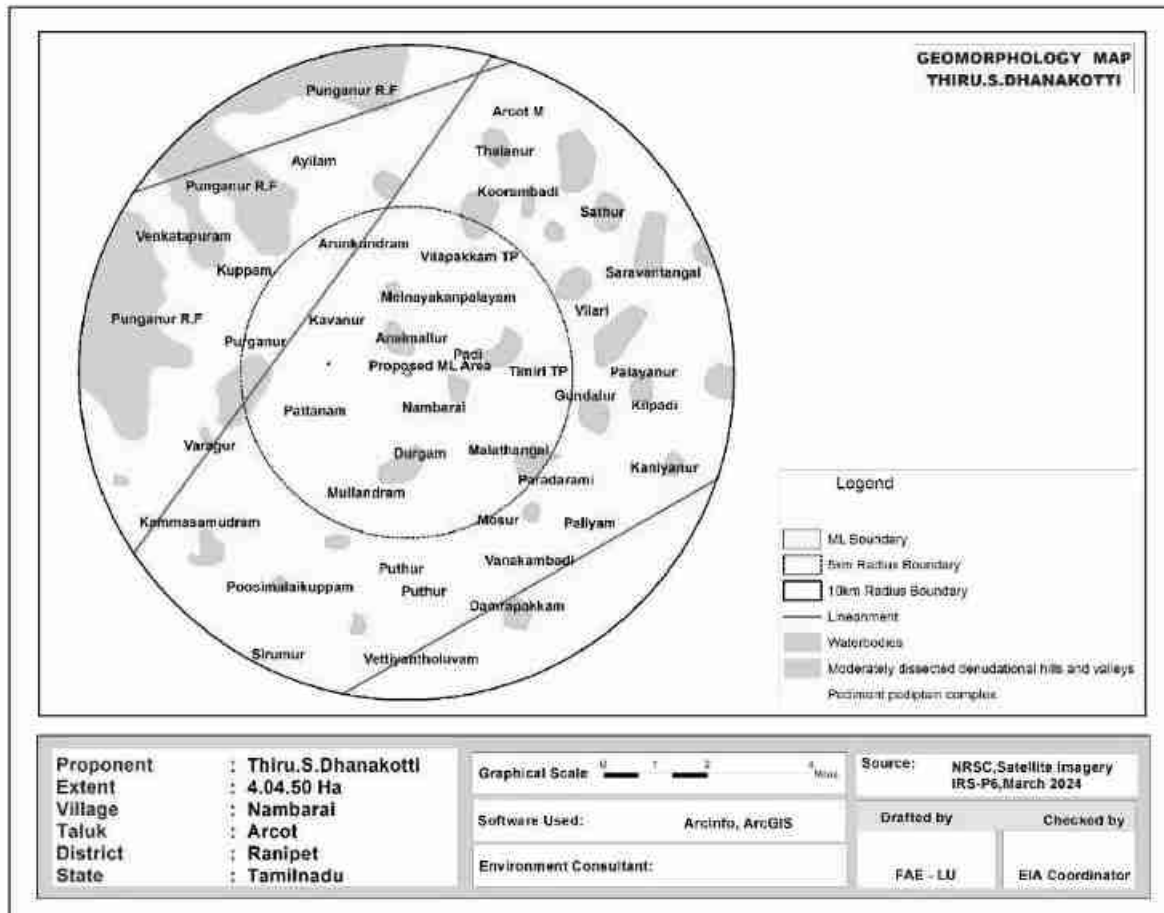


**Geomorphology:** The Core and 10 Km buffered zone geomorphological features (Figure 3.22) shows that the Ranipet district forms part of the upland plateau region

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

of Tamil Nadu with many hill ranges, hillocks and undulating terrain with a gentle slope towards east. The prominent geomorphic units identified in the district through interpretation of Satellite imagery.

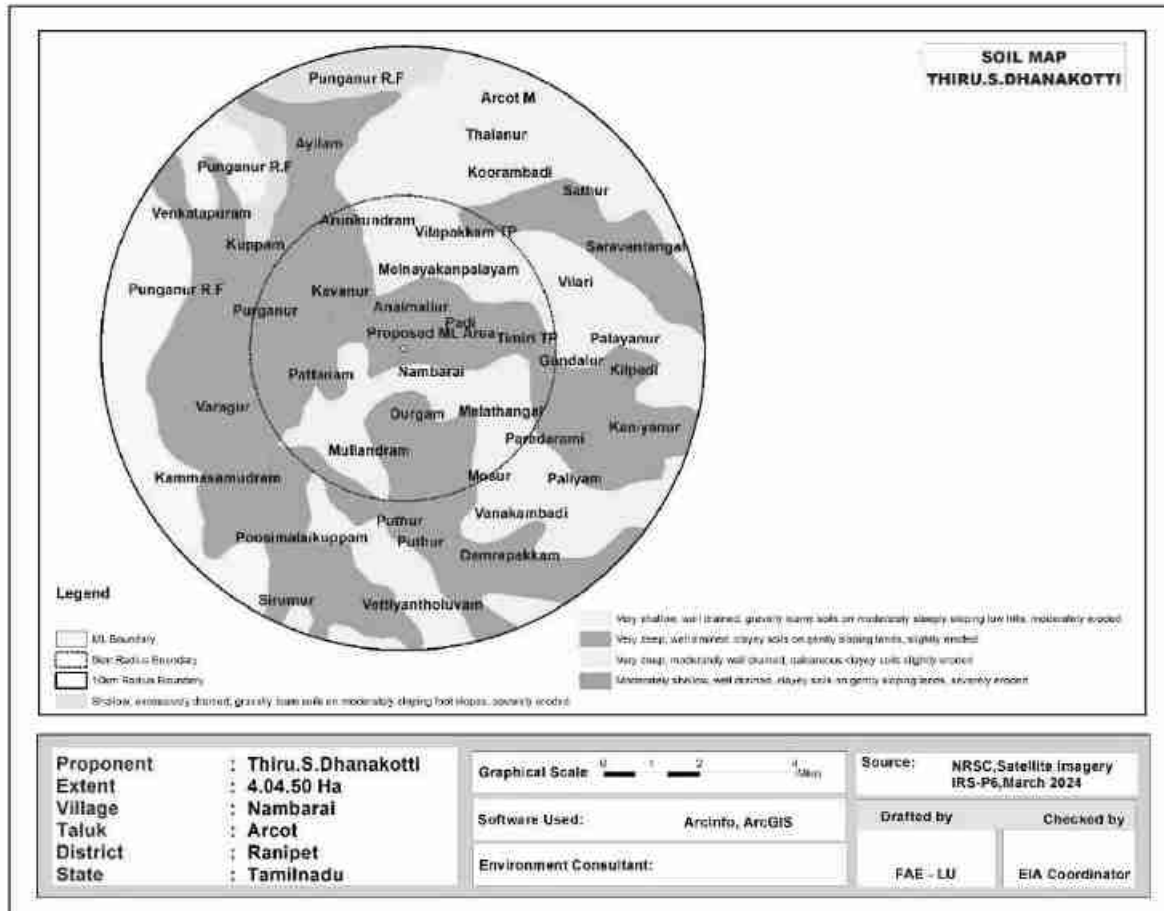
**FIGURE 3. 24 10 KM RADIUS OF THE STUDY AREA GEOMORPHOLOGY MAP**



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

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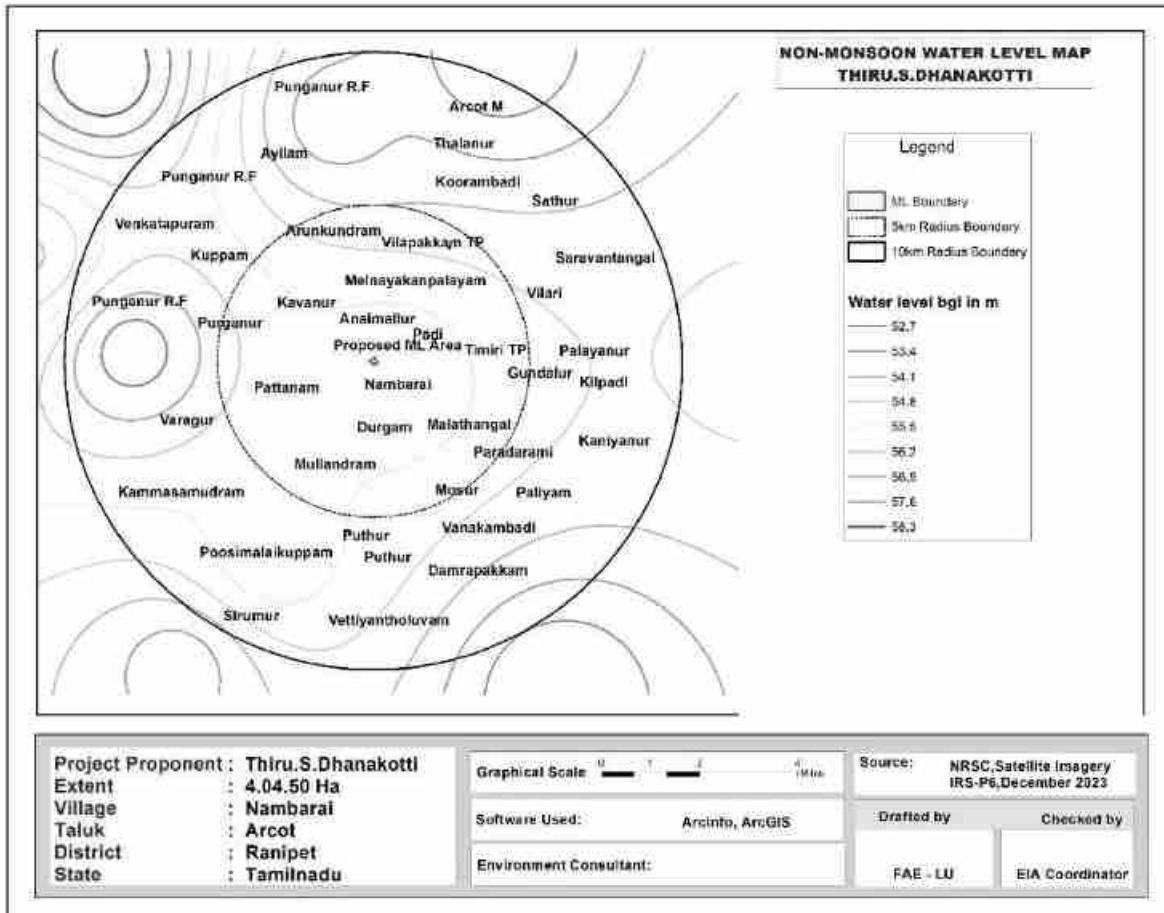
**FIGURE 3.25 10 KM RADIUS OF THE STUDY AREA SOIL TYPE MAP**



### 3.12.4 BELOW GROUND LEVEL (BGL)

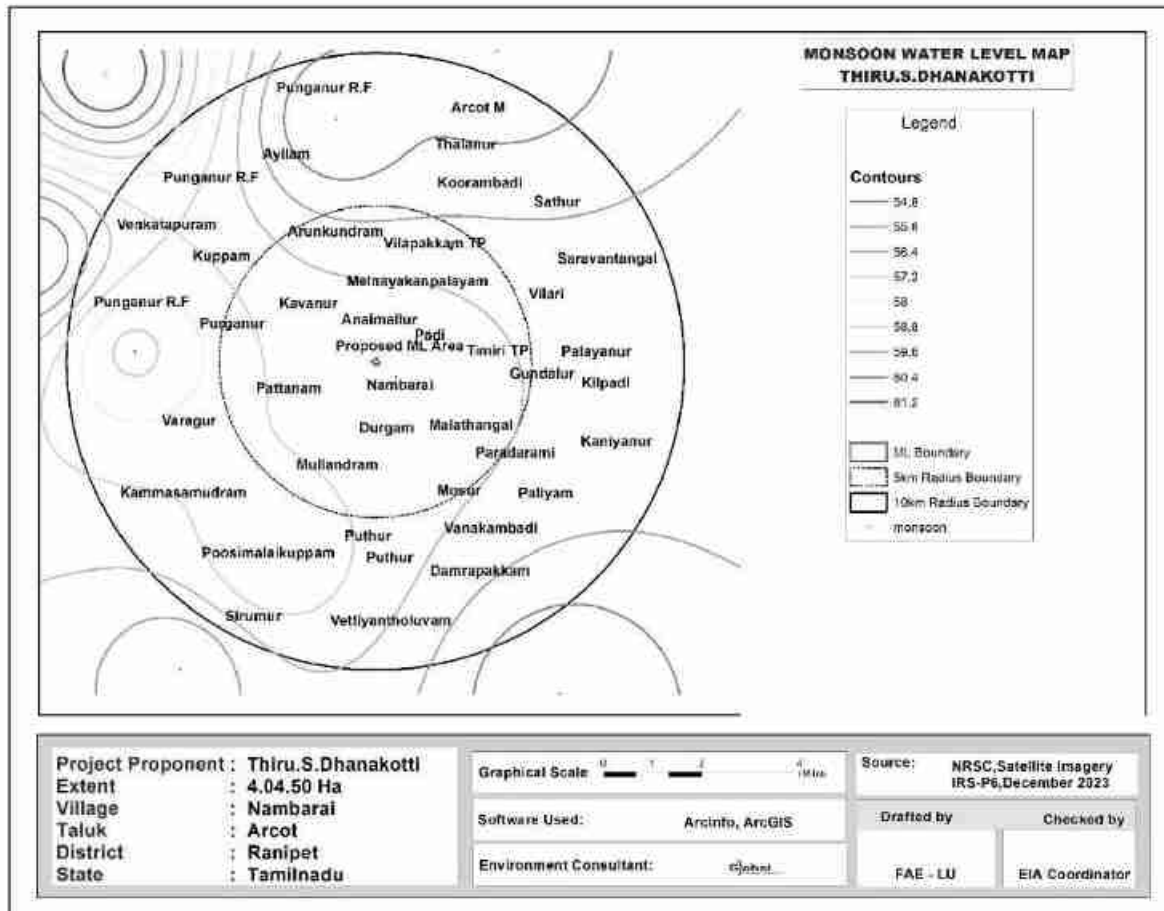
Figure 3.26 & 3.27 shows the Non-Monsoon and Monsoon water level map of the study area.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**



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



**FIGURE 3.27 MONSOON WATER LEVEL MAP OF THE STUDY AREA**

### 3.12.5 FIELD INVESTIGATION

The temporary seasonal streams water flow from center to outer most area. There is Timiri Lake is located at a distance of 2.9km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction away from the area. The water is temporarily found only during the rainy season.

In this representation in the two seasons, the water level substantially gets fall-down in the Non-monsoon season, because of the rainfall impact and it extended up to the



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Monsoon season. Some of the wells water level is shallow depth in both seasons. These dug wells is located nearby water bodies. So, clearly shows that surface water is impact in these wells.

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

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

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



## CHAPTER 4

### **ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **4.1. INTRODUCTION**

This chapter deals with the various anticipated environmental impacts and mitigation measures of the proposed mining activity. The proposed method of mining is Opencast Semi Mechanized and the quarry operation involves Shallow Jack Hammer Drilling, Blasting, Excavation, Formation of benches, Loading and Transportation of minerals. The above activities may affect the surrounding environment like removal of rock mass, Loss of flora and fauna of the area, surface water discharge, change in air and water quality, etc., If adequate measures are not taken for the proposed operations, it will cause the environmental degradation of the area and it will lead to affect to the ecosystem of the surrounding environment.

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

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

## **4.2. LAND ENVIRONMENT**

This is a proposed Rough Stone and Gravel Quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti at S.F. No. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 over an extent of 4.04.50 Ha in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State. The method of mining is Opencast Semi mechanized with a bench width and height of 5m. It is proposed to excavate to 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel. upto a depth of 47m (BGL) for the period of 10 years. There is no stream/odai within the mine lease area.

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

The entire mine lease area is patta land. The project area of 4.04.50 Ha (unutilized area – 4.04.50 ha boundary barrier except in eastern direction, east side 10m safety distance for Govt. land) is proposed to be altered by effective quarrying operation such as excavation (2.52.00 Ha), Infrastructure (0.01.0), Road (0.02.0 Ha) and green belt will be developed in the safety zone of 1.49.50 Ha. The ultimate depth of quarrying is proposed with maximum depth of 27m BGL (1-5 years) 47m BGL (6-10 Years) and will not intersect the ground water table.

### 4.3 ANTICIPATED IMPACTS AND MITIGATION MEASURES

Aspect	Impact	Mitigation measures																																													
<b>Topography</b>	<p>The area exhibits hilly terrain covered by rough stone formation. Quarrying activity will lead to change in geological setting of the area i.e., Due to the quarrying activity in the mine lease area will lead to affect the aesthetic view on the environment. Further, due to the movement of heavy vehicles in and around the mine lease area will lead to affect the surrounding agricultural lands, ecology and biodiversity, human habitations due to the emissions from vehicles like SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, etc., The existing land use pattern is given as under.</p> <table border="1"> <thead> <tr> <th>Land Use</th> <th>Present Area (Hect)</th> <th>Area in use during the quarrying period (Hect)</th> </tr> </thead> <tbody> <tr> <td>Quarrying Pit</td> <td>Nil</td> <td>2.52.00</td> </tr> <tr> <td>Infrastructure</td> <td>Nil</td> <td>0.01.0</td> </tr> <tr> <td>Roads</td> <td>Nil</td> <td>0.02.0</td> </tr> <tr> <td>Green Belt</td> <td>Nil</td> <td>1.49.50</td> </tr> <tr> <td>Unutilized</td> <td>4.04.50</td> <td>Nil</td> </tr> <tr> <td><b>Total</b></td> <td><b>4.04.50</b></td> <td><b>4.04.50</b></td> </tr> </tbody> </table>	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)	Quarrying Pit	Nil	2.52.00	Infrastructure	Nil	0.01.0	Roads	Nil	0.02.0	Green Belt	Nil	1.49.50	Unutilized	4.04.50	Nil	<b>Total</b>	<b>4.04.50</b>	<b>4.04.50</b>	<p>The major impact due to this project on land environment is the change in land use. Mining activity will be carried out upto a depth of 27 m (BGL) - (1-5 Years) and 47m (BGL) - (6-10 Years). At the end of mining period, the quarried pit will act as a water reservoir to store the rain water.</p> <p>Land Use at the end of mine will be as follows.</p> <table border="1"> <thead> <tr> <th>Land Use</th> <th>Area in use during the quarrying period (Hect)</th> </tr> </thead> <tbody> <tr> <td>Area left for water body</td> <td>2.52.00</td> </tr> <tr> <td>Green Belt</td> <td>1.49.50</td> </tr> <tr> <td>Remaining area</td> <td>0.30</td> </tr> <tr> <td><b>Total</b></td> <td><b>4.04.50</b></td> </tr> </tbody> </table> <p>At the mine closure stage, 2.52.00 Ha of lease area will be left as rain water harvesting pond. 1.49.50 Ha will be developed with green belt.</p> <p>Greenbelt shall be developed around the mine lease area and the details has been given below.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Species</th> <th>No. of trees</th> <th>Spacing</th> <th>Survival</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>Pungai,</td> <td>1700</td> <td>3m x</td> <td rowspan="2">80%</td> </tr> <tr> <td>II</td> <td>Vagai,</td> <td>-</td> <td>3m</td> </tr> </tbody> </table>	Land Use	Area in use during the quarrying period (Hect)	Area left for water body	2.52.00	Green Belt	1.49.50	Remaining area	0.30	<b>Total</b>	<b>4.04.50</b>	Year	Species	No. of trees	Spacing	Survival	I	Pungai,	1700	3m x	80%	II	Vagai,	-	3m
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	<p>The ultimate pit dimension of the mine lease area is given below.</p> <table border="1" data-bbox="436 394 1008 857"> <thead> <tr> <th colspan="4">Ultimate Pit dimension at the end of Mining plan Period</th> </tr> <tr> <th>Pit No.</th> <th>Length (max) (m)</th> <th>Width (Avg) (m)</th> <th>Depth (max) (m)</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>192</td> <td>131</td> <td>27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)</td> </tr> </tbody> </table> <p>If mining is not done systematically it will lead to the dumping failure in the mining area.</p>	Ultimate Pit dimension at the end of Mining plan Period				Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)	I	192	131	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)	<table border="1" data-bbox="1081 245 1780 532"> <tr> <td>III</td> <td>Vembu,</td> <td></td> <td></td> <td></td> </tr> <tr> <td>IV</td> <td>Manjal</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>V</td> <td>konrai, Naval, Puvarasu, etc</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td colspan="2"><b>Total</b></td> <td><b>1700</b></td> <td></td> <td></td> </tr> </table> <p>Due to the thick vegetation around the mine lease area and sprinkling of water around the haul roads the dust emissions arise from the vehicles will be controlled. At the end of mining period, fencing will be provided around the mine lease area to arrest the entry of public/cattle to the mining area. The rough stone is proposed to quarry 5m bench height and 5m width with 45° slope and with conventional opencast semi-Mechanized method. As per the approved mining plan a safety distance of 7.5 m shall be provided. There is no overburden anticipated during the entire Rough Stone quarrying operation. The excavated rough stone will be directly loaded into tipper to the needy crusher/other buyers.</p>	III	Vembu,				IV	Manjal	-			V	konrai, Naval, Puvarasu, etc	-			<b>Total</b>		<b>1700</b>		
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<p><b>Drainage</b></p>	<p>Mine drainage is surface water or groundwater that drains from an active or abandoned mine. One of the adverse impact of mine drainage is it will contaminate the ground water.</p>	<p>As per the approved mining plan the ultimate pit limit is 27 m (BGL) - (1-5 Years) an 47m (BGL) - (6-10 Years). The ground water table is reported as 60 m. In the proposed mining plan only 27 m (BGL) - (1-5 Years) an 47m (BGL) - (6-10 Years) has been envisaged as workable depth for safe &amp; economic quarrying for the entire lease period. Hence the quarrying operation may not affect the ground water.</p>																																

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

<p><b>Soil Quality and Agriculture</b></p>	<p>In monsoon seasons due to the excavation of minerals soil erosion and sediment deposition will occur in the nearby water bodies.</p>	<p>It is proposed to quarry upto a depth of 27 m (BGL) - (1-5 Years) an 47m (BGL) – (6-10 Years and the nearby water table is 60 m. So, the mining activity will not affect the ground water. To prevent the soil erosion during monsoon season, garland drain will be constructed with silt traps.</p>
<p><b>Visual impact on surrounding environment</b></p>	<p>Quarrying activities and rock extraction generally cause several environmental effects on the surrounding areas. The alteration of landscape due to activities like excavation, drilling or blasting, in particular, often generates a visual impact on the receptors set in the surroundings. Among these effects, the shape, extent, or chromatic contrast of the mining surface with the original land form may represent a huge loss of appeal for the growth of new urban settlements.</p>	<p>The reclamation of the post mined quarry surface is aimed at restoring the ecological balance taking into account geological parameters but also local flora and climate. Further the ultimate depth of mining is 27m BGL (1-5 years) and 47m BGL (6-10years). Water table is 60m. In the post mining stage, the quarried-out pit will be used for rainwater harvesting.</p>

#### **4.4 SOLID WASTE GENERATION AND MANAGEMENT**

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

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

#### **4.5 WATER ENVIRONMENT**

##### **4.5.1 Impact on Surface Water Resources**

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

Timiri Lake is located at a distance of 2.9km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed ML area. Water table is found at a depth of 60m.

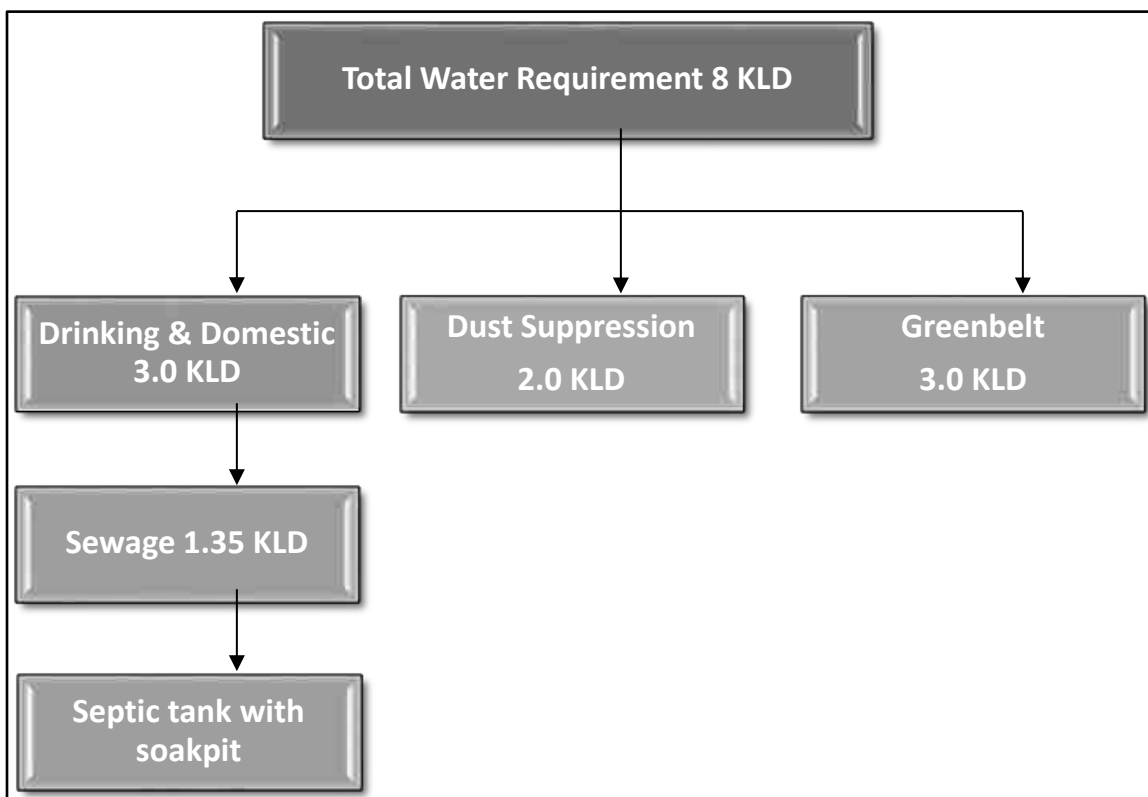
Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made into these water bodies, there is no major impact. The project proponent will restrict the mining operation only within the lease and no other work will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



#### **4.5.2 Impact due to Water use in Mines**

In the proposed mines water will be mainly used for domestic purpose, dust suppression & plantation. Total water requirement for the project is 8.0 KLD which will be sourced from outside agencies. Negligible sewage of 1.35 KLD will be generated, for which a septic tank with soak pit will be set up. The water balance diagram is given below.

**FIG 4.1 WATER BALANCE DIAGRAM**



#### **4.5.3 Impact on Ground Water**

The mining activity is not likely to intersect ground water as the ground water table occurs at a depth of 60 m. The mining will go up to the maximum depth of 27 m (BGL) - (1-5 Years) an 47m (BGL) - (6-10 Years. So there will be no chance of

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intersecting the ground water table by the mining activity. So the impact of mining on the ground water is not envisaged.

#### 4.5.4 Mitigation measures

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

#### 4.5.5 Ground water environment in buffer zone

The scenario of ground water in Ranipet District, Arcot Taluk is given below.

<b>TABLE 4.1 Ground Water Level Status in Ranipet Firka</b>							
<b>S. No.</b>	<b>Assessment Unit (Firka)</b>	<b>Net Annual Ground water availability</b>	<b>Existing gross ground water consumption for irrigation</b>	<b>Existing gross ground water consumption for domestic and industrial water supply</b>	<b>Existing gross ground water consumption for all uses</b>	<b>Stage of ground water development</b>	<b>Category</b>
1	ARCOT	683.48	1,012.60	3.86	1,016.46	149	Over Exploited

Source:nwm.gov.in

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

## 4.6 VEGETATION

### 4.6.1 VEGETATION IN THE CORE ZONE

The mine lease area is devoid of major plantation. Shrubs and bushes are majorly found within the lease area. The proponent has planned to develop green belt in an

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area of 1.49.50 Ha. Trees like Pungai, Vagai, Vembu, Manjal konrai, Naval, Puvarasu, etc will be planted around the mine lease area. A total of 1700 trees are planned to be planted. Spacing will be 3m x 3m.

#### **4.6.2 FAUNA**

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

<b>Table 4.2 Impacts and mitigation measures for Fauna</b>		
<b>S.No.</b>	<b>Impact</b>	<b>Mitigation measure</b>
1	Fauna is affected due to noise and vibration.	Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.
2	Dust generation due to mining activities	To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants.
3	Change in land use of the lease area	After the mine closure stage, the mine pit will be left as rain water collecting tank, which can attract bird population in the nearby areas.
4	Accidental falling of animals	To prevent entry of animals, the mine lease surrounding area will be properly fenced with barbed wire.

#### **4.7 AIR ENVIRONMENT**

##### **4.7.1 IMPACT DUE TO MINING OPERATION**

Impact prediction is a very important phenomenon in evaluating the environmentally potential adverse impacts for any proposed mine project. The impact prediction is

always carried out under worst possible conditions so as to mitigate or to eliminate the environmental hazards. These predictions thus calculated are superimposed over the baseline data to calculate the net impact on the environment after the proposed mine Project comes into production.

#### **4.7.2 IMPACT ON AIR ENVIRONMENT**

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

#### **4.7.3 Air Emissions**

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

#### **4.7.4 Quantitative Estimation of Impacts on Air Environment**

An attempt has been made to predict the incremental rise of various ground level concentrations above the baseline status in respect of air pollution due to proposed is 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel by the open-cast semi-mechanised 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.

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

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

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

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

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

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

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

**Salient features of the AERMOD model are given hereunder.**

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

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

#### **4.7.5 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 has been identified as given below.

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

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

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

#### **4.7.6 Emission Details**

All the emissions discussed above are quantified for proposed maximum production of 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel by the open-cast semi-mechanised mining method. The existing air quality levels are covered in the baseline scenario.

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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.

#### **4.7.7 Meteorological Data**

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

#### **4.7.8 Summary of Predicted Ground Level Concentrations**

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

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The maximum ground level concentration is estimated to be about 0.27 µg/m<sup>3</sup> of PM 2.5 & 2.06 µg/m<sup>3</sup> of PM<sub>10</sub> within the mine area, where mining operations are being carried out. The impact of mining operations would be negligible beyond 0.4 km.

**Figure – 4.2** represents the spatial distribution of the predicted ground level concentrations of PM<sub>10</sub> due to emissions from mine.

**4.7.9 Emission sources & Quantification**

Various point and non-point sources of emissions from Proposed Rough Stone and Gravel Quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti is quantified and presented below:

Area Emissions of M/s. Dhana Blue Meta – Total Material handling (Rough Stone & Gravel)

<b>Quantity, m<sup>3</sup></b>	<b>Rough Stone: 3, 71,250 m<sup>3</sup> Gravel: 50,304 m<sup>3</sup></b>
Operational Hours Per Year	2400
Activity Rate, t/hr.	395.28406
Emission of dust, g/t.	0.13
Emission of dust, g /hr.	52.052364
Area of influence, m <sup>2</sup>	625
Uncontrolled emission rate g/s/m <sup>2</sup>	0.0000370672
Controlled emission rate, PM10 g/s/m <sup>2</sup>	0.0000037067
Controlled emission rate, PM2.5 g/s/m <sup>2</sup>	0.000002470

Area Emissions – Total Material handling (Cluster Rough Stone & Gravel)

Quantity, m <sup>3</sup>	<ul style="list-style-type: none"> <li>• Thiru.A.V. Sarathy (Partner) "S" Traders: <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 60,678 m<sup>3</sup> and Gravel: 57,622 m<sup>3</sup>)</b></li> <li>• Thiru.A.V. Sarathy (Partner) "S" Traders <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 57,622m<sup>3</sup> and Gravel: 60,678 m<sup>3</sup>)</b></li> <li>• Tmt.S. Arut Selvi <b>(Rough stone: 13,00,328 m<sup>3</sup>)</b></li> <li>• M/s. Argunt Aggregate Pvt Ltd., <b>(Rough stone: 895650 m<sup>3</sup> and Gravel: 18880 m<sup>3</sup>)</b></li> </ul>
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	<ul style="list-style-type: none"> <li>Aggregate Engineering (Rough Stone: 142960 m<sup>3</sup> and Gravel:5695 m<sup>3</sup>.)</li> <li>Tmt.R.Subanithyadeepa (<b>Rough stone: 75130 m<sup>3</sup> and Gravel: 21600 m<sup>3</sup></b>)</li> </ul>
Operational Hours Per Year	2400
Activity Rate, t/hr.	395.28406
Emission of dust, g/t.	0.13
Emission of dust, g /hr.	52.052364
Area of influence, m <sup>2</sup>	625
Uncontrolled emission rate g/s/m <sup>2</sup>	0.000239029
Controlled emission rate, PM10 g/s/m <sup>2</sup>	0.000239029
Controlled emission rate, PM2.5 g/s/m <sup>2</sup>	0.00015935

Line Source – Transport of Rough Stone & Gravel from Pit to Boundary

<b>Quantity, m<sup>3</sup></b>	<b>Rough Stone: 3, 71,250 m<sup>3</sup> Gravel:50,304 m<sup>3</sup></b>
Operational Hours Per Year	2400
Capacity of each Dumper (T)	10
Total No. of Tippers/ year	36475
Lead length/trip, Km	10
Total VKT/Year	71071
Emission Kg/VKT	0.22
Total emission Kg/Year	12484.04
Uncontrolled emission rate g/s/m	2.223753
Controlled emission rate, PM10 g/s/m	0. 2223753
Controlled emission rate, PM2.5 g/s/m	0.61770

Line Source – Transport of Rough Stone & Gravel from Pit to Boundary

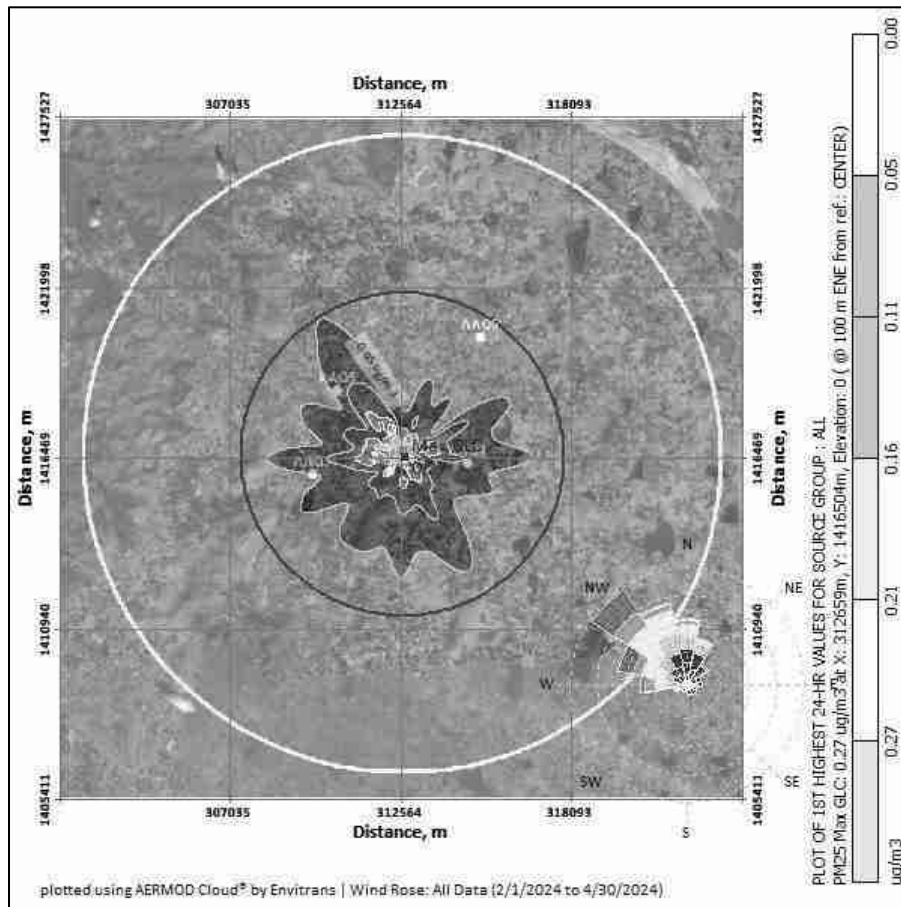
Quantity, m <sup>3</sup>	<ul style="list-style-type: none"> <li>Thiru.A.V. Sarathy (Partner) "S" Traders: (<b>Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 60,678 m<sup>3</sup> and Gravel: 57,622 m<sup>3</sup></b>)</li> <li>Thiru.A.V. Sarathy (Partner) "S" Traders (<b>Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 57,622m<sup>3</sup> and Gravel: 60,678 m<sup>3</sup></b>)</li> <li>Tmt.S. Arut Selvi (<b>Rough stone: 13,00,328 m<sup>3</sup></b>)</li> <li>M/s. Argunt Aggregate Pvt Ltd., (<b>Rough stone: 895650 m<sup>3</sup> and Gravel: 18880 m<sup>3</sup></b>)</li> <li>Aggregate Engineering (Rough Stone: 142960 m<sup>3</sup> and Gravel:5695 m<sup>3</sup>.)</li> <li>Tmt.R.Subanithyadeepa (<b>Rough stone: 75130</b>)</li> </ul>
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	<b>m<sup>3</sup> and Gravel: 21600 m<sup>3</sup>)</b>
Operational Hours Per Year	2400
Capacity of each Dumper (T)	10
Total No. of Tippers/ year	45376
Lead length/trip, Km	0.9
Total VKT/Year	79023
Emission Kg/VKT	0.22
Total emission Kg/Year	16345.04
Uncontrolled emission rate g/s/m	3.98383
Controlled emission rate, PM10 g/s/m	0.398383
Controlled emission rate, PM2.5 g/s/m	0.34179

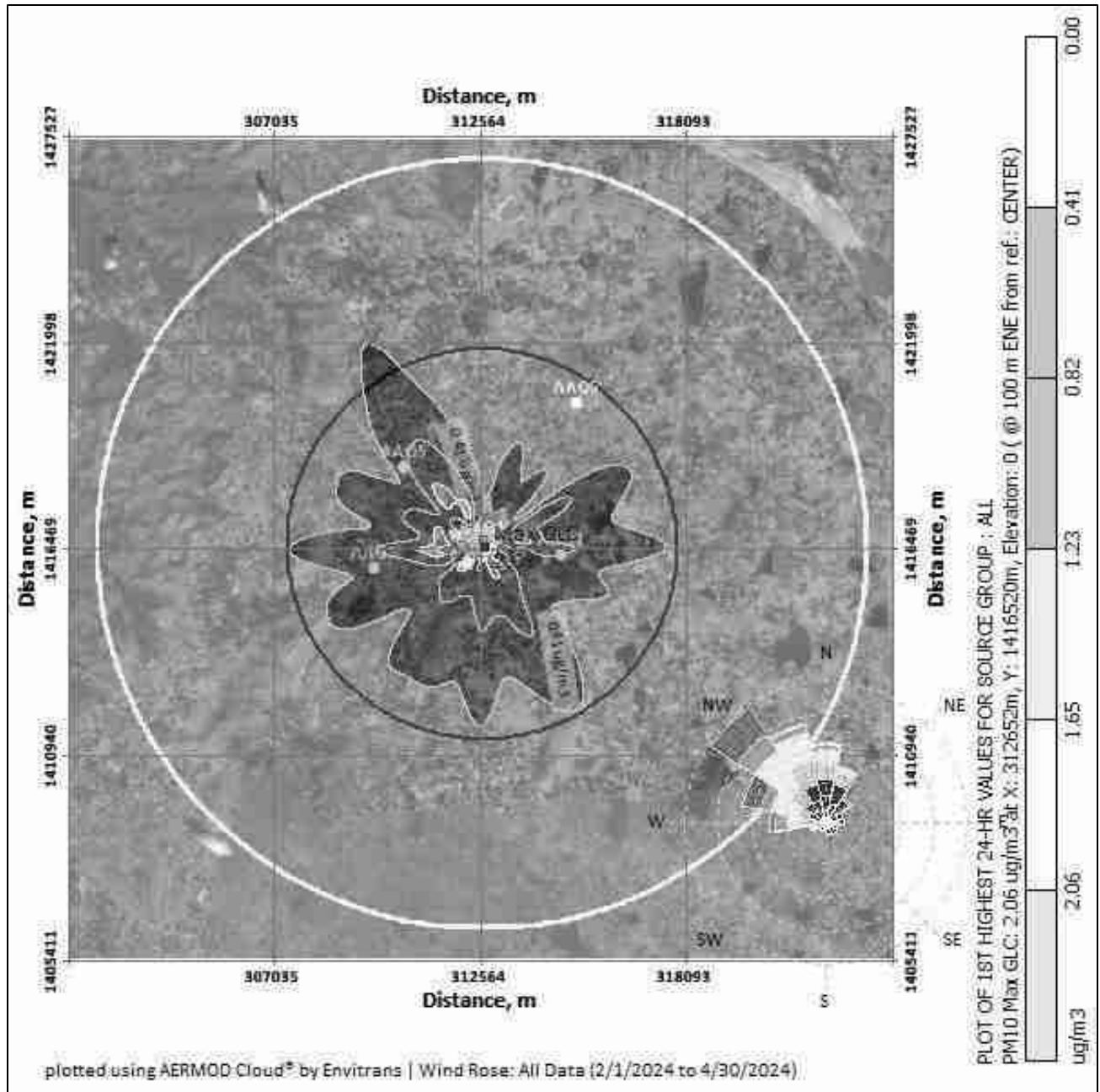
Note: \*Emission factor computed based on wind speed of 2 m/s, and moisture content of 10 %. + Emission factor computed based on silt content of 10 % and moisture content of 10 %

**FIG 4.2 Isopleth of GLC Prediction for PM<sub>2.5</sub>**



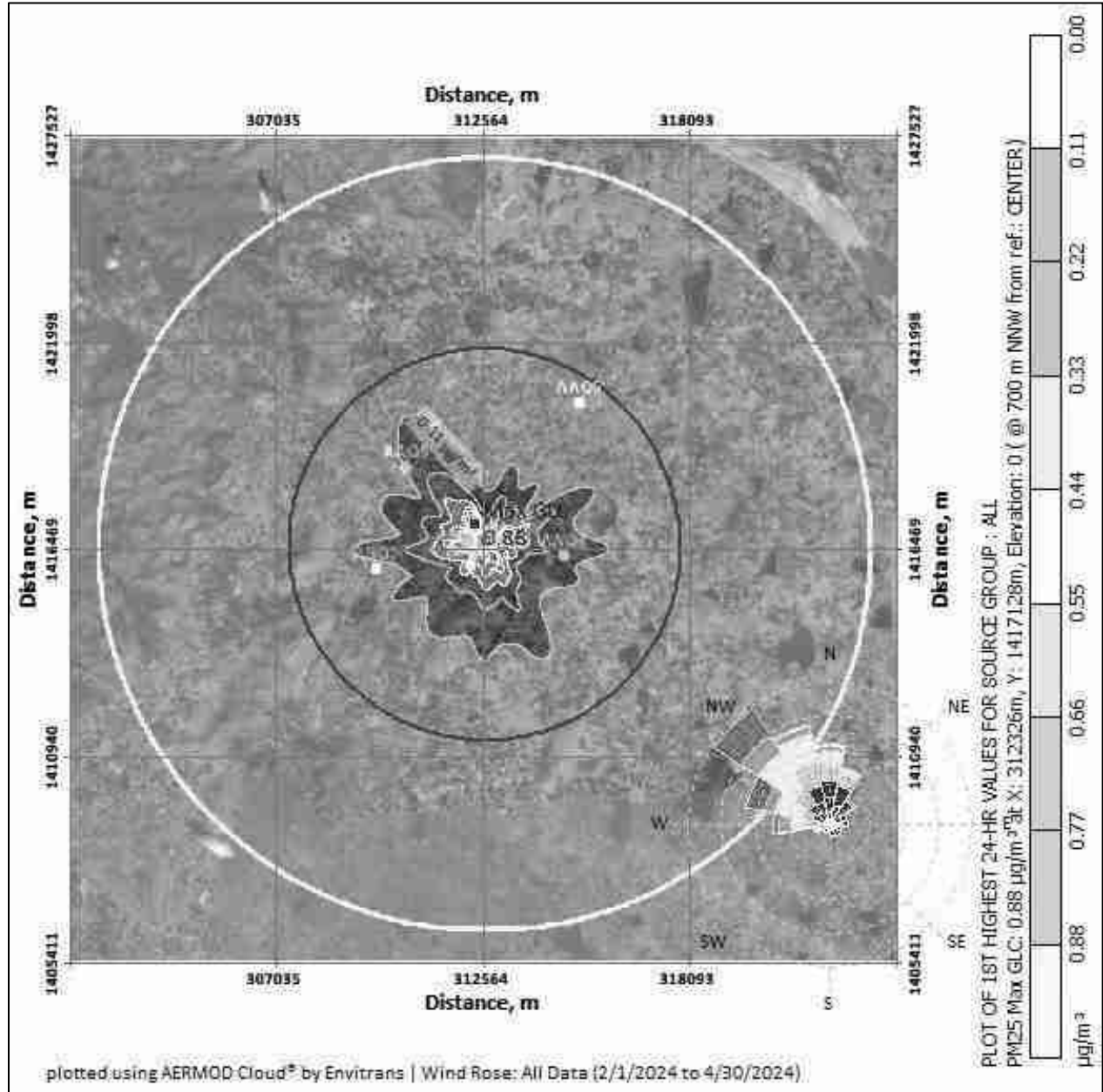
DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIG 4.3 Isopleth of GLC Prediction for PM<sub>10</sub>**



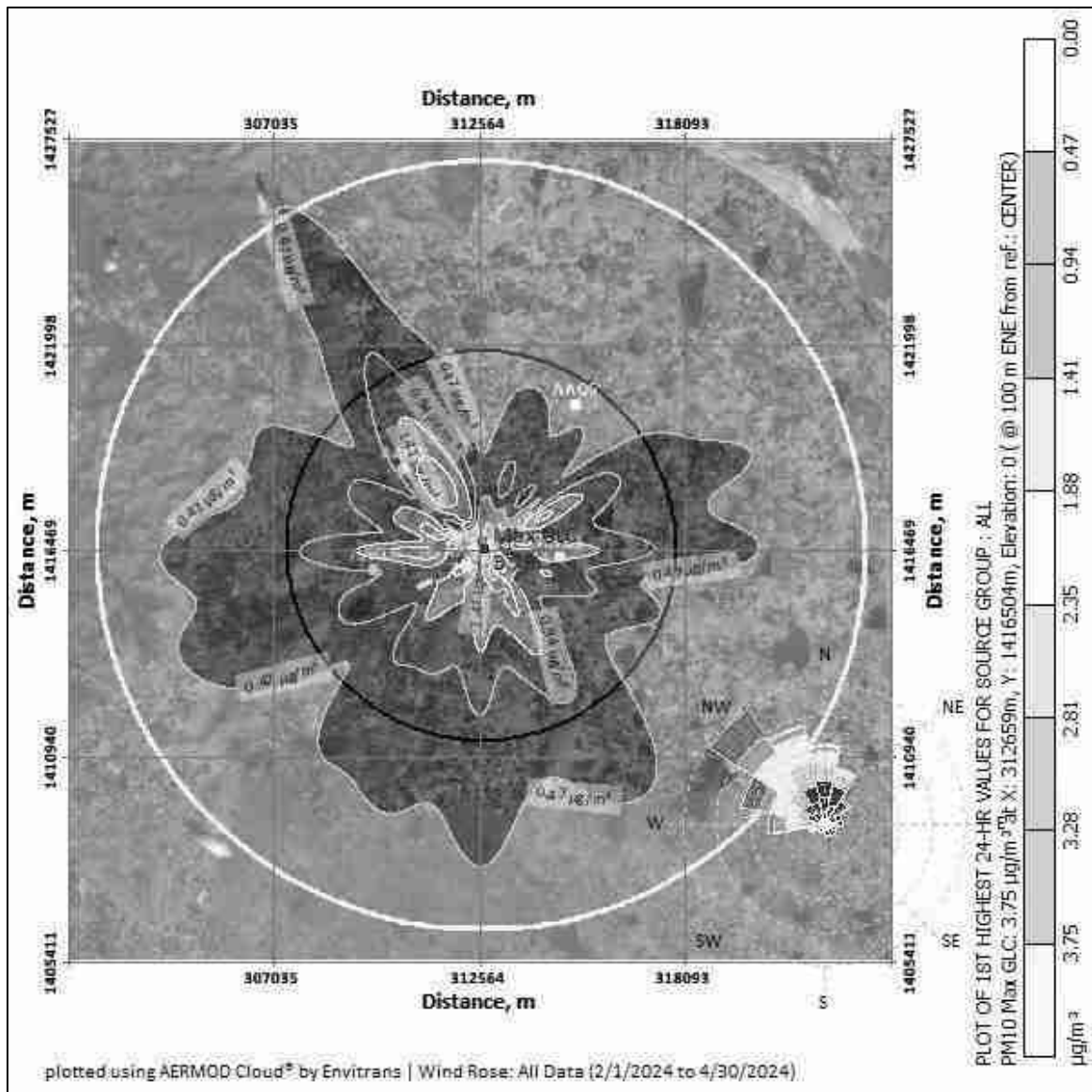
DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIG 4.4 Isopleth of GLC Prediction –Cumulative for PM<sub>2.5</sub>**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**FIG 4.5 Isoleth of GLC Prediction –Cumulative for PM<sub>10</sub>**



**PREDICTED AMBIENT AIR QUALITY:**

The post project Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No - 4.3.

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**Table 4.3 Concentrations of PM2.5 after Project Implementation**

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	53.20	0.27	53.47	60
2	Mohanavaram	25.00	0.21	25.21	
3	Varagur Patanam	25.35	0.16	25.51	
4	Nambarai	25.25	0.11	25.36	
5	Kavanur	22.00	0.05	22.05	
6	Vilapakkam	23.50	0.01	23.51	

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

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	58.10	0.88	58.98	60
2	Mohanavaram	28.23	0.77	29.00	
3	Varagur Patanam	29.12	0.66	29.78	
4	Nambarai	26.29	0.55	26.84	
5	Kavanur	24.10	0.44	24.54	
6	Vilapakkam	26.70	0.33	27.03	

**Table 4.3.b Concentrations of PM10 after Project Implementation**

SL. No	Location	Backgr ound Concen tration	Predicted incremental Concentration	Post Project Concentration	Statutor y Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	56.65	2.06	58.71	100
2	Mohanavaram	54.95	1.65	56.6	
3	Varagur Patanam	48.80	1.23	50.03	
4	Nambarai	53.85	0.82	54.67	
5	Kavanur	48.90	0.41	49.31	
6	Vilapakkam	51.30	0.20	51.5	

**Table 4.3.c Cluster Concentrations of PM10 after Project Implementation**

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	59.23	3.75	62.98	100
2	Mohanavaram	58.36	3.28	61.64	
3	Varagur Patanam	51.30	2.81	54.11	
4	Nambarai	56.23	1.88	58.11	
5	Kavanur	49.45	1.41	50.86	
6	Vilapakkam	54.22	0.94	55.16	

The above report seems that, even in the worst-case scenario, the resultant added concentrations with baseline figures show that the values of ambient air quality for  $\text{PM}_{10}$  are in the range of  $49.31 \mu\text{g}/\text{m}^3$  to  $58.71 \mu\text{g}/\text{m}^3$  and for  $\text{PM}_{2.5}$  are in the range of  $22.05 \mu\text{g}/\text{m}^3$  to  $53.47 \mu\text{g}/\text{m}^3$  and  $\text{PM}_{10}$  are surrounding area range of  $50.86 \mu\text{g}/\text{m}^3$  to  $62.98 \mu\text{g}/\text{m}^3$  and for  $\text{PM}_{2.5}$  are in the range of  $29.00 \mu\text{g}/\text{m}^3$  to  $58.98 \mu\text{g}/\text{m}^3$  which are within the statutory limits in each case. The mitigation measures undertaken in the mine for control of air pollution are given below.

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

#### **4.8 NOISE ENVIRONMENT**

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

#### **4.8.1 Likely Noise Levels in Lease Area due to mining activity**

<b>S.No.</b>	<b>Source Name</b>	<b>Noise Level in dB (A)</b>
1	Diesel generator	98
2	Excavator Operation	85
3	Trucks movement	83
4	Drilling	98
5	Blasting	100

It is expected that the generated noise will be limited within the mine lease area and there will be no profound effect of noise on the buffer zone. The noise level will be maintained below the threshold limit by vigorous maintenance of the machineries. Wet drilling with dust extractor is being used to reduce the noise level during the mining operation.

Noise levels were measured in the lease area and in the nearby villages Mohanavaram Village, Varagur Patanam Village, Nambarai Village, Kavanur village and Vilapakkam Village. The values are given below.

<b>S. No.</b>	<b>Location</b>	<b>Distance and direction from Mine lease area</b>	<b>Day Equivalent (in dBA)</b>	<b>Night Equivalent (dBA)</b>
1	Within Mine Lease area	Core Zone	48.7	40.1
2	Mohanavaram	0.54 km, S	45.1	39.1
3	Varagur Patanam	2.79 km, SW	42.1	37.6
4	Nambarai	2.00 km, N	43.9	38.9
5	Kavanur	2.77 km, NW	45.0	38.2
6	Vilapakkam	4.36 km N	48.2	39.7



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

#### **4.8.2 Impact of Noise due to mining**

- Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- As per DGMS (Directorate General of Mines Safety) limits, the acceptable noise level is 85 dB(A) for an exposure period of 8 hours.
- Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.
- Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing.

#### **4.8.3 Mitigation measures for Noise level control**

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

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

#### **4.9 IMPACTS DUE TO VIBRATION**

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

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

##### **Impacts**

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

##### **Mitigation measures**

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

#### **4.10 SOCIO ECONOMIC IMPACT**

The lease area is owned Patta land. The proponent has planned to spend INR 10,00,000 for CER activities.

#### **4.11 OCCUPATIONAL HEALTH**

##### **4.11.1 Impacts on humans due to various mining activities**

The occupational risk due to proposed mining may be due to drilling, blasting, excavation and transportation. A total of 30 workers will be engaged in the mining activity. Mining activity may cause various health problems to the mines workers as follows:

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

**Table 4.5 Impacts on humans due to various mining activities**

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

#### **4.11.2 Mitigation measures**

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

## **4.12 WASTE MANAGEMENT**

### **4.12.1 Solid Waste**

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

### **4.12.2 Liquid Waste**

There is no process effluent generation from this mine. Hence no liquid waste is generated. Domestic wastewater i.e. 1.35 KLD will be discharged in soak pit via septic tank.

### **4.12.3 Hazardous Waste Management**

In this project the following management practices will be followed:

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

### **4.12.4 Plastic Waste**

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

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## **CHAPTER 5**

### **ANALYSIS OF ALTERNATIVES**

#### **5.1 ALTERNATE TECHNOLOGY**

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

#### **5.2 ALTERNATE SITE**

The proposed project is a mining project and will be operated within the lease grant area. So, no alternate sites have been assessed. Since the resource (Rough Stone) is site-specific, the chosen location is the only site to carry out Rough Stone quarry.





## CHAPTER 6

### ENVIRONMENTAL MONITORING PROGRAMME

#### **6.1 ENVIRONMENTAL MONITORING**

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

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

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

#### **6.2 OBJECTIVES OF ENVIRONMENTAL MONITORING**

The objectives of Environmental Monitoring is as follows.

- Monitoring and analysis of air and water samples
- Implementing the control and protective measures.
- Coordinating the environment related activities within the project as well as with outside agencies. Collecting statistics of health of workers and population of the surrounding villages. Green belt development etc.
- Monitoring the progress of implementation of Environmental Management Programme.

- Monitoring the noise generation in and around the project areas.
- Monitoring of wastewater treatment and disposal of solid waste.
- The laboratory will be suitably equipped for sampling/testing for various environmental pollutants.

### **6.3 ENVIRONMENTAL MONITORING SCHEDULE**

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

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

### **6.4 LOCATION**

Monitoring of the above-mentioned environmental parameters would be done at appropriate and sensitive areas. The exact location of monitoring is given as Figure – 3.5, 3.11, 3.13 & 3.14.

### **6.5 MEASUREMENT METHODOLOGY**

#### **(a) 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.

**(b) Water Quality**

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

**(c) Noise Monitoring**

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

**(d) Green Belt and Afforested Areas**

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

**(e) Socio-Economics**

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

**6.6 TECHNICAL ASPECTS OF MONITORING THE EFFECTIVENESS OF MITIGATION MEASURES**

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

**6.7 EMERGENCY PROCEDURES**

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

**6.8 REPORTS TO BE GENERATED**

The Project Proponent will maintain records of each test and its interpretation so as

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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.

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

## **6.9 DETAILED BUDGET AND PROCUREMENT SCHEDULES**

The budget planned for environmental monitoring is given below.

**Table 6.3 - Environmental Management Plan Budget**

<b>SI .No</b>	<b>Budget planned for</b>	<b>Capital Cost Amount (INR)</b>	<b>Recurring Cost/Annum Amount (INR)</b>
1	Air Quality Sampling	10,55,000	11,75,000
2	Water Quality Sampling	2,40,000	2,45,000
3	Noise Monitoring	50,000	9,70,000
4	Implementation of EC, Mining Plan & DGMS Condition	17,25,000	15,58,000
5	Afforestation	4,30,000	60,000
	Additional Key EMP Expenses	5,50,000	10,000
	<b>Total</b>	<b>40,51,000/-</b>	<b>40,18,000</b>

## **CHAPTER 7**

### **ADDITIONAL STUDIES**

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

1. Public consultation
2. Risk Assessment
3. Social Impact Assessment, R&R Action Plans
4. Cumulative Environmental Impact Assessment Study
5. A detailed Hydrogeological Study
6. Slope Stability plan

#### **7.1 PUBLIC CONSULTATION**

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

#### **7.2 RISK ASSESSMENT & MANAGEMENT**

##### **(a) Objectives**

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

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

**The major hazards related to the mining activities are as follows**

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

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

<b>Table 7.1 Hazards and Precautionary measures</b>		
<b>S.No.</b>	<b>Hazard</b>	<b>Precautionary measures</b>
1	Fire	Fire suppressants will be made available at mines office and explosive storage room.
2	Explosion	Controlled blasting will be done. DGMS norms will be strictly followed during blasting. Blasting will be done only by trained professionals.
3	Combustion of chemicals or hazardous substances	Combustible Substances are stored with all precautionary measures. Fire suppressant is made available at storage site
4	Landslide	Width, height and slope will be maintained as suggested by DGMS

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5	Accidents during handlings	All vehicles will be properly maintained. Overloading will not be done. Only trained/certified people will be employed.
6	Accidental fall of people or animals	The lease area will be fenced properly. Only people working in the mines will be permitted to enter.

### **7.3 REHABILITATION AND RESETTLEMENT (R & R) PLAN**

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

### **7.4 CUMULATIVE ENVIRONMENTAL IMPACT ASSESSMENT STUDY**

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

<b>Table 7.2 Cluster Mines Details</b>					
Sl. No	Name and address	Village and Taluk	SF.No	Extent (in Ha)	Period of lease
<b>Existing Quarries</b>					
1	Thiru.A.V. Srathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-11)	0.80.00	10 Years 25.01.2018 to 24.01.2028
2	Thiru.A.V.Sarathy (Partner) "S" Traders	Arcot/ Anaimallur	374/5 (Part-10)	0.80.00	10 Years 18.07.2018 to 17.07.2028
3	Tmt. Subanithyadeepa	Arcot/ Anaimallur	374/5 (Part-9)	2.00.00	10 Years 26.03.2018 to 25.03.2028
4	Tmt.S.Arut Selvi	Arcot/ Anaimallur	374/5 (Part-12)	4.50.00	10 Years 18.11.2021 to 17.11.2031
5	M/s. Argunt Aggregate Pvt.Ltd (K.Chandrasekara)	Arcot/ Anaimallur	374/5 (Part-14)	2.00.00	10 Years 10.06.2021 to 09.06.2031
6	Aggregate Engineering Thiru.P.Radhakrishnan	Arcot/ Anaimallur	374/5 (Part-13)	0.61.00	10 Years 23.01.2022 to 22.01.2032
<b>Extent:10.71.0 Ha</b>					
<b>Abandoned Quarries:</b>					

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1	R.Adikesavelu	Arcot/ Anaimallur	433 (Part-2)	1.00.00	10 Years 10.08.2009 to 09.08.2019
2	G.S.Venkatesh	Arcot/ Anaimallur	374/5 (Part-7)	1.00.00	10 Years 20.09.2010 to 19.09.2020
3	M.A.Sangeethkumar	Arcot/ Nambarai	433 (Part-1)	0.80.00	10 Years 04.08.2009 to 03.08.2019
4	M.Sathishkumar	Arcot/ Anaimallur	374/5 (Part-2)	0.80.00	10 Years 04.11.2008 to 03.11.2018
<b>Extent:3.60.0 Ha</b>					
<b>Proposed Quarries</b>					
S.No.	Name and address	Village / Taluk	S.F.No.	Extent (in Ha)	Remarks
1.	M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti	Nambarai/ Arcot	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4	4.04.50	Proposed
<b>Extent:4.04.50Ha</b>					
<b>Total Extent: 18.03.55 Ha</b>					

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

## **7.5 AIR QUALITY IMPACT PREDICTION FOR THE CLUSTER**

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

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



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Various point and non-point sources of emissions from Proposed Rough Stone and Gravel Quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti is quantified and presented below:

Area Emissions of M/s. Dhana Blue Meta – Total Material handling (Rough Stone & Gravel)

Quantity, m <sup>3</sup>	<b>Rough Stone: 3, 71,250 m<sup>3</sup> Gravel: 50,304 m<sup>3</sup></b>
Operational Hours Per Year	2400
Activity Rate, t/hr.	395.28406
Emission of dust, g/t.	0.13
Emission of dust, g /hr.	52.052364
Area of influence, m <sup>2</sup>	625
Uncontrolled emission rate g/s/m <sup>2</sup>	0.0000370672
Controlled emission rate, PM10 g/s/m <sup>2</sup>	0.0000037067
Controlled emission rate, PM2.5 g/s/m <sup>2</sup>	0.000002470

Area Emissions – Total Material handling (Cluster Rough Stone & Gravel)

Quantity, m <sup>3</sup>	<ul style="list-style-type: none"> <li>• Thiru.A.V. Sarathy (Partner) "S" Traders: <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 60,678 m<sup>3</sup> and Gravel: 57,622 m<sup>3</sup>)</b></li> <li>• Thiru.A.V. Sarathy (Partner) "S" Traders <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 57,622m<sup>3</sup> and Gravel: 60,678 m<sup>3</sup>)</b></li> <li>• Tmt.S. Arut Selvi <b>(Rough stone: 13,00,328 m<sup>3</sup>)</b></li> <li>• M/s. Argunt Aggregate Pvt Ltd., <b>(Rough stone: 895650 m<sup>3</sup> and Gravel: 18880 m<sup>3</sup>)</b></li> <li>• Aggregate Engineering (Rough Stone: 142960 m<sup>3</sup> and Gravel:5695 m<sup>3</sup>).</li> <li>• Tmt.R.Subanithyadeepa <b>(Rough stone: 75130 m<sup>3</sup> and Gravel: 21600 m<sup>3</sup>)</b></li> </ul>
Operational Hours Per Year	2400
Activity Rate, t/hr.	395.28406
Emission of dust, g/t.	0.13
Emission of dust, g /hr.	52.052364
Area of influence, m <sup>2</sup>	625
Uncontrolled emission rate g/s/m <sup>2</sup>	0.000239029
Controlled emission rate, PM10 g/s/m <sup>2</sup>	0.000239029

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Controlled emission rate, PM2.5 g/s/m <sup>2</sup>	0.00015935
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Line Source – Transport of Rough Stone & Gravel from Pit to Boundary

Quantity, m <sup>3</sup>	<b>Rough Stone: 3, 71,250 m<sup>3</sup> Gravel:50,304 m<sup>3</sup></b>
Operational Hours Per Year	2400
Capacity of each Dumper (T)	10
Total No. of Tippers/ year	36475
Lead length/trip, Km	10
Total VKT/Year	71071
Emission Kg/VKT	0.22
Total emission Kg/Year	12484.04
Uncontrolled emission rate g/s/m	2.223753
Controlled emission rate, PM10 g/s/m	0. 2223753
Controlled emission rate, PM2.5 g/s/m	0.61770

Line Source – Transport of Rough Stone & Gravel from Pit to Boundary

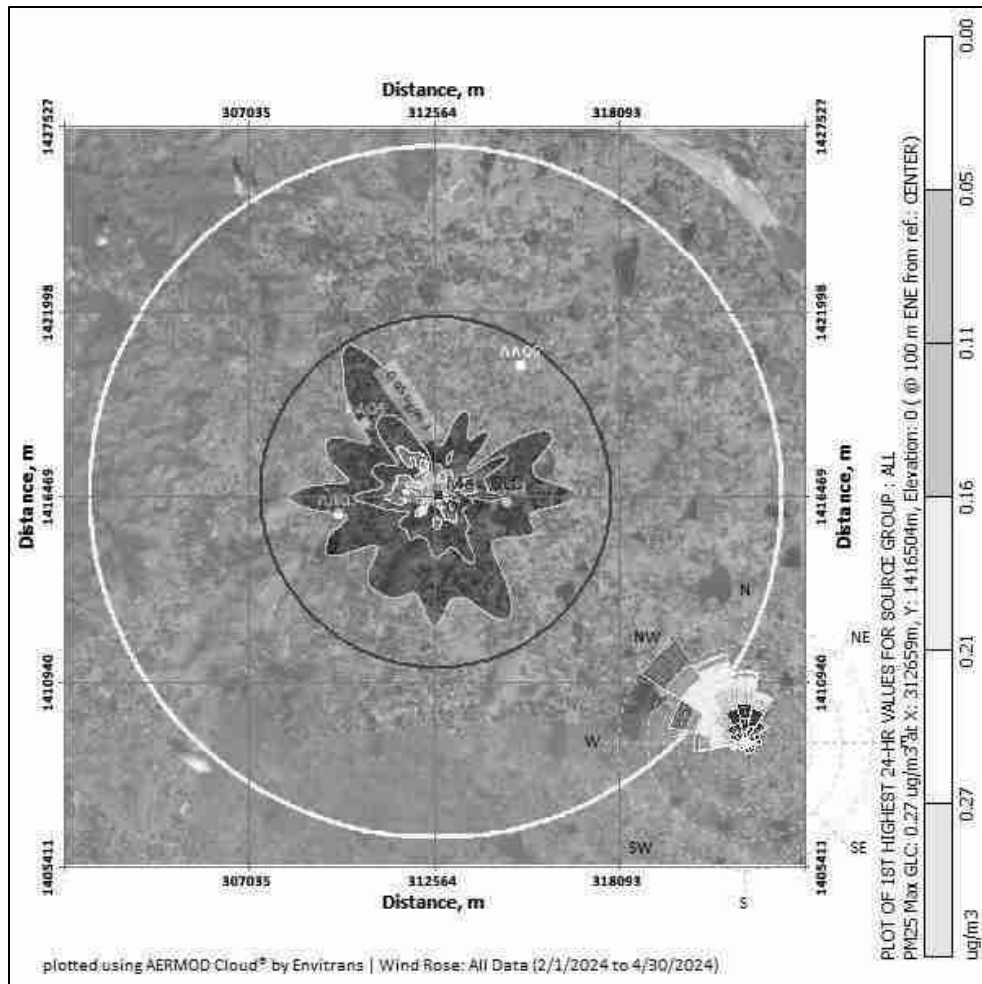
Quantity, m <sup>3</sup>	<ul style="list-style-type: none"> <li>•Thiru.A.V. Sarathy (Partner) "S" Traders: <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 60,678 m<sup>3</sup> and Gravel: 57,622 m<sup>3</sup>)</b></li> <li>•Thiru.A.V. Sarathy (Partner) "S" Traders <b>(Rough stone: 4,71,330 m<sup>3</sup>, Weathered Rock: 57,622m<sup>3</sup> and Gravel: 60,678 m<sup>3</sup>)</b></li> <li>•Tmt.S. Arut Selvi <b>(Rough stone: 13,00,328 m<sup>3</sup>)</b></li> <li>•M/s. Argunt Aggregate Pvt Ltd., <b>(Rough stone: 895650 m<sup>3</sup> and Gravel: 18880 m<sup>3</sup>)</b></li> <li>•Aggregate Engineering (Rough Stone: 142960 m<sup>3</sup> and Gravel:5695 m<sup>3</sup>)</li> <li>•Tmt.R.Subanithyadeepa <b>(Rough stone: 75130 m<sup>3</sup> and Gravel: 21600 m<sup>3</sup>)</b></li> </ul>
Operational Hours Per Year	2400
Capacity of each Dumper (T)	10
Total No. of Tippers/ year	45376
Lead length/trip, Km	0.9
Total VKT/Year	79023
Emission Kg/VKT	0.22
Total emission Kg/Year	16345.04
Uncontrolled emission rate g/s/m	3.98383
Controlled emission rate, PM10 g/s/m	0.398383

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

Controlled emission rate, PM2.5 g/s/m	0.34179
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Note: \*Emission factor computed based on wind speed of 2 m/s, and moisture content of 10 %. + Emission factor computed based on silt content of 10 % and moisture content of 10 %

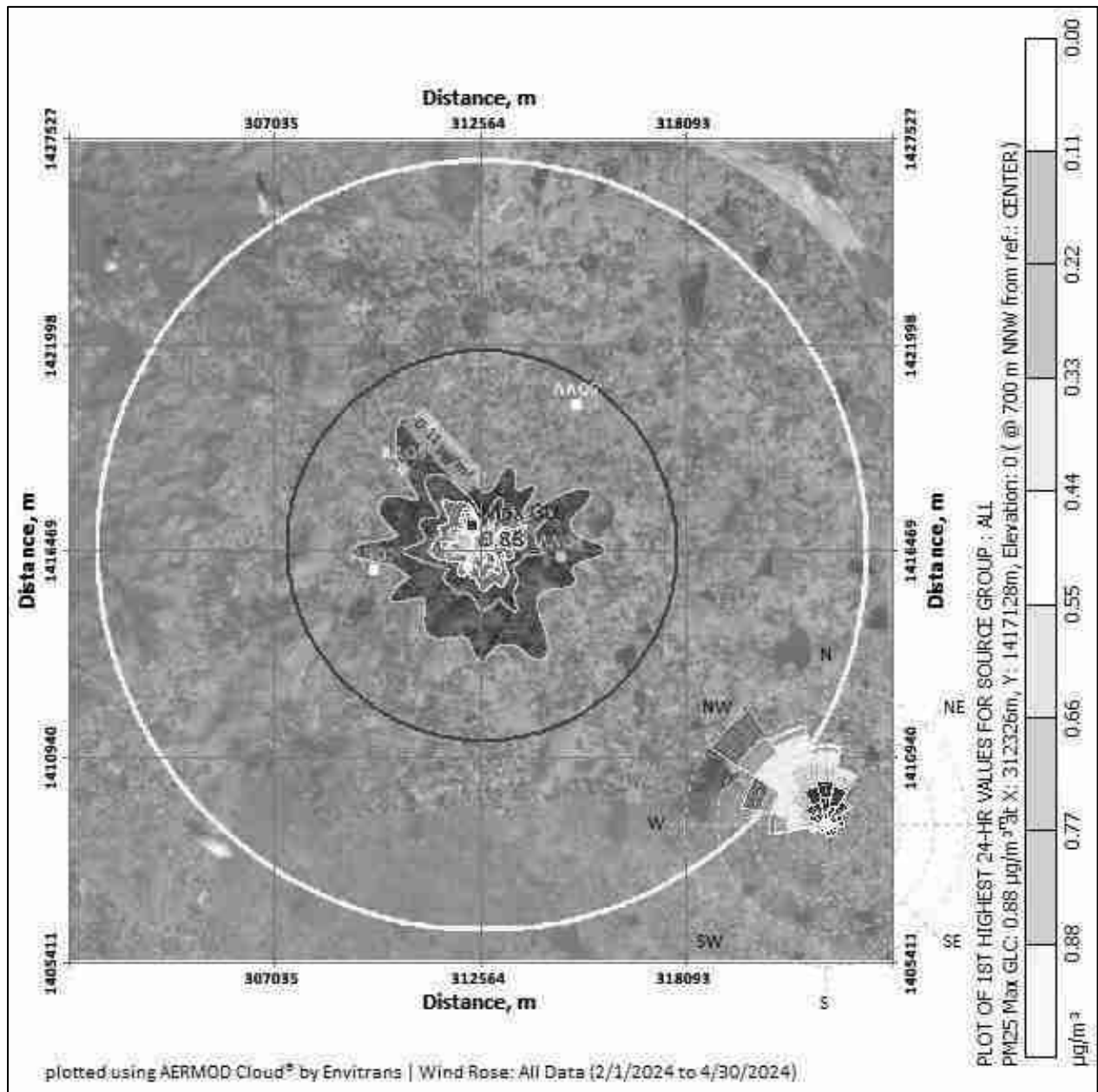
**FIG 7.1 Isopleth of GLC Prediction for PM<sub>2.5</sub>**





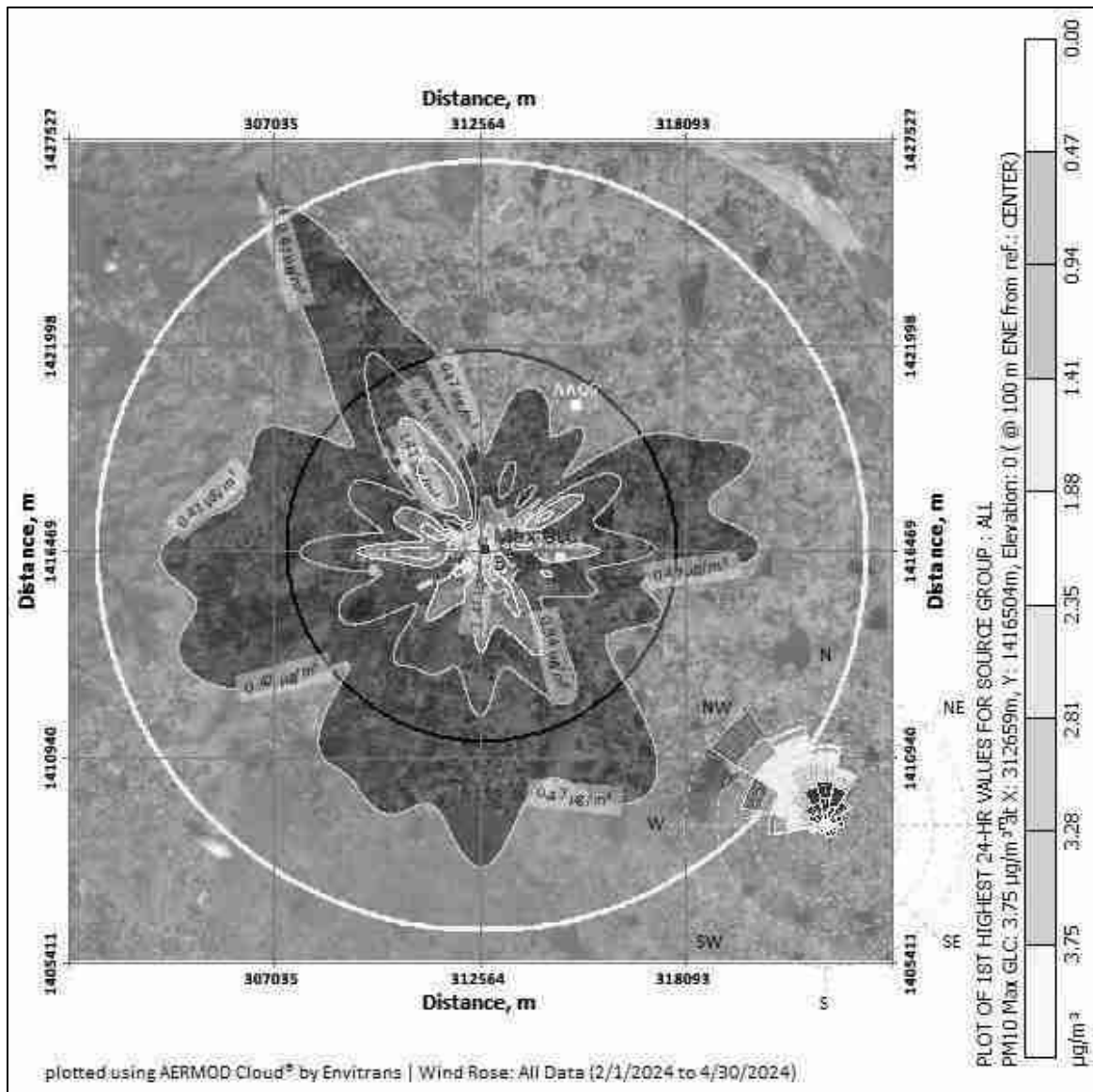
DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIG 7.3 Isopleth of GLC Prediction –Cumulative for PM<sub>2.5</sub>**



DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**FIG 7.4 Isopleth of GLC Prediction –Cumulative for PM<sub>10</sub>**



**PREDICTED AMBIENT AIR QUALITY:**

The post project Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No - 4.3.

DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.

**Table 7.3 Concentrations of PM2.5 after Project Implementation**

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	53.20	0.27	53.47	60
2	Mohanavaram	25.00	0.21	25.21	
3	Varagur Patanam	25.35	0.16	25.51	
4	Nambarai	25.25	0.11	25.36	
5	Kavanur	22.00	0.05	22.05	
6	Vilapakkam	23.50	0.01	23.51	

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

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	58.10	0.88	58.98	60
2	Mohanavaram	28.23	0.77	29.00	
3	Varagur Patanam	29.12	0.66	29.78	
4	Nambarai	26.29	0.55	26.84	
5	Kavanur	24.10	0.44	24.54	
6	Vilapakkam	26.70	0.33	27.03	

**Table 7.4 Concentrations of PM10 after Project Implementation**

SL. No	Location	Background Concentration	Predicted incremental Concentration	Post Project Concentration	Statutory Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	56.65	2.06	58.71	100
2	Mohanavaram	54.95	1.65	56.6	

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

3	Varagur Patanam	48.80	1.23	50.03
4	Nambarai	53.85	0.82	54.67
5	Kavanur	48.90	0.41	49.31
6	Vilapakkam	51.30	0.20	51.5

**Table 7.4.a Cluster Concentrations of PM10 after Project Implementation**

SL. No	Location	Backgr ound Concen tration	Predicted incremental Concentration	Post Project Concentration	Statutor y Limits in $\mu\text{g}/\text{m}^3$
1	Within Mine Lease area	59.23	3.75	62.98	100
2	Mohanavaram	58.36	3.28	61.64	
3	Varagur Patanam	51.30	2.81	54.11	
4	Nambarai	56.23	1.88	58.11	
5	Kavanur	49.45	1.41	50.86	
6	Vilapakkam	54.22	0.94	55.16	

The above report seems that, even in the worst-case scenario, the resultant added concentrations with baseline figures show that the values of ambient air quality for PM<sub>10</sub> are in the range of 49.31  $\mu\text{g}/\text{m}^3$  to 58.71  $\mu\text{g}/\text{m}^3$  and for PM<sub>2.5</sub> are in the range of 22.05  $\mu\text{g}/\text{m}^3$  to 53.47  $\mu\text{g}/\text{m}^3$  and PM<sub>10</sub> are surrounding area range of 50.86  $\mu\text{g}/\text{m}^3$  to 62.98  $\mu\text{g}/\text{m}^3$  and for PM<sub>2.5</sub> are in the range of 29.00  $\mu\text{g}/\text{m}^3$  to 58.98  $\mu\text{g}/\text{m}^3$  which are within the statutory limits in each case. The mitigation measures undertaken in the mine for control of air pollution are given below.

- Wet drilling will be practiced in drilling operation.
- Water sprinkling will be done in haul roads & loading etc.
- The mines workers are provided with the dust masks.
- Three layer plantation in the safety zone.

DG sets shall be periodically maintained as per manufacturer's specifications.

#### **Cumulative Impact on Traffic**



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

The mined-out minerals will be transported by means of trucks to the consumers like crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. The cumulative impact on traffic due to transportation of minerals from these two leases are provided below:

**Table 7.5 – Impact on Traffic**

<b>Quarry</b>	<b>Rough Stone Production Per day in tons</b>	<b>No. of Lorry Load per day</b>
P1	1237.5	124
P2	168	17
<b>Total</b>		<b>141</b>

The proposed projects will bring 141 trips per day. The existing road can absorb this additional traffic due to this project. Various measures like proper maintenance of road, covering of the loaded truck with tarpaulin, water sprinkling will be carried out to ensure no adverse impact on the logistical front.

## **7.6 HYDROGEOLOGICAL STUDY**

Timiri Lake is located at a distance of 2.9km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed ML area. Due to the presence of these water bodies nearby, a detailed hydrogeological study has been done. As suggested in the Precise Area Communication letter, safety distances of 7.5m to adjacent Patta land.

## **7.7 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 5m and bench width of 5m and 45° Slope is proposed. The depth of mining is proposed as 47m (BGL), which is the ultimate pit limit. Also, there is no overburden since the entire mined out material will be utilized.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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

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

### **7.8 DISASTER MANAGEMENT PLAN**

Proper preventive mechanism exists already in the mines.

- Precautionary measures are well explained to all staff by the mines in-charge.
- PPE necessary for all staff are available in the quarry. No person is allowed to enter inside without PPE. Avoiding quarrying during unfavorable environmental conditions.
- Carrying out safe blasting by following DGMS norms
- Safety equipment like fire extinguisher, first aid kit, etc are present in the mine.
- Proper maintenance of machinery used for mining
- In case of any emergency, the contact numbers of mines in-charge, mines manager, Management contact are available in the mines office.

### **7.9 MINE CLOSURE PLAN**

The quarrying operation is proposed up to a depth of 27 m (BGL) - (1-5 Years) and 47m (BGL) – (6-10 Years). The ultimate pit dimension will be 192x 131x (27m BGL five years). After completion of quarrying operation, the mined-out pit will be left as rain water harvesting pond. The quarry will be properly fenced with barbed wire.

## **CHAPTER 8**

### **PROJECT BENEFITS**

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

The mining activity at proposed Rough Stone and gravel of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti cluster will create direct employment opportunity for 30 local people. As per MOEF & CC Notification CER cost is arrived for an amount of 10 Lakhs as per project cost.



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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## **CHAPTER 9**

### **ENVIRONMENTAL COST BENEFIT ANALYSIS**

Environmental Cost Benefit Analysis is recommended during the scoping stage, if needed. In the ToR granted by SEIAA, Tamil Nadu it is not recommended. Hence not applicable.



## **CHAPTER 10**

### **ENVIRONMENTAL MANAGEMENT PLAN**

#### **10.1 OBJECTIVES**

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

#### **10.2 BASIC OF EMP**

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

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

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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

<b>Table 10.1 Environmental Management Plan</b>	
<b>Environmental Parameter</b>	<b>Mitigation Measures</b>
Air	Wet drilling to suppress the dust emission from drill machine
	Regular water sprinkling on haulage road through fixed water sprinkler.
	2 KLD of water will be used for dust suppression.
	Avoiding blasting during high wind period, night times and temperature inversion periods.
	Regular grading of haul road to clear accumulation of loose material.
	It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements
	Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution
	Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures.
Afforestation for control of dust.	
Surface water	The Timiri Lake is located at a distance of 2.9 km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed ML area. Adequate safety distance is left. No dumping of material or discharge will be done in or near the river or water body.



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

	<p>Surface runoff management structures like garland drain of required length which is connected to a settling pond will be constructed around the quarry to collect the rain water.</p> <p>Monthly or after rainfall, inspection will done to ensure performance of water management structures and systems.</p> <p>There is no discharge of any effluent into nearby water bodies.</p>
Ground Water	<p>The quarrying operation is proposed upto a depth of 27 m (BGL) - (1-5 Years) and 47m (BGL) – (6-10 Years), Water table is found at a depth of 60 m, hence the project will not intersect the Ground water table during entire quarry period.</p>
Water Consumption and Wastewater generation	<p>Water required for this project will be sourced from vendors.</p>
	<p>Domestic wastewater generation of 1.35 KLD will be treated in septic tank with soak pit.</p>
	<p>Conduct ground water and surface water monitoring for parameters specified by CPCB</p>
Noise	<p>The workers employed are provided with protection equipment, earmuffs and ear- plugs for the protection from high noise level generated at the mine site wherever required.</p>
	<p>Noise levels are controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes.</p>
	<p>Development of thick greenbelt all along the safety Zone (7.5 m and 10m) of the project area to attenuate the noise and the same will be maintained.</p>
	<p>Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation.</p>
	<p>Annual ambient noise level monitoring are carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring.</p>
Ground Vibration and Fly Rock Control	<p>Controlled blasting using delay detonators will be carried out to maintain the PPV value well within the prescribed standards of DGMS.</p>
	<p>Drilling and blasting will be carried under the supervision of qualified persons.</p>

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	Will be Ensured that blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material.
	To be Undertake noise or vibration monitoring.
Land Environment	At conceptual stage, the mining pits will be converted into Rain Water Harvesting pit. Remaining area will be converted into greenbelt area.
	No external dumping i.e., outside the project area. The entire material will be sold.
	Garland drains with catch pits / settlement traps to be provided all around the project area to prevent run off affecting the surrounding lands.
	The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.
	Frequent Soil and ground water testing as per Environmental Monitoring Plan.
Top Soil / Overburden	There is no overburden anticipated during the quarrying operation.
Biological Environment	During mining, thick plantation will be carried out on the mentioned safety zone areas.
	The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
	Regular review on green belt development programme.
	Year wise greenbelt development plan mentioned in Chapter III will be monitored.

### **10.3 ADMINISTRATION AND TECHNICAL SETUP**

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

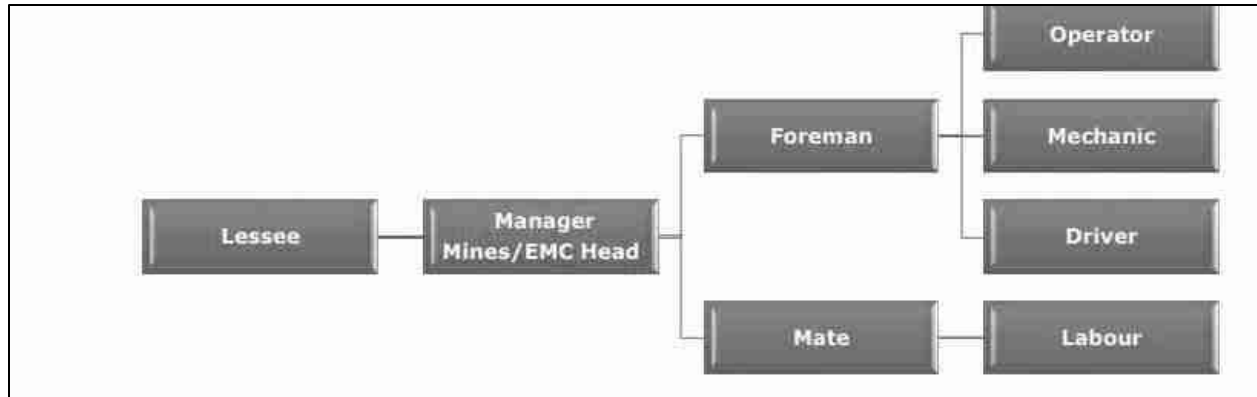
**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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- 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.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

**Fig. 10.1 Organization Chart**



1	Skilled	Mines Manager	1 No
		Foreman/Mate	3 Nos
		Operator	8 Nos
		Mechanic	1 No
2	Semi-Skilled	Diver	3 Nos
3	Un-skilled	Labours	14 Nos
<b>Total</b>			<b>30 Nos</b>

#### **10.4 ENVIRONMENTAL POLICY**

- The Project Proponent has stipulated a well-defined Environmental policy by which the lessee is committed to conducting business with a strong environmental conscience towards the community, customers, and employees. The Environment policy is given as below.
- The Environment policy of "Rough Stone and Gravel Quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti 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.

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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- The project is committed to the identification of possible impacts and will take the necessary management steps to mitigate the impacts.
- Environment performance will be regularly monitored and reported for continual improvement of our environment and health performance.

### **10.5 OCCUPATIONAL SAFETY & HEALTH MANAGEMENT**

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

### **10.6 COST OF ENVIRONMENTAL CONTROL MEASURES**

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

**Table 10.2 - Environmental Management Plan Budget**

SI .No	Budget planned for	Capital Cost Amount (INR)	Recurring Cost/Annum Amount (INR)
1	Air Quality Sampling	10,55,000	11,75,000
2	Water Quality Sampling	2,40,000	2,45,000
3	Noise Monitoring	50,000	9,70,000
4	Implementation of EC, Mining Plan & DGMS Condition	17,25,000	15,58,000
5	Afforestation	4,30,000	60,000
	Additional Key EMP Expenses	5,50,000	10,000
<b>Total</b>		<b>40,51,000/-</b>	<b>40,18,000</b>

### 10.7 CONCLUSION

Various aspects of mining activities were considered, and related impacts were evaluated. Considering all the possible ways to mitigate the Environmental concerns, an Environmental Management Plan was prepared, and INR 501.15 lakhs for ten years has been allocated for the same. The EMP is dynamic, flexible, and subjected to periodic review. For projects where major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP, and the project will have a positive impact on the study area.

## **CHAPTER 11**

### **SUMMARY& CONCLUSION**

#### **11.1 INTRODUCTION**

M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti has obtained Precise Area Communication Letter from The Assistant Director, Department of Geology and Mining Collectorate, Ranipet District vide Rc.No.149/2023(Mines) dated 29.09.2023 to quarry out 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel from an extent of 4.04.50 Ha located in S.F. No. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Rough Stone & Gravel Quarry of M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti" mines cluster falls under Schedule 1(a) of EIA Notification and its subsequent amendments the project comes under Category B1. The ToR for preparation of EIA/EMP report of the project was approved vide letter no. SEIAA-TN/F.No.10551/SEAC/1(a)ToR-1667/2023, dated 08.02.2024. This report has been prepared in line with the approved TOR for production of maximum excavation of 3, 71,250 m<sup>3</sup> (1-5 years) of Rough Stone & 1,37,575 m<sup>3</sup> (6-10 years) and 50,304 m<sup>3</sup> of gravel.

<b>S.No.</b>	<b>Description</b>	<b>Status/Remarks</b>
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone & Gravel quarry
4.	Type of Lease	Proposed quarry
5.	Extent of the lease	4.04.50 Ha
6.	Proposed depth of Mining	27 m (BGL) - (1-5 Years) 47m (BGL) - (6-10 Years)
7.	Method of mining	Opencast Semi-mechanized

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8.	Proposed lease period	10 Years
9.	Proposed Environmental Clearance	5 Years
10.	Proposed production quantity for five years	Rough Stone: 3, 71,250 m <sup>3</sup> (1-5 years) Rough Stone: 1,37,575 m <sup>3</sup> (6-10 years) Gravel: 50,304 m <sup>3</sup>

The Lessee M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti" is an individual with sound experience in the identification, quarrying and marketing of Rough Stone. The proposed land is an owned Patta land and attached as Annexure 6.

### **11.2 LOCATION**

This project site is located Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State with 12°49'11.77"N to 12°49'19.36"N and Longitude 79°16'15.96"E to 79°16'25.31"E with Survey of India Topo Sheet No. 57 P/05. To conduct the study, the proposed mine lease area (core zone) and an impact zone of 10 km radius (called buffer zone) around the proposed mine site were considered. The EIA report is based on three months baseline data (i.e. Feb 2024 to April 2024)

### **11.3 GEOLOGY**

The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock. The strike of the Charnockite formation is N10°E – S10°W with vertical dipping.

### **11.4 PROJECT DESCRIPTION**

This is a proposed Rough Stone and Gravel quarry by Opencast Semi-mechanized mining method with drilling and blasting. The quarrying is restricted up to a depth of 47m below ground level (6-10 years). The geological reserves are estimated to be 18,04,050 m<sup>3</sup> of Rough Stone and Gravel 80180 m<sup>3</sup>. The mineable reserve calculated by deducting 10m safety distance and bench loss. The mineable reserves is 5,08,825 m<sup>3</sup> of Rough Stone and Gravel 50,304 m<sup>3</sup> which will be recovered at the rate of 100% recovery up to a depth of 27 m (BGL) - (1-5 Years) an 47m (BGL) – (6-10 Years) for the period of ten years. It is proposed to quarry out rough stone with 5m bench



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height, 5m width with 45° slope using conventional Open cast Semi-Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough Stone.

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

S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	Proposed quarry
3	Category	B1
4	Nature of mineral	Minor Minerals
5	Production	Rough Stone: 3, 71,250 m <sup>3</sup> (1-5 years) Rough Stone: 1,37,575 m <sup>3</sup> (6-10 years) Gravel: 50,304 m <sup>3</sup>
6	Life	10 years
7	Waste generation and management	There is no overburden anticipated during the quarrying operation. Hence, no waste generation.
8	Bench height and width	Height and Width – 5m
9	Ultimate pit depth	27 m (BGL) - (1-5 Years) 47m (BGL) – (6-10 Years)
10	End use	Rough Stone will be loaded into tippers to needy buyers for producing aggregates, M-sand.

### **11.5 PROJECT REQUIREMENTS**

The requirements of the project is given below.

S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 8 KLD which will be procured from the outside agencies. Drinking water requirement is 3.0 KLD, Green belt development is 3.0 KLD and dust suppression is 2.0 KLD.
2	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid.

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3	Manpower requirement	Permanent employees - 15, temporary employees - 15
4	Financial requirement	The total project cost as per AMP will be INR 1,32,33,000 including Operational cost, Fixed Asset cost and EMP cost
5	Funds for Socio economic development	INR 10.00 Lakhs is allocated. In addition, any demand raised by people during public hearing will also be met.

### **11.6 DESCRIPTION OF LEASE AREA**

The features in the study area is given below.

<b>Table 11.1 Description of the lease area</b>				
<b>S.No.</b>	<b>Areas</b>	<b>Distance from project site</b>		
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius		
2	Areas which are important or sensitive for ecological reasons			
A	Wetlands, water courses or other water bodies,	<b>Water bodies</b>	<b>Distance (Km)</b>	<b>Direction</b>
		Timiri Lake	2.9	NE
		Palayanur Big Lake	6.2	NE
		Kilpadi Lake	7.42	NE
		Punnapadi ake	6.4	E
		Shri Gokul krishna lake	4.62	SE
		Pachayamma n Temple Lake	4.71	S
		Ponniyamman Temple Lake	3.16	W
B	Coastal zone, biospheres,	Nil within 10km radius		
C	Mountains, forests	Kannamangalam RF-7.8km (W) Punganur RF-8.5 KM (NW)		

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3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 15km radius
4	Inland, coastal, marine or underground waters	Nil within 15km radius
5	State, National boundaries	Nil within 15km radius
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 15km radius
7	Defense installations	Nil within 15km radius
8	Densely populated or built-up area	Timiri – 2.5 km in S
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Timiri – 2.5 km in S
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.

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

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

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## 11.7 AIR ENVIRONMENT

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

S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ1	Within Mine Lease area	Core Zone	12°49'15.65"N & 79°16'20.66"E
2	AAQ2	Mohanavaram	0.54 km, S	12°48'56.00"N & 79°16'7.44"E
3	AAQ3	Varagur Patanam	2.79 km, SW	12°48'55.75"N & 79°14'45.06"E
4	AAQ4	Nambarai	2.00 km, N	12°49'4.08"N & 79°17'29.1"E
5	AAQ5	Kavanur	2.77 km, NW	12°50'21.37"N & 79°15'12.28"E
6	AAQ6	Vilapakkam	4.36 km N	12°51'14.39"N & 79°17'46.16"E

Station ID	Min	Max	Avg.
<b>Particulate matter PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>			
AAQ-1	22.1	31.1	53.20
AAQ-2	22.7	27.3	25.00
AAQ-3	19.9	30.8	25.35
AAQ-4	22.1	28.4	25.25
AAQ-5	20.1	23.9	22.00
AAQ-6	21.3	25.7	23.50
<b>CPCB NAAQS 2009 for PM<sub>2.5</sub> - 60 µg/m<sup>3</sup></b>			
<b>Particulate matter PM<sub>10</sub> (µg/m<sup>3</sup>)</b>			
AAQ-1	46.2	67.1	56.65
AAQ-2	48.1	61.8	54.95
AAQ-3	42.2	55.4	48.80
AAQ-4	46.8	60.9	53.85
AAQ-5	44.2	53.6	48.90
AAQ-6	45.4	57.2	51.30
<b>CPCB NAAQS 2009 for PM<sub>10</sub> - 100 µg/m<sup>3</sup></b>			
<b>Sulphur Di-oxide as SO<sub>2</sub> (µg/m<sup>3</sup>)</b>			
AAQ-1	3.7	5.9	4.80
AAQ-2	3.4	5.7	4.55
AAQ-3	4.4	5.8	5.10
AAQ-4	3.5	5.6	4.55
AAQ-5	3.1	4.6	3.85
AAQ-6	3.4	5.6	4.50
<b>CPCB NAAQS 2009 for SO<sub>2</sub> - 80 µg/m<sup>3</sup></b>			

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Station ID	Min	Max	Avg.
<b>Oxide of Nitrogen as NO<sub>2</sub> (µg/m<sup>3</sup>)</b>			
AAQ-1	6.7	11.6	9.15
AAQ-2	6.7	8.4	7.55
AAQ-3	8.1	10.5	9.30
AAQ-4	6.2	11.8	9.00
AAQ-5	5.8	12.3	9.05
AAQ-6	6.1	13.1	9.60
<b>CPCB NAAQS 2009 for NO<sub>2</sub> – 80 µg/m<sup>3</sup></b>			

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

### **11.8 WATER ENVIRONMENT**

<b>Table 11.3 Results of Ground Water sampling Analysis in 6 locations</b>							Specification/ Limit (As per IS:10500: 2012 )	
	W1	W2	W3	W4	W5	W6	Desir able	Permi ssible
Odour	AGREEA BLE	AGREEA BLE	Agreeabl e	AGREEA BLE	AGREEA BLE	AGREEA BLE	Agre eabl e	Agree able
Turbidity	<1	<1	<1.0	<1	<1	<1	Agre eabl e	Agree able
pH at 25 °C	7.69	7.4	7.23	7.22	7.32	6.9	6.5 - 8.5	No Relax ation
Electrical Conductivity	726.5	803.6	1896	1655	2235	1892	1	5
Total Dissolved Solids	440	482	1140	995	1344	1136	500	2000
Total hardness as CaCO <sub>3</sub>	341	313	570	463	491	535	1	15
Calcium as Ca	87.1	85.5	96.6	105	101	124	200	600
Magnesium as Mg	29.5	23.8	78.9	48.5	57.0	54.2	200	600
Calcium as CaCO <sub>3</sub>	218	214	242	261	253	309	75	200
Magnesium as CaCO <sub>3</sub>	123	99.0	329	202	238	226		
Total alkalinity as CaCO <sub>3</sub>	267	323	412	457	505	376		
Chloride as Cl-	27.6	31.5	337	256	394	342	250	1000

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Free Residuals chlorine as Cl-	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	30	100
Sulphates as SO42-	82.3	90.8	292	204	372	280	45	No Relaxation
Iron as Fe	0.03	0.05	0.05	0.04	0.06	0.07	200	400
Nitrate as NO3	2.36	2.14	3.67	3.98	4.56	3.79	1	No Relaxation
Fluoride as F	0.15	0.19	0.41	0.24	0.12	0.17	0.1	0.3
Manganese as Mn	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	Not Specified	Not Specified

All the values were found to be within permissible limits

### **11.9 NOISE ENVIRONMENT**

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

<b>Table 11.4 Noise monitoring results</b>					
<b>S. No</b>	<b>Location</b>	<b>Day equivalent</b>	<b>Night equivalent</b>	<b>Day equivalent limits by CPCB</b>	<b>Night equivalent limits by CPCB</b>
1	Within Mine Lease area	48.7	40.1	75	70
2	Mohanavaram	45.1	39.1		
3	Varagur Patanam	42.1	37.6		
4	Nambarai	43.9	38.9		
5	Kavanur	45.0	38.2		
6	Vilapakkam	48.2	39.7		

### **11.10 SOIL ENVIRONMENT**

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

<b>Table 11.5 Results of Soil Sample Analysis</b>								
<b>S. No</b>	<b>Parameter</b>	<b>Unit</b>	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S5</b>	<b>S6</b>
S. No	Parameter	Unit	Results	Results	Results	Results	Results	Results
1	pH at 25 °C	-	7.62	6.12	7.54	7.28	7.11	7.36
2	Electrical Conductivity	µmhos/cm	62.47	54.89	76.58	104.5	45.68	87.11
3	Dry matter content	%	95.14	96.68	97.04	93.91	95.91	93.55
4	Water Content	%	4.86	3.32	2.96	6.09	4.09	6.45
5	Organic Matter	%	0.87	1.02	0.56	0.73	0.81	1.40
6	Soil texture	-	SILT LOAM	SILT LOAM	LOAM	LOAM	SILT LOAM	LOAM
7	Grain Size Distribution	%	30.56	27.02	44.36	40.58	23.86	45.7
	i. Sand							
	ii. Silt							
8	iii. Clay	%	18.28	11.49	10.22	12.18	18.32	10.48
10	Phosphorous as P	mg/kg	0.89	1.63	1.58	2.81	1.53	1.92
11	Sodium as Na	mg/kg	700	674	799	594	831	402
12	Potassium as K	mg/kg	765	733	897	683	959	539
13	Nitrogen and Nitrogenous Compounds	mg/kg	221	329	165	193	249	442
14	Total Soluble Sulphate	%	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)	BDL(D.L. 0.02)
15	Porosity	%	23.2	25.2	27.4	22.3	29.8	21.5
16	Water Holding Capacity	Inches/foot	3.1	3.4	3.6	2.9	3.8	3.5

### **11.11 BIOLOGICAL ENVIRONMENT**

#### **FLORA**

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

#### **FAUNA**

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

### **11.12 LAND USE**

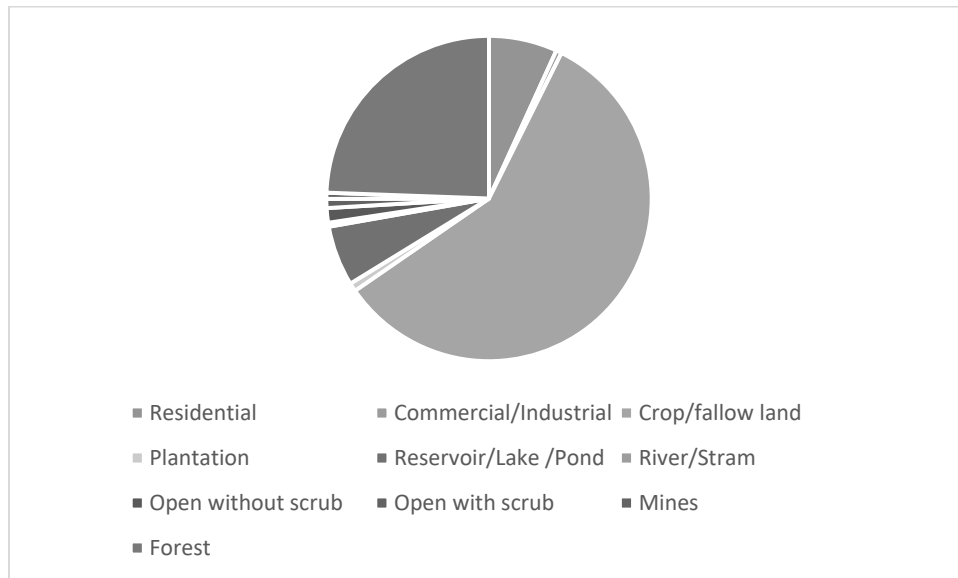
The land use land cover data is found using the LANDSAT – 9 satellite imagery. The number of bands used are 11. The land use pattern is given below:

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

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	23.69	7.36	Residential	21.90	6.80
				Commercial/Industrial	1.79	0.56
2	Agriculture	189.6	58.88	Crop/fallow land	186.9	58.04
				Plantation	2.70	0.84
3	Water bodies	20.53	6.38	Reservoir/Lake /Pond	19.28	5.99
				River/Stram	1.25	0.39
4	Waste Land	7.56	2.35	Open without scrub	4.65	1.44
				Open with scrub	2.91	0.90
5	Others	80.62	25.04	Mines	1.97	0.61
				Forest	78.65	24.43
Total					322	



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### **11.13 SOCIO ECONOMIC ENVIRONMENT**

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

The following data area collected from secondary data.

- Demographic pattern.
- Health pattern
- Occupational structure.
- Amenities available.

The Landuse expert visited more than 6 villages in the study area namely Timiri, Vilari, Mohanavaram, Nambarai and Varagur Patanam, villages. Discussions were held with the people from nearby locality to study the social and economic conditions prevailing in the area. The expert also visited nearby hospitals, primary health centres and Timiri. The following observations were made.

Primary schools are available in many villages. For hospital facilities, people in the locality have to go to hospital in Timiri which is about 2.5Km – SE from the lease area.

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- Major schools with higher secondary and senior secondary schools are located in Timiri.
- The major Timiri Union located in the area is Ranipet.
- Facilities like petrol pump stations, ATM facility are available in Timiri.

#### **11.14 HYDROGEOLOGY OF THE LEASE AREA**

Since there is Timiri Lake is located at a distance of 2.9 km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed site, the hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery. Timiri Lake is located at a distance of 2.9km in North Eastern side and Palayanur Big Lake is located at a distance of 6.2 km north eastern direction of the proposed ML area.

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

#### **11.15 GROUND WATER STUDY**

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

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

As far as the mining lease area is considered, the area is rocky and no major seepage is envisaged. The production quantity is very less and the depth proposed is 47m bGL. Hence, there will not be any major impact due to mining on water levels or ground water levels in the area.

## **ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental impacts on the following environments are identified.

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

### **11.16 LAND ENVIRONMENT: IMPACT AND MITIGATION MEASURES**

The major impact due to this project on land environment is the change in land use. Since this quarry is a small one and the production is less, mining activity will be carried out upto 47m BGL. Other than quarrying of minerals, no other change will be done since there is no dumping. To prevent soil erosion during monsoon season, garland drain will be constructed with silt traps. At the mine closure stage, 4.04.50 Ha of lease area will be left as rain water harvesting pond. 1.49.50 Ha will be developed with green belt. For this, plants like Pongamia pinnata, Syzigium cumini, Albizia lebeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indica are selected. A total of 1700 trees are planned to be planted. Spacing will be 3m x 3m.

### **11.17 WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES**

There is no water body present inside the lease area. The entire water requirement for the project is 8.0 KLD which will be sourced from outside agencies. Negligible sewage will be generated, for which a septic tank with soak pit will be set up.

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

Since the mining operation will be limited upto depth of 27 m (BGL) - (1-5 Years) and 47m (BGL) – (6-10 Years), there will not be any seepage. However, the rain water

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percolation and collection of water from seepage shall be less than 300lpm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5H.P.Motor. The quality of water is expected to be potable. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water can also be used for plantation purposes

The major water bodies found in the buffer zone are.

- Timiri Lake -2.9km (NE)
- Palayanur Big Lake 6.2km (NE)
- Kilpadi Lake 7.42km (NE)
- Punnapadi Lake 6.4km (E)
- Shri Gokul krishna lake4.62 km (SE)
- Pachayamman Temple Lake4.71km (S)
- Ponniyamman Temple Lake3.16km (W)

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

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

- Rain water falling in the quarry will be collected efficiently through garland drains.
- Water thus collected will be passed through collection tank with silt traps. This water can be used by the proponent for water sprinkling and for green belt purposes.

- Excess water after desiltation will be provided to downstream users, if any

### **11.18 BIOLOGICAL ENVIRONMENT: IMPACT AND MITIGATION MEASURES**

#### **Impacts**

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

#### **Mitigation measures**

- Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.
- To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants
- After the mine closure stage, the mine pit will be left as rain water collecting tank, which can attract bird population in the nearby areas.
- To prevent entry of animals, the mining area will be properly fenced.

### **11.19 AIR ENVIRONMENT: IMPACT AND MITIGATION MEASURES**

The major air pollutants due to mining operations are fugitive emissions like PM<sub>10</sub>, PM<sub>2.5</sub>. Other than these pollutants, gaseous emissions of sulfur dioxide (SO<sub>2</sub>) and oxides of nitrogen (NO<sub>x</sub>) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

The major impacts are Dust emission due to drilling, blasting and transportation. The major mitigation measures include Using Wet drilling methods, Allowing drilling only with PPE, Carrying out blasting only during specified times, Avoiding blasting during unfavourable weather conditions, Using explosives of good quality, Using mist sprayers Regular wetting of transport, Covering the materials carried in tippers with tarpaulin, Proper maintenance of vehicles used for transportation, Conducting regular

emission tests for vehicles used for transport Development of greenbelt is proposed in the safety zone of 10m and 7.5m barriers in the lease area.

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

## **11.20 NOISE ENVIRONMENT: IMPACT AND MITIGATION MEASURES**

### **Impacts**

- Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- As per DGMS (Directorate General of Mines Safety) and OSHA (Occupational Safety and Health Administration) limits, the acceptable noise level is 85 dB(A) for an exposure period of 8 hours.
- Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.
- Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus, which causes a persistent high-pitched ringing in the ears, irritations or distorted hearing

### **Mitigation measures**

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

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

### **11.21 VIBRATION: IMPACT AND MITIGATION MEASURES**

#### **Impacts**

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

#### **Mitigation measures**

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

### **11.22 SOCIO ECONOMIC ENVIRONMENT**

#### **Impact and Mitigation measures**

No land is acquired from anyone. No rehabilitation is needed. Hence, there is no negative impact. The proponent has planned to spend INR 10,00,000 for CER activities. This amount will be subjected to change after public hearing.

### **11.23 OCCUPATIONAL HEALTH**

#### **Impacts**

Dust generation due to drilling and blasting, Noise generation due to drilling and blasting, unexpected accidents. Continuous exposure to dust causes Pneumonia, Tuberculosis, Rhematic arthritis and Segmental Vibration, Short term impact will be lack of sleep, high blood pressure and heart ailments. Long term exposure may lead

to partial or permanent deafness, Risks include fly rocks, cracks or fissures due to improper mining methods

### **Mitigation measures**

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

### **11.24 ENVIRONMENTAL MONITORING PROGRAMME**

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



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months, soil samples will be analyzed once per season. For EMP, a budget of INR 501.15 lakhs is allocated.

## **11.25 PROJECT BENEFITS**

### **Financial benefits**

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

### **Social benefits**

- This project provides employment to 30 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 10,00,000 is allocated.
- Based on the demand of the people during public hearing, further funds will be allocated, if necessary.
- Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and 501.15 lakhs for the five years has been allocated as EMP cost. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.



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## CHAPTER 12

### DISCLOSURE OF CONSULTANTS

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

Declaration by Experts contributing to the proposed Rough Stone & Gravel Quarry over an extent of 4.04.50 Ha, while total cluster area of 18.03.55 Ha at Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

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

EIA Coordinator Name: M. Manikandan

  
Signature & Date


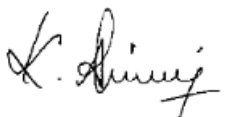




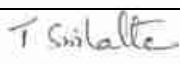
Period of involvement: February 2024 to April 2024.

**Contact information:**

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



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



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

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

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

			<i>Period: Feb 2024 to April 2024.</i>	
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**TM-FAE:**

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

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

					management practices, utilization of top soil	
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**TM-FAA:**

S. No	Name of TM (FAA)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work	Signature
1	Suresh	WP	<i>Abirami Kaliaperumal</i>	February 2024 to April 2024	Associated with the expert in assessing existing water quality, studying impact of the project on surface and ground water quality, suggesting mitigation measures for minimizing impact	<i>M. Suresh</i>
		AP	<i>Dhanalakshmi Ramanathan</i>		Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	
2	S. Kamaraj	SC	Shishupal Singh		Associated with the expert in Soil monitoring, secondary data	<i>S. Kamaraj</i>



**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

					collection on soil type, soil management practices, utilization of top soil	
		RH	S.V.Prashant	February 2024 to April 2024	Associated with the expert in Identification of the Risk related to the mining activities. Preparation of emergency disaster management plan. Plan for supply of safety equipment for the workers	
3.	S. Asan Ali	WP	<i>Abirami Kaliaperumal</i>	February 2024 to April 2024	Associated with the expert in assessing existing water quality, studying impact of the project on surface and ground water quality, suggesting mitigation measures for minimizing impact	<i>S. Asan ali</i>
		GEO	<i>Valliappan Meyyappan</i>		Associated with the expert in preparing Geological map,	


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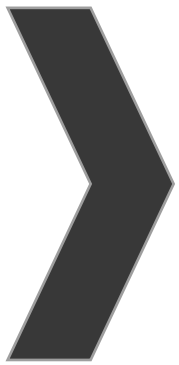
					assessing stability of quarry slope faces and dump, management plan for mine stability, after use of mining quarry and geological features of the area	
		AP	Dhanalakshmi Ramanathan		Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	
		NV	Dhanalakshmi Ramanathan		Associated with the expert in monitoring and analysis of blast induced ground vibration in order to develop the site-specific equation for its prediction, monitoring of fly rocks & air blast (noise), preparation of SOP's for the safety blasting	

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

					practice in the mines.	
4.	Mownica. B	AP	Dhanalakshmi Ramanathan	February 2024 to April 2024	Associated with expert in assessing existing air quality, impact of the project on ambient air and suggesting mitigation measures for air pollution	Mownica. B
		NV	Dhanalakshmi Ramanathan		Associated with the expert in monitoring and analysis of blast induced ground vibration in order to develop the site-specific equation for its prediction, monitoring of fly rocks & air blast (noise), preparation of SOP's for the safety blasting practice in the mines.	
5.	G.Balasubramani	GEO	<i>Valliappan Meyyappan</i>	February 2024 to April 2024	with the expert in preparing Geological map, assessing stability of quarry slope faces and dump,	

**DRAFT EIA/EMP FOR THE PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S.DHANA BLUE METALS, (PROPRIETOR THIRU.S. DHANAKOTTI) OVER AN EXTENT OF 4.04.50 HA LOCATED AT S.F.NOS. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C AND 367/4. OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE.**

					management plan for mine stability, after use of mining quarry and geological features of the area	
		NV	Dhanalakshmi Ramanathan		Associated with the expert in monitoring and analysis of blast induced ground vibration in order to develop the site-specific equation for its prediction, monitoring of fly rocks & air blast (noise), preparation of SOP's for the safety blasting practice in the mines.	



# ANNEXURE-1





THIRU. A.R. RAHUL NADH, I.A.S.,  
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY-TAMILNADU

3<sup>rd</sup> Floor, Panagal Maaligai,  
No.1, Jeenis Road, Saidapet,  
Chennai - 600 015.  
Phone No. 044-24359973  
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr.No.SEIAA-TN/E.No.10551/SEAC/1(a)ToR-1667/2023, Dated:08.02.2024.**

To

M/s. Dhana Blue Metals,  
(Proprietor Thiru. S. Dhanakotti)  
No.6, GST Road,  
Pallavaram Taluk,  
Chengalpattu District – 600 043.

Sir / Madam,

**Sub:** SEIAA, Tamil Nadu – Proposed Rough Stone and Gravel Quarry Lease over an extent of 4.04.50 Ha at S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu by M/s. Dhana Blue metals - under project category – “B1” and Schedule S.No.1 (a) “Mining of Minerals Projects” of EIA Notification, 2006 as amended – **ToR issued along with Public Hearing - preparation of EIA report – Regarding.**

- Ref:** 1. Online proposal No. SIA/TN/MIN/451002/2023 dated.11.11.2023.  
2. Your application submitted for Terms of Reference dated:24.11.2023.  
3. Minutes of the 436<sup>th</sup> SEAC meeting held on 29.12.2023.  
4. Minutes of the 693<sup>rd</sup> SEIAA meeting held on 08.02.2024.

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

MEMBER SECRETARY  
SEIAA-TN

The proponent, M/s. Dhana Blue metals has submitted an application for Terms of Reference (ToR) on 24.11.2023, for the Proposed Rough Stone and Gravel Quarry Lease over an extent of 4.04.50 Ha at S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.

**Discussion by SEAC and the Remarks:-**

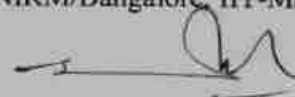
The proposal was placed for appraisal in the 436<sup>th</sup> Meeting of SEAC held on 29.12.2023. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

**The SEAC noted the following:**

1. The Proponent, M/s. Dhana Blue metals has applied for Terms of Reference for the Proposed Rough Stone and Gravel Quarry Lease over an extent of 4.04.50 Ha at S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 in Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1 (a) "Mining of Minerals Projects" of the Schedule to the EIA Notification, 2006.
3. As per the mining plan, the production for 5 years is 3,71,250m<sup>3</sup> of rough stone & 50,304m<sup>3</sup> of gravel up to a depth of 27m below ground level.

Based on the presentation made by the proponent, SEAC decided to recommend the proposal for Terms of Reference (TOR) with Public Hearing subject to the following additional TORs & ToRs in Annexure of this minutes, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. The proponent shall revise the mining plan by leaving a safety distance of 100m from the toe of the dump situated on the northern side of the mine lease. The revised mining plan shall be submitted after incorporating the above safety distance, duly approved by the competent authority in the Dept. of Geology & Mining.
2. The Project Proponent shall furnish the revised EMP based on the study carried out on impact of the dust & other environmental impacts due to proposed quarrying operations on the nearby agricultural lands for remaining life of the mine in the format prescribed by the SEAC considering the cluster situation.
2. Since the structures are situated within a radial distance of 500 m, the PP shall carry out the scientific studies by involving anyone of these reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, IIT-Madras,



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NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus to design the controlled blast parameters and safe blasting practices in the cluster of mines for reducing the blast-induced ground/air- vibrations and eliminating the fly rock from the blasting operations, through conducting the trial blasts in the adjacent operating quarry located in the same cluster to monitor the blast-induced ground & air vibration (noise) by installing the DGMS approved 'Vibration Monitoring System (VMS)' near the all the structures (houses/temples/public roads) located within 500 m radial distance from the mine leases of the cluster and also at the distances of 750 m & 1000 m. Apart from the above, the PP shall capture the level & direction fly rock produced through slow-motion video. **The PP shall submit a copy of the aforesaid report to the SEIAA during the time of appraisal for obtaining the EC after incorporating the same in the revised EIA being submitted at the Public Hearing.**

3. The PP shall prepare a conceptual working plan accommodating the remedial actions based on the scientific studies carried out to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and slope stability action plan during the time of appraisal for obtaining the EC.
4. The PP shall undertake Hydrogeology study considering nearby existing wells, Aquifers, Ground water & surface water levels etc., within the radius of 1km.

#### ANNEXURE I

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
  - (i) Original pit dimension
  - (ii) Quantity achieved Vs EC Approved Quantity
  - (iii) Balance Quantity as per Mineable Reserve calculated.
  - (iv) Mined out Depth as on date Vs EC Permitted depth
  - (v) Details of illegal/illicit mining
  - (vi) Violation in the quarry during the past working.
  - (vii) Quantity of material mined out outside the mine lease area
  - (viii) Condition of Safety zone/benches

  
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- (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
  3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
  4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
  5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.
  6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
  7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.
  8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
  9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.

  
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10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.
12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
14. Quantity of minerals mined out.
  - Highest production achieved in any one year
  - Detail of approved depth of mining.
  - Actual depth of the mining achieved earlier.
  - Name of the person already mined in that leases area.
  - If EC and CTO already obtained, the copy of the same shall be submitted.
  - Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,
17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions

  
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- of the Mines Act 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
  21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.
  22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
  23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
  24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
  25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
  26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.



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27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
28. Impact on local transport infrastructure due to the Project should be indicated.
29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.
32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.



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37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

  
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**Appendix -I**  
**List of Native Trees Suggested for Planting**

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

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40	<i>Premna mollissima</i>	Munnai	முள்ளை
41	<i>Premna serratifolia</i>	Narumunnai	நறு முள்ளை
42	<i>Premna tomentosa</i>	Malaipoovarasu	மலை பூவரசு
43	<i>Prosopis cinerea</i>	Vannu maram	வண்ணி மரம்
44	<i>Pterocarpus marsupium</i>	Vengai	வேங்கை
45	<i>Pterospermum canescens</i>	Vennangu, Tada	வேண்ணாங்கு
46	<i>Pterospermum xylocarpum</i>	Polavu	பூவடி
47	<i>Putranjiva roxburghii</i>	Karipala	கரிபலா
48	<i>Salvadora persica</i>	Ugaa Maram	ஊகா மரம்
49	<i>Sapindus emarginatus</i>	Manipungai, Soapukai	மணிப்புங்கை சோப்புக்காய்
50	<i>Saraca asoca</i>	Asoca	அசோகா
51	<i>Streblus asper</i>	Piray maram	பிராய் மரம்
52	<i>Strychnos nuxvomica</i>	Yetti	யெட்டி
53	<i>Strychnos potatorum</i>	Therthang Kottai	தேர்த்தாங் கெட்டை
54	<i>Syzygium cumini</i>	Naval	நாவல்
55	<i>Terminalia belleric</i>	Thandri	தாண்டரி
56	<i>Terminalia arjuna</i>	Ven marudhu	வேண் மருது
57	<i>Toona ciliata</i>	Sandhana vembu	சந்தாநா வேம்பு
58	<i>Thespesia populnea</i>	Puvarasu	பூவரசு
59	<i>Walsuratrifoliata</i>	valsura	வாலசூரா
60	<i>Wrightia tinctoria</i>	Veppalai	வேப்பாலை
61	<i>Pithecellobium dulce</i>	Kodukkapuli	கொடுக்காப்பூளி

#### Discussion by SEIAA and the Remarks:-

The subject was placed in the 693<sup>rd</sup> authority meeting held on 08.02.2024. The authority noted that the subject was appraised in the 436<sup>th</sup> SEAC meeting held on 29.12.2023. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & the conditions mentioned in 'Annexure B' of this minutes.

#### Annexure 'B'

##### Cluster Management Committee

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



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

#### **Impact study of mining**

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

#### **Agriculture & Agro-Biodiversity**

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

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

#### **Forests**

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

#### **Water Environment**

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



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

#### **Energy**

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

#### **Climate Change**

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

#### **Mine Closure Plan**

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

#### **EMP**

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

#### **Risk Assessment**

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

#### **Disaster Management Plan**

38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/unfavorable accidents in



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&around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.

#### Others

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

#### A. STANDARD TERMS OF REFERENCE

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

  
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- 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

  
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- 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).



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- 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

  
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- 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

  
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- 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

  
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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.



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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

  
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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.

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- 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.

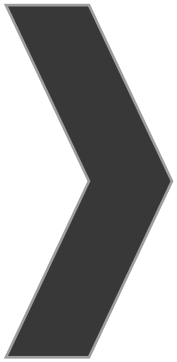


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**Copy to:**

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





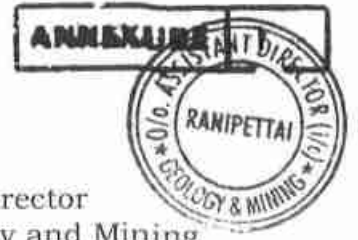
# **ANNEXURE-2**





Rc.No.149/2023(Mines)

Date : 29.09.2023



O/o. The Assistant Director  
Department of Geology and Mining  
Collectorate,  
Ranipet District.

**PRECISE AREA COMMUNICATION LETTER**

**Sub:** Mines and Minerals – Minor Mineral – Ranipet District – Arcot Taluk– Nambarai Village – SF.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 – Extent of 4.04.50 of patta lands – Quarry lease application preferred by M/s.Dhana Blue Metals (Proprietor Thiru.S.Dhanakotti) for Quarrying Roughstone and Gravel - Recommendations received – Precise Area Communicated – Reg.

**Ref:** 1) Quarry lease application preferred by M/s.Dhana Blue Metals, dated: 23.06.2023.  
2) The Revenue Divisional Officer, Ranipet report Rc.No.A5/2207/2023, Dated: 25.09.2023.  
3) Inspection report of the Assistant Director of Geology and Mining, Vellore dated 27.09.2023.  
4) G.O.(MS)No.169 Industries(MMC.1) Department, dated 04.08.2020.

\*\*\*\*\*

One M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), No.6, GST Road, Pallavaram Taluk, Chengalpattu District applied for grant of lease for quarrying Roughstone and Gravel over an extent of 4.04.50 hectares of patta lands in SF.Nos.361/1A (0.18.50), 361/2A2 (0.04.00), 361/2B1 (0.17.00), 366/1 (0.13.50), 366/2 (0.48.50), 366/3 (0.19.50), 366/4 (0.22.00), 366/5 (0.24.50), 367/1 (0.43.50), 367/2 (0.11.00), 367/3A (0.32.50), 367/3B (0.15.00), 367/3C (0.13.50) and 367/4 (1.21.50) of Nambarai Village, Arcot Taluk, Ranipet District for a period of 10 years under Rule 19 & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2) The Revenue Divisional Officer, Ranipet has recommended for grant of quarry lease in the subject area and the Assistant Director, Geology and Mining, Ranipet has also recommended for grant of quarry lease for quarrying rough stone and gravel over an extent of 4.04.50 hectares of patta lands in SF.Nos.361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District subject to certain conditions.



/2/

In view of the above, based on the recommendations of the Revenue Divisional Officer, Ranipet and Geological field observations an extent of 4.04.50 hectares of patta land in SF.Nos.361/1A (0.18.50), 361/2A2 (0.04.00), 361/2B1 (0.17.00), 366/1 (0.13.50), 366/2 (0.48.50), 366/3 (0.19.50), 366/4 (0.22.00), 366/5 (0.24.50), 367/1 (0.43.50), 367/2 (0.11.00), 367/3A (0.32.50), 367/3B (0.15.00), 367/3C (0.13.50) and 367/4 (1.21.50) of Nambarai Village, Arcot Taluk, Ranipet District is hereby fixed as precise area and communicated to the applicant as per the powers conferred under Rule 41(4) of Tamil Nadu Minor Mineral Concession Rule as amended vide G.O.(MS)No.169 Industries (MMC.1) Department, dated 04.08.2020 for grant of lease for quarrying Roughstone and Gravel in favour of M/s.Dhana Blue Metals, (Proprietor of Thiru.S.Dhanakotti) for a period of 10 years under Rule 19 & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the following conditions.

**Conditions**

1. 7.5 meters safety distance should be left out for the adjacent patta lands.
2. 10 meters safety distance should be left out for the adjacent Government Poramboke lands.
3. 50 meters safety distance should be left out to the seasonal odai passing on Western side of the proposed area.
4. The applicant shall not make any hindrance to the adjacent lands and public.
5. Quarrying should be restricted in the lease granted area only and barbed wire fencing should be erected all along the boundary of the lease granted area before commencement of quarrying operation.
6. Blasting of rock should be done by the short fire method with less explosives in between 12.00 Noon to 2.00 P.M., after giving Proper signal by siren as per the provisions of Indian Explosives Act, 1884.
7. Quarrying should be carried out in scientific and systematic manner.

/3/



The applicant firm M/s.Dhana Blue Metals, (Proprietor: Thiru.S.Dhanakotti) is directed to submit the Mining plan within 90 days to the Assistant Director of Geology and Mining(i/c), Ranipet for approval and also to submit Environmental Clearance issued by State Environmental Impact Assessment Authority (SEIAA) as required under Rule 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 for the above area for further process.

  
29/09/23  
Assistant Director(i/c),  
Geology and mining,  
Ranipet.

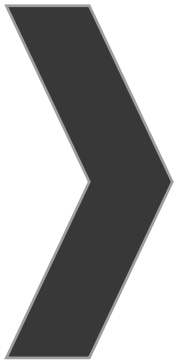
To

M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti)  
No.6, GST Road,  
Pallavaram Taluk,  
Chengalpattu District.

Copy to

1. The Chairman,  
SEIAA,3rd Floor, Panagal Maaligai,  
No.1, Jeenis Road, Saidapet,  
Chennai-15.
2. The Director of  
Geology and Mining,  
Guindy, Chennai-32.





**ANNEXURE-3**



# MINING PLAN FOR NAMBARAI ROUGH STONE & GRAVEL QUARRY

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

## LOCATION OF THE QUARRY LEASE APPLIED AREA

STATE : TAMIL NADU  
DISTRICT : RANIPET  
TALUK : ARCOT  
VILLAGE : NAMBARAI  
S.F.NOS : 361/1A, 361/2A2, 361/2B1,  
366/1, 366/2, 366/3, 366/4,  
366/5, 367/1, 367/2, 367/3A,  
367/3B, 367/3C AND 367/4  
EXTENT : 4.04.50Ha

### ECO-FRIENDLY



### SUSTAINABILITY



### SAFETY



### FOR APPLICANT

M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti),  
No.6, GST Road, Pallavaram Taluk,  
Chengalpattu District.

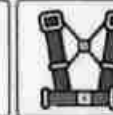
### PREPARED BY

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

### Qualified Person

No.93/36E2, Subramaniyar Kovil Street,  
Omalur Taluk, Salem District,  
Tamil Nadu, Pin-636 455.

Mobile: 97502 23535 & 94446 54520.



(PPE)



M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti),  
No.6, GST Road, Pallavaram Taluk,  
Chengalpattu District.

**CONSENT LETTER FROM THE APPLICANT**

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 4.04.50hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State has been prepared by


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

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

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

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

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

Signature of the Applicant  
For M/s.Dhana Blue Metals,  
  
(Proprietor Thiru.S.Dhanakotti),

Place: Chengalpattu  
Date: 29.09.2023





M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti),  
No.6, GST Road, Pallavaram Taluk,  
Chengalpattu District.

**DECLARATION**

The Mining Plan in respect of **Rough Stone and Gravel** quarry over an extent of 4.04.50hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State has been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

Signature of the Applicant  
For M/s.Dhana-Blue Metals,

  
(Proprietor Thiru.S.Dhanakotti),

Place: Chengalpattu

Date: 29.09.2023



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

**Qualified Person**

No.93/36E2,Subramaniyar Kovil Street,

Omalar Taluk, Salem District,

Tamil Nadu, Pin code-636 455.

Mobile:97502 23535 & 94446 54520.


**CERTIFICATE**

This is to certify that, the provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Mining Plan for the grant of **Rough Stone and Gravel** quarry lease over an extent of 4.04.50hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State applied by M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), for fresh quarry lease.

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

Certified

Signature of Qualified Person.

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

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

Place: Salem

Date: 30.09.2023



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

**Qualified Person**

No.93/36E2,Subramaniyar Kovil Street,

Omalur Taluk, Salem District,

Tamil Nadu, Pin code-636 455.


Mobile:97502 23535 & 94446 54520.

CERTIFICATE

Certified that, in preparation of Mining Plan for **Rough Stone and Gravel** quarry over an extent of 4.04.50hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State for M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), covers all the provisions of Mines Act, Rules, and Regulations etc made there under and whenever specific permission are required, the applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Certified

Signature of Qualified Person.

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

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

Place: Salem

Date: 30.09.2023



## **CERTIFICATE**

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

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

Accordingly I prepared this Mining Plan in respect of Rough Stone and Gravel quarry lease applied for an extent of 4.04.50hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, by M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), for a period of Ten years. Since the Mining Plan is prepared as per the provisions contained in Rule 15(1) (a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016, the same may be approved by the Competent Authority.

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

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

Place: Salem

Date: 30.09.2023



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## MINING PLAN FOR MINOR MINERALS

### ROUGH STONE AND GRAVEL

Over an extent of 4.04.50 hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State.

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

#### **1.0 Introduction and Executive Summary;**

1. The present Mining Plan is prepared for M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), No.6, GST Road, Pallavaram Taluk, Chengalpattu District.
2. The application was processed by the Assistant Director (i/c), Department of Geology and Mining, Ranipet, and passed an order vide Rc.No. 149/2023(Mines) dated 29.09.2023 directing the applicant to produce approved Mining Plan under Rule 41(5) of the Tamil Nadu Minor Mineral Concession Rules, 1959 and Environmental Clearance Certificate under Rule 42 from the State Level Environmental Impact Assessment Authority (SEIAA) for the grant of quarry lease to quarry **Rough Stone and Gravel** over an extent of 4.04.50 hectares of Patta lands in S.F.Nos.361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District of Tamil Nadu State for a period of ten years.
3. Accordingly, Mining Plan is prepared under the provisions of rule 19(1), 41 and 42 as per the amendments under Tamil Nadu Minor Mineral Concession Rules, 1959 by incorporating following the conditions imposed in the precise area communication letter.
  - a) 7.5 meters safety distance should be left out for the adjacent patta lands.
  - b) 10m safety distance should be left out for adjacent Government poramboke lands.



- c) 50m safety distance should be left out for odai passing on western side of the proposed area.
  - d) The applicant shall not make any hindrance to the adjacent lands and public.
  - e) Quarrying should be restricted in the lease granted area only and barbed wire fencing should be erected all along the boundary of the lease granted area before commencement of quarrying operation.
  - f) Blasting of rock should be done by the short fire method with less explosives in between 12.00Noon to 2.00P.M., after giving Proper signal by siren as per the provisions of Indian Explosives Act, 1884.
  - g) Quarrying should be carried out in scientific and systematic manner.
4. Geological Resources is estimated at 18,04,050m<sup>3</sup> of Rough stone and 80,180m<sup>3</sup> of gravel formation and Mineable Reserves is estimated at 5,08,825m<sup>3</sup> of Rough Stone and 50,304m<sup>3</sup> of gravel formation and after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force.
5. Production Schedule is proposed production of 3,71,250m<sup>3</sup> of Rough Stone and 50,304m<sup>3</sup> of gravel formation for the period of first five years.
6. applicant ensured that, child labours under 18 years of age will not be engaged for quarrying operation.
7. The applicant ensure that will engage should have valid certified persons (Mines Manager, Foreman, Mate) during quarrying operation.
8. Environmental parameters,
- i) The area does not attract the Forest Conservation Act, 1980 as there is no forest around 3.5Kms radius.
  - ii) There is no interstate boundary around 10Kms radius.
  - iii) There is no wild life animal sanctuary within 10Kms radius from the project site area under the Wildlife (Protection) Act, 1972.



Therefore the project seeks clearance only from State Level Environmental Impact Assessment Authority (SEIAA).

9. Environmental measures to be adopted shall be,

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



<b>EXECUTIVE SUMMARY:</b>				
a.	Name of the Village Panchayat	:	Nambarai	
b.	Name of the Panchayat Union	:	Timiri	
c.	The proposed total Movable Reserves	:	5,08,825m <sup>3</sup> of Rough Stone 50,304m <sup>3</sup> of gravel formation	
d.	The proposed quantity of reserves (level of production) for Five years to be mined is(Recoverable reserves)	:	3,71,250m <sup>3</sup> of Rough Stone 50,304m <sup>3</sup> of gravel formation	
e.	Total extent of the area	:	4.04.50Ha	
f.	Proposed Period of mining	:	Five Years	
g.	Existing depth	:	It is fresh quarry lease applied area	
h.	Proposed Depth of mining	:	27m (Below ground level) for the proposed mining plan.	
i.	Method of mining/level of mechanization	:	Opencast, Semi-mechanized Mining with a bench height of 5m and bench width of 5m and 80° Slope is proposed.	
j.	Types of Machineries used in the quarry	:	Machineries like Tractor mounted compressor attached with Jack hammers, Excavators are proposed to deploy for quarrying operation.	
k.	Cost of the Project A. Fixed Assets Cost B. Operational Cost C. EMP Cost		Rs. 27,27,000/- Rs. 62,50,000/- Rs. 7,10,000/- Total Project cost(A+B+C)= <b>Rs. 96,87,000/-</b>	
l.	The area applied for lease is bounded by twenty one corners and the coordinates are clearly marked in plate no II.			
	Corners	Co- ordinates		Distance between the corners
		Latitude	Longitude	
	1	12° 49' 12.71"N	79° 16' 18.48"E	1-2 = 82.2m
	2	12° 49' 15.29"N	79° 16' 17.78"E	2-3 = 48.8m
	3	12° 49' 14.85"N	79° 16' 16.23"E	3-4 = 24.2m
	4	12° 49' 15.59"N	79° 16' 15.96"E	4-5 = 80.2m
	5	12° 49' 17.31"N	79° 16' 17.96"E	5-6 = 124.4m
	6	12° 49' 19.34"N	79° 16' 21.52"E	6-7 = 43.6m
	7	12° 49' 19.36"N	79° 16' 22.97"E	7-8 = 45.8m
	8	12° 49' 17.92"N	79° 16' 23.36"E	8-9 = 72.4m

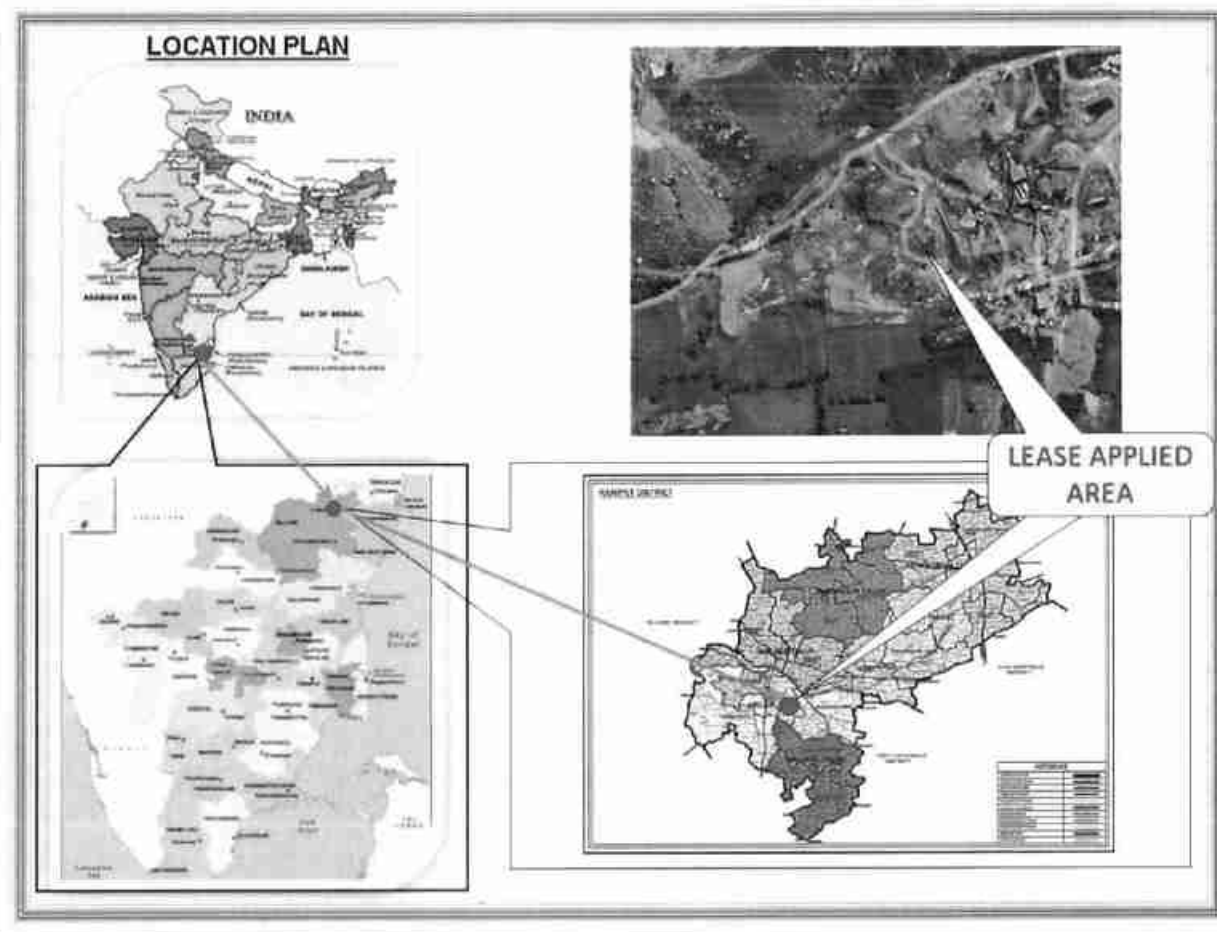
9	12° 49' 15.69"N	79° 16' 24.14"E	9-10 = 16.0m
10	12° 49' 15.82"N	79° 16' 24.65"E	10-11 = 84.4m
11	12° 49' 13.15"N	79° 16' 25.31"E	11-12 = 20.4m
12	12° 49' 12.66"N	79° 16' 24.85"E	12-13 = 61.6m
13	12° 49' 11.96"N	79° 16' 22.94"E	13-14 = 8.2m
14	12° 49' 12.20"N	79° 16' 22.86"E	14-15 = 42.0m
15	12° 49' 12.06"N	79° 16' 21.47"E	15-16 = 8.4m
16	12° 49' 12.33"N	79° 16' 21.44"E	16-17 = 14.4m
17	12° 49' 12.32"N	79° 16' 20.96"E	17-18 = 12.6m
18	12° 49' 11.90"N	79° 16' 20.97"E	18-19 = 49.0m
19	12° 49' 11.77"N	79° 16' 19.35"E	19-20 = 26.8m
20	12° 49' 12.64"N	79° 16' 19.27"E	20-21 = 11.6m
21	12° 49' 12.89"N	79° 16' 18.98"E	21-1 = 16.6m

## 2.0 General Information:

2.1	a.	Name of the Applicant	: M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti),
	b.	Address of the Applicant with phone No and e-mail id if any	: No.6, GST Road, Pallavaram Taluk, Chengalpattu District. Pincode:600 043 Cell No.:99419 23416 & 99419 23417.
	c.	Status of the Applicant	: Proprietorship Firm
2.2	a.	Mineral Which the applicant intends to mine	: Rough Stone and Gravel.
	b.	Precise area communication letter No.	: Precise area communication letter received from the Assistant Director (i/c), Department of Geology and Mining, Ranipet, Re.No.149/2023(Mines) dated 29.09.2023
	c.	Period of permission / lease granted	: The Assistant Director(i/c), Department of Geology and Mining, Ranipet, has grant of lease period for <b>ten years.</b>
	d.	Name and Address of the QP preparing Mining Plan	: <b>C.Natarajan, M.Sc.,M.Phil., Qualified Person</b> No.93/36E2, Subramaniyar Kovil Street, Omalur Taluk, Salem District, Tamil Nadu, Pin-636 455. Mobile: 97502 23535 & 94446 54520.

### 3.0 Location:

S.No	Details of the Area:	
1	Corner Coordinates	Latitude : 12°49'11.77"N to 12°49'19.36"N Longitude : 79°16'15.96"E to 79°16'25.31"E
2	Toposheet Number	57 P/05
3	The altitude of the area	195m (MSL)
4	Extent	4.04.50Ha
5	Survey Nos	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4
6	Village	Nambarai
7	Taluk	Arcot
8	District	Ranipet
9	State	Tamil Nadu



a.	Classification of the Area (Ryotwari / poramboke / others)	:	Patta land
b.	Ownership / Occupancy of the Applied area (Surface rights)	:	It is patta land registered in the name of S.Dhanakotti (Proprietor of M/s.Dhana Blue Metals), vide patta No. 1481, 1200, 1215, 1217, 1214, and 1419, Please refer Annexure No: IV.
c.	Toposheet No. with Latitude and Longitude	:	Topo Sheet No: 57 P/05 Latitude : 12°49'11.77"N to 12°49'19.36"N Longitude : 79°16'15.96"E to 79°16'25.31"E
d.	Existence of Public Road / Railway line if any nearby the area and approximate distance	:	There is an existing road from the area leads to Towards Muhamad Pettai - Vilapakkam village road on eastern side of the area. The Nearest Railway line is Vellore - Tiruvannamalai line which is about 13.5Km on the Southwestern side of the area.

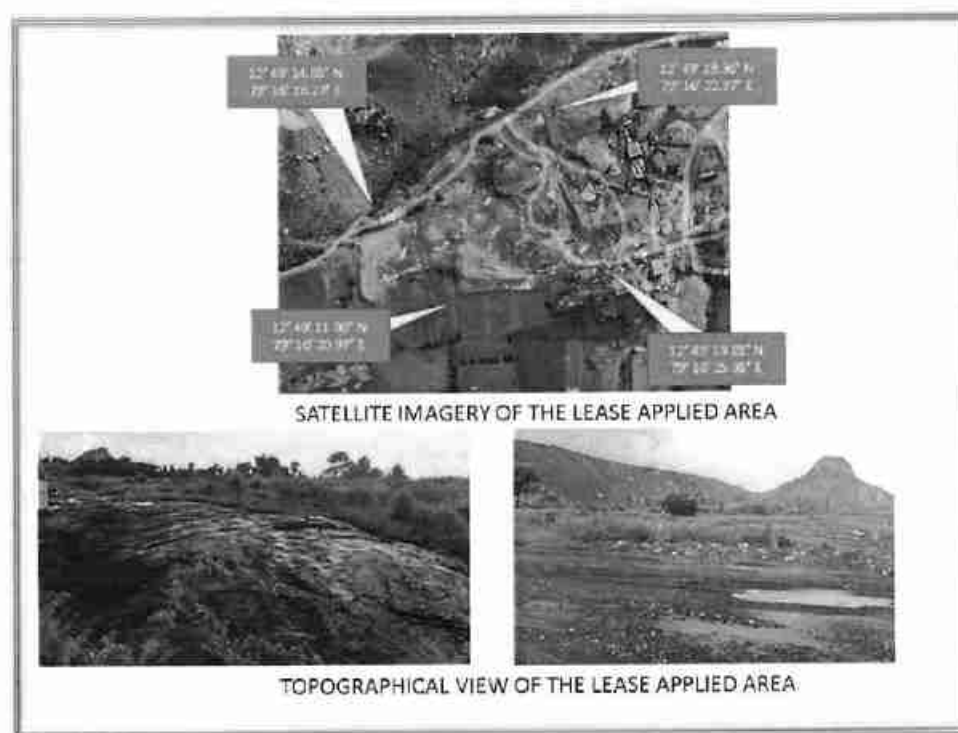


Fig. Location of the lease Applied Area

<b>PART - A</b>			
<b>4.0 Geology and Mineral Reserves:</b>			
4.1	a.	Topography	: <ul style="list-style-type: none"> <li>➤ The area applied for quarry lease is exhibits almost plain topography covered by Gravel formation. The massive Charnockite formation is noticed below 2m (Avg) Gravel and sloping towards southeastern side of the area, the altitude of the area is above 195m (maximum) from MSL.</li> <li>➤ No major river is found nearby the lease applied area.</li> <li>➤ Water table is found at a depth of 60m in summer and 57m in rainy seasons.</li> <li>➤ Temperature of the area is reported to be 18°C to a maximum of 42°C during summer.</li> <li>➤ Rainfall of this area is about 800mm to 900 mm during the both NE &amp; SW monsoons.</li> </ul>
	b.	General Geology of the Area	: <p>The area is underlain by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places. The geological formations found in the district are Archaean rocks like Gneisses, Granites, Charnockites basic granulites and calc-gneisses. The younger formations are Quartz veins and pegmatite.</p> <p>The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high grade metamorphic rock.</p> <p>The strike of the Charnockite formation is N10°E - S10°W with dipping towards SE70°.</p> <p>The general geological succession of the area is given as under.</p>

			<u>AGE</u>	<u>ROCK TYPE</u>
			Recent	- Reddish and gravelly soil Unconformity
			Archaean	- Dolerite dyke Charnockite. Peninsular Gneissic complex and Calc Gneiss
4.2		Details of Exploration already carried out if any	:	No exploration was carried out, as the Rough stone formations are clearly visible from outcrops within the lease applied area.
4.3	a.	Estimation of Reserves	:	The Geological and Recoverable reserves are estimated by cross sectional method.  Two sections have been drawn, one section drawn length wise as (X-Y) and another one section drawn width wise as (A-B), to cover maximum area considered for lease.  The Plans and Sections have been drawn with a scale of 1:1000 and 1:500 respectively. Please refer plate No.III.

**a. Geological Resources**

The quarrying is restricted up to a depth of 47m Below ground level only. Availability of Resources is given below.

Table No-1

Section	Length in (m)	Width in (m)	Depth in (m)	Volume in m <sup>3</sup>	Gravel formation in m <sup>3</sup>	Geological Resources of Rough stone in m <sup>3</sup>
XY-AB	211	190	2	80180	80180	
	211	190	45	1804050		1804050
<b>Total</b>					<b>80180</b>	<b>1804050</b>

Gravel Formation : 80,180m<sup>3</sup>

The Geological Resources of Rough stone : 18,04,050m<sup>3</sup>

### **b. Mineable Reserve**

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

Table No-2

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m <sup>3</sup>	Gravel formation in m <sup>3</sup>	Mineable Reserves of Rough stone in m <sup>3</sup>
XY-AB	I	192	131	2	50304	50304	
	II	188	127	5	119380		119380
	III	175	113	5	98875		98875
	IV	162	101	5	81810		81810
	V	149	88	5	65560		65560
	VI	136	75	5	51000		51000
	VII	123	62	5	38130		38130
	VIII	110	49	5	26950		26950
	IX	97	36	5	17460		17460
	X	84	23	5	9660		9660
<b>Total</b>						<b>50304</b>	<b>508825</b>

The mineable reserve is computed as 5,08,825m<sup>3</sup> of Rough stone and 50,304m<sup>3</sup> of Gravel formation upto a depth of 47m below ground level only.

### **5.0 Mining:**

5.1	Method of Mining	of :	<ol style="list-style-type: none"> <li>1. Opencast method of semi mechanized mining with 5m height 5m width and 80° slope of the bench.</li> <li>2. However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106(2) (b) as above is seldom possible due to various inherent petrogenetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of mines safety for which necessary provision is available with the regulation 106 (2) (b) of MMR-1961, under Mine Act-1952.</li> </ol>
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5.2	Mode of Working	<p>: The rough stone is proposed to quarry 5m bench height, 5m width with 80° slope and with conventional opencast semi-Mechanized method.</p> <p>The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough stone to the needy crushers/other buyers. The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.</p> <p>Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers/other buyers. Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting.</p> <p>The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast semi mechanized method of mining.</p>
5.3	Proposed bench height & Width	<p>: Quarrying of Rough Stone is proposed bench height of 5m and bench width of 5m.</p>
5.4	Details of Overburden / Mineral Production proposed for the first 5 years.	<p>: The overburden in the form of Gravel, after the excavation of Gravel and Rough stone will be directly loaded into tipper to the needy crushers/other buyers for road project and construction works for filling and leveling of low lying areas.</p>

**The Yearwise Production and Development Table**

Table No -3

Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m <sup>3</sup>	Gravel in m <sup>3</sup>	Mineable reserve of Rough stone in m <sup>3</sup>
I	XY-AB	I	117	131	2	30654	30654	
		II	115	127	5	73025		73025
<b>Total</b>							<b>30654</b>	<b>73025</b>
II	XY-AB	I	75	131	2	19650	19650	
		II	73	127	5	46355		46355
		III	49	113	5	27685		27685
<b>Total</b>							<b>19650</b>	<b>74040</b>
III	XY-AB	III	126	113	5	71190		71190
<b>Total</b>								<b>71190</b>
IV	XY-AB	IV	150	101	5	75750		75750
<b>Total</b>								<b>75750</b>
V	XY-AB	IV	12	101	5	6060		6060
		V	149	88	5	65560		65560
		VI	15	75	5	5625		5625
<b>Total</b>								<b>77245</b>
<b>Grand Total</b>							<b>50304</b>	<b>371250</b>

The mineable reserve is computed as 5,08,825m<sup>3</sup> of Rough stone and 50,304m<sup>3</sup> of Gravel formation upto a depth of 47m below ground level, but the applicant proposed to carry out 3,71,250m<sup>3</sup> of Rough stone and 50,304m<sup>3</sup> of Gravel formation upto a depth of 27m below ground level for the period of first five years.

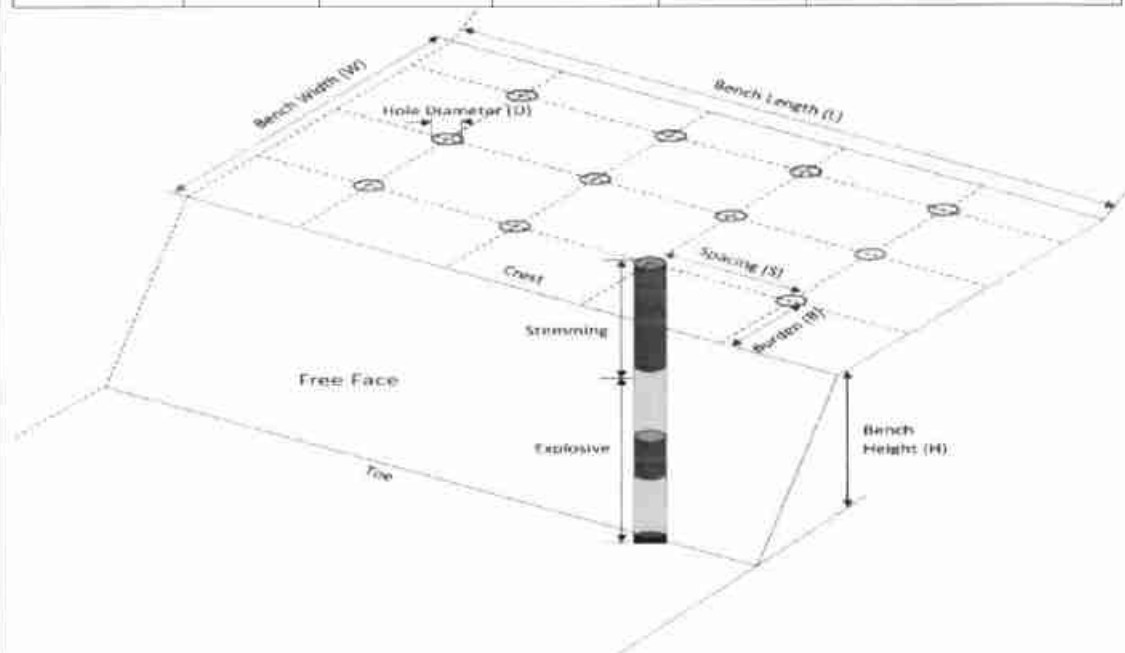
5.5		Machineries to be used						
	a.	Drilling	:	It is proposed to use following machineries for quarrying rough stone				
		S.No	Type	Nos	Dia Hole mm	Size Capacity	Make	Motive power
		1	Jack hammer	6	32	1.2m to 6m	Atlas Copco	Compressed air
		2	Compressor	2	-	400 psi	Atlas Capco	Diesel Drive
	b.	Loading	:	Excavator of 0.90m <sup>3</sup> bucket capacity (with Rock breaker attachment) (1No).				
	c.	Transportation	:	Tipper 3Nos (5/10Ts) capacity.				

5.6	Disposal of Overburden	: The overburden in the form of Gravel, after the excavation gravel will be directly loaded into tipper to the needy buyers for road project and construction works for filling and leveling of low lying areas.																								
5.7	Brief Note on Conceptual Mining Plan for the entire lease period	<p>Conceptual Mining Plan is prepared with an object of ten years of systematic development of bench lay outs, selection of ultimate pit limit, depth of quarrying, ultimate pit slope, selection of sites for construction of infrastructures etc.</p> <p>Ultimate pit size is designed based on certain practical factors such as the economical depth of mining, safety zones, permissible areas etc.</p> <p>Ultimate Pit dimension is given as under,</p> <table border="1" data-bbox="734 1030 1404 1288"> <thead> <tr> <th colspan="4">Ultimate Pit dimension (M) end of mining plan period</th> </tr> <tr> <th>Pit No</th> <th>Length (max) in (m)</th> <th>Width (Avg) in(m)</th> <th>Depth(max) in(m)</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>192</td> <td>131</td> <td>27</td> </tr> </tbody> </table> <table border="1" data-bbox="734 1288 1404 1500"> <thead> <tr> <th colspan="4">Ultimate pit dimension End of the lease period</th> </tr> <tr> <th>Pit No</th> <th>Length (max) in (m)</th> <th>Width (Avg) in (m)</th> <th>Depth(max) in(m)</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>192</td> <td>131</td> <td>47</td> </tr> </tbody> </table> <p>Afforestation has been proposed on all along the boundary barrier by planting trees.</p> <p>All the baseline information studies like Air Quality monitoring, Noise and Vibration monitoring, Water Analysis studies will be carried out every year as per the MOEF norms.</p>	Ultimate Pit dimension (M) end of mining plan period				Pit No	Length (max) in (m)	Width (Avg) in(m)	Depth(max) in(m)	I	192	131	27	Ultimate pit dimension End of the lease period				Pit No	Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)	I	192	131	47
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### 6.0 Blasting:

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

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



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

6.3	Measures proposed to minimize ground vibration due to blasting	<p>➤ Controlled blasting measures will be adopted for minimizing ground vibration and fly rock.</p> <p>➤ Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly rock.</p> <table border="1" data-bbox="790 577 1364 788"> <tr> <td>Number of holes</td> <td>: 214</td> </tr> <tr> <td>Powder factor</td> <td>: 6Ts/Kg of explosives</td> </tr> <tr> <td>Total explosive required</td> <td>: 107Kg slurry explosives</td> </tr> <tr> <td>Charge / hole</td> <td>: 0.5Kg</td> </tr> <tr> <td>Blasting time</td> <td>: 12-2 Pm</td> </tr> </table>	Number of holes	: 214	Powder factor	: 6Ts/Kg of explosives	Total explosive required	: 107Kg slurry explosives	Charge / hole	: 0.5Kg	Blasting time	: 12-2 Pm
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Blasting time	: 12-2 Pm											
6.4	Storage of Explosives and safety measures to be taken while blasting.	<p>➤ The applicant will engage an authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/ mines manager.</p> <p>➤ <b><i>The applicant ensure that will appoint the Mate (Should have Valid Blaster Certificate) during Blasting Operation.</i></b></p>										
<b>7.0 Mine Drainage:</b>												
7.1	Depth of Water table	<p>The ground water table is reported as 60m below ground level. In the proposed mining plan only 27m (Below ground level) depth and 47m depth has been envisaged as workable depth for safe &amp; economic quarrying for the entire lease period. Hence the quarrying operation may not affect the ground water.</p>										
7.2	Arrangement and Places where the mine water is finally proposed to be discharged	<p>The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300lpm and it shall be pumped about periodically by a stand by diesel powered Centrifugal pump motivated with 7.5H.P.Motor. The quality of water is potable and it is not contaminated with any hazardous things. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water stored in the old pit will also be used for plantation purposes</p>										

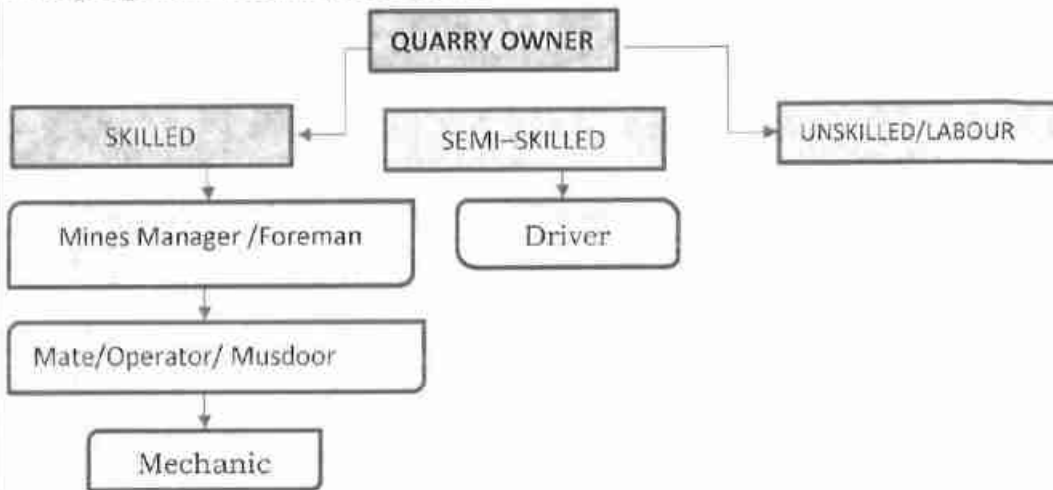


<b>8.0 Other Permanent Structures:</b>		
8.1	Habitations / Village	: There are no habitations within a radius of 300m.
8.2	Power lines (HT/LT)	: There is no Power lines (HT/LT) passing within a radius of 50m.
8.3	Water bodies (River, Pond, Lake, Odai, Channel etc)	: There is Seasonal odai passing on western side and is 50m safety distance maintained. There is another two Seasonal odai passing on eastern and southern side and is 60m, 210m away from the Lease applied area, there is tank situated on Northern side and is 400m away from the Lease applied area.
8.4	Archaeological / Historical Monuments	: There are no Archaeological / Historical Monuments within a radius of 500m.
8.5	Road (NH, SH, Village Road etc)	: The Nearest National Highway (NH-48) Chennai - Krishnagiri which is about 10.3Km on the Northern side of the area. The State Highway (SH-129) Arcot - Kavanur is about 3.0Km on Western side of the area.
8.6	Places of Worship	: There are no Places of Worship within a radius of 500m.
8.7	Reserved Forest / Forest / Social Forest / Wild Life Sanctuary etc.,	: There is no Reserved Forest /Wild Life Sanctuary etc within a radius of 1Km.
8.8	Any Interstate Border, Protected areas under the Wild Life (Protection) Act, 1972, Critically Polluted Areas as Identified by Central Pollution Control Board and Notified Eco sensitive areas	: There are No inter State border within a radius of 10Kms.
8.9	Any Other Structures	: Nil

**9.0 Employment Potential & Welfare Measures:**

9.1 Employment Potential (Management & Supervisory personal)

**The proposed organization chart**



1.	Skilled	Mines Manager	1 No.
		Foreman / Mate	3 No.
		Operator	8 No.
		Mechanic	1 No.
2.	Semi-skilled	Driver	3 No.
3.	Unskilled	Labours	14Nos
Total =			30Nos

Allowing 10% absentee, the no. of men of roll will be around 28.

The above man power is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply the statutory provisions of Mines Safety Regulations.

- **It is been ensured that, child labours under 18 years of age will not be engaged for quarrying operation.**
- **Necessary life insurance policies will be taken by the applicant to all the employees up to the end of the lease period.**

9.2 Welfare Measures

a. Drinking Water : Packaged drinking water is available from the nearby approved water vendors in Moganavaram village which is about 400m on southwestern side of the area.

	b. Sanitary facilities	: Semi-permanent latrines & urinals shall be maintained at convenient places for use of labours as per the provisions of Rule (33) of the Mines Rules, 1960 separately for males and females. Washing facilities shall also be arranged as per rule (36) of the Mines Rules, 1960.
	c. First Aid Facility	: First aid kits are kept in Mines office room, in case of such eventualities the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 9.5Km (NE) in Arcot the competent and Statutory foreman/ permit manager will be in charge of first aid.
	d. Labour Health	: As per Mines Rule, Periodic medical examination related to occupational health safety will be conducted to all the workers in applicant's own cost.
e. Precautionary safety measures to the Labourers:		
<p>Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc., have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation.</p> <p>Necessary training will be conducted once in a year to all the employees with the help of qualified and experienced officers to train about the safe and systematic quarrying operation.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="405 1442 759 1951" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>PERSONAL PROTECTIVE EQUIPMENT(PPE)</b></p> </div> <div data-bbox="922 1473 1369 1906"> </div> </div>		



**PART - B**

**10.0 Environmental Management Plan:**

10.1	Existing Land Use Pattern	<p>: 1. The area is exhibits almost plain topography covered by Gravel formation.</p> <p>2. Quarrying operation is proposed up to a depth of 27m Below ground level for the proposed mining plan period.</p> <p>3. Fluctuation of Water table in this area is in between 60m and 57m during a year.</p> <p>4. This region receives the average annual rainfall of 800mm to 900mm. The surrounding area is practiced by the seasonal cultivation.</p> <p>The existing land use pattern is given as under.</p> <p align="center">Table No-4</p> <table border="1" data-bbox="726 902 1412 1182"> <thead> <tr> <th>Sl. No</th> <th>Land Use</th> <th>Present Area (Hect)</th> <th>Area in use during the quarrying period (Hect)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Quarrying Pit</td> <td>Nil</td> <td>2.52.00</td> </tr> <tr> <td>2.</td> <td>Infrastructure</td> <td>Nil</td> <td>0.01.00</td> </tr> <tr> <td>3.</td> <td>Roads</td> <td>Nil</td> <td>0.02.00</td> </tr> <tr> <td>4.</td> <td>Green Belt</td> <td>Nil</td> <td>1.49.50</td> </tr> <tr> <td>5.</td> <td>Unutilized</td> <td>4.04.50</td> <td>Nil</td> </tr> <tr> <td></td> <td><b>Total =</b></td> <td><b>4.04.50</b></td> <td><b>4.04.50</b></td> </tr> </tbody> </table>	Sl. No	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)	1.	Quarrying Pit	Nil	2.52.00	2.	Infrastructure	Nil	0.01.00	3.	Roads	Nil	0.02.00	4.	Green Belt	Nil	1.49.50	5.	Unutilized	4.04.50	Nil		<b>Total =</b>	<b>4.04.50</b>	<b>4.04.50</b>
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10.2	Water Regime	<p>: Water table in this area is noticed at a depth of 60m and presently, in the proposed mining plan only 27m Below ground level depth and 47m has been envisaged as workable depth for safe &amp; economic quarrying for the entire lease period. hence, it will not affect the ground water depletion of this area.</p>																												
10.3	Flora and Fauna	<p>: Except acacia bushes, no other valuable trees are noticed in the applied area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.</p>																												
10.4	Climatic conditions	<p>: Generally subtropical climatic condition prevails throughout the year and there is no sharp variation in climate.</p> <p>This District receives rain both in south west and north east monsoon.</p> <p>The average rainfall is about 800mm to 900mm and the temperature ranges from 18°C during winter and to a maximum of 42°C during the summer.</p>																												



10.5	Human Settlement	<p>: The nearest habitations with the population is given as under.</p> <p style="text-align: center;">Table No-5</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">S. No</th> <th style="width: 35%;">Name of the Village</th> <th style="width: 30%;">Approximate distance &amp; Direction from lease applied area</th> <th style="width: 30%;">Approximate population</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Anaimallur</td> <td>1.4km - NE</td> <td>450</td> </tr> <tr> <td>2.</td> <td>Kavanur</td> <td>2.3km - NW</td> <td>400</td> </tr> <tr> <td>3.</td> <td>Timiri</td> <td>2.5Km -SE</td> <td>250</td> </tr> <tr> <td>4.</td> <td>Moganavaram</td> <td>400m-SW</td> <td>300</td> </tr> </tbody> </table>	S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population	1.	Anaimallur	1.4km - NE	450	2.	Kavanur	2.3km - NW	400	3.	Timiri	2.5Km -SE	250	4.	Moganavaram	400m-SW	300
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3.	Timiri	2.5Km -SE	250																			
4.	Moganavaram	400m-SW	300																			
10.6	Plan for Air, Dust Suppression	<p>: Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc., will be suppressed by periodical wetting of land by water spraying. Wet drilling and dust extractor arrangements will be provided to drilling units so as to control raise of dust from the site of drilling. Operators, those exposed directly to such conditions will be provide such protective equipment like mask, ear plug, helmet, gloze etc., as per the Mines Act.</p>																				
10.7	Plan for Noise Control	<p>: Quarrying of Rough Stone will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out to check the noise level in and around the quarry site. Nowhere the noise level should exceed the permissible limit of 80db during the quarry working hours.</p>																				
10.8	Environmental Impact Assessment Statement Describing Impact on mining on the next Five years	<p>: The mining plan proposed is for a small production of Rough stone without involving deep hole drilling and heavy blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and noise is concerned, anyhow environmental impact studies will be conducted as per EIA notification issued by MOEF.</p>																				



10.9	Proposal for Waste Management	:	There is no waste anticipated in this rough stone quarry operation.
10.10	Proposal of Reclamation of Land affected during mining activities and at the end of mining.	:	In the proposed mining plan 27m (Below ground level) depth and 47m depth has been envisaged as workable depth for safe & economic mining during the lease period. Hence, after quarry reaches ultimate pit limit (for this lease period) of 47m depth, fencing will be constructed around the quarried pits to prevent inherent entry of the public and cattle.
10.11	Program for Afforestation	:	The 7.5m, 10m & 50m safety distance along the lease boundary has been identified to be utilized for afforestation. Appropriate native species of Neem/Pungan trees will be planted in the first year. Nearly 14950Sqm area is proposed to use under afforestation by planting 1796nos of Neem/Pungan trees during first year with an anticipated survival rate of 80%. The Quarry landuse, layout and afforestation plan is shown in Plate No.III.
10.12	Proposed Financial Estimate / Budget for (EMP) Environment Management		
	<b>A.Fixed Asset Cost:</b>		
	1. Land Cost (600000/1Ha)=	:	Rs. 24,27,000
	2. First aid room and accessories	:	Rs.1,00,000
	3. Labour Shed	:	Rs.1,00,000
	4. Sanitary Facility	:	Rs.1,00,000
	<b>Total=</b>		<b>Rs. 27,27,000/-</b>
	<b>B.Operational Cost:</b>		
	1. Machineries	:	Rs.60,00,000-
	2. Fencing cost	:	Rs. 2,50,000
	<b>Total</b>	:	<b>Rs.62,50,000/-</b>



<b>C.EMP Cost:</b>		Budget Provision for the entire quarrying period.
		Air Quality Sampling = Rs. 40,000/-
		Water Quality Sampling = Rs. 40,000/-
		Noise Monitoring = Rs. 20,000/-
		Ground vibration test = Rs. 20,000/-
<b>Expenditure</b>		
1. Drinking water facility		Rs. 1,00,000/-
2. Sanitary Arrangements		Rs. 50,000/-
3. Safety kids		Rs. 50,000/-
4. Water sprinkling		Rs. 1,50,000/-
5. Afforestation		Rs. 2,40,000/-
<b>Total=</b>		<b>Rs. 7,10,000/-</b>
<b>Total Project Cost (A+B+C)</b>		<b>Rs. 96,87,000/-</b>
<b>CSR Cost(2% of Total Project Cost)</b>		<b>Rs. 1,93,740/-</b>

#### 11.0 Mine Closure Plan:

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



**12.0 Any Other Details Intend to Furnish by the Applicant:**

- (i) Permission will be obtained from the District Mines Office to extract the Rough Stone from the Boundary barriers and for slopes.
- (ii) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.
- (iii) The applicant will endeavor every attempt to quarry the Rough Stone economically without any wastage and to improve the environment and ecology.
- (iv) The Mining Plan is prepared by incorporating the conditions stipulated in the precise area communication issued and relevant mining laws in force.
- (v) Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

Prepared by

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

Place : Salem  
Date : 30.09.2023

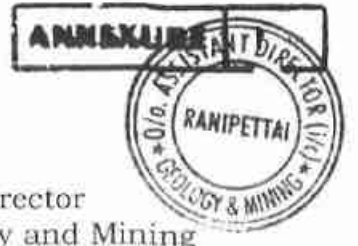
This Mining Plan is approved subject  
to the conditions stipulated in the  
Mining Plan approval

Letter No. *Pen/149/2023 (mines)*  
Dated. *5-10-2023*

**This Mining Plan is approved as per the  
powers conferred under Rule 41 (2) of  
Tamil Nadu Minor Mineral Concession  
Rules 1959**

*5/10/23*  
ASSISTANT DIRECTOR,  
Dept. of Geology & Mining  
Ranipettai.

*5/10/23*



O/o. The Assistant Director  
Department of Geology and Mining  
Collectorate,  
Ranipet District.

**PRECISE AREA COMMUNICATION LETTER**

**Sub:** Mines and Minerals – Minor Mineral – Ranipet District – Arcot Taluk– Nambarai Village – SF.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4– Extent of 4.04.50 of patta lands – Quarry lease application preferred by M/s.Dhana Blue Metals (Proprietor Thiru.S.Dhanakotti) for Quarrying Roughstone and Gravel - Recommendations received – Precise Area Communicated – Reg.

**Ref:** 1) Quarry lease application preferred by M/s.Dhana Blue Metals, dated: 23.06.2023.  
2) The Revenue Divisional Officer, Ranipet report Rc.No.A5/2207/2023, Dated: 25.09.2023.  
3) Inspection report of the Assistant Director of Geology and Mining, Vellore dated 27.09.2023.  
4) G.O.(MS)No.169 Industries(MMC.1) Department, dated 04.08.2020.

\*\*\*\*\*

One M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), No.6, GST Road, Pallavaram Taluk, Chengalpattu District applied for grant of lease for quarrying Roughstone and Gravel over an extent of 4.04.50 hectares of patta lands in SF.Nos.361/1A (0.18.50), 361/2A2 (0.04.00), 361/2B1 (0.17.00), 366/1 (0.13.50), 366/2 (0.48.50), 366/3 (0.19.50), 366/4 (0.22.00), 366/5 (0.24.50), 367/1 (0.43.50), 367/2 (0.11.00), 367/3A (0.32.50), 367/3B (0.15.00), 367/3C (0.13.50) and 367/4 (1.21.50) of Nambarai Village, Arcot Taluk, Ranipet District for a period of 10 years under Rule 19 & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2) The Revenue Divisional Officer, Ranipet has recommended for grant of quarry lease in the subject area and the Assistant Director, Geology and Mining, Ranipet has also recommended for grant of quarry lease for quarrying rough stone and gravel over an extent of 4.04.50 hectares of patta lands in SF.Nos.361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District subject to certain conditions.



/2/

In view of the above, based on the recommendations of the Revenue Divisional Officer, Ranipet and Geological field observations an extent of 4.04.50 hectares of patta land in SF.Nos.361/1A (0.18.50), 361/2A2 (0.04.00), 361/2B1 (0.17.00), 366/1 (0.13.50), 366/2 (0.48.50), 366/3 (0.19.50), 366/4 (0.22.00), 366/5 (0.24.50), 367/1 (0.43.50), 367/2 (0.11.00), 367/3A (0.32.50), 367/3B (0.15.00), 367/3C (0.13.50) and 367/4 (1.21.50) of Nambarai Village, Arcot Taluk, Ranipet District is hereby fixed as precise area and communicated to the applicant as per the powers conferred under Rule 41(4) of Tamil Nadu Minor Mineral Concession Rule as amended vide G.O.(MS)No.169 Industries (MMC.1) Department, dated 04.08.2020 for grant of lease for quarrying Roughstone and Gravel in favour of M/s.Dhana Blue Metals, (Proprietor of Thiru.S.Dhanakotti) for a period of 10 years under Rule 19 & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the following conditions.

#### **Conditions**

1. 7.5 meters safety distance should be left out for the adjacent patta lands.
2. 10 meters safety distance should be left out for the adjacent Government Poramboke lands.
3. 50 meters safety distance should be left out to the seasonal odai passing on Western side of the proposed area.
4. The applicant shall not make any hindrance to the adjacent lands and public.
5. Quarrying should be restricted in the lease granted area only and barbed wire fencing should be erected all along the boundary of the lease granted area before commencement of quarrying operation.
6. Blasting of rock should be done by the short fire method with less explosives in between 12.00 Noon to 2.00 P.M., after giving Proper signal by siren as per the provisions of Indian Explosives Act, 1884.
7. Quarrying should be carried out in scientific and systematic manner.



The applicant firm M/s.Dhana Blue Metals, (Proprietor: Thiru.S.Dhanakotti) is directed to submit the Mining plan within 90 days to the Assistant Director of Geology and Mining(i/c), Ranipet for approval and also to submit Environmental Clearance issued by State Environmental Impact Assessment Authority (SEIAA) as required under Rule 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 for the above area for further process.

  
29/09/23  
Assistant Director(i/c),  
Geology and mining,  
Ranipet.

To

M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti)  
No.6, GST Road,  
Pallavaram Taluk,  
Chengalpattu District.

Copy to

1. The Chairman,  
SEIAA,3rd Floor, Panagal Maaligai,  
No.1, Jeenis Road, Saidapet,  
Chennai-15.
2. The Director of  
Geology and Mining,  
Guindy, Chennai-32.



அளவைப் பட்டியல் எண் 23

தஞ்சாவூர் 8A/1262/1432

எண். 10

Di: 27.03.23

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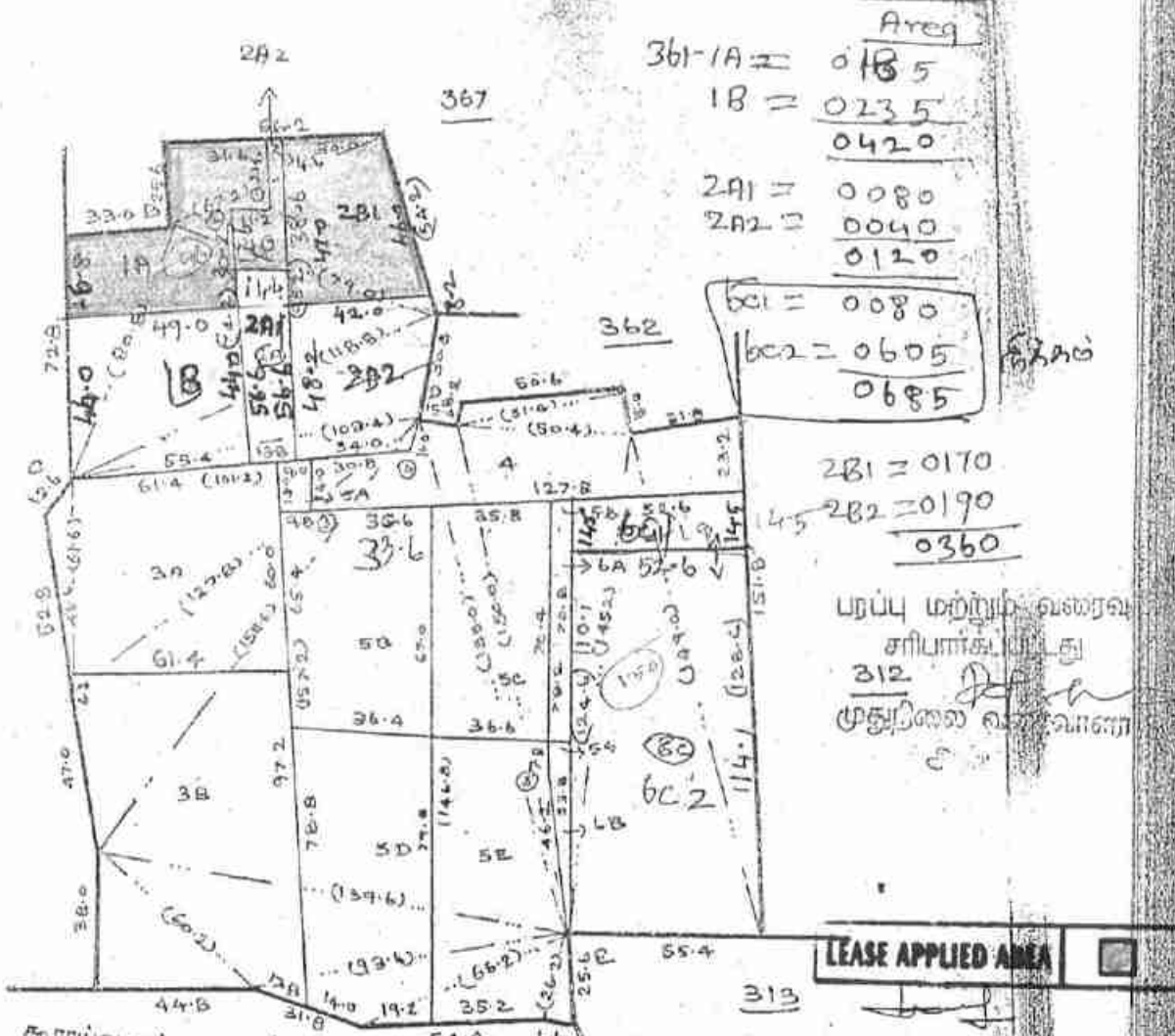
வெயர். நடுபண்ணை

தஞ்சாவூர்

வ. எண். 361

பரப்பு. சென்டீமீட்டர் 4

ஏ. 07.0



Area

361-1A	=	0185
1B	=	0235
		0420
2A1	=	0080
2A2	=	0040
		0120
3C1	=	0080
3C2	=	0605
		0685
2B1	=	0170
2B2	=	0190
		0360

பரப்பு மற்றும் வகை  
சரிபார்க்கப்பட்டது  
312  
முதுபிணை வகை வாரணம்

LEASE APPLIED AREA

சுராய்யா எண் - 359/23  
360

Village Administrative Office  
10 - Namburai, 11 - Durgam  
அளவைப் பட்டியல்  
சுராய்யா எண் - 359/23

E	150.0	
	4.0	103.0
D		103.4
		1000.10.4
C	68.4	21.2
B	79.0	
	54.4	9.6
	54.4	13.8
A		

பரப்பு: 8.4.53. P.S.

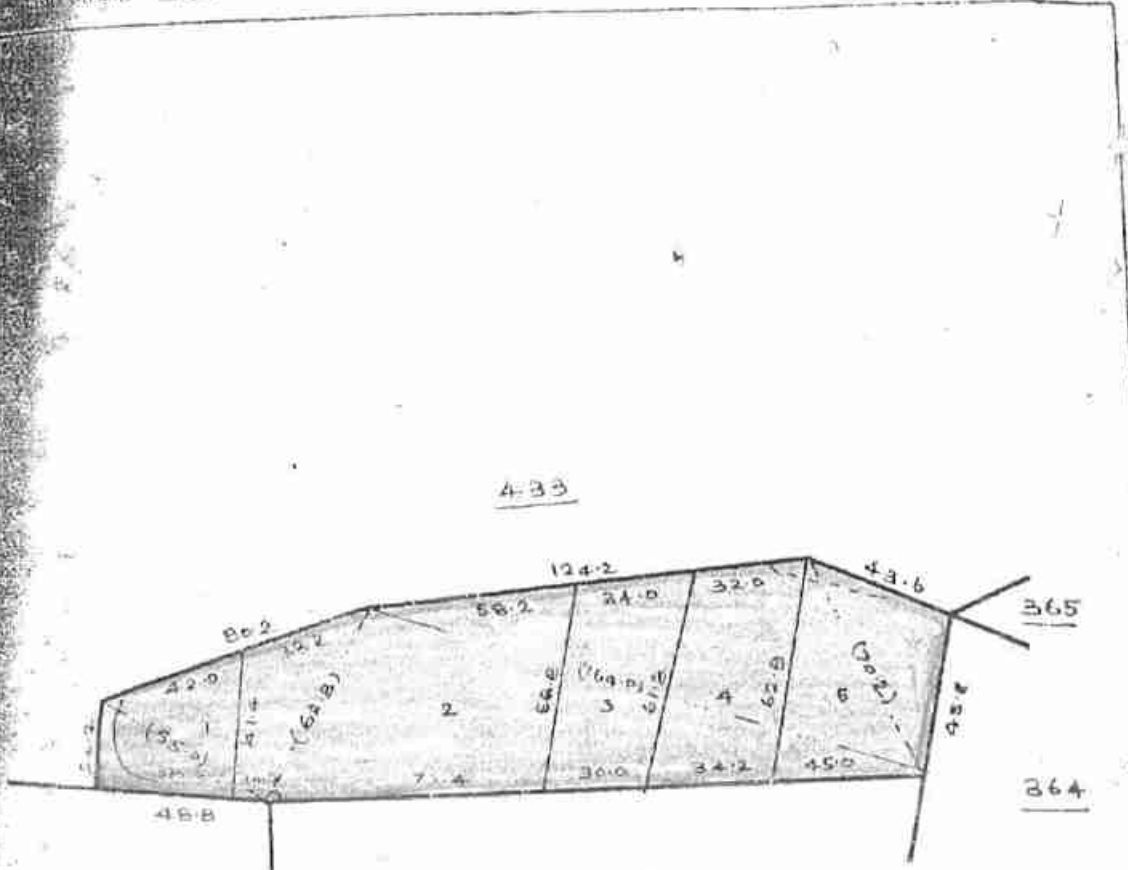


அளவைப் படிவ. எண் 23

எண். 10  
பெயர் - நிலக்கரி

அளவைப் படிவ. எண். 366

பரப்பு: சென்மீட்டர் 1 ஏ. 2 ஏ. 0



(*Handwritten signature*)  
*Handwritten signature*

Village Administrative Officer  
10 - Nambarai, 11 - Durgam  
Arcot Taluk.

LEASE APPLIED AREA

*Compared by*  
*A. S. Srinivasan*

தேதி: 1.2.2000.

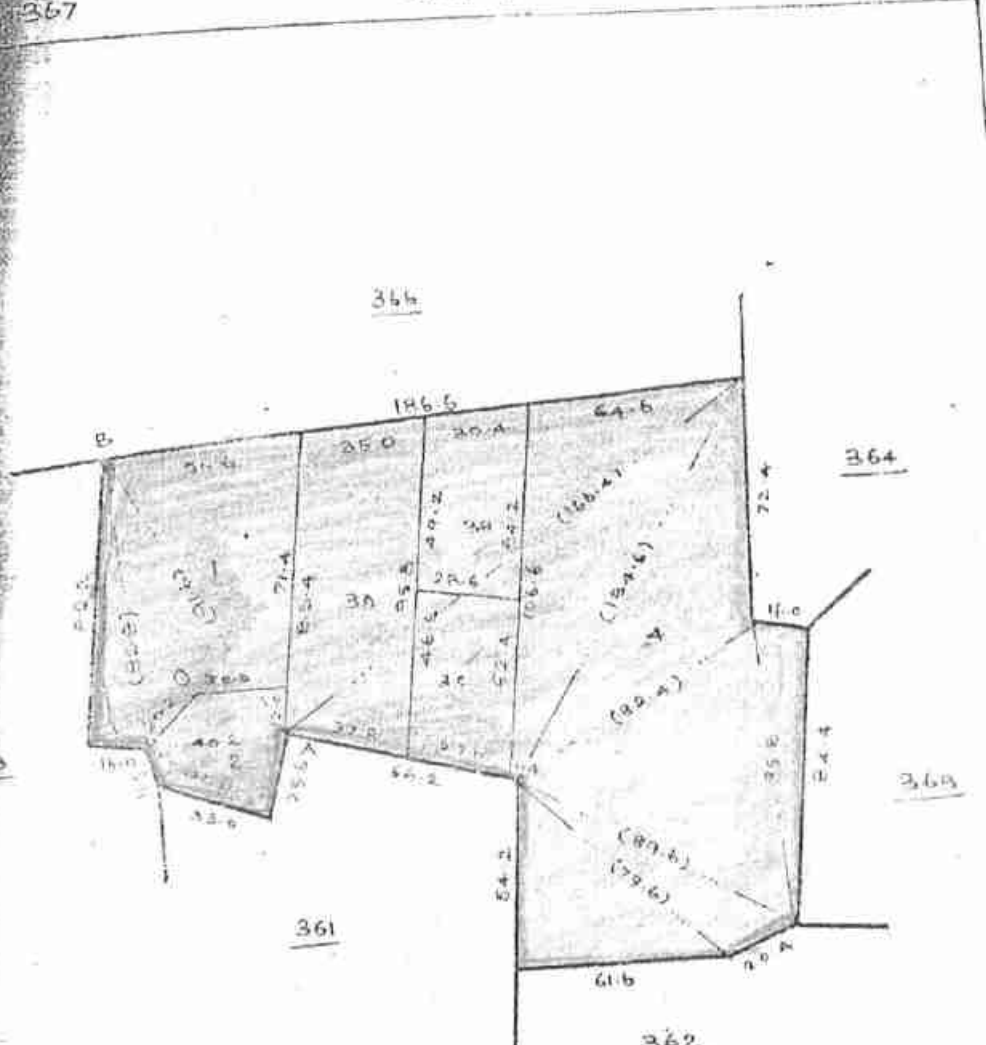
*Handwritten signature*  
11.4.13.P.S.



சுட்டிப்பகுதியின் எண் 23

கிராமம் {  
எண் 10  
செயல் திட்டம்

பரப்பு: செமீகி. மீ 2.      மீ 37.0



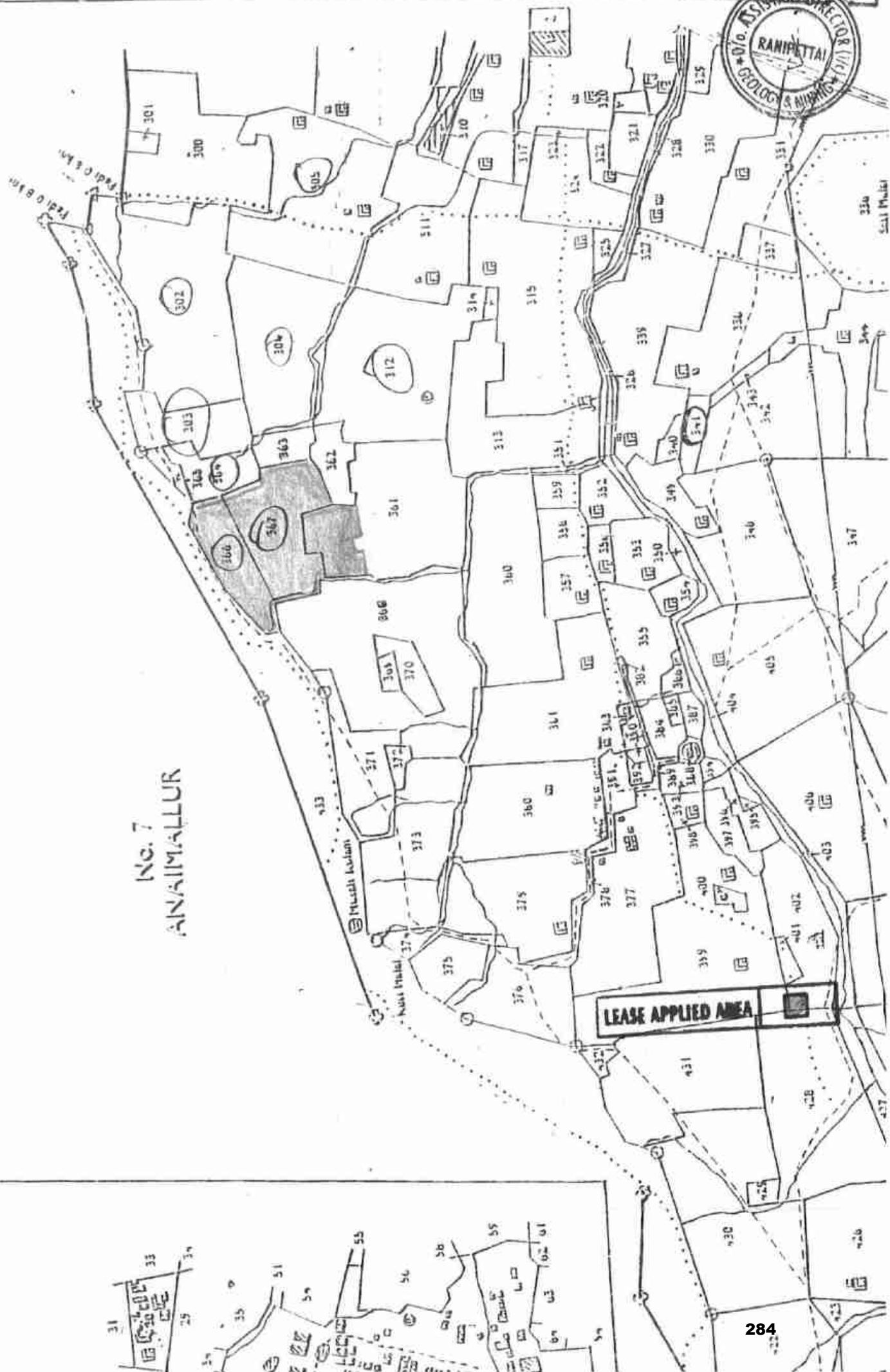
(*செயல் திட்டம்*)  
*[Signature]*  
Village Administrative Officer  
10 - Namburai, 11 - Durgam  
Arcot Taluk.

LEASE APPLIED AREA

		B	
		91.6	
①	10.6	24.6	
		A	

*செயல் திட்டம்*  
10.6.5.5

சுட்டி: 1: 2000



NO. 7  
ANAIMALLUR

LEASE APPLIED AREA





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1481

உரிமையாளர்கள் பெயர்

1. சுப்பிரமணி

மகன்

தனக்கோட்டி

புல எண்	உப்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
361 ✓	1A	0 - 18.50	0.70	--	--	--	--	2023/0105 /37/320931--2023 /37/02/00010950 -- 27-03-2023
361 ✓	2A2	0 - 4.00	0.15	--	--	--	--	2023/0105 /37/320931--2023 /37/02/00010950 -- 27-03-2023
361 ✓	2B1	0 - 17.00	0.65	--	--	--	--	2023/0105 /37/320931--2023 /37/02/00010950 -- 27-03-2023
368	2D	0 - 6.50	0.25	--	--	--	--	2022/0103 /37/220620-- 03-06-2022
		0 - 46.00	1.75					

குறிப்பு 2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01481/20034 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 20-06-2023 அன்று 10:34:44 AM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பகரை

பட்டா எண் : 1200

உரிமையாளர்கள் பெயர்

1. சுப்பிரமணி

மகன்

தனக்கோட்டி

புல எண்	உட்பிரிவு	புன்செய்		நுன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
367 ✓	1	0 - 43.50	1.68	--	--	--	--	2018/0103 /04/107400--- -- 12-10-2018
368	2H	0 - 11.00	0.42	--	--	--	--	2018/0103 /04/107400--- -- 12-10-2018
		0 - 54.50	2.10					

குறிப்பு 2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01200/20023 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:11:20 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நும்பரை

பட்டா எண் : 1215

உரிமையாளர்கள் பெயர்

I. சுப்பிரமணி

மகன்

கனககோட்டி

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
302	SF	0 - 11.50	0.30	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1B	0 - 30.00	0.79	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1D	0 - 8.00	0.21	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1F	0 - 28.50	0.74	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
305	1C	0 - 38.50	1.48	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
312	1B2	0 - 2.00	0.08	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
363	2	0 - 8.00	0.21	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
366 ✓	1	0 - 13.50	0.35	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
367 ✓	3B	0 - 15.00	0.58	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
		1 - 55.00	4.74					

குறிப்பு 2 :



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1217

உரிமையாளர்கள் பெயர்

புல எண்	உட்பிரிவு	சுப்பிரமணி		மகன்		தனக்கோட்டி		குறிப்புகள்
		புன்செய்		நுன்செய்		மற்றவை		
		பரப்பு ஹெக்ட - ஏர்	தீர்வை ரூ - பை	பரப்பு ஹெக்ட - ஏர்	தீர்வை ரூ - பை	பரப்பு ஹெக்ட - ஏர்	தீர்வை ரூ - பை	
304	1C	0 - 33.50	0.87	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
304	1G	0 - 33.00	0.86	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
304	2B	0 - 33.50	0.87	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
312	1B3	0 - 1.00	0.06	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
363	1	0 - 35.50	0.92	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
366 ✓	3	0 - 19.50	0.51	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
366 ✓	4	0 - 22.00	0.58	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
366 ✓	5	0 - 24.50	0.64	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
367 ✓	4	1 - 21.50	4.68	--	--	--	--	2018/0103 /04/107481-- -- 09-02-2019
		3 - 24.00	9.99					

குறிப்பு2 :





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1214

உரிமையாளர்கள் பெயர்

I. சுப்பிரமணி

மகன்

தனக்கோட்டி

பல. எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
366 ✓	2	0 - 48.50	1.27	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
367 ✓	3A	0 - 32.50	1.25	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
367 ✓	3C	0 - 13.50	0.52	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
		0 - 94.50	3.04					

குறிப்பு2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01214/20068 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:09:27 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1419

உரிமையாளர்கள் பெயர்

1. Subramani மகன் Dhana Kotti

புல எண்	உட்பிரிவு	புன்செய்		நுன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
367	2	0 - 11.00	0.42	--	--	--	--	2021/0103 /37/207619--- -- 02-11-2021
		0 - 11.00	0.42					

குறிப்பு2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01419/20015 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:39:29 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



கிராமக் கணக்கு

1433 ஆம் பசலியில் திருவிவசாய மாவட்டம் தற்கால வட்டம் கல்லை

நில வரித் திட்டத்தின்படி புலன்களின் விபரம்.					சாரூப யாவரின் பெயர்.	முதல் போகம்.						
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)	(12)
361	1A	0185	020	1481	கைத்தொழில்			500				
361	2A	0185	015	1481	"			500				
361	3B	0172	015	1481	"			300				
367	1	0135	168	1200	"			500				
366	1	0135	035	1215	"			500				
363	3B	0153	055	1215	"			500				
366	3	0145	057	1217	"			500				
366	4	0227	055	1217	"			500				
366	5	0227	014	1217	"			500				
367	4	1215	268	1217	"			500				
366	2	0485	127	1214	"			500				
367	3A	0305	125	1214	"			500				
367	3C	0135	052	1214	"			500				
367	2	0160	042	1619	"			500				
						H. T. ...						
						20/07/2023 village Administrative Officer 10 - Nambardi, 11 - Durgam Arani Taluk						



ம. எண். 10. தயவுசெய்து

2	3	4	5	6	7	8	9	10	11
360-6	ர	4	1	7-2	3	4 94	0 60-5	3 00	563 சுப்ரமணிய முதலி மக்கள் செல்வம் (1). குண பூஷணம் (2).
-7	ர	4	1	7-2	3	4 94	0 67-0	3 30	563 சுப்ரமணிய முதலி மக்கள் செல்வம் (1). குண பூஷணம் (2).
							3 80-0	17 96	
361-1	ர	4	1	8-2	4	3 85	0 42-0	1 62	120 சுப்ரமணிய முதலி மனைவி கெஜம் மாள்.
2A -2பா	ர	4	1	8-2	4	3 85	0 12-0	0 45	120 சுப்ரமணிய முதலி மனைவி கெஜம் மாள்.
2B -2பா	ர	4	1	8-2	4	3 85	0 36-0	1 38	400 நடராஜன் மனைவி சாதா பாள்.
3A -3பா	ர	4	1	8-2	4	3 85	0 39-0	1 50	202 கந்தசாமி முதலி மனைவி சுப்ரமணிய முதலி.
3B -3பா	ர	4	1	8-2	4	3 85	0 60-5	2 33	137 அப்பாசாமி முதலி மனைவி கோவிந்தம்மாள்.
4 -4	ர	4	1	8-2	4	3 85	0 39-5	1 17	120 சுப்ரமணிய முதலி மனைவி கெஜம் மாள்.
5A -5பா	ர	4	1	8-2	4	3 85	0 01-0	0 06	120 சுப்ரமணிய முதலி மனைவி கெஜம் மாள்.
5B -5பா	ர	4	1	8-2	4	3 85	0 27-5	1 06	73 பார்த்தசாரதி மனைவி கனகாம்பாள்.
5C -5பா	ர	4	1	8-2	4	3 85	0 24-0	0 92	66 ரத்தினம் மனைவி கண்ணம்மாள்.
5D -5பா	ர	4	1	8-2	4	3 85	0 30-5	1 18	70 ராம் முதலி மனைவி கமலம் மாள்.
5E -5பா	ர	4	1	8-2	4	3 85	0 30-0	1 18	283 கன்னியப்ப முதலி மனைவி பட்டம்மாள்.
6A -6பா	ர	4	1	8-2	4	3 85	0 04-0	0 15	66 ரத்தினம் மனைவி கண்ணம்மாள்.
6B -6பா	ர	4	1	8-2	4	3 85	0 01-5	0 06	283 கன்னியப்ப முதலி மனைவி பட்டம்மாள்.

*Handwritten signatures and notes at the bottom of the page.*



ம. எண். 10. திட்டம்.

2	3	4	5	6	7	8	9	10	11	12	
364-III	r	4	1	...	8-3	5	2 62	0 14-5	0 38	411	வைத்தியலிங்க நாயனார் மகன் கார்ப்பன் மகம்.
							0 83-0	2 17			
365	r	4	0	...	...	...	...	0 18-0	...	...	...
366-III	r	4	1	...	8-3	5	2 62	0 13-5	0 35	140	ஆனைமல்லூர் கார்ப்பன் மகன் கோலித்தராஜ்.
366-III	r	4	1	...	8-3	5	2 62	0 48-5	1 27	22	ஆனைமல்லூர் கார்ப்பன் மகன் ஆறுமுகம்.
366-III	r	4	1	...	8-3	5	2 62	0 19-5	0 51	258	ஆனைமல்லூர் கார்ப்பன் மகன் நரசிம்மன்.
366-III	r	4	1	...	8-3	5	2 62	0 22-0	0 58	167	ஆனைமல்லூர் கார்ப்பன் மகன் சிங்காரம்.
366-III	r	4	1	...	8-3	5	2 62	0 24-5	0 64	258	ஆனைமல்லூர் கார்ப்பன் மகன் நரசிம்மன்.
							1 28-0	3 35			
367-1	r	4	1	...	8-2	4	3 85	0 43-5	1 68	564	மோகனலாம் துரை மக்கள் கார்ப்பன் (1). தனித்தனியே (2).
-2	r	4	1	...	8-2	4	3 85	0 11-0	0 42	202	மோகனலாம் கந்தசாமி முதலி மகன் சுப்ரமணிய முதலி.
-3III	r	4	1	...	8-2	4	3 85	0 32-5	1 25	318	ஆனைமல்லூர் கார்ப்பன் மகன் பெருமான்.
-3III	r	4	1	...	8-2	4	3 85	0 15-0	0 58	140	ஆனைமல்லூர் கார்ப்பன் மகன் கோலித்தராசன்.
-3III	r	4	1	...	8-2	4	3 85	0 13-5	0 52	22	ஆனைமல்லூர் கார்ப்பன் மகன் ஆறுமுகம்.
-4	r	4	1	...	8-2	4	3 85	1 21-5	4 68	30	ஆனைமல்லூர் பெருமான் மகன் ஆனைமூரன்.
							2 37-0	9 13			

*Handwritten signature and date:*  
 S. V.  
 2/10/22

ANNEXURE



**FORM B**  
**CERTIFICATE OF REGISTRATION**

AREA CODE: 048

C.S.T. NUMBER: 891632

TIN : 33280944378

This is to certify that Tvl. DHANA BLUE METALS whose principal Place of business within the State is situated at

Street Name : 82, BHARATHI NAGAR MAIN ROAD, Location : PALLAVARAM  
Town / City : CHENNAI  
District : KANCHEEPURAM  
Pincode : 600043

has been registered as a dealer under Sec 7(1)/7(2) of the Central Sales Tax Act, 1956 in the office of the Commercial Tax Officer / Deputy Commercial Tax Officer, TAMBARAM - II. The business is

Wholly  
Mainly  
Partly

The Classes of goods specified for the purposes of sub-section 1 and 3 of Section 8 of the Act is /are as follows and sale of those goods in the course of inter-state trade to the dealer shall be taxable at the rate specified in that sub-section to the provision of sub-section 4 of the said Section.

- (A) For Re-sale
- (B) For use in Manufacture of Processing of goods for Sale  
Commodity:- ACCESSORIES - MACHINERY
- (C) For use in mining
- (D) For use in generation or distribution of Electricity or any other form of Power
- (E) For use in packing of goods for sale/Re-sale
- (F) The dealer manufactures Process or extracts in mining the following Classes of goods or generates or distributes the following form of power namely

The dealer's Year for the purpose of Accounts from the 1st day of April To 31 st of March The dealer has no additional place of business /has additional places of business as detailed below:-

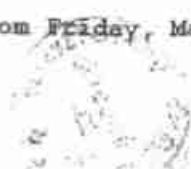
- (a) In the State of Registration  
Branch:- NO.19, KEERAPAKKAM VILLAGE, CHENNAI.600048 , TAMIL NADU
- (b) In other States

The dealer keeps warehouses at the following places within the State of Registration.

The Certificate is valid from Friday, March 16, 2007 until Cancelled

Place  
Date

Chennai. 14  
16.3.07



COMMERCIAL TAX DEPARTMENT  
REGISTRATION OF DEALERS  
CHENNAI

*F. P. Palan*  
18/3/07



सत्यमेव जयते

आधार

புதிய சமூக அடையாளம்  
Government of India

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பெரும்பலர் அடையாளம் கட்டுப்பாட்டு ஆணையர்  
Unique Identification Authority of India

பதிவு (உ) எண் / Enrolment No.: 0000/00900/58410

**To**  
S. Dhanyakotti  
C/O: Subramani,  
32B A5 Block, 6D Flat  
Olympia Grande,  
GST Road,  
Pallavaram,  
Kancheepuram Tamil Nadu - 600043  
9941923416

Digitally signed by S. Dhanyakotti  
DN: cn=S. Dhanyakotti, o=Unique Identification Authority of India,  
ou=Government of India, email=S.Dhanyakotti@uidai.gov.in

**உங்கள் ஆதார எண் / Your Aadhaar No.:**  
**3133 5524 0415**  
VID : 9199 5802 0801 1167

சமூக அடையாளம் - ஆதார எண் - உங்கள் உரிமை

सत्यमेव जयते

AADHAAR

புதுப்பலர் அடையாளம் கட்டுப்பாட்டு ஆணையர்  
Unique Identification Authority of India

உள்ளிடம் / INFORMATION

- ஆதாரம் உங்கள் அடையாள ஆதாரம் அல்ல, குடிமகனாகியதை உறுதிப்படுத்துவதற்கான ஆதாரம் அல்ல.
- ஆதாரம் தனித்தனிப்பட்டவர்களுக்கு மட்டுமே பயன்படும் ஆதாரம்.
- பதிவுகளை உள்ளிடும் முறைகள் மூலம் (X, M, F) ஆய்வாளர்கள் அங்கீகரிக்கப்பட்ட பதிவுகளைத் தேர்வு செய்து அடையாளம் செய்து உறுதிப்படுத்தும்.
- ஆதார எண், பெண் அல்லது ஆண் ஆதாரம் மட்டுமே என ஆதாரம் அமைத்து வசதி செய்து கொடுக்கப்படும். மாற்றம் செய்யப்படாததுடன் 12 இலக்க ஆதார எண்ணிற்கு உறுதிப்படுத்தப்படும் ஆதார அடையாளத்திற்கு மாற்றம் செய்யப்படும்.
- இ ஆய்வுகளைத் தள்ளிப் புதுப்பிப்பது ஆதாரம் புதுப்பிக்கப்படும்.
- பயன்படுத்தும் அடையாள ஆதார அல்லது சமூக அடையாளம் - சமூக அடையாளம் பெற ஆதாரம் உறுதிப்படுத்தும் தகவல்கள்.
- உங்கள் சமூக அடையாளம் மட்டுமே மட்டுமே உறுதிப்படுத்தும் ஆதாரம் உறுதிப்படுத்தும்.
- ஆதாரம் சமூக அடையாளம் பெற உங்கள் அடையாளம், சமூக அடையாளம் மட்டுமே உறுதிப்படுத்தும் ஆதாரம் உறுதிப்படுத்தும்.
- பதிவுகளைப் புதுப்பிப்பதற்கு ஆதாரம் / மஹாலாக்ஷ்மி வங்கி / அடையாளம் அமைத்துள்ள பதிவுகளைப் புதுப்பிப்பது.
- ஆதாரம் சமூக அடையாளம் அல்லது சமூக அடையாளம் பெற உங்கள் அடையாளம்.

- Aadhaar is a proof of identity, not of citizenship.
- Aadhaar is unique and secure.
- Verify identity using secure QR code/offline XML/online Authentication.
- All forms of Aadhaar like Aadhaar letter, PVC Cards, eAadhaar and mAadhaar are equally valid. Virtual Aadhaar Identity (VID) can also be used in place of 12 digit Aadhaar number.
- Update Aadhaar at least once in 10 years.
- Aadhaar helps you avail various Government and Non-Government benefits/services.
- Keep your mobile number and email id updated in Aadhaar.
- Download mAadhaar app on smart phones to avail Aadhaar Services.
- Use the feature of lock/unlock Aadhaar/biometrics to ensure security.
- Entities seeking Aadhaar are obligated to seek due consent.

सत्यमेव जयते

आधार

புதிய சமூக அடையாளம்  
Government of India

ID: 0000/00900/58410

உத்தம சமூக அடையாளம்  
S Dhanyakotti  
பெண் / DOB: 14/04/1974  
ஆண் / MALE

**3133 5524 0415**  
VID : 9199 5802 0801 1167

சமூக அடையாளம் - ஆதார எண் - உங்கள் உரிமை

सत्यमेव जयते

आधार

புதிய சமூக அடையாளம் கட்டுப்பாட்டு ஆணையர்  
Unique Identification Authority of India

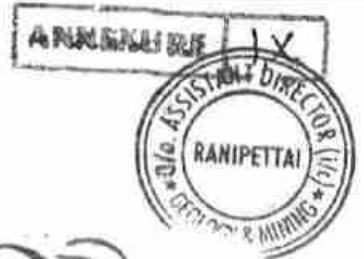
**உள்ளிடம்:**  
கட்டிடம் - ஆதாரம் அமைத்துள்ள 32B A5 Block, 6D Flat, Olympia Grande, GST Road, Pallavaram, Kancheepuram, Tamil Nadu - 600043

**Address:**  
C/O: Subramani, 32B A5 Block, 6D Flat, Olympia Grande, GST Road, Pallavaram, Kancheepuram, Tamil Nadu - 600043

Digitally signed by S. Dhanyakotti  
DN: cn=S. Dhanyakotti, o=Unique Identification Authority of India,  
ou=Government of India, email=S.Dhanyakotti@uidai.gov.in

**3133 5524 0415**  
VID : 9199 5802 0801 1167

சமூக அடையாளம் - ஆதார எண் - உங்கள் உரிமை



## Faculty of Science

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

Given under the seal of the University.

Annamalainagar  
28th December, 1976.

A. Chandrasekh  
296  
Vice-Chancellor.



# CHETTINAD CEMENT CORPORATION LTD.,

(Regd. Office: RANI SEETHAI HALL BUILDING IV & V FLOORS, 603, ANNA SALAI, MADRAS-600008.)  
WORKS OFFICE: PULIYUR.



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

All Correspondences to  
Kumararajah Muthiah Nagar,  
PULIYUR CEMENT FACTORY POST 639114  
(Karur Taluk, Trichy DL)

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

22<sup>nd</sup> September, 1987.

## CERTIFICATE.

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

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

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

for CHETTINAD CEMENT CORPORATION LTD.,

(T. RAJU).

Mines Manager & Dy. General Manager.



**PLATE NO. 1**  
**DATE OF SURVEY : 29.09.2023**  
**APPLICANT:**  
 MATHANATHU METIAS  
 (P) PHECHETHIRUKKAVANAKOTTAJI  
 NO. 157 ROAD  
 PALLAVANAM TALUK  
 CHENNAI DISTRICT

**QUARRY LEASE APPLIED AREA:**  
 S.F. NO'S: 361/1A, 361/2A, 361/2B, 366/1, 366/2  
 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A  
 367/3B, 367/3C & 367/4  
 EXTENT : 4.04.50 Ha.  
 VILLAGE : NAMBARAL,  
 TALUK : ARGOT,  
 DISTRICT : RANIPET.

**INDEX**  
 G. L. A. AREA : ●  
 TOPO SHEET NO : 57/P/05  
 LATITUDE: 12°49'11.77"N to 12°49'19.36"N  
 LONGITUDE: 79°16'15.96"E to 79°16'25.31"E

**LOCATION PLAN**  
 NOT TO SCALE

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

C. Adnam  
 CHATARAMAN S.K.M.PRI.  
 QUALIFIED PERSON

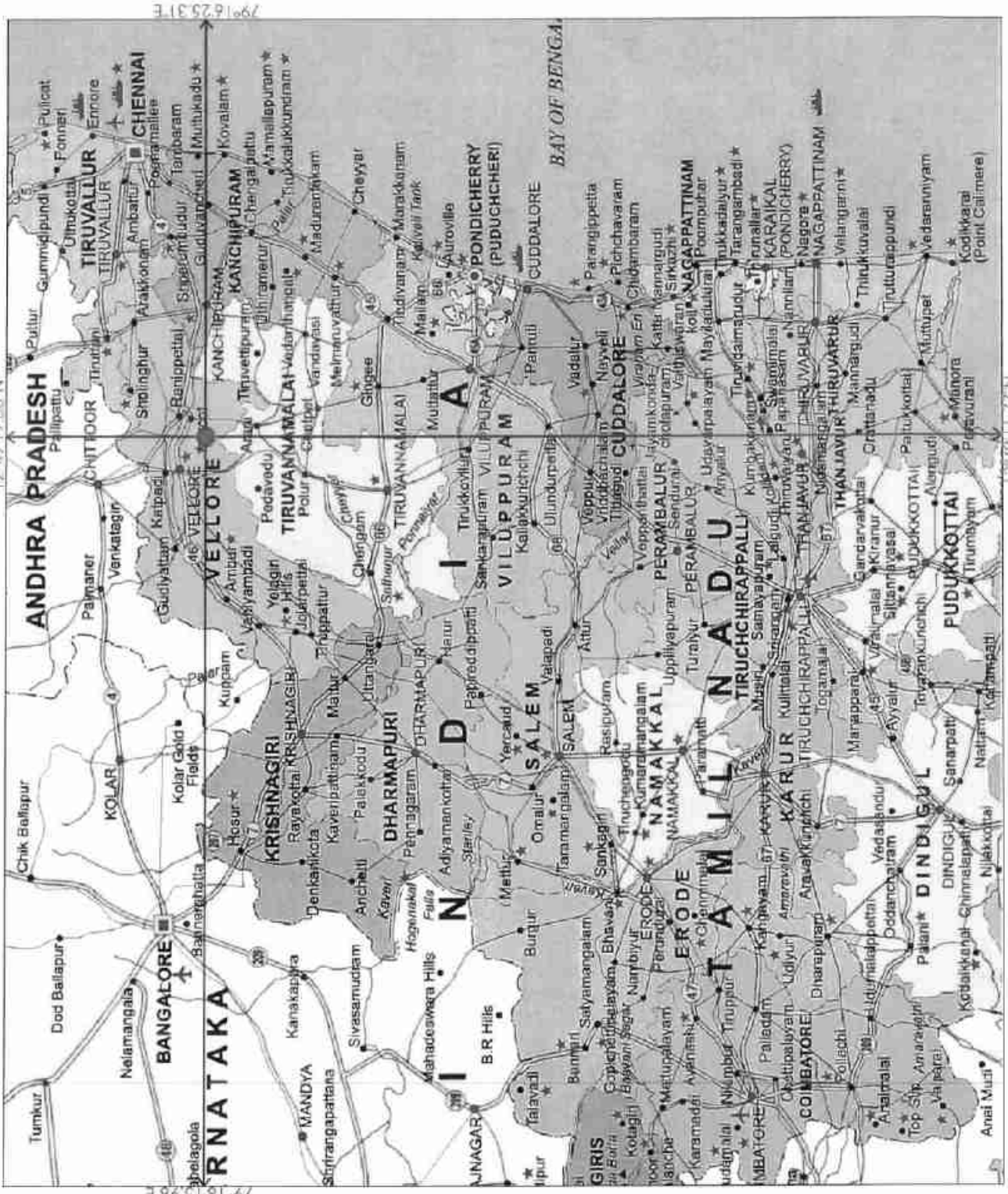


PLATE NO: 1A  
DATE OF SURVEY : 29.09.2023

APPLICANT:  
M/S DHANA BLUE METALS,  
(PROPRIETOR THIRU S.DHANAKOTI)  
NO.6 GST ROAD,  
PALLAVARAM TALUK,  
CHENGALPATTU DISTRICT.



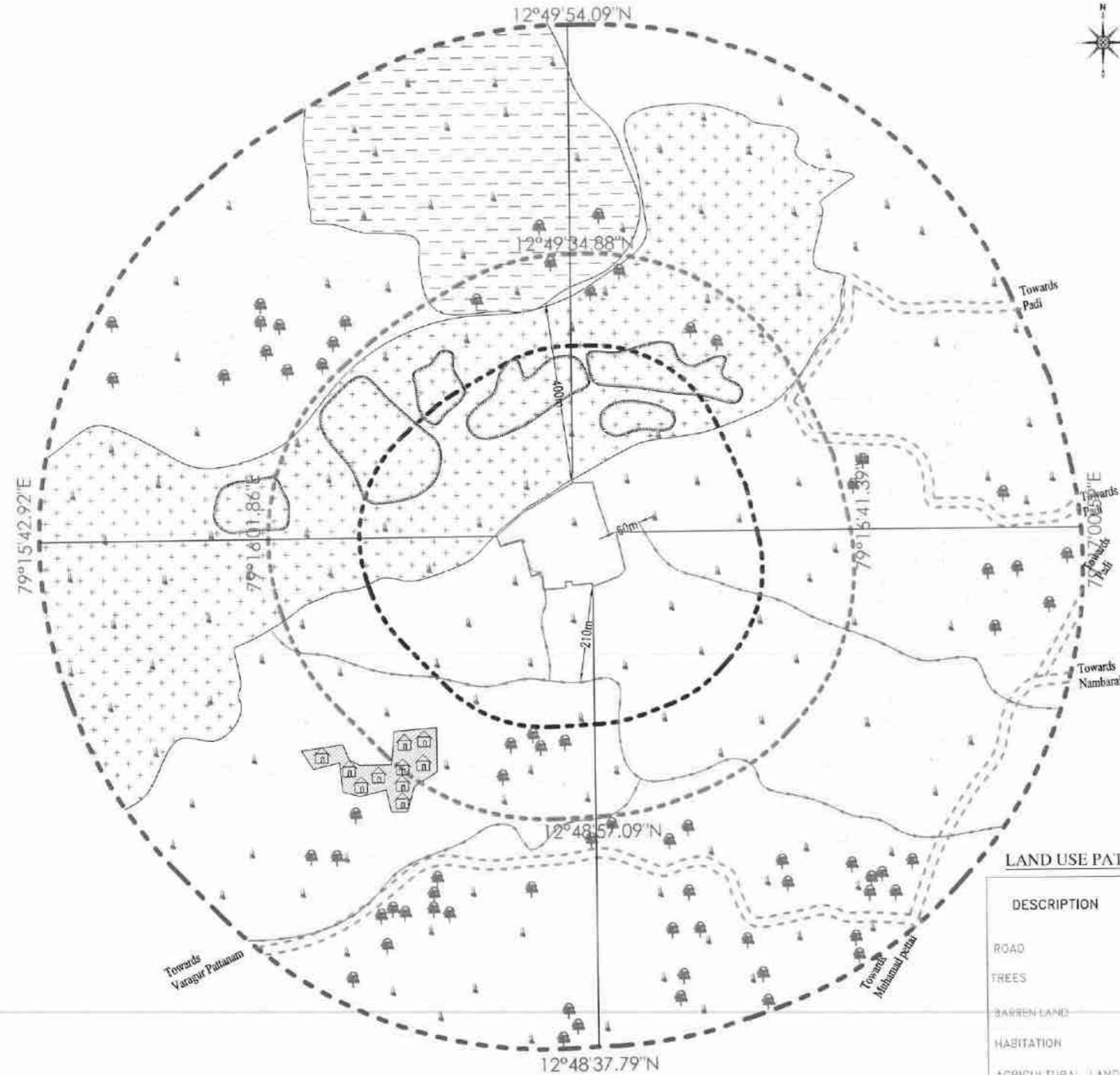
**QUARRY LEASE APPLIED AREA:**

S.F.NO's : 361/1A, 361/2A, 361/2B1, 366/1, 366/2,  
366/3, 366/4, 366/5, 367/1, 367/2, 367/3A,  
367/3B, 367/3C & 367/4  
EXTENT : 4.04.50 Ha.  
VILLAGE : NAMBARAI,  
TALUK : ARCOT,  
DISTRICT : RANIPET.

**INDEX**

TOPO SHEET NO : 57 P/ 05  
LATITUDE: 12°49'11.77"N to 12°49'19.36"N  
LONGITUDE: 79°16'15.96"E to 79°16'25.31"E

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



**LAND USE PATTERN**

DESCRIPTION	AREA IN (%)
ROAD	05
TREES	10
BARREN LAND	25
HABITATION	05
AGRICULTURAL LAND	15
HILLOCK	30
WATER BODIES	10

**ENVIRONMENTAL PLAN**

SCALE 1 : 10,000

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

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



PLATE NO: 1A  
DATE OF SURVEY : 29.09.2023

**APPLICANT:**  
M/S.DHANA BLUE METALS,  
(PROPRIETOR THIRU.S.DHANAKOTTI.)  
NO.6 GST ROAD,  
PALLAVARAM TALUK,  
CHENGALPATTU DISTRICT

**QUARRY LEASE APPLIED AREA:**  
S.F.NO's :361/1A,361/2A2,361/2B1,366/1,366/2,  
366/3,366/4,366/5,367/1,367/2,367/3A  
367/3B,367/3C&367/4  
EXTENT : 4.04.50 Ha,  
VILLAGE :NAMBARAI,  
TALUK :ARCOT,  
DISTRICT : RANIPET.

**INDEX**  
TOPO SHEET NO : 57 P/ 05  
LATITUDE:12°49'11.77"Nto12°49'19.36"N  
LONGITUDE:79°16'15.96"Eto79°16'25.31"E

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

**SATELLITE IMAGERY**  
SCALE 1 : 10,000

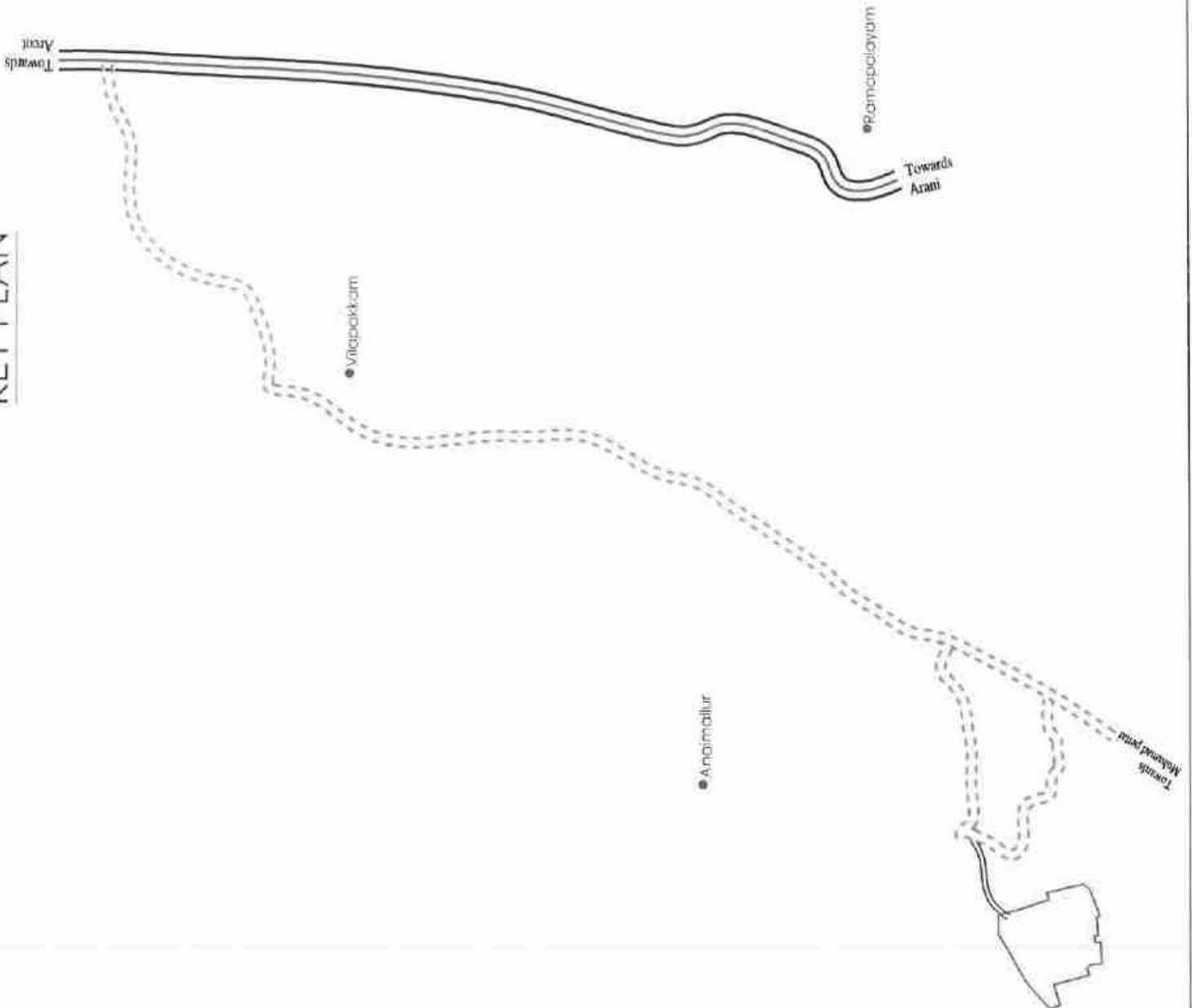
**PREPARED BY :**  
THIS IS TO CERTIFY THAT THE INFORMATION IN  
THIS PLATE IS TRUE AND CORRECT TO  
THE BEST OF MY KNOWLEDGE BASED UPON THE  
LEASE MAP AUTHENTICATED BY STATE  
GOVERNMENT

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

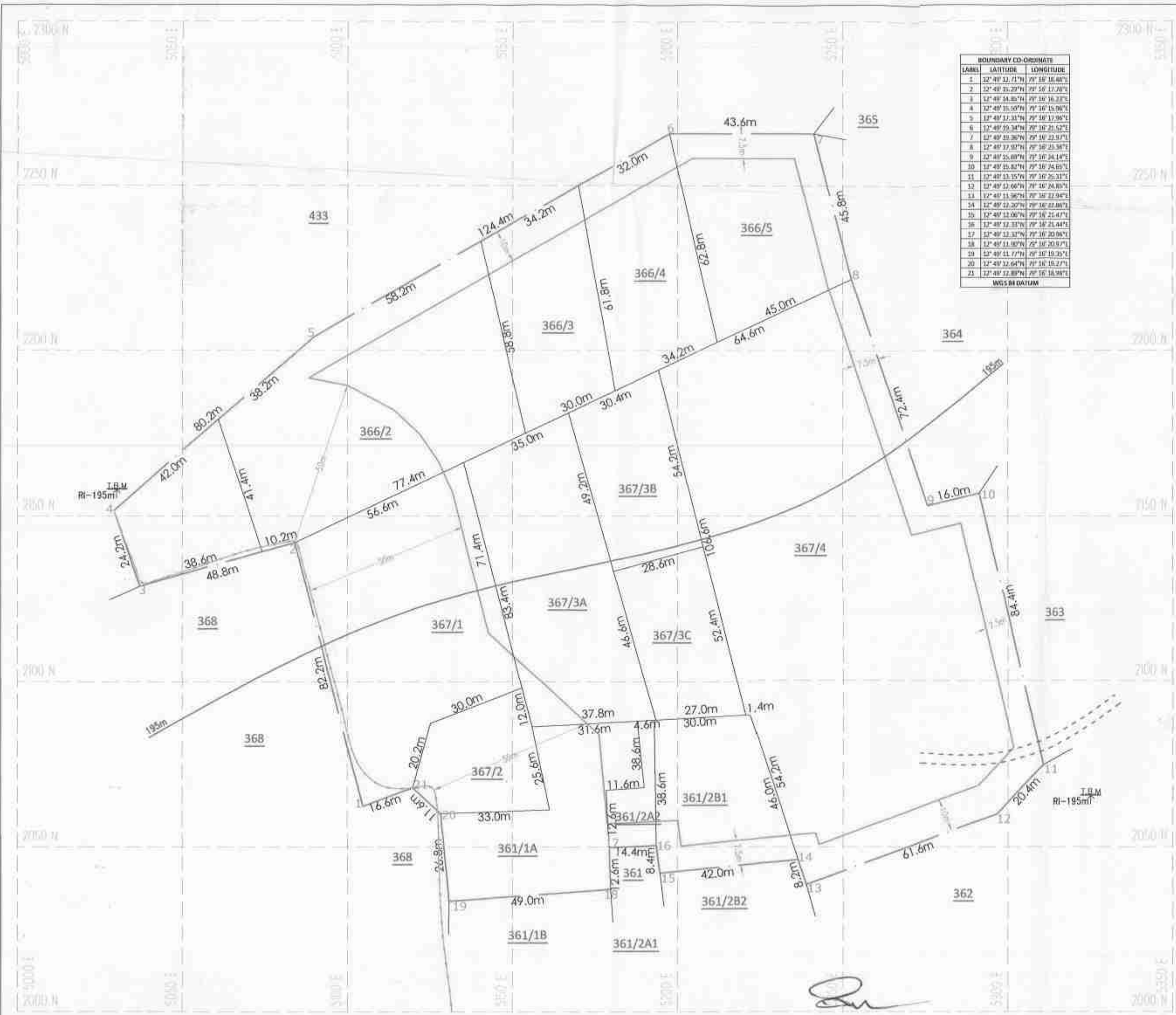




# KEY PLAN

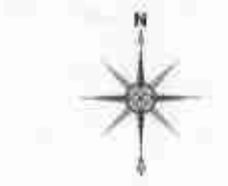


<p><b>PLATE NO: I-D</b>  <b>DATE OF SURVEY: 29.09.2023</b></p>
<p><b>APPLICANT:</b>                  MUDHAKA BLUE METALS,                  (PROPRIETOR: THIRU S. BHANAVATHI)                  NO. 5/107 ROAD,                  PALLAVARAM TALUK,                  CHENGALPATTU DISTRICT</p>
<p><b>QUARRY LEASE AREA:</b>                  S.F.NO's : 367/1(A,36)/2A,2,36/12B,366/1,366/2                  366/3,366/4,366/5,367/1,367/2,367/3A,                  367/3B,367/3C,367/4</p> <p>EXTENT : 4.04.50 Ha;                  VILLAGE : NAMBARAI                  TALUK : ARCOT,                  DISTRICT : RANIPET.</p>
<p><b>INDEX</b></p> <p>Q.L. APPLIED AREA </p> <p>STATE HIGHWAY </p> <p>PANCHAYAT ROAD </p> <p>APPROACH ROAD </p> <p>HABITATIONS </p>
<p><b>KEY PLAN</b>                  Not To Scale</p>
<p><b>PREPARED BY :</b>                  THIS IS TO CERTIFY THAT THE INFORMATION IN                  THIS PLATE IS TRUE AND CORRECT TO                  THE BEST OF MY KNOWLEDGE BASED UPON THE                  LEASE MAP AUTHENTICATED BY STATE                  GOVERNMENT</p> <p><i>C. Satharajam</i>                  C. SATHARAJAM, REGISTRAR,                  QUALIFIED PERSON</p>



BOUNDARY CO-ORDINATE		
LABEL	LATITUDE	LONGITUDE
1	12° 40' 12.71"N	79° 16' 16.04"E
2	12° 40' 15.29"N	79° 16' 17.00"E
3	12° 40' 14.85"N	79° 16' 16.23"E
4	12° 40' 15.50"N	79° 16' 15.96"E
5	12° 40' 17.31"N	79° 16' 17.96"E
6	12° 40' 19.34"N	79° 16' 21.52"E
7	12° 40' 19.36"N	79° 16' 22.97"E
8	12° 40' 17.93"N	79° 16' 23.36"E
9	12° 40' 15.68"N	79° 16' 24.14"E
10	12° 40' 15.82"N	79° 16' 24.69"E
11	12° 40' 13.15"N	79° 16' 25.31"E
12	12° 40' 12.66"N	79° 16' 24.89"E
13	12° 40' 11.36"N	79° 16' 22.94"E
14	12° 40' 12.20"N	79° 16' 22.00"E
15	12° 40' 12.06"N	79° 16' 21.47"E
16	12° 40' 12.31"N	79° 16' 21.44"E
17	12° 40' 12.31"N	79° 16' 20.96"E
18	12° 40' 11.98"N	79° 16' 20.97"E
19	12° 40' 11.77"N	79° 16' 19.26"E
20	12° 40' 12.64"N	79° 16' 19.27"E
21	12° 40' 12.89"N	79° 16' 18.98"E

WGS 84 DATUM



**PLATE NO-II**  
DATE OF SURVEY : 29.09.2023

**APPLICANT:**  
M/S.DHANA BLUE METALS,  
(PROPRIETOR: THIRU.S.DHAMAKOTI.)  
NO.6 GST ROAD,  
PALLAVARAM TALUK,  
CHENGALPATTU DISTRICT.

**QUARRY LEASE APPLIED AREA:**  
S.F.NO's : 361/1A,361/2A,361/2B1,366/1,366/2,  
366/3,366/4,366/5,367/1,367/2,367/3A,  
367/3B,367/3C&367/4  
EXTENT : 4.04.50 Ha,  
VILLAGE : NAMBARAI,  
TALUK : ARCOT,  
DISTRICT : RANIPET.

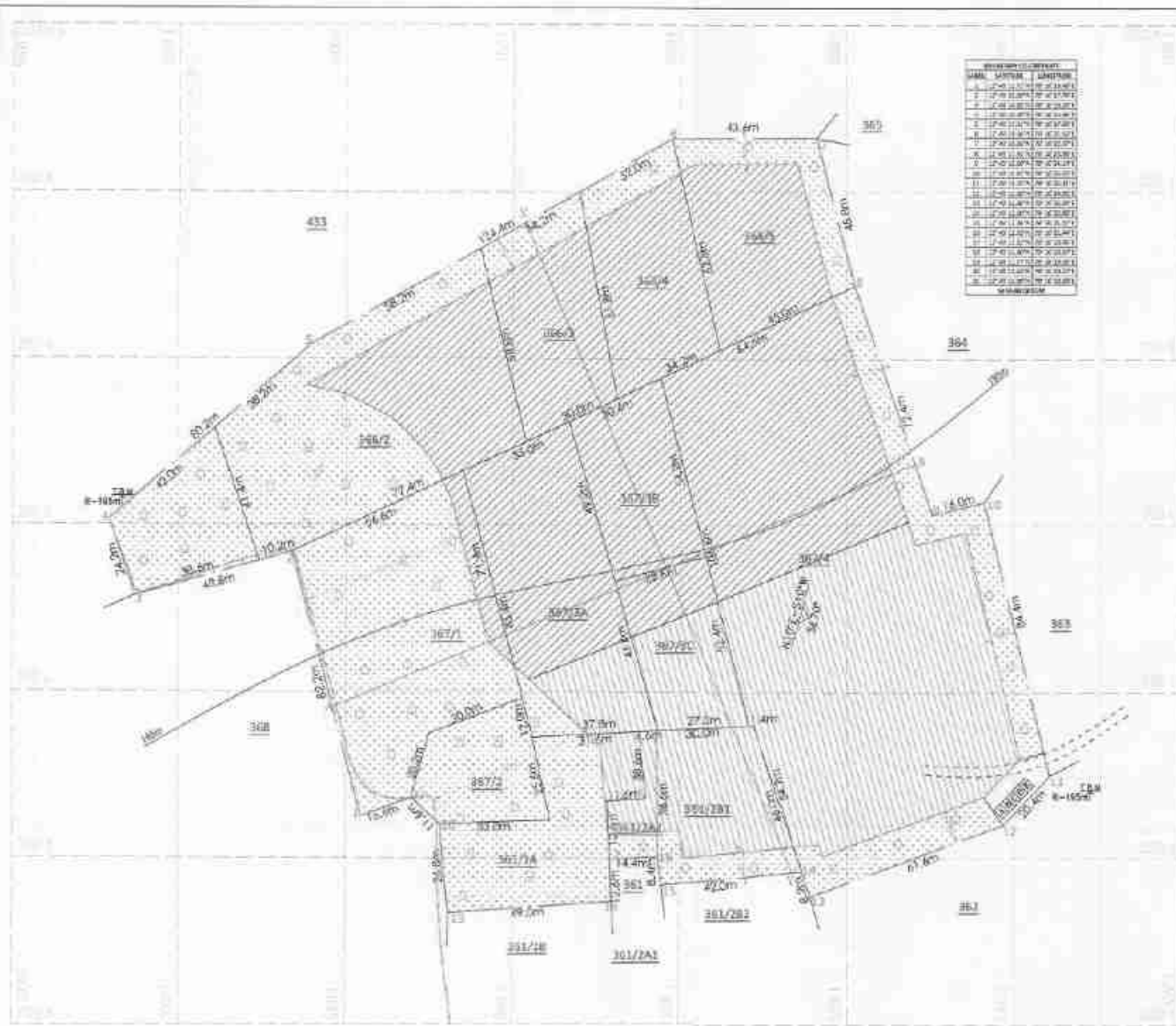
**INDEX**

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

**QUARRY LEASE & SURFACE PLAN**  
SCALE 1 : 1000

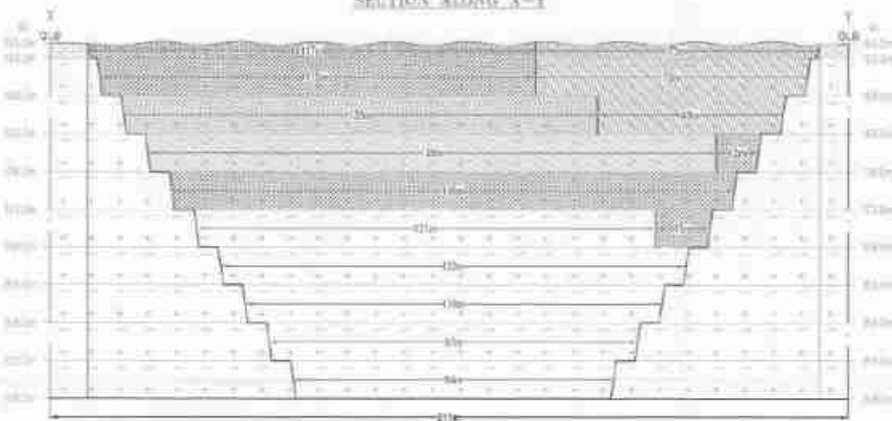
**PREPARED BY :**  
THIS IS TO CERTIFY THAT THE INFORMATION IN  
THIS PLATE IS TRUE AND CORRECT TO  
THE BEST OF MY KNOWLEDGE BASED UPON THE  
LEASE MAP AUTHENTICATED BY STATE  
GOVERNMENT

*(Signature)*  
CNATARAJAN, M.S., M.Phil.  
QUALIFIED PERSON

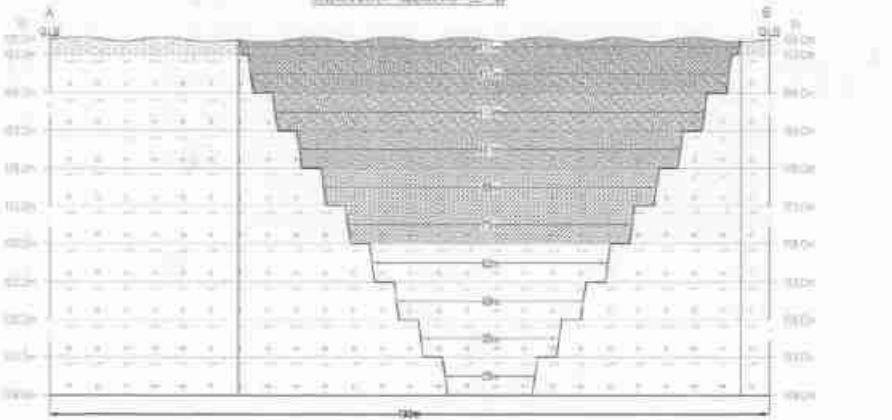


SEQUENCE	DESCRIPTION
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SECTION ALONG X-Y



SECTION ALONG A-B



- 1st year Proposed area to be Quarried [Hatched Pattern]
- 2nd year Proposed area to be Quarried [Hatched Pattern]
- 3rd year Proposed area to be Quarried [Hatched Pattern]
- 4th year Proposed area to be Quarried [Hatched Pattern]
- 5th year Proposed area to be Quarried [Hatched Pattern]
- Proposed area to be Planted [Dotted Pattern]

- PROPOSED SITE SERVICES**
- A - OFFICE
  - B - STORAGE ROOM
  - C - TRIST AND ROOM
  - D - REST SHELTER
  - E - TOILET
  - W - WATERING

**PLATE NO-III**

DATE OF SURVEY : 29.09.2023

**APPLICANT:**  
 M/S TVRRA BLUE PEARL  
 (PAPULOTA TRUST (HARNADITY))  
 ROAD IN  
 BALLANFRANK TALKIE,  
 CHENGANNUR DISTRICT

**QUARRY LEASE APPLIED AREA:**  
 SF/20/5/281/1A,261/2A2,351/261/366/1,366/2  
 366/3,366/4,366/5,367/1,367/2,367/3A,  
 367/3B,367/3C&367/4

EXTENT : 4.04.85 Hq.  
 VILLAGE: HAMBARAI,  
 TALKIE : ARCOTE,  
 DISTRICT : KARNATAK.

INDEX	
Q.L APPLIED BOUNDARY	[Symbol]
7.5m,10m&50m SAFETY OBSTANCE	[Symbol]
TEMPORARY BENCH MARK	[Symbol]
APPROACH ROAD	[Symbol]
CONTOUR	[Symbol]
SCRJBE	[Symbol]
ODAI	[Symbol]
STRIKE & DIP	[Symbol]
GRAVEL	[Symbol]
ROUGH STONE	[Symbol]

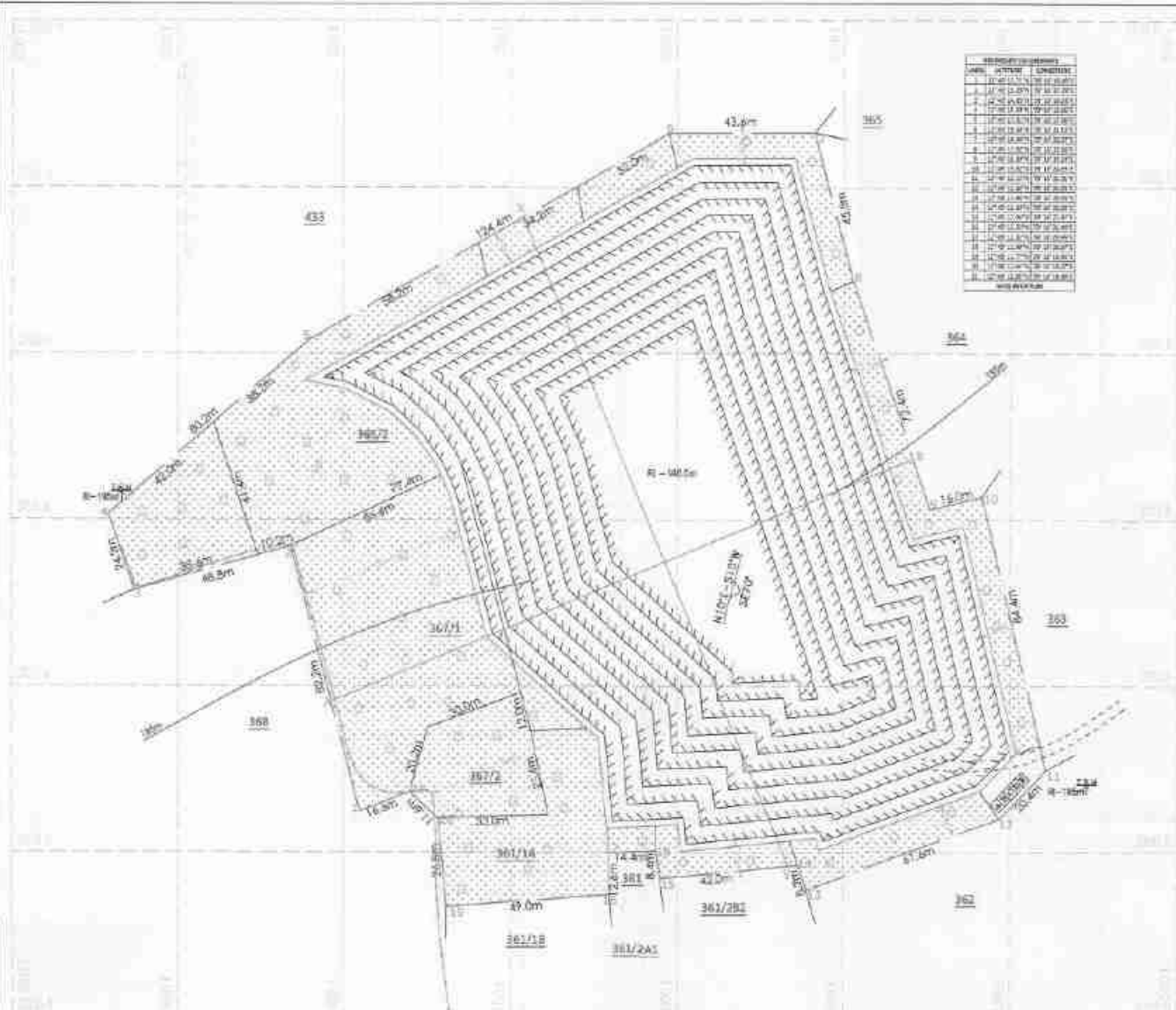
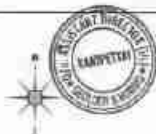
**TOPOGRAPHY,GEOLOGICAL,  
 YEARWISE DEVELOPMENT &  
 PRODUCTION PLAN& SECTION**  
 SCALE 1 : 1000  
 SECTION HOR 1 : 1000, VOR 1: 500

**PREPARED BY :**  
 ILLUSTRATED BY THE PROVISION OF  
 THIS PLATE IN THIS AND CONNECTIVE  
 DISTRICT UNDER EARLY DEVELOPMENT  
 LEASING ACT (CENTRAL GOVT. STATE  
 GOVERNMENT)

CHARGED PERSON.

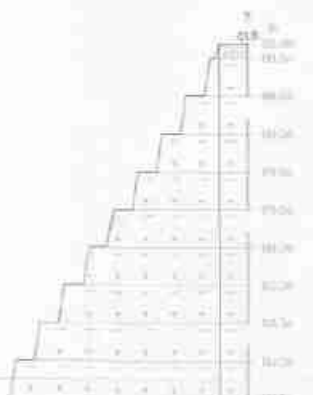




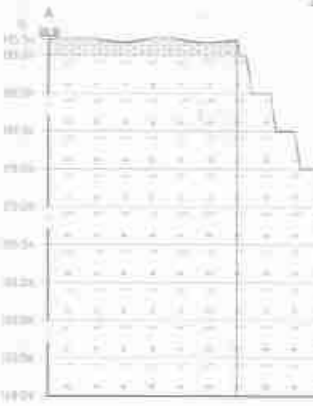


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SECTION ALONG X-Y



SECTION ALONG A-B



ULTIMATE PIT DIMENSION OF END OF THE MINING PLAN PERIOD  
 L192=440M/11m(Avg)M47m(1/1000)  
 XXXXX

Proposed area to be fenced

PROPOSED AREA STRUCTURE  
 A - OFFICE  
 B - STORE ROOM  
 C - REST AND HOON  
 D - BEST SHELTER  
 E - TOILET  
 W - WASTEWATER

**PLATE NO-V**  
 DATE OF SURVEY : 29.09.2023

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

**QUARRY LEASE APPLIED AREA:**  
 S.F. NO's: 361/1A, 361/2A, 361/2B1, 361/1, 361/2  
 366/2, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C, 367/4

EXTENT : 4.04.50 Hg.  
 VILLAGE SHAMBARAI,  
 TALUK - JARACOT,  
 DISTRICT - RAIBET,

**INDEX**

Q.L. APPLIED BOUNDARY

7.5m, 1.0m & 50m SAFETY DISTANCE

TEMPORARY BENCH MARK

APPROACH ROAD

CONTROL

SCRUB

ODAI

STRIKE & DIE

GRAVEL

ROUGH STONE

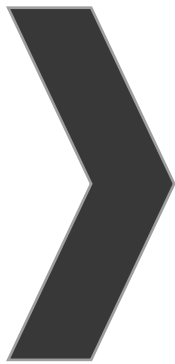
PROPOSED QUARRY PIT

**CONCEPTUAL PLAN & SECTION**  
 SCALE 1 : 1000  
 SECTION HORIZ : 1000, VERT : 500

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

*Signature*





**ANNEXURE-4**



From  
Thiru.D.Bernard. M.Sc.,  
Assistant Director(i/c),  
Geology and Mining,  
Ranipet District.

To  
M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti)  
No.6, GST Road,  
Pallavaram Taluk,  
Chengalpattu District.

**Rc.No.149/2023(Mines) Date: 06.10.2023**

Sir,

Sub: Mines and Minerals - Minor Minerals - Rough stone and Gravel - Ranipet District - Arcot Taluk - Nambarai Village - SF.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 totally over an extent of 4.04.50 hectares of patta land - Quarry lease application preferred by M/s.Dhana Blue Metals (Proprietor Thiru.S.Dhanakotti) - Precise area communicated - Draft Mining plan submitted - Approved - Certificate requested - Regarding.

- Ref: 1. Quarry lease application preferred by M/s.Dhana Blue Metals (Proprietor Thiru.S.Dhanakotti) dated: 23.06.2023.
2. Mining Plan approval letter Rc.No.149/2023 (Mines), Dated: 05.10.2023.
3. Letter from M/s.Dhana Blue Metals (Proprietor Thiru. S.Dhanakotti) dt: 05.10.2023.

In the reference first cited, M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti), No.6, GST Road, Pallavaram Taluk, Chengalpattu District has applied for grant of quarry lease for quarrying 'Rough stone & Gravel' over an extent 4.04.50 Hects of patta land in SF.Nos.361/1A (0.18.50), 361/2A2 (0.04.00), 361/2B1 (0.17.00), 366/1 (0.13.50), 366/2 (0.48.50), 366/3 (0.19.50), 366/4 (0.22.00), 366/5 (0.24.50), 367/1 (0.43.50), 367/2 (0.11.00), 367/3A (0.32.50), 367/3B (0.15.00), 367/3C (0.13.50) and 367/4 (1.21.50) of Nambarai Village, Arcot Taluk, Ranipet District for a period of 10 years under Rule 19(1) of Tamil Nadu Minor Mineral Concession Rules, 1959.

In this reference 2<sup>nd</sup> cited M/s.Dhana Blue Metals, (Proprietor Thiru.S.Dhanakotti) applicant of the proposed stone quarry has request to furnish the details of existing, abandoned and proposed quarries situated with 500mts radius from the subject quarry and permitted quantity in the proposal area.

The details of existing, abandoned and proposed quarries situated within 500mts from the proposed area are furnished below.

1) Existing Quarries :-

Sl. No	Name of the Lessee / Permit Holder	Taluk & Village	S.F. No.	Extent	Lease Period
1.	Thiru.A.V.Sarathy (Partner) "S" Traders	Arcot / Anaimallur	374/5 (Part-11)	0.80.00	25.01.2018 to 24.01.2028
2.	Thiru.A.V.Sarathy (Partner) "S" Traders,	Arcot / Anaimallur	374/5 (Part-10)	0.80.00	18.07.2018 to 17.07.2028
3.	Tmt.Subanithyadeepa,	Arcot / Anaimallur	374/5 (Part-9)	2.00.00	26.03.2018 to 25.03.2028
4.	Tmt.S.Arut Selvi	Arcot/ Anaimallur	374/5 (Part-12)	4.50.00	18.11.2021 to 17.11.2031
5.	M/s.Argunt Aggregate Pvt. Ltd., (K.Chandrasekaran)	Arcot/ Anaimallur	374/5 (Part-14)	2.00.0	10.06.2021 to 09.06.2031
6.	Aggeregate Engineering Thiru.P.Radhakrishnan	Arcot/ Anaimallur	374/5 (Part-13)	0.61.00	23.01.2022 to 22.01.2032

2) Expired Quarries :-

Sl. No.	Name of the Lessee / Permit Holder	Village & Taluk	S.F. No.	Extent	Lease Period
NIL					


3) Abandoned Quarries :

Sl. No.	Name of the Lessee / Permit Holder	Village & Taluk	S.F. No.	Extent	Lease Period
1.	R.Adikesavelu	Arcot/ Anaimallur	433 (Part-2)	1.00.00	10.08.2009 to 09.08.2019
2.	G.S.Venkatesh	Arcot/ Anaimallur	374/5 (Part-7)	1.00.00	20.09.2010 to 19.09.2020
3.	M.A.Sangeethkumar	Arcot/ Nambarai	433 (Part-1)	0.80.00	04.8.2009 to 03.8.2019

4.	M.Sathishkumar	Arcot/ Anaimallur	374/5 (Part-2)	0.80.00	04.11.2008 to 03.11.2018
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4) Present Proposed Quarries :

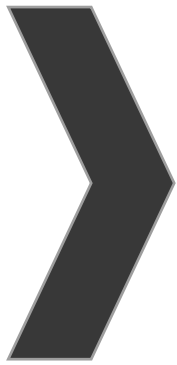
Sl. No	Name of the Lessee / Permit Holder	Village & Taluk	S.F. No.	Extent	Lease Period
1.	M/s.Dhana Blue Metal, Prop: Thiru.S.Dhanakotti	Arcot / Nambarai	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C & 367/4	4.04.50	--

  
Assistant Director(i/c),  
Geology and Mining,  
Ranipet District.










**ANNEXURE-5**



செங்கல்பட்டு மாவட்டம், பல்லாவரம் வட்டம், ஜி.எஸ்.டி சாலை, எண்.6, என்ற முகவரியைச் சேர்ந்த தனா புளூ மெட்டல் நிறுவன உரிமையாளரான திரு.தனக்கோட்டி த/பெ சுப்பிரமணி என்பவர், இராணிப்பேட்டை மாவட்டம், ஆற்காடு வட்டம், நம்பரை கிராம புல எண்கள் 361/1A மற்றும் சிலவற்றில், 4.04.50 ஹெக்டேர் பரப்பு கொண்ட கீழ்க்காணும் நிலங்களில்,

வ.எண்	புல எண்	வகைபாடு	பரப்பு
1.	361/1A	புன்செய்	0.18.5
2.	361/2A2	புன்செய்	0.04.0
3.	361/2B1	புன்செய்	0.17.0
4.	366/1	புன்செய்	0.13.5
5.	366/2	புன்செய்	0.48.5
6.	366/3	புன்செய்	0.19.5
7.	366/4	புன்செய்	0.22.0
8.	366/5	புன்செய்	0.24.5
9.	367/1	புன்செய்	0.43.5
10.	367/2	புன்செய்	0.11.0
11.	367/3A	புன்செய்	0.32.5
12.	367/3B	புன்செய்	0.15.0
13.	367/3C	புன்செய்	0.13.5
14.	367/4	புன்செய்	1.21.5
மொத்தம்			4.04.5

பட்டா நிலத்தில் கல், மண் மற்றும் கிராவல் குவாரிக்கு அனுமதி கோரி விண்ணப்பித்துள்ளார், மேற்படி புன்செய் புல எண்கள் அமைந்துள்ள 300 மீட்டர் சுற்றளவிற்குள் குடியிருப்புகள் (பள்ளிகள் உட்பட பொது கட்டிடங்கள்) நத்தம் வகைப்பாடு நிலங்கள் ஏதும் இல்லை, 50 மீட்டர் சுற்றளவிற்குள் புராதானச் சாலை (நெடுஞ்சாலை) இருப்புப்பாதை, உயர் மற்றும் தாழ்வழுத்த மின் கம்பிகள் போன்றவை ஏதும் இல்லை, 10 மீட்டர் சுற்றளவிற்குள் கிராம சாலை ஏதும் இல்லை, 500மீ சுற்றளவிற்குள் தொல்லியல் துறையினரால் பாதுகாக்கப்பட்ட வரலாற்று சின்னங்கள், பழந்தமிழர் கல்வெட்டுகள், சமணப்படுகை மற்றும் தொல்பொருள் தளங்கள் போன்றவை ஏதும் இல்லை, 50 மீட்டர் சுற்றளவிற்குள் நீர்நிலைகள் ஏதும் இல்லை, என்பதை தெரிவித்துக் கொள்கிறேன்.

  
 09/10/23  
 Village Administrative Officer,  
 10 - Nambarai, 11 - Durgam  
 Arcot Taluk.

TOPOGRAPHICAL VIEW OF NAMBARAI ROUGH STONE AND GRAVEL QUARRY

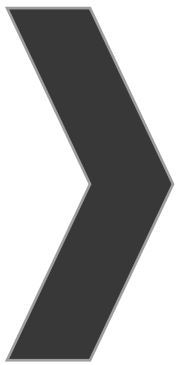


Name of the applicant : M/s.Dhana Blue Metals,  
(Proprietor Thiru.S.Dhanakotti),  
S.F.Nos : 361/1A, 361/2A2, 361/2B1, 366/1, 366/2,  
366/3, 366/4, 366/5, 367/1, 367/2, 367/3A,  
367/3B, 367/3C and 367/4  
Extent : 4.04.50Ha  
Name of the Village : Nambarai Village,  
Taluk : Arcot  
District :Ranipet,

*S. S. S.*  
*09/10/2023*  
Village Administrative Officer  
10 - Nambarai, 11 - Durgam  
Arcot Taluk.

Place: *09.10.2023*  
Date: *Nambarai*





**ANNEXURE-6**





சுமார் 23

சமீபகாலம் 8A/12.62/1432

Dt: 27.03.23

எண். 10

கிராமம்

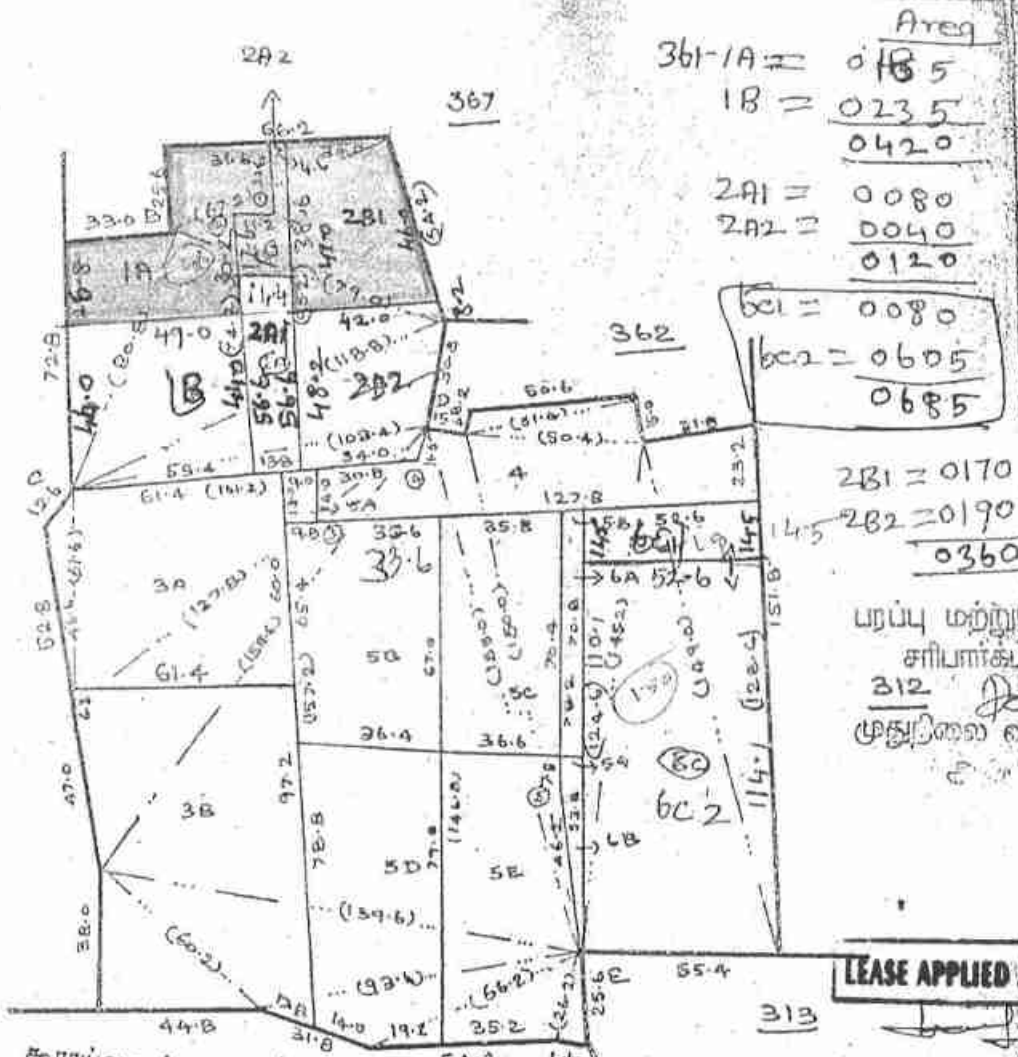
பெயர். நடுபண்ட

சமீபகாலம்

ல எண். 361

பரப்பு. சென்டீமீட்டர் 4

மீ. 07.0



Areq

361-1A	=	0185
1B	=	0235
		0420
2A1	=	0080
2A2	=	0040
		0120
3C1	=	0080
3C2	=	0605
		0685

2B1	=	0170
2B2	=	0190
		0360

பரப்பு மற்றும வசூலு  
 சரிபார்க்கப்பட்டு  
 312  
 முத்திரை வைக்கப்பட்டது

LEASE APPLIED AREA

சுமார் 23 - 259/23

வட்டிமுறை செய்துள்ளார்  
 சமீபகாலம்

Village Administrative Office  
 10 - Namburai, 11 - Durgam  
 Arcot Taluk

சமீபகாலம்  
 வட்டிமுறை செய்துள்ளார்  
 சமீபகாலம்

E	150.6
4.0	103.6
D	103.4
	1000.10.4
	684.2.2
C	
B	79.0
	654.9.6
	54.4.198
A	

பரப்பு: 1:2000  
 8.4.83.F.S.



சமீபத்தில் எண் 23

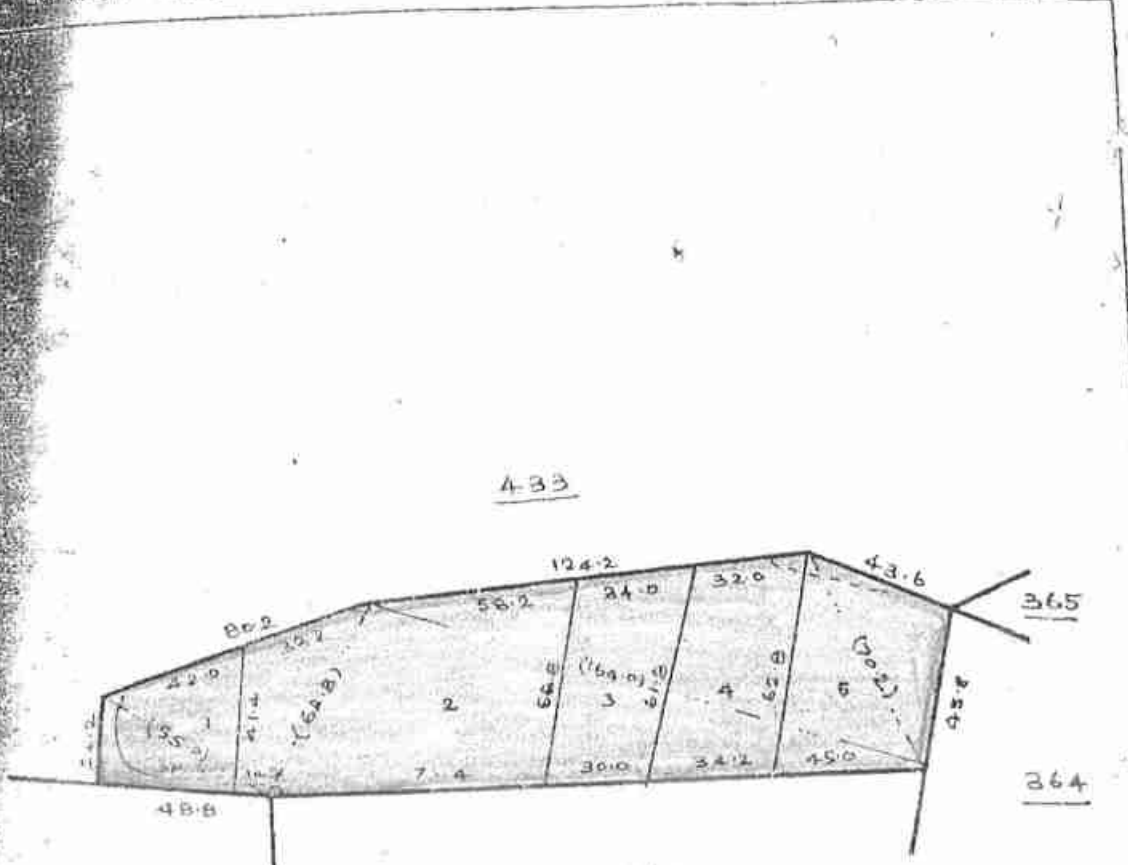
சீராமம் வ.உ.க. பகுதி

சீராமம் { எண். 10  
பெயர். சிம்பலர்

சமீபத்தில்

எண். 366

பரப்பு: ஏக்கர்கள் 1 ஏ. 2 ச. 0



368

367

(சீராமம்)  
*[Signature]*

Village Administrative Officer  
10 - Namburai, 11 - Durgam  
Arcot Taluk.

LEASE APPLIED AREA

Examined by  
*[Signature]*

திகதி: 1. 2000.

*[Signature]*

புள்ளி: சீராமம்  
U.4-43.P.S.



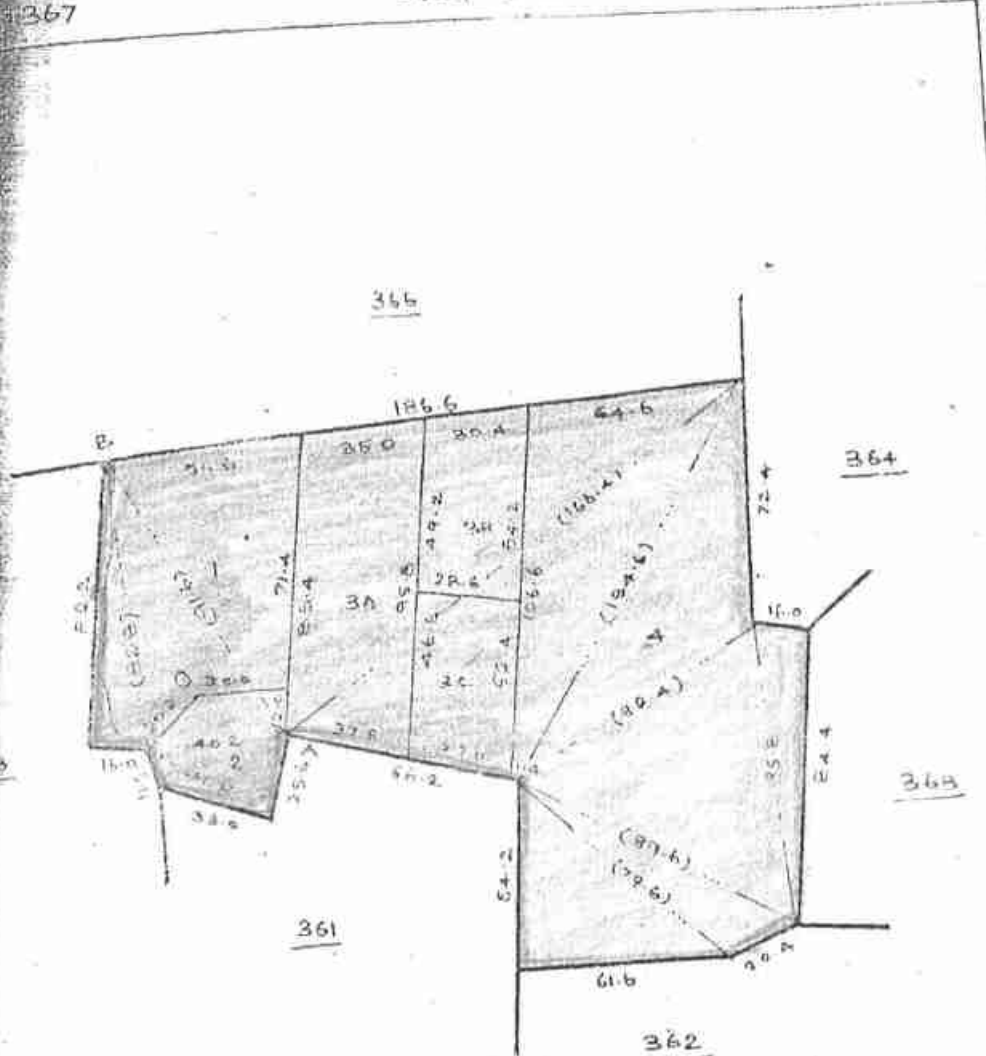
அளவைப்பலகை எண் 23

கிராமம் {  
எண் 10  
பெயர் சிவபெரு

பரப்பு: செமீ. 2. ஏர் 37.0

செ. சந்திரன்

பெயர் எண் 367



(சந்திரன்)  
*[Signature]*  
 Village Administrative Officer  
 10 - Nambarai, 11 - Durgam  
 Arcot Taluk.

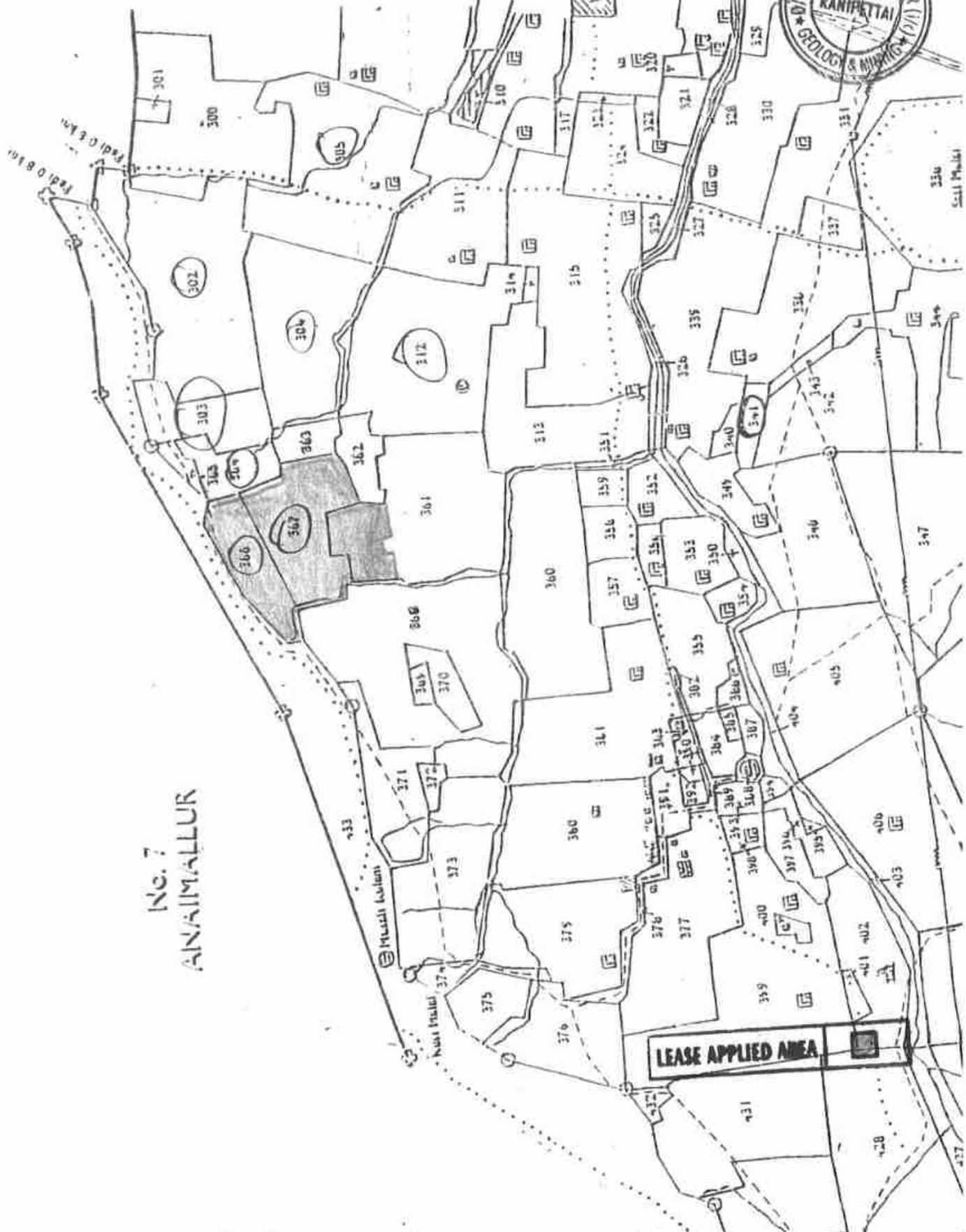
LEASE APPLIED AREA

		B	
		41.6	
①	16.6	24.6	
		A	

செ. சந்திரன்  
 மாவட்ட ப. ச.

அளவு. 1: 2000

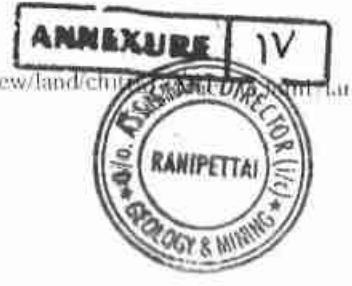
*[Signature]*



NO. 7  
ANAIMALLUR

LEASE APPLIED AREA





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1481

உரிமையாளர்கள் பெயர்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	
361 ✓	1A	0 - 18.50	0.70	--	--	--	--	2023/0105 /37/320931--2023 /37/02/000109SD -- 27-03-2023
361 ✓	2A2	0 - 4.00	0.15	--	--	--	--	2023/0105 /37/320931--2023 /37/02/000109SD -- 27-03-2023
361 ✓	2B1	0 - 17.00	0.65	--	--	--	--	2023/0105 /37/320931--2023 /37/02/000109SD -- 27-03-2023
368	2D	0 - 6.50	0.25	--	--	--	--	2022/0103 /37/220820-- -- 03-06-2022
		0 - 46.00	1.75					

குறிப்பு 2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01481/20034 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 20-06-2023 அன்று 10:34:44 AM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1200

உரிமையாளர்கள் பெயர்

1. சுப்பிரமணி

மகன்

தனக்கோட்டி

புல எண்	உட்பிரிவு	புன்செய்		நுன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
367 ✓	1	0 - 43.50	1.68	--	--	--	--	2018/0103 /04/107400--- -- 12-10-2018
368	2H	0 - 11.00	0.42	--	--	--	--	2018/0103 /04/107400--- -- 12-10-2018
		0 - 54.50	2.10					

குறிப்பு 2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01200/20023 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:11:20 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1215

உரிமையாளர்கள் பெயர்

1. சுப்பிரமணி

மகன்

தனக்கோட்டி

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
302	5F	0 - 11.50	0.30	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1B	0 - 30.60	0.79	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1D	0 - 8.00	0.21	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
304	1F	0 - 28.50	0.74	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
305	1C	0 - 38.50	1.48	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
312	1B2	0 - 2.00	0.08	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
363	2	0 - 8.00	0.21	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
366 ✓	1	0 - 13.50	0.35	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
367 ✓	3B	0 - 15.00	0.58	--	--	--	--	2018/0103 /04/107417--- -- 09-02-2019
		1 - 55.00	4.74					

குறிப்பு 2 :



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1217

உரிமையாளர்கள் பெயர்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	
304	1C	0 - 33.50	0.87	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
304	1G	0 - 33.00	0.86	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
304	2B	0 - 33.50	0.87	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
312	183	0 - 1.00	0.06	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
363	1	0 - 35.50	0.92	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
366 ✓	3	0 - 19.50	0.51	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
366 ✓	4	0 - 22.00	0.58	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
366 ✓	5	0 - 24.50	0.64	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
367 ✓	4	1 - 21.50	4.68	--	--	--	--	2018/0103 /04/107481--- -- 09-02-2019
		3 - 24.00	9.99					

குறிப்பு2 :





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1214

உரிமையாளர்கள் பெயர்

1. சுப்பிரமணி மகன் தனக்கோட்டி

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்டர் - ஏர்	ரூ - பை	ஹெக்டர் - ஏர்	ரூ - பை	ஹெக்டர் - ஏர்	ரூ - பை	
366 ✓	2	0 - 48.50	1.27	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
367 ✓	3A	0 - 32.50	1.25	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
367 ✓	3C	0 - 13.50	0.52	--	--	--	--	2018/0103 /04/107202-- -- 09-02-2019
		0 - 94.50	3.04					

குறிப்பு2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01214/20068 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:09:27 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.



தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : இராணிப்பேட்டை

வட்டம் : ஆற்காடு

வருவாய் கிராமம் : நம்பரை

பட்டா எண் : 1419

உரிமையாளர்கள் பெயர்

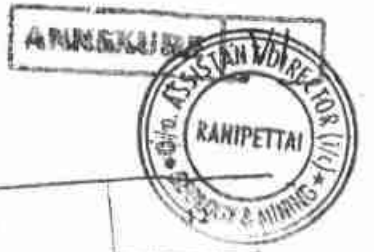
1. Subramani		மகன்		Dhana Kotti				
புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
367	2	0 - 11.00	0.42	--	--	--	--	2021/0103 /37/207619--- -- 02-11-2021
		0 - 11.00	0.42					

குறிப்பு2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 37/02/010/01419/20015 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-06-2023 அன்று 10:39:29 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்





ச. என். டி. நம்பலர்

2	3	4	5	6	7	8	9	10	11		
360-6	ர	4	1	...	7-2	3	4	94	0 60.5	3 00	563 கப்ரமணிய முதலி மக்கள் செல்வம் (1). குண பூஷணம் (2).
-7	ர	4	1	...	7-2	3	4	94	0 67.0	3 30	563 கப்ரமணிய முதலி மக்கள் செல்வம் (1). குண பூஷணம் (2).
									3 80.0	17 96	
361-1	ர	4	1	...	8-2	4	3	85	0 42.0	1 62	120 கப்ரமணிய முதலி மனைவி கெஜம் மாள்.
-2பா	ர	4	1	...	8-2	4	3	85	0 12.0	0 46	120 கப்ரமணிய முதலி மனைவி கெஜம் மாள்.
-2பா	ர	4	1	...	8-2	4	3	85	0 36.0	1 38	400 நடராஜன் மனைவி சாதா பாய்.
-3பா	ர	4	1	...	8-2	4	3	85	0 39.0	1 50	202 கந்தசாமி முதலி மக்கள் கப்ரமணிய முதலி.
-3பா	ர	4	1	...	8-2	4	3	85	0 60.5	2 33	137 அப்பாசாமி முதலி மனைவி கொளிந்தம்மாள்.
-4	ர	4	1	...	8-2	4	3	85	0 30.5	1 17	120 கப்ரமணிய முதலி மனைவி கெஜம் மாள்.
-5பா	ர	4	1	...	8-2	4	3	85	0 01.0	0 06	120 கப்ரமணிய முதலி மனைவி கெஜம் மாள்.
-5பா	ர	4	1	...	8-2	4	3	85	0 27.5	1 06	73 பார்த்தசாரதி மனைவி கணகரம் பாள்.
-5பா	ர	4	1	...	8-2	4	3	85	0 24.0	0 92	66 ரத்தினம் மனைவி கண்ணம்மாள்.
-5பா	ர	4	1	...	8-2	4	3	85	0 30.5	1 18	70 சரம் முதலி மனைவி கமலம் மாள்.
-5பா	ர	4	1	...	8-2	4	3	85	0 30.0	1 18	283 கன்னியப்ப முதலி மனைவி பட்டம்மாள்.
-6பா	ர	4	1	...	8-2	4	3	85	0 04.0	0 15	66 ரத்தினம் மனைவி கண்ணம்மாள்.
-6பா	ர	4	1	...	8-2	4	3	85	0 01.5	0 06	283 கன்னியப்ப முதலி மனைவி பட்டம்மாள்.

*[Handwritten signature]*



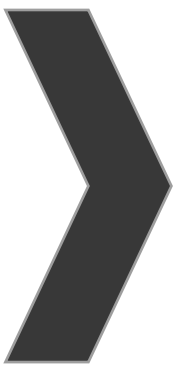
உ. எண். 10. தபாலம்.

2	3	4	5	6	7	8	9	10	11	12
364-100	ர	1	...	8-3	5	2 62	0 14.5	0 38	411	வைத்தியலிங்க நாயனார் மகன் ராமலிங்கம்.
								0 83.0	2 17	
365	ர	1	...	...	...	...	...	0 18.0	...	...
366-100	ர	1	...	8-3	5	2 62	0 13.5	0 35	140	ஆனைமல்லூர் கரப்பன் மகன் கோவிந்தராஜ்.
366-100	ர	1	...	8-3	5	2 62	0 48.5	1 27	22	ஆனைமல்லூர் கரப்பன் மகன் ஆறுமுகம்.
366-100	ர	1	...	8-3	5	2 62	0 19.5	0 51	258	ஆனைமல்லூர் கரப்பன் மகன் ராசிம்மன்.
366-100	ர	1	...	8-3	5	2 62	0 22.0	0 58	167	ஆனைமல்லூர் கரப்பன் மகன் சிங்காரம்.
366-100	ர	1	...	8-3	5	2 62	0 24.5	0 64	258	ஆனைமல்லூர் கரப்பன் மகன் ராசிம்மன்.
								1 28.0	3 35	
367-1	ர	1	...	8-2	4	3 85	0 43.5	1 68	564	மோகனவாம் துரை மக்கள் குப்பன் (1). தனிகைவேல் (2).
-2	ர	1	...	8-2	4	3 85	0 11.0	0 42	202	மோகனவாம் சுந்தராமி முதலி மகன் சுப்பிரமணிய முதலி.
-300	ர	1	...	8-2	4	3 85	0 32.5	1 25	318	ஆனைமல்லூர் கரப்பன் மகன் பெருமாள்.
-300	ர	1	...	8-2	4	3 85	0 15.0	0 58	140	ஆனைமல்லூர் கரப்பன் மகன் கோவிந்தராசன்.
-300	ர	1	...	8-2	4	3 85	0 13.5	0 52	22	ஆனைமல்லூர் கரப்பன் மகன் ஆறுமுகம்.
-4	ர	1	...	8-2	4	3 85	1 21.5	4 68	30	ஆனைமல்லூர் பெருமாள் மகன் ஆனைமுரான்.
								2 37.0	9 13	

Handwritten signatures and dates: 5/10/2022

சுவாமிநாதன்





# ANNEXURE-7

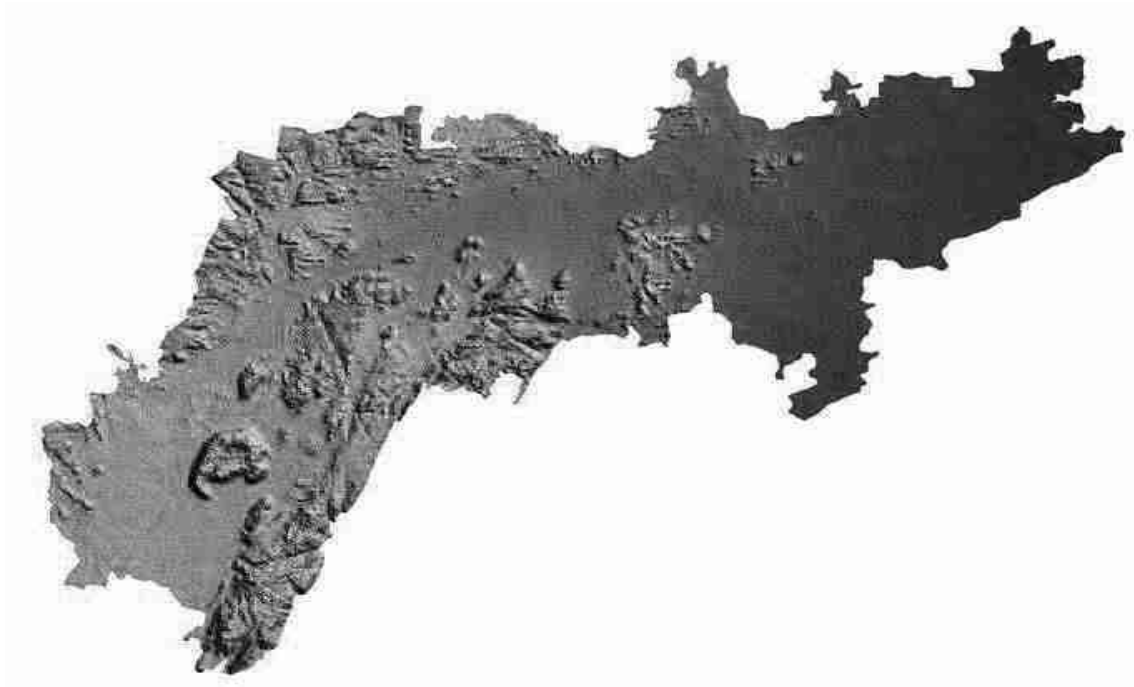






# VELLORE DISTRICT TAMILNADU

## DISTRICT SURVEY REPORT SAND



As per notification No. S.O.  
3611 (E) New Delhi, The  
25<sup>th</sup> July 2018 of Ministry  
of Environment, Forest and  
Climate Change, Govt. of  
India

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## **DISTRICT SURVEY REPORT FOR SAND MINING DISTRICT VELLORE**

### **1. PREFACE**

In compliance to the Notification issued by the Ministry of Environment and Forest and Climate Change notification No. S.O. 3611 (E) New Delhi dated 25-07-2018, the preparation of District Survey Report of river sand mining in accordance with Appendix X of the Notification. Every effort have been made to cover sand mining locations, areas and overview of mining activity in the district with all its relevant features pertaining to geology and mineral wealth in replenishable and non-replenishable areas of rivers, stream and other sand sources. This report will be a model and guiding document which is a compendium of available mineral resources, geographical set up, environmental and ecological setup of the district and is based on data of various departments, study conducted by renowned institutions, published reports and websites.

### **SURVEY REPORT OF VELLORE DISTRICT**

As per Gazette Notification No. S.O. 3611 (E) New Delhi dated 25-07-2018 of Ministry of Environment, Forest and Climate Change, a survey shall be carried out by the District Environment Impact Assessment Authority (DEIAA) with assistance of Water Resources Department, Forest Department, Geology and Mining Department and Revenue Department in the District for preparation for District Survey Report as per sustainable sand mining guidelines to ensure identification of areas of aggradation or deposition where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

The detailed study has been made through IIT, Madras to cover sand mining locations, area and overview of mining activity in the district with all its relevant features pertaining to geology and mineral wealth in replenishable and non-replenishable areas of rivers, stream and other sand sources. The mineral potential is calculated based on field investigation and geology of the catchment area of the river (or) Streams. The area for removal of the mineral in a river or stream is decided depending on geomorphology and other factors. The District

Survey Report shall form the basis for application for Environmental Clearance, preparation of reports and appraisal of projects. The report shall be updated once in five years.

## **2. INTRODUCTION:**

Vellore District is located along the river Palar in Tamil Nadu India. The main town in Vellore district is the city of Vellore. As on 2011, the district had a population of 39,36,311 with 1034 female for every 1000 males. The district has an area of 6062.35 square kilometres. The Vellore is a city in the Indian state of Tamil Nadu and the administrative headquarters of Vellore District. It is the sixth largest municipal corporation in Tamil Nadu. Vellore has a semi-arid climate. It is in Vellore district of the South Indian state, Tamil Nadu, 135 km (84 mi) west of the state capital Chennai. Vellore lies in the Eastern Ghats region and Palar river basin. The topography is almost plain with slopes from west to east. The Palar river flows through the length of the district and is the principle source of drinking water. The sand deposits across Palar river up to its confluence point in sea at Kancheepuram District. The other rivers are Goddar, Agaram aru, Koundinya nathi, Malattar river and Ponnai river which are seasonal carriers flood water and confluence in to River Palar.

## **3. OVERVIEW OF MINING ACTIVITIES IN THE DISTRICT.**

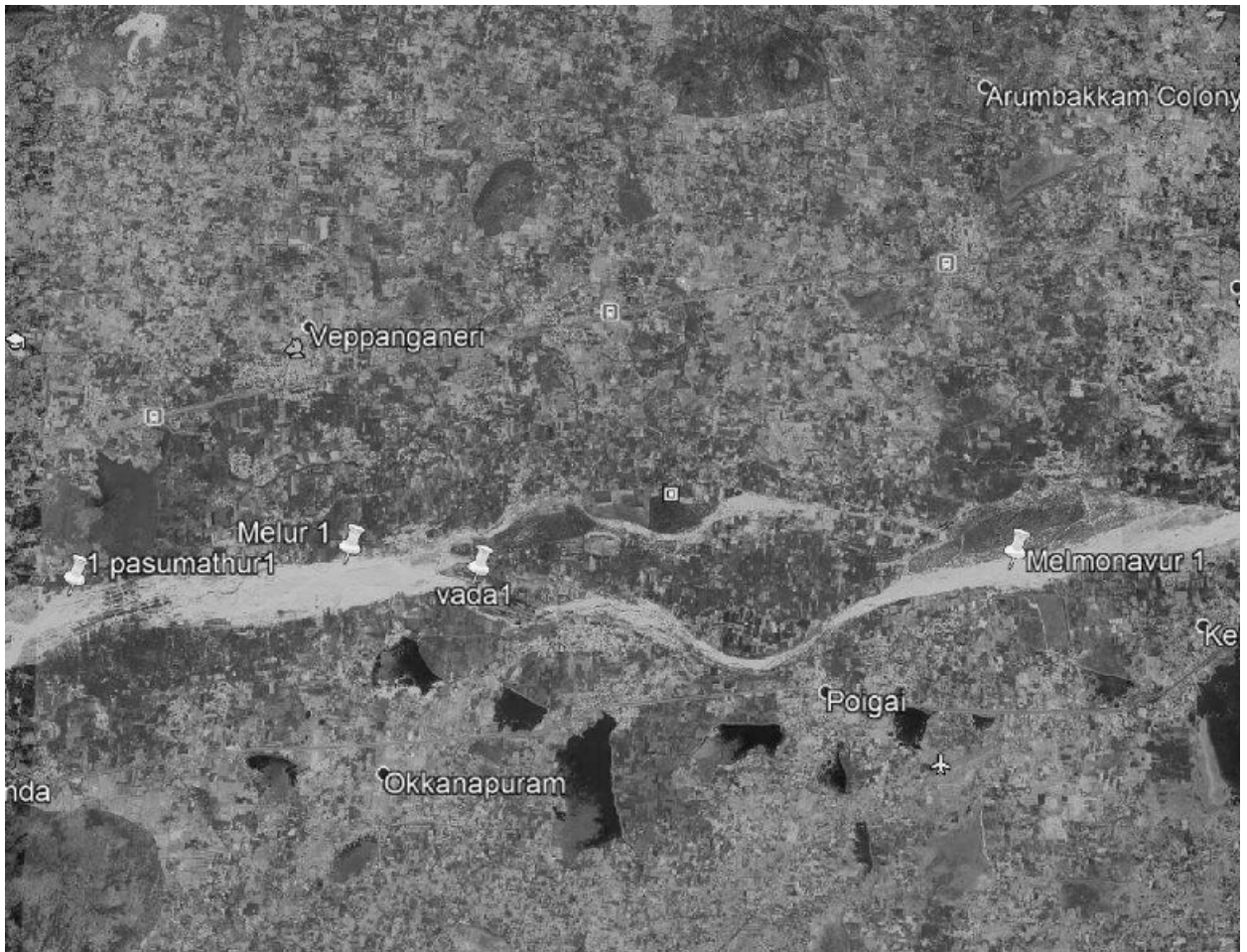
Mainly two types of Minor minerals constituents such as sand and jelly are required for any type of construction apart from other mineral like cement and steel. In earlier times, the houses / buildings were constructed in form of small dwellings with walls made up of mud plaster, stone and interlocking provided with wooden frames and there were negligible commercial as well as developmental activities resulting in less demand of binding materials. However with the percentage of time, new vistas of development activities were started. The quantity of minor mineral consumption in a particular area is thermometer to assess the development of the area. Thus with the pace of development activities, the consumption of minerals also increased. As Tamil Nadu State is highly urbanised state of Indian sub-continent after Maharashtra, the demand of minor minerals in the Vellore District has started increasing trend. Besides that the Vellore District is the Northern part of the State and having potential of sand and rough stone sources, the highly industrialised districts like Chennai,

Kancheepuram, Tiruvallur, Krishnagiri are depending its sand and rough stone need on Vellore Districts.

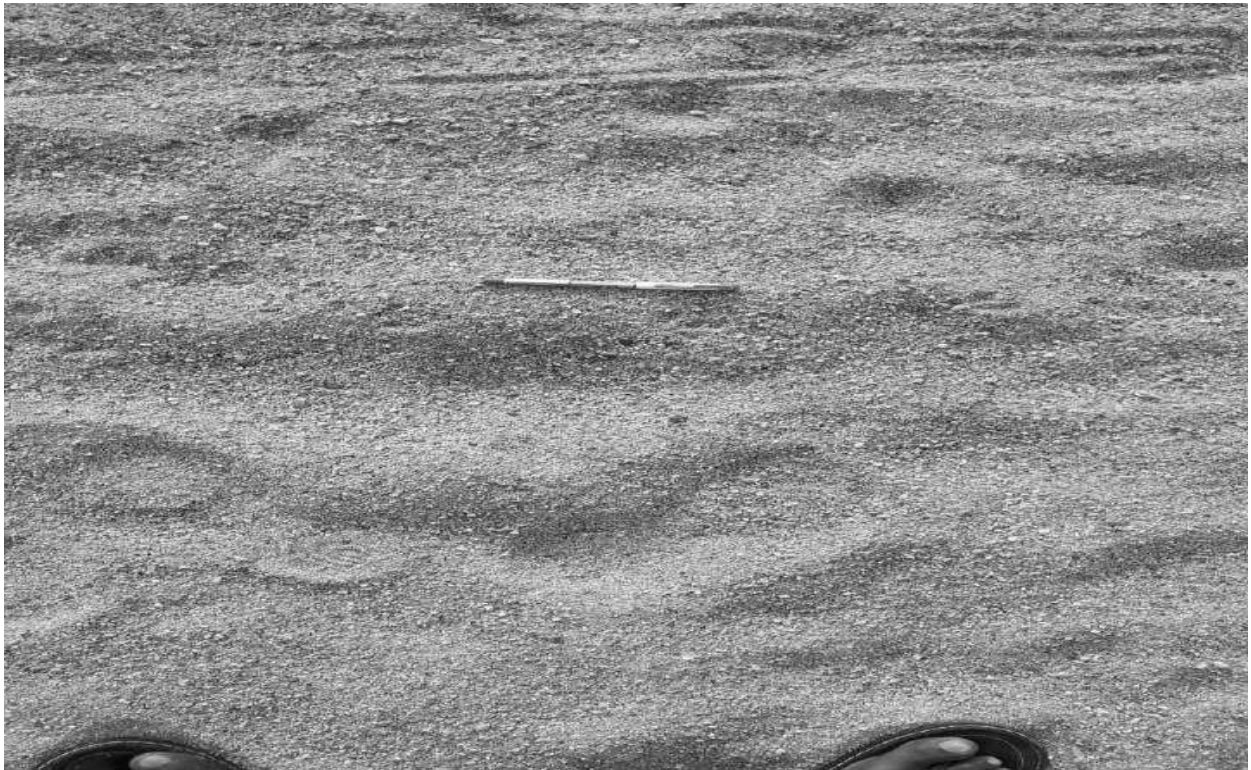
#### 4. LIST OF MINING LEASES IN THE DISTRICT

In Vellore district there are few new proposals of sand mining were prepared and waiting for the Environmental clearance from DEIAA / SEIAA.

S. No	Name of Quarry	Name of Taluk	Area of Extent (Ha)	River
1	Ekambaranallur – Sripathanallur	Walaja - Katpadi	4.60.0	Ponnai
2	Melur	Katpadi	4.80.0	Palar
3	Kilur – Vadavirinjipuram	Katpadi	4.90.0	Palar
4	Pasumathur - 2	Gudiyattam	15.00.0	Palar
5	Arumparithi - Karnampattu	Katpadi	20.00.0	Palar
6	Melmonavur	Vellore	4.95.0	Palar
7	Poongodu	Arcot	6.00.0	Palar



**New Quarries in Palar river**



**Proposed sand quarry in Sripathanallur – Ekambaranallur in Ponnai river in walajah and katpadi taluk of Vellore District.**





**Sand quarry in Melur village of Vellore District. Lat – Long N 12°55'47.27"E 79°0'22.88"**



**Sand quarry in Kilur – Vadavirinjipuram in Katpadi taluk of Vellore District. Lat – Long  
N 12°55'47.27"E 79°0'22.88"**



**Sand quarry in Pasumathur in Gudiyattam taluk of Vellore District.**



**Sand quarry in Arumparithi – Karnampattu in Katpadi taluk of Vellore District.**



**Sand quarry in Melmonavur in Vellore taluk & District.**



**Sand quarry in Poongodu In Arcot taluk of Vellore District.**

## 5. DETAILS OF ROYALTY OR REVENUE RECEIVED IN VELLORE DISTRICT.

Sl. No	Name of Quarry / Village	River	Taluk	April 2015	May 2015	June 2015
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1.	Perungalmedu-II	Palar	Arcot	3.576	----	----
2	Perungalmedu-III	Palar	Arcot	---	3.432	11.368
3	Vannivedu	Palar	Walaja	6.704	6.552	9.648
4	Rangapuram (Bullack Cart)	Palar	Vellore	----	0.9408	5.652
5	Kavanur & Kandaneri	Palar	Katpadi	----	----	----

Sl. No	Name of Quarry / Village	River	July 2015		August 2015	September 2015
			Taluk	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1.	Perungalmedu-II	Palar	Arcot	----	----	----
2	Perungalmedu-III	Palar	Arcot	6.824	10.696	9.136
3	Vannivedu	Palar	Walaja	7.272	2.096	4.0
4	Rangapuram (Bullack Cart)	Palar	Vellore	7.4048	6.6424	7.3128
5	Kavanur & Kandaneri	Palar	Katpadi	----	----	----

**From October 2015 to December 2015**

Sl. No	Name of Quarry / Village	River	Taluk	October 2015	November 2015	December 2015
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1.	Perungalmedu-II	Palar	Arcot	----	----	----
2	Perungalmedu-III	Palar	Arcot	3.392	1.672	3.448
3	Vannivedu	Palar	Walaja	13.256	1.704	----
4	Rangapuram (Bullack Cart)	Palar	Vellore	6.8744	3.4608	7.0408
5	Kavanur & Kandaneri	Palar	Katpadi	----	----	----

**From January 2016 to March 2016**

Sl. No	Name of Quarry / Village	River	Taluk	January 2016	February 2016	March 2016
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1.	Perungalmedu-III	Palar	Arcot	8.84	6.248	2.16
2	Vannivedu	Palar	Walaja	-----	-----	-----
3	Rangapuram (Bullack Cart)	Palar	Vellore	6.716	6.716	0.7992
4	Kavanur & Kandaneri	Palar	Katpadi	2.384	12.368	12.828
5	Kilambadi	Palar	Arcot	-----	-----	8.744
6	Valavanur	Palar	Arcot	-----	-----	4.16
7	Minnur & Vedakarai	Palar	Ambur	-----	-----	6.688
8	Marapattu (Bullock Cart)	Palar	Gudiyatham	-----	-----	0.7992
9	Vadavirijipuram	Palar	Katpadi	-----	-----	-----

10	Veerankuppam	Palar	Ambur	-----	-----	-----
11	Alinjikuppam & Melmurungai	Palar	Ambur	-----	-----	8.448

**From April 2016 to June 2016**

Sl. No	Name of Quarry / Village	River	Taluk	April 2016	May 2016	June 2016
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Rangapuram (BullackCart)	Palar	Vellore	4.7008	4.9184	0.248
2	Kavanur & Kandaneri	Palar	Katpadi	12.776	---	---
3	Kilambadi	Palar	Arcot	10.912	7.896	11.128
4	Valavanur	Palar	Arcot	4.392	3.296	4.848
5	Minnur & Vadakarai	Palar	Ambur	9.112	1.104	----
6	Marapattu (Bullock Cart)	Palar	Gudiyatham	1.1168	1.184	1.4768
7	Vadavirinjipuram	Palar	Katpadi	-----	----	----
8	Veerankuppam	Palar	Ambur	-----	----	----
9	Alinjikuppam & Melmurugai	Palar	Ambur	11.256	1.32	----

**From July 2016 to August 2016**

Sl. No	Name of Quarry / Village	River	Taluk	July 2016	August 2016	September 2016
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Rangapuram (Bullock Cart)	Palar	Vellore	---	---	---
2	Kavanur & Kandaneri	Palar	katpadi	15.76	17.16	15.6
3	Kilambadi	Palar	Arcot	11.056	10.872	10.32
4	Valavanur	Palar	Arcot	5.072	4.864	4.424
5	Minnur & Vadakarai	Palar	Ambur	----	----	24.872
6	Marapattu (Bullock Cart)	Palar	Gudiyatham	1.7024	1.7888	1.2032
7	Vadavirinjipuram	Palar	Katpadi	2.6232	6.3056	6.6856
8	Veerankuppam	Palar	Ambur	----	1.4648	1.7304
9	Alinjipkuppam & Melmurungai	Palar	Ambur	----	----	4.832

**From October 2016 to December 2016**

Sl. No	Name of Quarry / Village	River	Taluk	October 2016	November 2016	December 2016
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Kavanur & Kandeneri	Palar	Katpadi	14.864	12.672	8.184
2	Kilambadi	Palar	Arcot	7.36	5.24	5.304
3	Valavanur	Palar	Arcot	4.976	4.512	11.408
4	Minnur & Vadakarai	Palar	Ambur	29.944	21.448	35.144
5	Marapattu (Bullockcart)	Palar	Gudiuyatham	1.0688	1.1712	1.1456
6	Vadavirinjipuram	Palar	Katpadi	6.1352	6.196	5.7064
7	Veerangkuppam	Palar	Ambur	1.8624	1.988	1.7936
8	Alinjikuppam & Melmurungai	Palar	Ambur	41.448	27.184	11.496



**From January 2017 to March 2017**

Sl. No	Name of Quarry / Village	River	Taluk	January 2017	February 2017	March 2017
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Kavanur	Palar	Katpadi	---	---	---
2	Kilambadi	Palar	Arcot	---	---	---
3	Valavanur	Palar	Arcot	45.312	8.36	---
4	Minnur & Vadakarai	Palar	Ambur	---	---	---
5	Marapattu (Bullock Cart)	Palar	Gudiyatham	0.9568	0.6352	---
6	Vadavirinjipuram	Palar	Katpadi	5.248	5.5288	7.6344
7	Veerankuppam	Palar	Ambur	1.5504	0.8032	---
8	Alinjikuppam & Melmurungai	Palar	Ambur	71.264	80.104	---

**From June 2017 to August-2017**

Sl. No	Name of Quarry / Village	River	Taluk	June - 2017	July- 2017	August- 2017
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Sakkaramallur Sathampakkam	Palar	Arcot & Walaja	36.056	54.092	2.584
2	Pasumathur	Palar	Gudiyatham	7.588	45.972	315.44

**From September 2017 to November -2017**

Sl. No	Name of Quarry / Village	River	Taluk	September-2017	October-2017	November-2017
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Sakkaramallur Sathampakkam	Palar	Arcot & Walaja	1.66	----	6.704
2	Pogai & Kothamangalam	Palar	Katpadi & Gudiyatham	-----	1.296	21.80
3	Pogai & Kothamangalam (Bullock Cart)	Palar	Katpadi & Gudiyatham	-----	-----	2.16

**From December 2017 to February -2018**

Sl. No	Name of Quarry / Village	River	Taluk	December-2017	January -2018	February-2018
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Sakkaramallur Sathampakkam	Palar	Arcot & Walaja	23.166	11.467	18.413
2	Pogai & Kothamangalam	Palar	Katpadi & Gudiyatham	20.433	14.217	15.798

Sl. No	Name of Quarry / Village	River	Taluk	June-2018	July-2018	August - 2018
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Pattu	Palar	Pernampet	---	---	1.14

**From September 2018 to November -2018**

Sl. No	Name of Quarry / Village	River	Taluk	September-2018	October-2018	November-2018
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Pattu	Palar	Pernampet	9.62	9.99	13.71
2	Navlak	Palar	Walaja	---	---	2.17

**From December 2018 to February -2019**

Sl. No	Name of Quarry / Village	River	Taluk	December - 2018	January- 2019	February- 2019
				Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)	Amount (Rs.in Lakhs)
1	Pattu	Palar	Pernampet	16.33	7.10	---
2	Navlak	Palar	Walaja	12.56	10.85	9.40

**6. PRODUCTION OF SAND IN THE VELLORE DISTRICT**

Sl. No	Name of Quarry / Village	River	Taluk	April 2015	May 2015	June 2015
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Perungalmedu-II	Palar	Arcot	447	---	---
2	Perungalmedu-III	Palar	Arcot	---	429	1421
3	Vannivedu	Palar	Walaja	838	819	1206
4	Rangapuram	Palar	Vellore	---	117.6	706.5
5	Kavanur Kandaneri	Palar	Katpadi	---	---	---

Sl. No	Name of Quarry / Village	River	Taluk	May 2015	June 2015	July 2015
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Perungalmedu-II	Palar	Arcot	--	----	--
2	Perungalmedu-III	Palar	Arcot	429	1421	853
3	Vannivedu	Palar	Walaja	819	1206	909
4	Rangapuram	Palar	Vellore	117.6	706.5	925.6
5	Kavanur Kandaneri	Palar	Katpadi	---	---	---

Sl. No	Name of Quarry / Village	River	Taluk	August 2015	September 2015	October 2015
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Perungalmedu-II	Palar	Arcot	---	---	--
2	Perungalmedu-III	Palar	Arcot	1337	1142	424
3	Vannivedu	Palar	Walaja	262	500	1657
4	Rangapuram	Palar	Vellore	830.3	9141	859.3
5	Kavanur Kandaneri	Palar	Katpadi	---	--	----

Sl. No	Name of Quarry / Village	River	Taluk	November 2015	December 2015
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Perungalmedu-II	Palar	Arcot	--	----
2	Perungalmedu-III	Palar	Arcot	209	431
3	Vannivedu	Palar	Walaja	213	---
4	Rangapuram	Palar	Vellore	432.6	880.1
5	Kavanur Kandaneri	Palar	Katpadi	---	---

Sl. No	Name of Quarry / Village	River	Taluk	January 2016	February 2016	March 2016
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Perungalmedu-III	Palar	Arcot	1105	781	270
2	Vannivedu	Palar	Walaja	---	---	---
3	Rangapuram	Palar	Vellore	839.5	839.5	99.9
4	Kavanur Kandaneri	Palar	Katpadi	298	1546	1603.5
5	Kilambadi	Palar	Arcot	---	---	1093
6	Valavanur	Palar	Arcot	---	---	520
7	Minnur & Vadakarai	Palar	Ambur	---	---	836
8	Marapattu	Palar	Gudiyatham	---	---	99.9

9	Vadavirinjipuram	Palar	Katpadi	---	---	---
10	Veerankuppam	Palar	Ambur	---	---	---
11	Alinjikuppam& Melmurungai	Palar	Ambur	---	---	1056

Sl. No	Name of Quarry / Village	River	Taluk	April 2016	May 2016	June 2016
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Rangapuram	Palar	Vellore	587.6	614.8	31
2	Kavanur Kandaneri	Palar	Katpadi	1597	---	---
3	Kilambadi	Palar	Arcot	1364	987	1391
4	Valavanur	Palar	Arcot	549	412	606
5	Minnur & Vadakarai	Palar	Ambur	1139	138	---
6	Marapattu	Palar	Gudiyatham	139.6	148	184.6
7	Vadavirinjipuram	Palar	Katpadi	---	---	---
8	Veerankuppam	Palar	Ambur	---	---	---
9	Alinjikuppam& Melmurungai	Palar	Ambur	1407	165	---

Sl. No	Name of Quarry / Village	River	Taluk	July 2016	August 2016	September 2016
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Rangapuram	Palar	Vellore	---	---	---
2	Kavanur Kandaneri	Palar	Katpadi	1970	2145	1950
3	Kilambadi	Palar	Arcot	1382	1359	1290
4	Valavanur	Palar	Arcot	634	608	553
5	Minnur & Vadakarai	Palar	Ambur	---	--	3109
6	Marapattu	Palar	Gudiyatham	212.8	223.6	150.4
7	Vadavirinjipuram	Palar	Katpadi	327.9	788.2	835.7
8	Veerankuppam	Palar	Ambur	---	183.1	216.3
9	Alinjikuppam & Melmurungai	Palar	Ambur	---	--	604



Sl. No	Name of Quarry / Village	River	Taluk	October 2016	November 2016	December 2016
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Kavanur Kandaneri	Palar	Katpadi	1858	1584	1023
2	Kilambadi	Palar	Arcot	920	655	663
3	Valavanur	Palar	Arcot	622	564	1426
4	Minnur & Vadakarai	Palar	Ambur	3118	2681	4393
5	Marapattu	Palar	Gudiyatham	133.6	146.4	143.2
6	Vadavirinjipuram	Palar	Katpadi	766.9	774.5	713.3
7	Veerankuppam	Palar	Ambur	232.8	248.5	224.2
8	Alinjikuppam & Melmurungai	Palar	Ambur	5181	3398	1437

Sl. No	Name of Quarry / Village	River	Taluk	January 2016	February 2017	March 2017
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Kavanur Kandaneri	Palar	Katpadi	---	---	---
2	Kilambadi	Palar	Arcot	---	----	---
3	Valavanur	Palar	Arcot	5664	1045	---
4	Minnur & Vadakarai	Palar	Ambur	---	---	---
5	Marapattu	Palar	Gudiyatham	119.6	79.4	---
6	Vadavirinjipuram	Palar	Katpadi	656.0	691.1	7.6344
7	Veerankuppam	Palar	Ambur	193.8	100.4	---
8	Alinjikuppam & Melmurungai	Palar	Ambur	8908	10013	---

Sl. No	Name of Quarry / Village	River	Taluk	June 2017	July 2017	August 2017
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Sakkaramallr	Palar	Arcot & Walaja	4507	6761.50	323.0
2	Pasumathur	Palar	Gudiyatham	948.50	5746.50	3943.0

Sl. No	Name of Quarry / Village	River	Taluk	September 2017	October 2017	November 2017
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Sakkaramallr	Palar	Arcot & Walaja	207.50	---	838.0
2	Pogai & Kothamangalam	Palar	Katpadi & Gudiyatham	---	1.296	2725

Sl. No	Name of Quarry / Village	River	Taluk	December 2017	January 2018	February 2018
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Sakkaramallr	Palar	Arcot & Walaja	2895.80	1433.40	2301.60
2	Pogai & Kothamangalam	Palar	Katpadi & Gudiyatham	2554.10	1777.12	1974.70

Sl. No	Name of Quarry / Village	River	Taluk	March-2018	April 2018	May 2018
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Sakkaramallr	Palar	Arcot & Walaja	2149.90	64.00	---
2	Pogai & Kothamangalam	Palar	Katpadi & Gudiyatham	1644.50	94.00	---

Sl. No	Name of Quarry / Village	River	Taluk	June-2018	July 2018	August 2018
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Pattu	Palar	Pernampet	---	142.24	931.71

Sl. No	Name of Quarry / Village	River	Taluk	September-2018	October 2018	November 2018
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Pattu	Palar	Pernampet	1202.00	1250	1714.00
2	Navlak	Palar	Walaja	---	---	271.00

Sl. No	Name of Quarry / Village	River	Taluk	December-2018	January 2019	February 2019
				Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit	Total Loads in terms of 2 Unit
1	Pattu	Palar	Pernampet	2041.0	887.00	---
2	Navlak	Palar	Walaja	1570.0	1357.00	1175.0

## 6. PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT.

Palar is a river of southern India. It rises in the Nandi Hills in Chikkaballapura district of Karnataka state,[1] and flows 93 kilometres (58 mi) in Karnataka, 33 kilometres (21 mi) in Andhra Pradesh and 222 kilometres (138 mi) in Tamil Nadubefore reaching its confluence into the Bay of Bengal at Vayalur about 100 kilometres (62 mi) south of Chennai.[2] It flows as an underground river for a long distance only to emerge near Bethamangala town, from where, gathering water and speed, it flows eastward down the Deccan Plateau. The cities of Ramanaickenpet, Vaniyambadi, Ambur, Melpatti, Gudiyatham, Pallikonda, Melmonavoor, Vellore, Melvisharam, Arcot, Ranipet Walajapet (Anaicut), Kanchipuram and Chengalpattu are located on the banks of the Palar River. Of the seven tributaries, the chief tributary is the Cheyyar River.

Palar river water from Palar anicut is diverted to the Poondi reservoir located in the Kosasthalaiyar River basin and to Chembarambakkam Lake located in the Adayar River basin.[3] These two reservoirs are major water supply points to Chennai city. After

commissioning of the Telugu Ganga project to supply nearly 1000 million litres per day of Krishna Riverwater to the Chennai city, the dependence on Palar river water has reduced drastically.

### 6.a. Location of Irrigation structures

The important irrigation structures located along the study which are used for the regulation of water along the reach are detailed below

Ponnai anicut

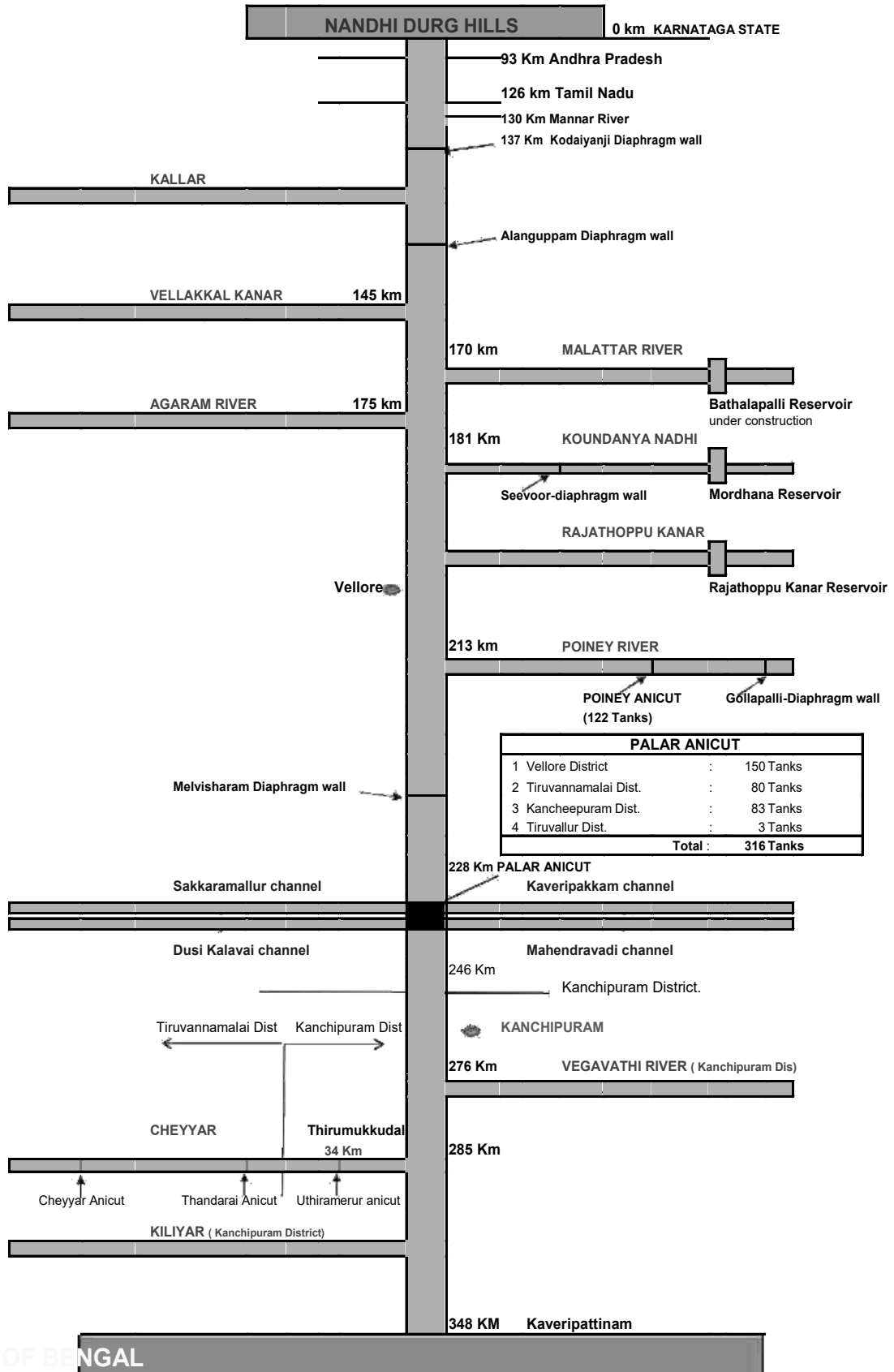
Palar anicut



**Important anicuts in Palar river**



## FLOW DIAGRAM OF PALAR RIVER

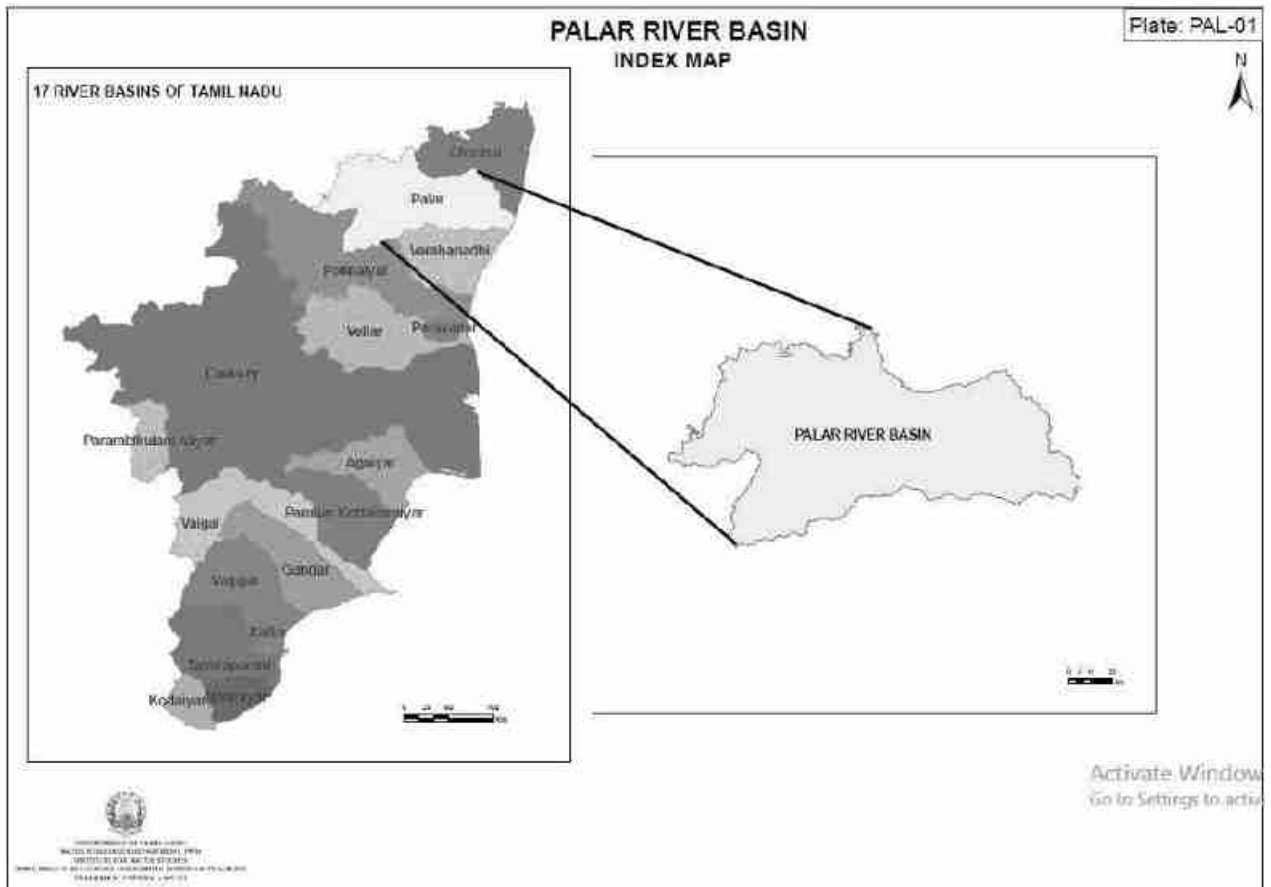




#### **6.d. PALAR RIVER BASIN**

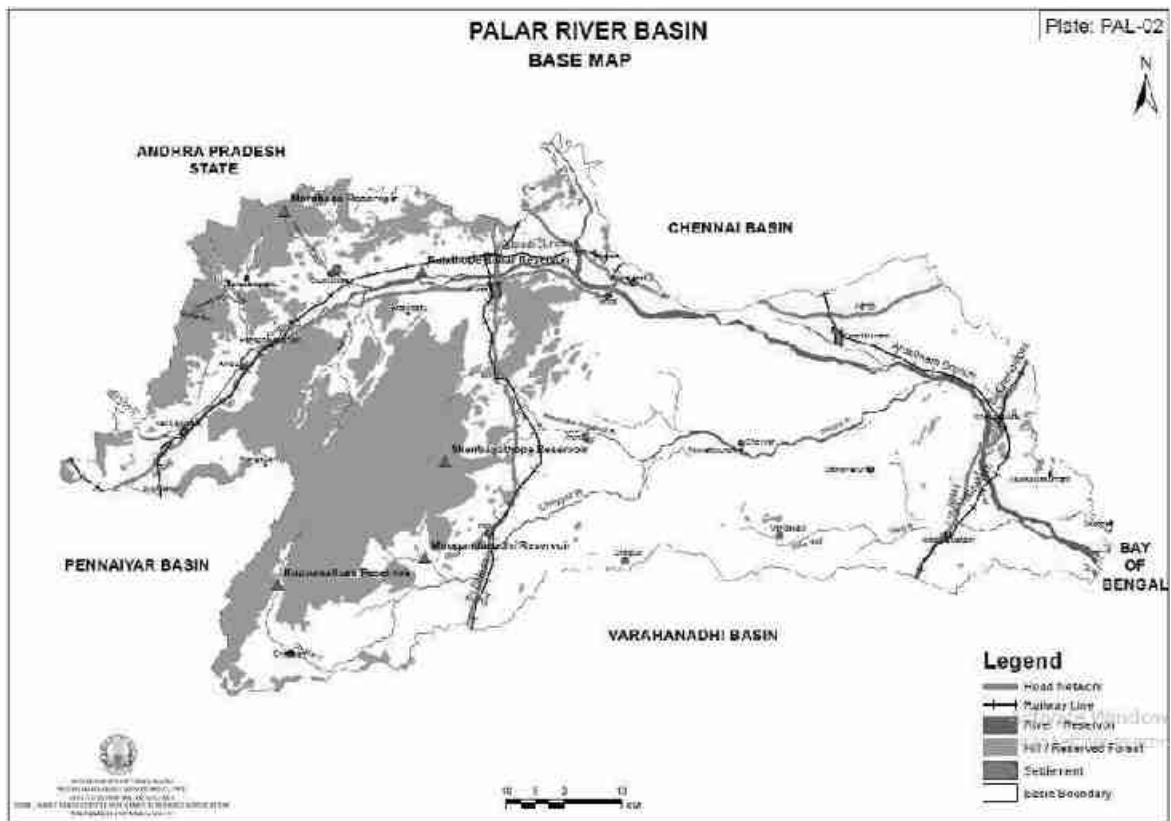
The Palar River Basin is one of the major river basins in Tamilnadu. The main Palar River originates in Nandhi Durg, Kolar district at an elevation of 800 m above MSL in eastern part of Karnataka State, through Kolar and Bangarupet Taluks where it forms the very large Bethamangal tank, which is the main source of water supply to Kolar Gold Field and Bharath Earth Movers Limited. It leaves Karnataka border and flows through Andhra Pradesh for a small distance in Kuppam Taluk in Chittoor District and enters Vellore District of Tamil Nadu and passes through west of Vaniambadi Town and flows into the Bay of Bengal, east of Maduranthagam and south of Mahabalipuram.

The total area of Palar River Basin is 17,633.19 sq.km which includes an area of 3,123 sq.km in Karnataka state, 4,267 sq.km in Andhra Pradesh and 10273.19 Sq Km in Tamil Nadu. It lies between 78°24'43" E, 12°36'26" N and 80°09'54" E, 12°31'26" N from east to west and between 79° 14'23"E, 13°10'21" N and 78°41'51" E, 12°14'05" N in north to south. The Index map is given in Figure.



**Index Map of Palar River Basin**

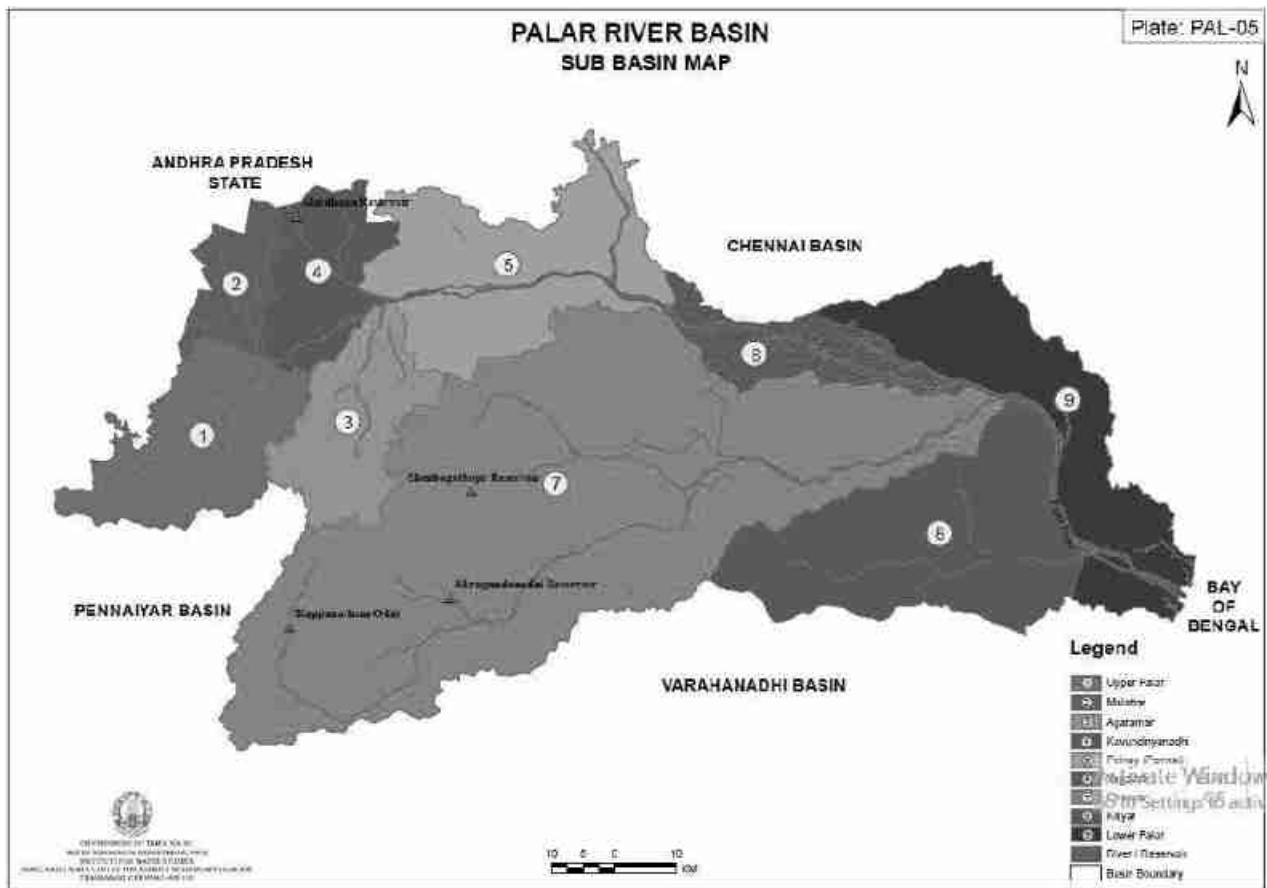
The basin is bordered on the northwest by Andhra Pradesh state, northeast by Chennai River Basin, southwest by Pennaiyar river basin and northeast by Varahanadhi river basin. The base map is given in Figure.



Base Map of Palar River Basin



## District Map of Palar River Basin



The basin covers Vellore, Thiruvannamalai, Kancheepuram, Thiruvallur, Villupuram and Krishnagiri districts of Tamilnadu. The important tributaries are

- 1.Ponnai
- 2.Kaudinya Nadhi
- 3.Malattar
4. Cheyyar
- 5.Agaramar
- 6.Kamandalar
- 7.Naganadhiar

8.Killiyar

9.Vegavathiar.

In this basin there are 50 blocks either partly or fully falling in the above districts.

### 6.e. RESERVOIRS ALONG PALAR RIVER BASIN



There are 5 Reservoirs in the basin having a total ayacut of 11506.02Ha. The details of the reservoirs are given in Table

S. No.	Name of Reservoir	Name of River	Name of Sub Basin	Gross capacity in Mcum	Ayacut in Ha
1	Mordhana Reservoir	Kavundinya Nadhi	Kavundinya Nadhi	7.40	3387.00
2	Rajathope Kanar Reservoir Reservoir	Rajathope Kanar	Kavundinya Nadhi	0.58	219.24
3	Kuppanatham	Cheyvar	Cheyvar	19.82	3971.72
4	Mirugandanadhi Reservoir	Mirugandanadhi	Cheyvar	2.47	1219.37
5	Shenbagathope Reservoir	Kamandalar	Cheyvar	8.13	2708.69
			<b>Total</b>	<b>38.40</b>	<b>11506.02</b>



**6.f. Shoaling in river bed**



**6.g. Reduction of River carrying capacity by shoal formation**



#### 6.h. Siltation Problem in U/S of Anicut

##### 6. i. REPLENISHMENT STUDY FOR SAND

Replenishment study was under progress according to the *MoEFCC Gazette Notification No.S.O.3611(E) dated 25.07.2018*. Therefore, replenishment study should be carried out across the state in all districts as per the method prescribed in the *Sustainable Sand Mining Guidelines 2018 of MoEFCC*. Some of the points that should be taken care of while conducting replenishment study are:

- The cross-section survey should cover a minimum distance of 1.0 km upstream and 1.0 km downstream of the potential reach for extraction.
- The sediment sampling should include the bed material and bed material load before, during and after extraction period.
- Development of sediment rating curve at the upstream end of the potential reach using the surveyed cross-section.
- Using the historical or gauged flow rating curve, determination of suitable period of high flow that can replenish the extracted volume.



## **7. GENERAL PROFILE OF THE DISTRICT**

### **7.a. PHYSICAL FEATURES AND GEOGRAPHICAL AREA:**

Vellore district lies between 12° 15' to 13° 15' North latitudes and 78° 20' to 79° 50' East longitudes in Tamilnadu State. The geographical area of this district is 6077 sq. k.m. The total population as per 2011 Census is 39,36,331. Vellore district is located along the river Palar. The district is bounded in the north by Andhra Pradesh state, in the west by Krishnagiri District, in the East by Kancheepuram District and in the South by Thiruvannamalai District,.

**The District has 3 divisions and 13 Taluks as follows:**

#### **DIVISIONS**

1. Vellore
2. Tirupathur
3. Ranipet

#### **TALUKS**

1. Vellore
2. Katpadi
3. Gudiyattam
4. Anaicut
5. Pernambut
6. Arakonam

7. Walaja
8. Arcot
9. Nemili
10. Tirupattur
11. Vaniyambadi
12. Ambur
13. Natrampalli

S.No	Division Name	Taluk Name	Revenue Villages Count
1.	Vellore	Vellore	51
2.	Vellore	Katpadi	85
3.	Vellore	Gudiyattam	45
4.	Vellore	Anaicut	61
5.	Vellore	Pernambut	52
6.	Ranipet	Arakonam	68
7.	Ranipet	Walaja	83
8.	Ranipet	Arcot	102
9.	Ranipet	Nemili	77
10.	Tirupattur	Tirupattur	63
11.	Tirupattur	Vaniyambadi	48
12.	Tirupattur	Ambur	77
13.	Tirupattur	Natrampalli	30

Vellore experiences a tropical savanna climate (Köppen climate classification *Aw*). The temperature ranges from a maximum of 39.4 °C (102.9 °F) to a minimum of 13 °C (55 °F). The

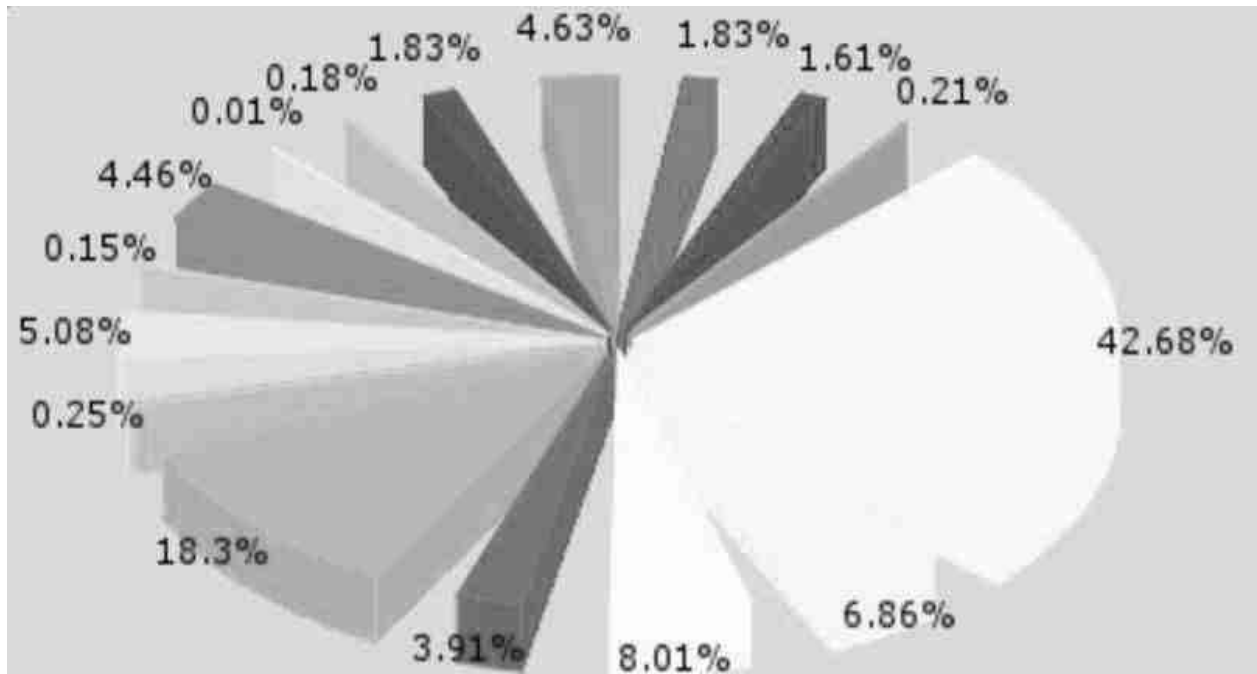
northeast monsoon which lasts from October to December brings rainfall of 388.4mm. The humidity ranges from 40%–63% during summer and 67%–86% during winter.

Climate data for Vellore													
Month	Jan	Feb	Mar	Apr	Ma y	Jun	Jul	Aug	Sep	Oct	No v	De c	Yea r
Record high °C (°F)	35.3 (95.5)	39.8 (103.6)	42.8 (109.0)	44.4 (111.9)	45.0 (113.0)	44.3 (111.7)	40.9 (105.6)	39.4 (102.9)	39.6 (103.3)	39.2 (102.6)	35.8 (96.4)	35.0 (95.0)	45.0 (113.0)
Average high °C (°F)	29.8 (85.6)	32.8 (91.0)	36.1 (97.0)	39.9 (103.8)	41.1 (106.0)	40.6 (105.1)	35.1 (95.2)	34.3 (93.7)	34.0 (93.2)	32.3 (90.1)	29.8 (85.6)	28.7 (83.7)	34.5 (94.2)
Average low °C (°F)	14.8 (58.6)	18.9 (66.0)	21.6 (70.9)	24.6 (76.3)	25.7 (78.3)	25.2 (77.4)	24.5 (76.1)	24.0 (75.2)	23.4 (74.1)	22.4 (72.3)	20.6 (69.1)	13.2 (55.8)	21.6 (70.8)
Record low °C (°F)	7.4 (45.3)	12.0 (53.6)	12.1 (53.8)	17.8 (64.0)	18.1 (64.6)	19.6 (67.3)	18.8 (65.8)	18.7 (65.7)	18.7 (65.7)	15.6 (60.1)	12.1 (53.8)	11.0 (51.8)	8 (46)
Average precipi tation mm (inches)	11.5 (0.45)	1.7 (0.07)	16.7 (0.66)	28.2 (1.11)	69.7 (2.74)	78.2 (3.08)	110.4 (4.35)	134.1 (5.28)	195.2 (7.69)	158.1 (6.22)	15.6 (0.615)	74.0 (2.91)	1,034.1 (40.71)
Average precipitation days	0.9	0.2	1.1	1.5	4.5	5.0	6.2	7.8	8.8	8.6	7.6	3.6	55.8

The district is well connected by road and rail. The district has good educational institutional frame work.

## 8. LAND UTILISATION PATTERN:-

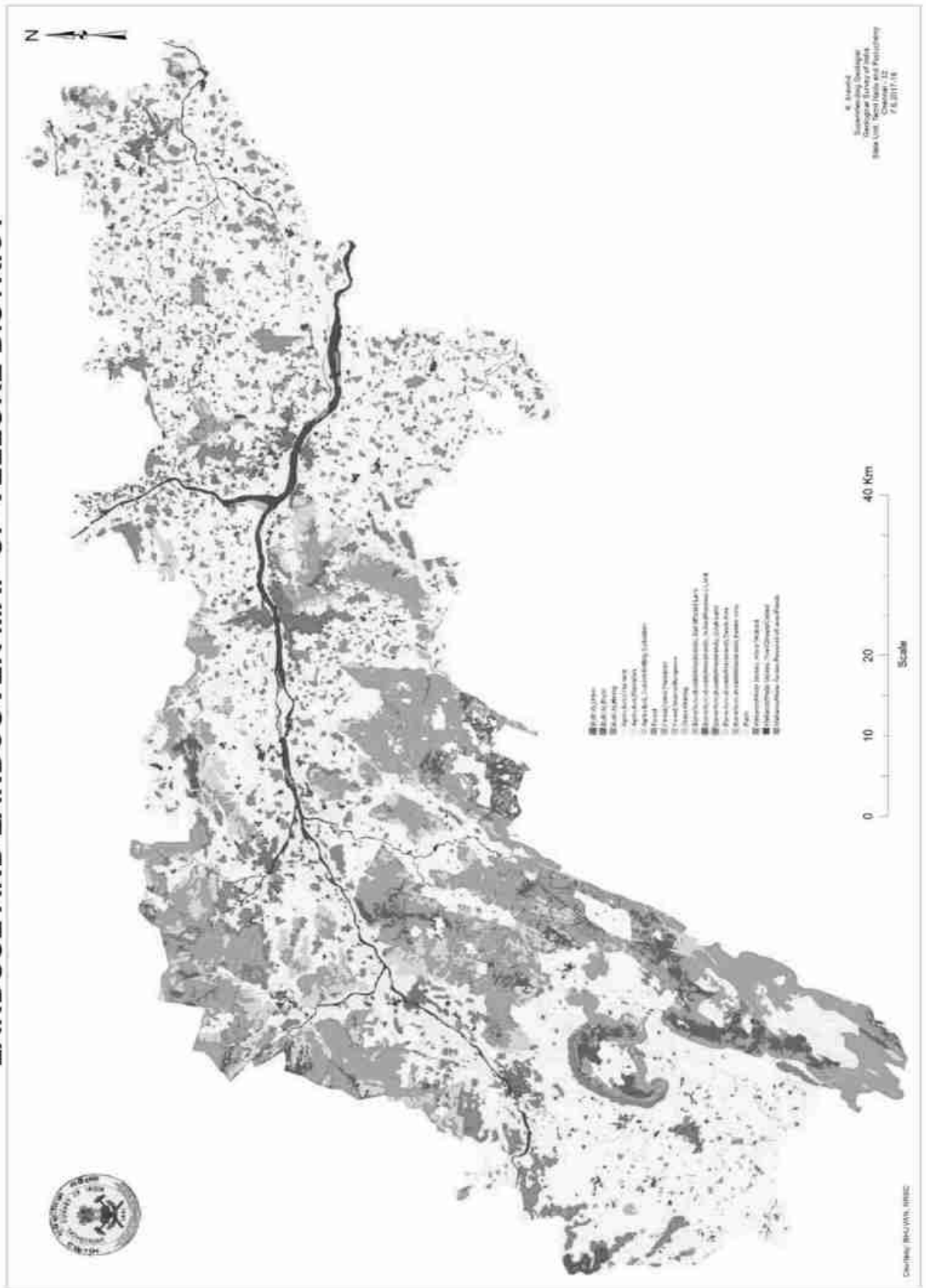
Out of the total area of 6077 sq. km., the Vellore District hosts the major land use as the Agriculture with Crop land and Plantation type land covers, followed by the forest cover and so on.



LULC Class	Area (Sq.Km)	LULC Class	Area (Sq.Km)
Builtup,Urban	110.98	Builtup,Rural	97.8
Builtup,Mining	13.03	Agriculture,Crop land	2593.47
Agriculture,Plantation	416.87	Agriculture,Fallow	486.59
Forest,Evergreen/ Semi evergreen	237.63	Forest,Deciduous	1111.98
Forest,Forest Plantation	15.3	Forest,Scrub Forest	309
Barren/unculturable/ Wastelands, Salt Affected land	9.38	Barren/unculturable/ Wastelands, Scrub land	271.01
Barren/unculturable/ Wastelands, Sandy area	0.81	Barren/unculturable/ Wastelands, Barren rocky	10.77
Wetlands/Water Bodies, River/Stream/canals	111.16	Wetlands/Water Bodies, Reservoir/Lakes/Ponds	281.2
Total			6077.00

**Land utilisation Pattern**

# LANDUSE AND LANDCOVER MAP OF VELLORE DISTRICT



Sl.No.	Land Use Classification	Area in Hectares
1	Forest	5648
2	Barren and Uncultivable uses	20443
3	Land put to Non-Agricultural uses	80725
4	Cultivable Waste	5673
5	Permanent Pastures and Other Grazing Land	3922
6	Land Under Miscellaneous Tree Crops and Groves not included in	2937
7	Current Fallows	77453
8	Other Fallows Land	74369
9	Net Area Sown	164210
10	Reserve Forest	156638
11	Geographical Area According to Village Papers	592018
12	Total Cropped Area	202453
13	Area sown more than once	38244

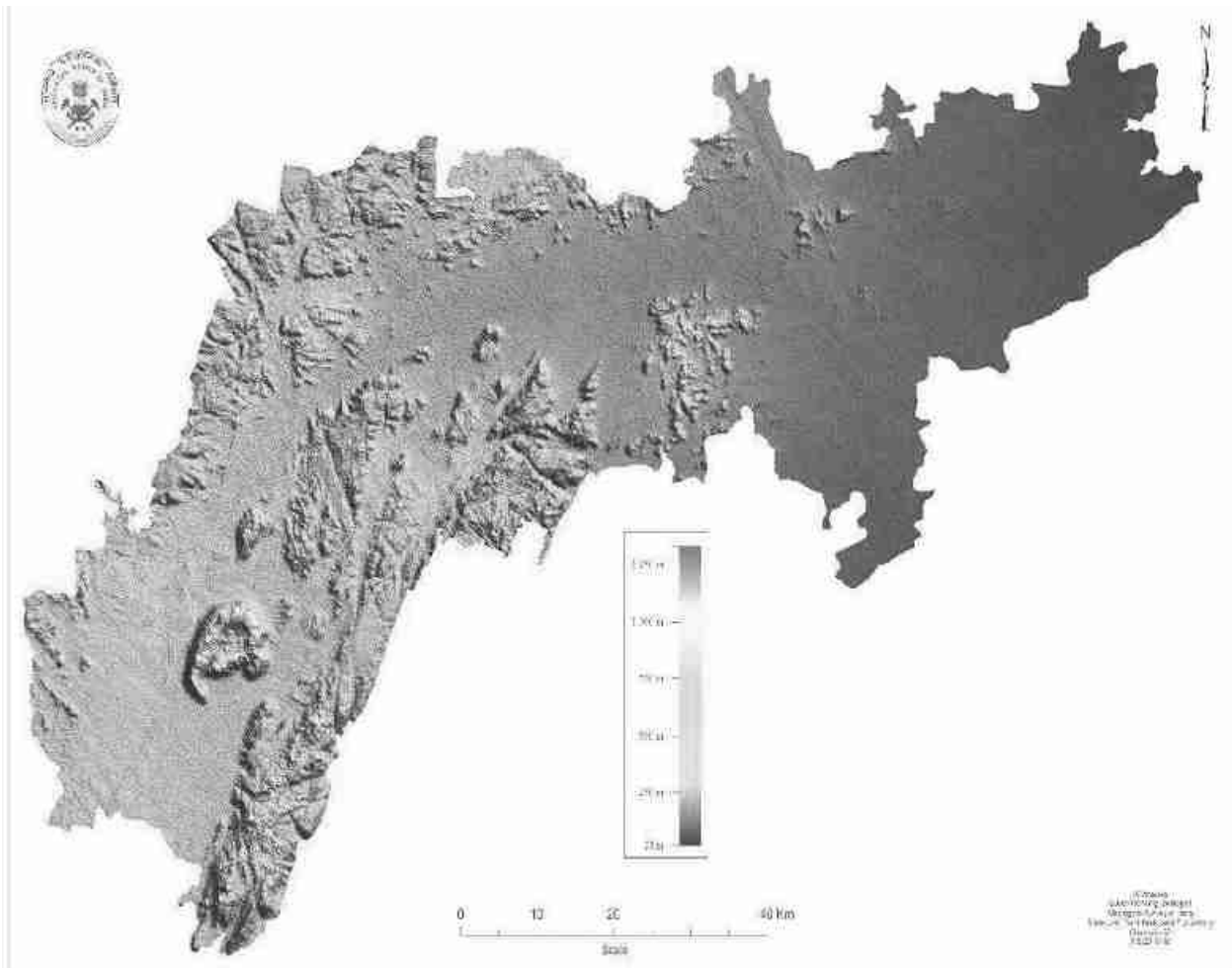
## 9. PHYSIOGRAPHY AND REGIONAL GEOLOGY:

This part of South India experiences semi-arid climatic conditions with moderate rainfall averaging about 630mm per year. The river Palar runs parallel to the hill ranges of the Eastern Ghats for a major part of its course and has a vast flood plain in the lower reaches, but is dry for major part of the year and it is ephemeral in nature.

Vellore is the Head-Quarters of Vellore District which is well connected by Rail and bus routes to major towns of the neighbouring states like Andhra Pradesh, Karnataka and Kerala. The history of the District assumes a great significance and relevance, as we unfold the glorious past. The Monuments found in the district give a vivid picture of the town through the ages. In the 18th Century Vellore District was the scene of some of the decisive battles fought in Ambur 1749 A.D., Arcot 1751 A.D. and Vandavasi 1768 A.D. as a result of the long – drawn struggle between the English and the French for Supremacy.

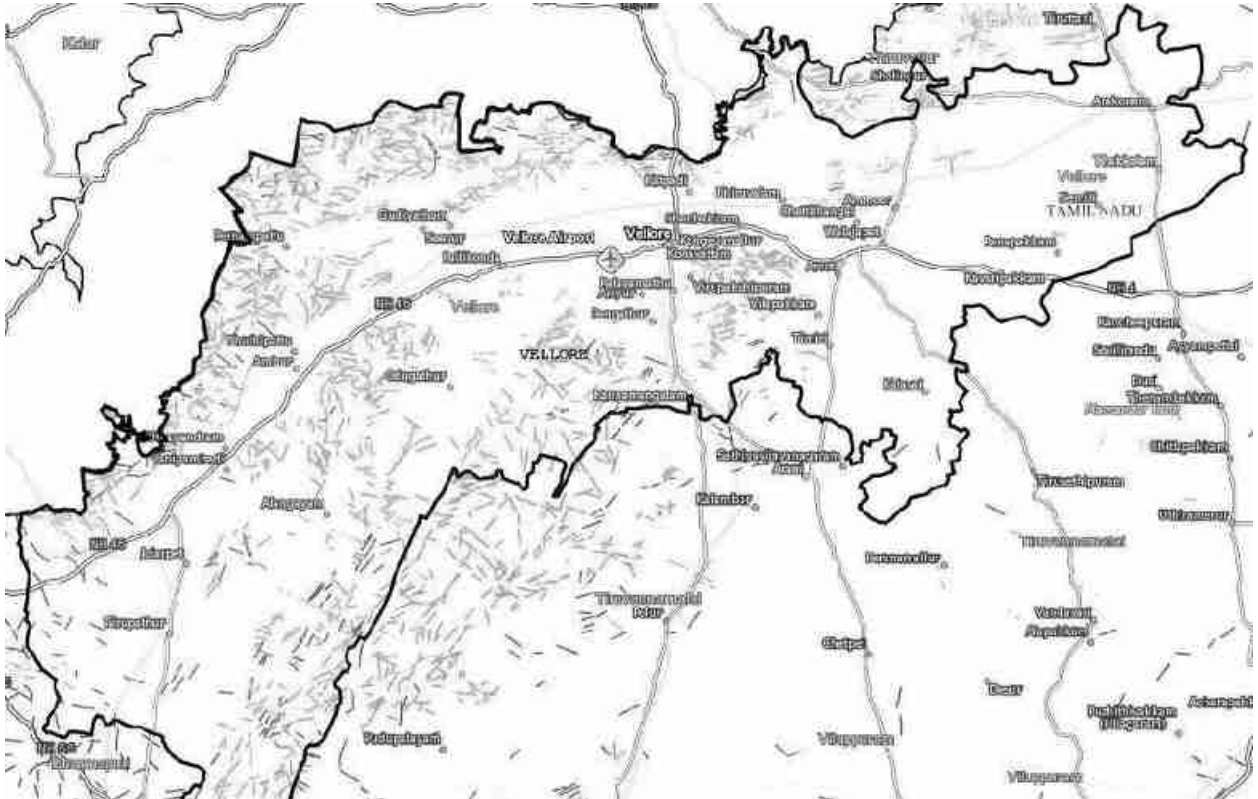
Vellore district can be classified into two major physiographic divisions i) Hilly terrain in the eastern and southwestern parts ii) Plain regions in the eastern part. The western part of the district is occupied by the Javadi and Elagiri hills. In the Elagiri hills, a few peaks 1121 m, 942 m, 841 m raise above, are prominent. In Javadi hills, the peaks 1076 m, 975 m and 99 m are prominent. The eastern areas of Vellore are undulating rugged plains with isolated hillocks of 120 m and 140 m above msl. The area is drained by Palar, Cheyyar and smaller distributary streams. The drainage is subdendritic and most of the streams are ephemeral . The Palar Flood Plain becomes broader on entering into the Kancheepuram district whereas in the west, it is restricted to the river bed only.





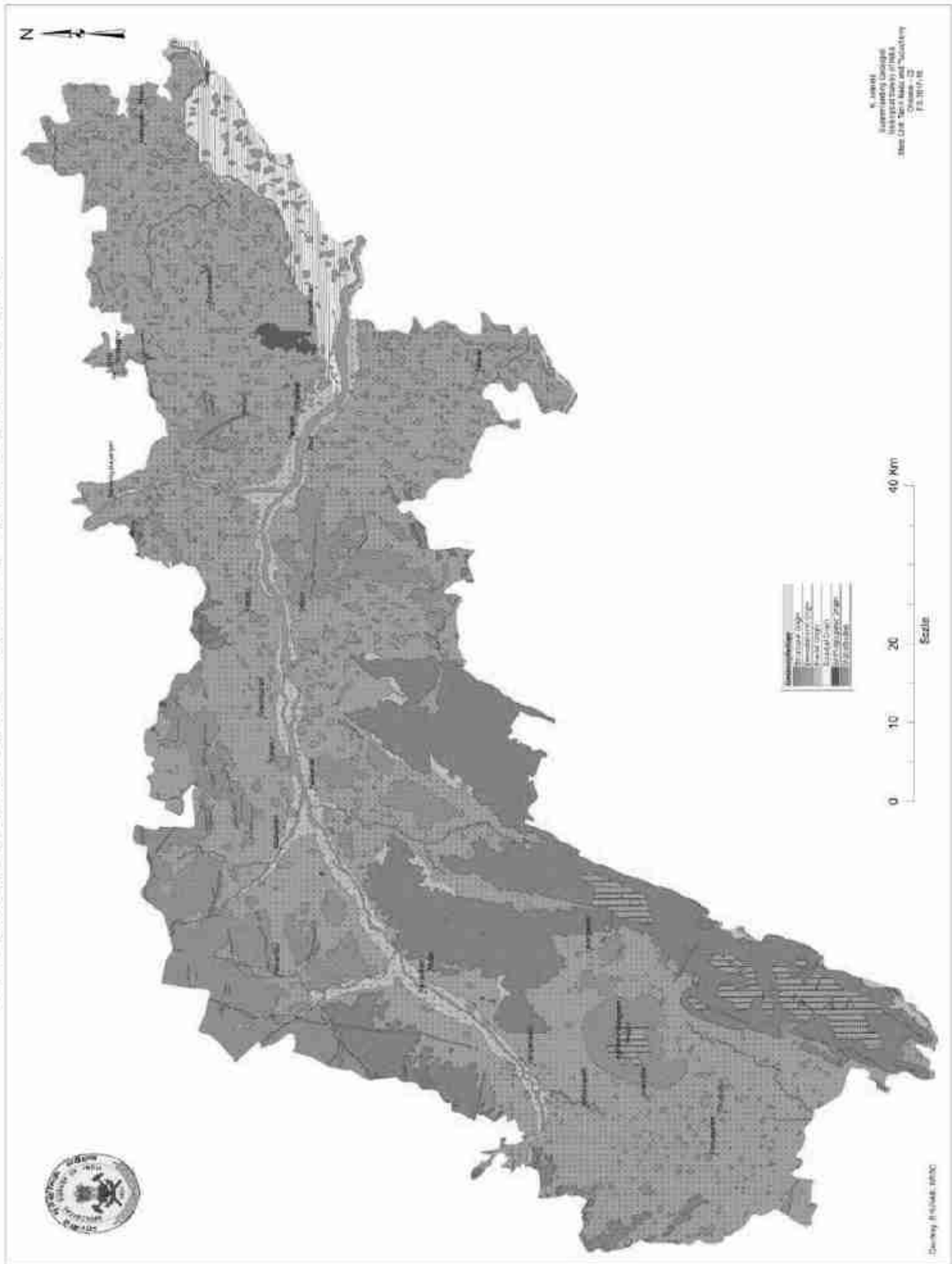
**Shaded Relief Map of Vellore District**

The Figure represents the shaded relief map of the Vellore District representing the relative elevation differences in the district marked by hillocks in the south western part of the district viz., Elagiri hills ranging upto 1330 m above mean sea level. The lowest of 21 m at the eastern margin of the district in the alluvial plains of Palar River. The geomorphic unit identified in the district are broadly classified as Structural Origin, Denudational Origin, Fluvial Origin, Coastal Origin and Antropogenic origin including the water bodies. It is further classified as given in Table 40 and shown in Fig. 21 in the Geomorphological Map retrieved from NRSC prepared in 1:50,000 scale in collaboration with GSI.



Lineament Map of Vellore District and surrounding area

# GEOMORPHOLOGICAL MAP OF VELLORE DISTRICT



## 10. RAINFALL PATTERN ALONG PALAR RIVER BASIN

### Hydrometeorology

Twenty three rain gauge stations in Palar basin are considered for analysis. Three weather stations (full climate stations) are there in this basin. All the rain gauge stations and climate stations are maintained by Public Works Department.

Palar river basin lies within the tropical monsoon zone.

### Raingauge stations considered for Run-off analysis

S. No	Name of sub basin	Sub Basin area (sq.km)	Raingauge stations
1	Upper Palar	738.16	Ambur, Jolarpettai, Vaniyambadi
2	Malattar	265.61	Ambur
3	Agaramar	581.29	Alangayam
4	Kavundinyanadhi	466.85	Gudiyatham
5	Ponnai	1090.1	Ponnai anicut, Aliyabad, Ranipet, Vellore
6	Vegavathi	411.16	Kancheepuram, Kaveripakkam
7	Cheyvar	4362.69	Arni, Cheyyar anicut, Chengam, Dusiyankulam, Elathur anicut, Kovilur anicut, Polur, Palar anicut

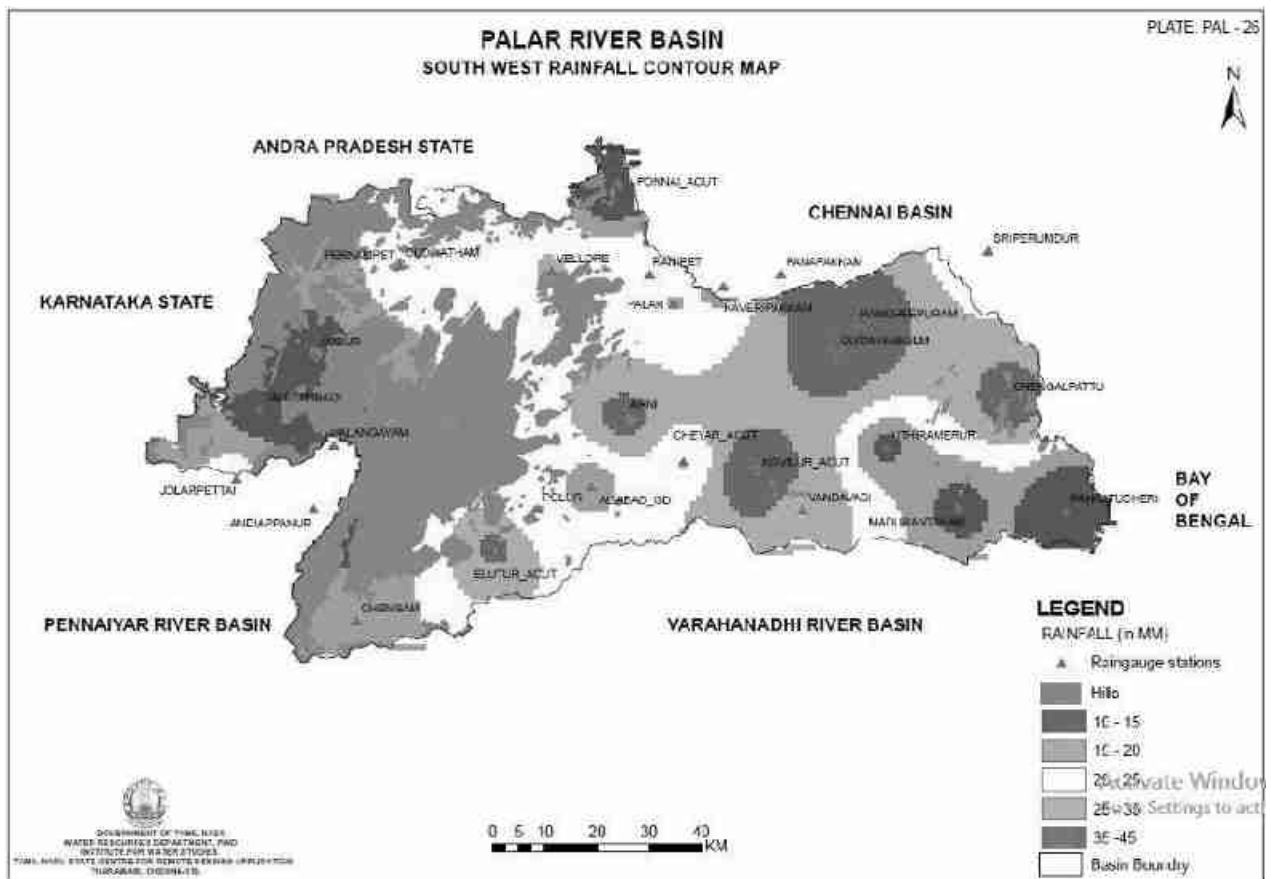
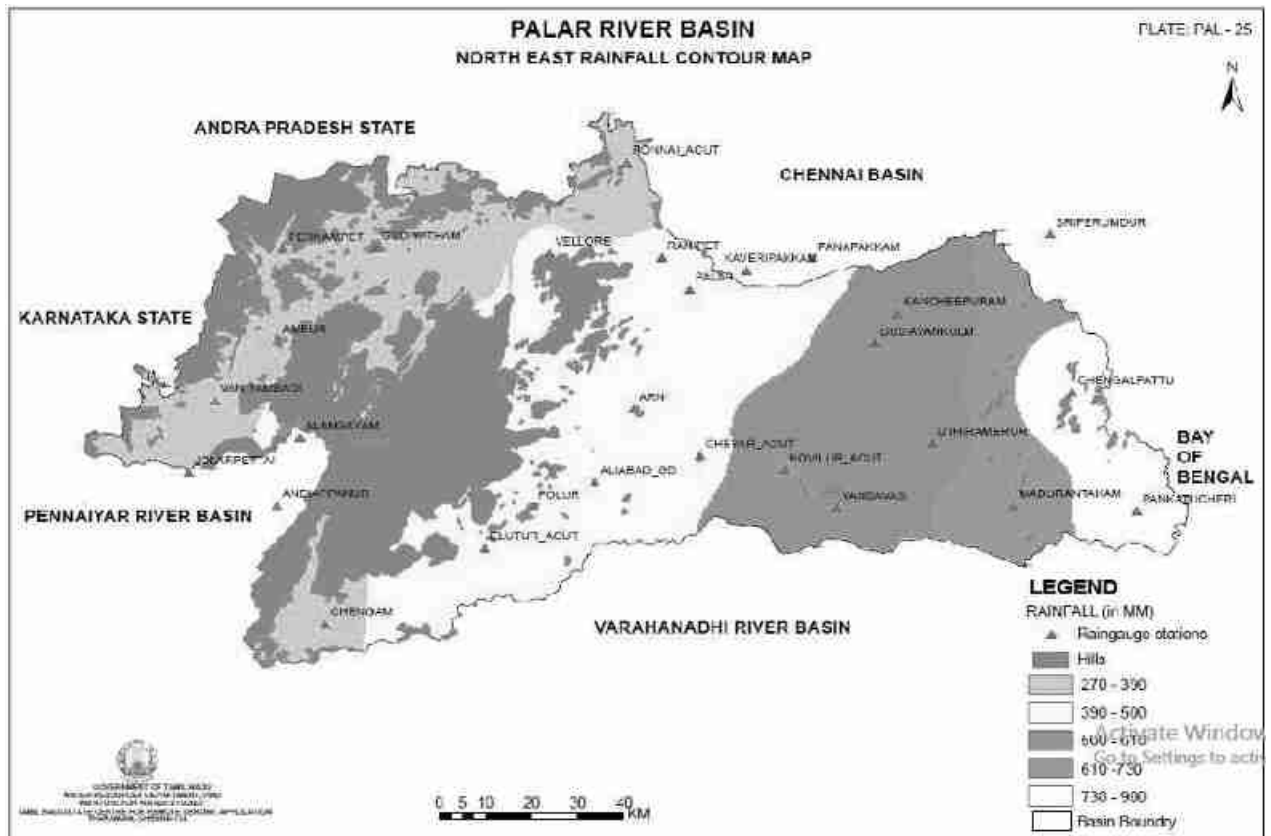
8	Kiliyar	1322.08	Maduranthagam, Vandavasi.
9	Lower Palar	1035.24	Chengalpattu, Panankattucheri, Panapakkam, Sriperumbudur
	<b>Total</b>	<b>10273.18</b>	

The 25%, 50%, 75% and 90% dependable rainfall for Palar basin are tabulated below in Table

5. Table 5 Sub basin wise Dependable Rainfall (in mm) in Palar River Basin

Sl. No	Sub basin	25%	50%	75%	90%
1	Upper Palar	139.51	107.30	86.78	52.12
2	Malattar	52.17	38.97	31.68	19.47
3	Agaramar	182.86	104.03	62.20	35.51
4	Kavundinyanadhi	92.55	76.72	64.14	46.53
5	Ponnai	245.29	197.81	156.64	122.54
6	Vegavathi	106.98	82.18	82.18	54.49
7	Cheyyar	1048.35	867.82	867.82	553.91
8	Kiliyar	382.34	274.89	274.89	161.86
9	Lower Palar	325.45	250.39	250.39	145.61

The Annual Rainfall contour map, North East rainfall and South East Rainfall contour maps are given in Figure



The maximum, minimum and average annual rainfall for the nine sub basins have been given below.

- Maximum Annual Rainfall of this basin is 2854.10 mm in Agaramar (1985-86)
- Minimum Annual Rainfall of this basin is 203.5 mm in Kavundhiyanadhi (1971-72)
- Average annual rainfall of the Palar basin is 1042.60 mm

## 11. GEOLOGY AND MINERAL WEALTH

The trace of each and every river/ stream was covered and studied on the following principles of Geology/River bed mining:

- The general geology of the area;
- The presence of any major geological structure;
- Origin of river;
- Pattern of primary / secondary/ tertiary streams;
- Total catchments;
- General profile of river/streams;
- Meandering Pattern;
- Bank stability;
- Total potential of river bed in reference to minor mineral;
- General slope of the river / stream;
- Morphogenetic regions.

In Addition to above, presence of the following objects were also studied:-  $\frac{3}{4}$  The presence of any WSS Schemes

- Bridges
- Agriculture fields
- Bank protection works
- Plantation etc.

Following are the important guiding principles considered while recommending the river / stream bed or part of the river / stream bed for collection for minor minerals:-

- The production of aggregate area is a function of the availability of natural resources, the size of population, the economy of the area and various developmental and infrastructural works being undertaken in the area like road construction, hydro-electric projects etc. Further, being a low- value, high-volume mineral commodity, the prices are dramatically affected by transportation distances. If the distance increases, the transportation cost may increase much more than the cost of the aggregates. x A stable river is able to consistently transport the flow of sediments produced by watershed such that its dimension (width and depth) pattern and vertical profile are maintained without aggrading (building up) or degrading ( scouring down)
- The amount of boulders, cobbles, pebbles and sand deposited in river bed equals to the amount delivered to the river from watershed and from bank erosion minus amount transported downstream each year.
- It is compulsive nature for river to meander in their belts and therefore they will have to be provided with adequate corridor for meandering without hindrance. Any attempt to diminish the width of this corridor (floodway) and curb their freedom to meander would prove counterproductive. x Erosion and deposition is law of nature. The river/stream has to complete its geomorphological cycle from youth, mature to old age.
- River capturing is unavoidable.
- Erosion in upstream and deposition in downstream.
- Tendency of the river / stream toward grade.
- Fundamentally, the lowest point of any stream is fixed by Sea Level.
- The ratio between the width of meander belt and width of the stream decreases as the width of the stream increases.
- Formation, Bank erosion and Replenishment of any specific riverbed depends  
Primarily upon:
  - The Geology of the area;
  - River Profile;



- Nature of source;
- Rainfall in catchments;
- Morphogenetic region;
- Catchments geomorphology;
- Efficiency of River / Stream ( i.e erosive power);
- The competency of the river / Stream ( i.e transport heaviest stone);
- The capacity of the River/Stream ( i.e volume of transportation);
- Hydraulic radius of the River / Stream (ratio between cross sectional area and length of wetted perimeter)

**Secondarily upon:**

- Geological structures;
- Porosity of formation;
- Run off in the catchments;
- Forest cover;

In addition to the above following man made factors are also involved.

- Type of agriculture;
- Encroachment on flood plain leaving least space for meandering;
- Any barrier on river / stream bed i.e banks , dams and bridge foundations etc;
- Throwing of debris into the river/stream course;
- Drying up of river courses due to construction of dams, thereby reducing the efficiency and capacity of the river / stream.

The total potential of the river / stream bed is calculated up to the depth of one meter and in the workable span. Total potential or annual replenishment is not necessarily mineable. Mine ability depends upon the availability of approachable roads, distance from the general conditions of policy viz distances from WSS Schemes, bridges etc and overall on the

market demand etc. Thus keeping these factors into consideration 60% of the total potential has been taken for the purpose of exploitation of minor minerals.

**11. a. Method For calculation of Reserves:** For the calculation of total reserves of minor minerals available in the river bed, length, average width and depth of the river bed for which the exploitation is to be carried out / allowed under rule / prevailing instructions of the Govt. was taken into consideration. The volume thus obtained is multiplied with the bulk density which has been assumed as 1.65 for all types of minor minerals. Thus reserves up to particular datum line i.e one meter below the surface have been calculated.

Total reserves of minor minerals ( M.T.)= Length x Width x Height i.e Depth x Density. For the annual replenishment of minor mineral reserves, the average annual mean depth up to which the replenishment of minor mineral takes place annually, has been taken into consideration which depends upon the annual rainfall factor and geology of the catchments area.

## **12. RIVER SYSTEM**

### **12.a. PALAR RIVER**

Major part of the district falls in Palar river basin. Palar River is the major river draining the district, flowing towards east for a distance of about 295 km. It runs parallel to the hill ranges of the Eastern Ghats for a major part of its course. It has a vast flood plain in the lower reaches, but is dry for major part of the year. Ponnaiyar, Cheyyar, Pambar and Malattar are some of the major tributaries of Palar draining the district. Almost all the streams are ephemeral in nature and are mostly structurally controlled.

The Palar is the longest of the rivers in the districts bordering Chennai and has been a major source of drinking water for the State capital and its suburbs. The Palar and its tributaries irrigate about 300,000 hectares of agricultural land in Kancheepuram, Thiruvallur, Chennai and Vellore districts. Analysis of surface water samples from Palar River by IAMWARM project shows pH, Electrical Conductivity, Total Hardness, Chloride and Coliform values are

within the limits. Dissolved Oxygen falls below 5 mg/lit at places such as Koudanaya river, Nandhiyalam village, Rajakal head sluice, Mottur village and at stretches between Ranipet to walajah due to mixing of Tannery effluent with water. This affects the aquaculture in the area. The river water is contaminated with domestic sewage. It is also found that Total Dissolved Solids is beyond the tolerable limit in tannery-polluted areas. Chloride is above the acceptable limit but below permissible limit. Total hardness fluctuates above and below tolerable limits and Biological Oxygen Demand is found to be very high in some head works.

### 12.b. Catchment:

Each basin has been delineated into Catchment, which are constituted by a single major river, by a group of small rivers or a major tributary of the major rivers like Vellar. The catchment in Vellore District is as follows:

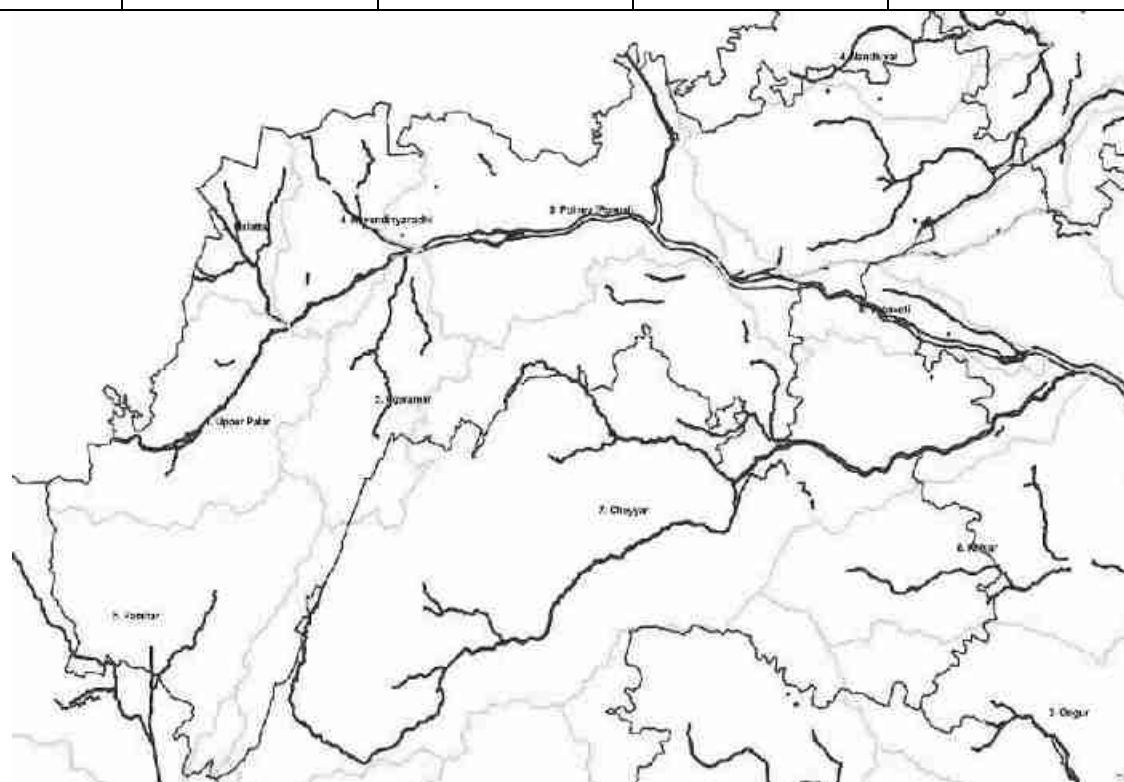
S. No	Basin code No	Rivers covered by the basin	Area Sq. km	States covered
1	4C1	Between Cauvery and Palar	20517.575	Cuddalore, Villupuram, Salem, Tiruvannamalai, Vellore.
2	4C2	Between Pennaiyar and Palar	15997.551	Chenglepet, Vellore, Kancheepuram, Chittur (A.P.)

### 12.c. Sub Catchment:

Each catchment has been delineated into Sub-Catchment which are constituted by a single river, by a group of small rivers or a major tributary of the major rivers. The Sub Catchment in Vellore District is as follows:

**Details of Sub-catchment in Vellore District and adjacent areas**

No.	Sub Catchment Code No.	Rivers covered by the Sub Catchment	Area Sq.Km.	Districts covered
1	4C1C	Upper Pannaiyar Beyond Sathanur Dam	6778.020	Salem, Vellore, Tiruvannamalai, Karnataka State
2	4C2A	Lower Palar upto Vellore	7444.570	Chenglepet, Vellore, Tiruvannamalai
3	4C2B	Upper Palar	2471.180	Vellore, Tiruvannamalai, Andhra Pradesh and Karnataka Districts
4	4C2C	Miscellaneous watershed around Chennai	5582.321	Chenglepet, Vellore, Tiruvallur, Chennai.

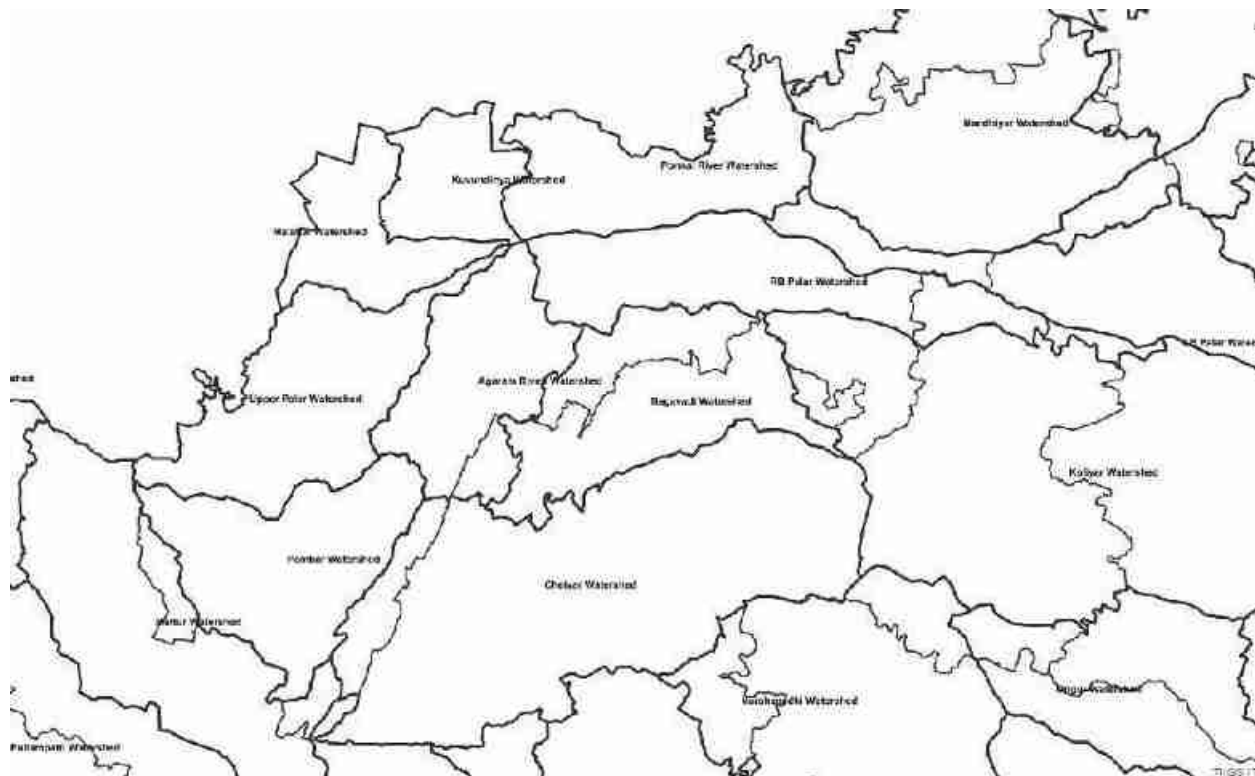


**Sub-basin Map of Vellore district and adjacent areas**

**12.d. Watershed:** Each sub catchment has been delineated into watersheds, which are constituted by a single river by a group of small rivers or a tributary of the major rivers like Vellar. The Watersheds in Vellore District are as follows:

**Details of Watershed in parts of Vellore District and adjoining areas**

No.	Watershed Code No.	Rivers covered by the Watershed	Area Sq.Km.	Parts of Taluks covered
1	4C1C1	Kallar	759.590	Tiruppattur
2	4C1C3	Mattur	1107.180	Tiruppattur
3	4C1C4	Pambar	725.230	Tiruppattur
4	4C2A3	Cheyvar Nagavadi	891.320	Arcot, Vellore
5	4C2A4	Cheyvar Nagavadi	1677.540	Tiruppattur
6	4C2A5	Cheyvar Nagavadi	1141.950	Vellore Arcot
7	4C2A6	R.B.Palar/Lower Palar	1075.920	Gudiyattam, Vellore, Arcot, Walajapet
8	4C2A7	Ponnai	549.160	Gudiyattam, Vellore, Walajapet
9	4C2B1	Agaram	572.340	Vellore, Gudiyattam, Vaniyambadi
10	4C2B2	Malattar	360.650	Vellore, Vaniyambadi, Tiruppattur
11	4C2B3	Upper Palar	1199.000	Vaniyambadi, Tiruppattur
12	4C2B6	Kuvudinya	304.150	Gudiyattam
13	4C2C3	Cooum	1876.641	Walajapet, Arkonam
14	4C2C4	Kosasthalaiyar	1235.250	Arkonam
15	4C2C5	Nandiar	630.210	Arkonam

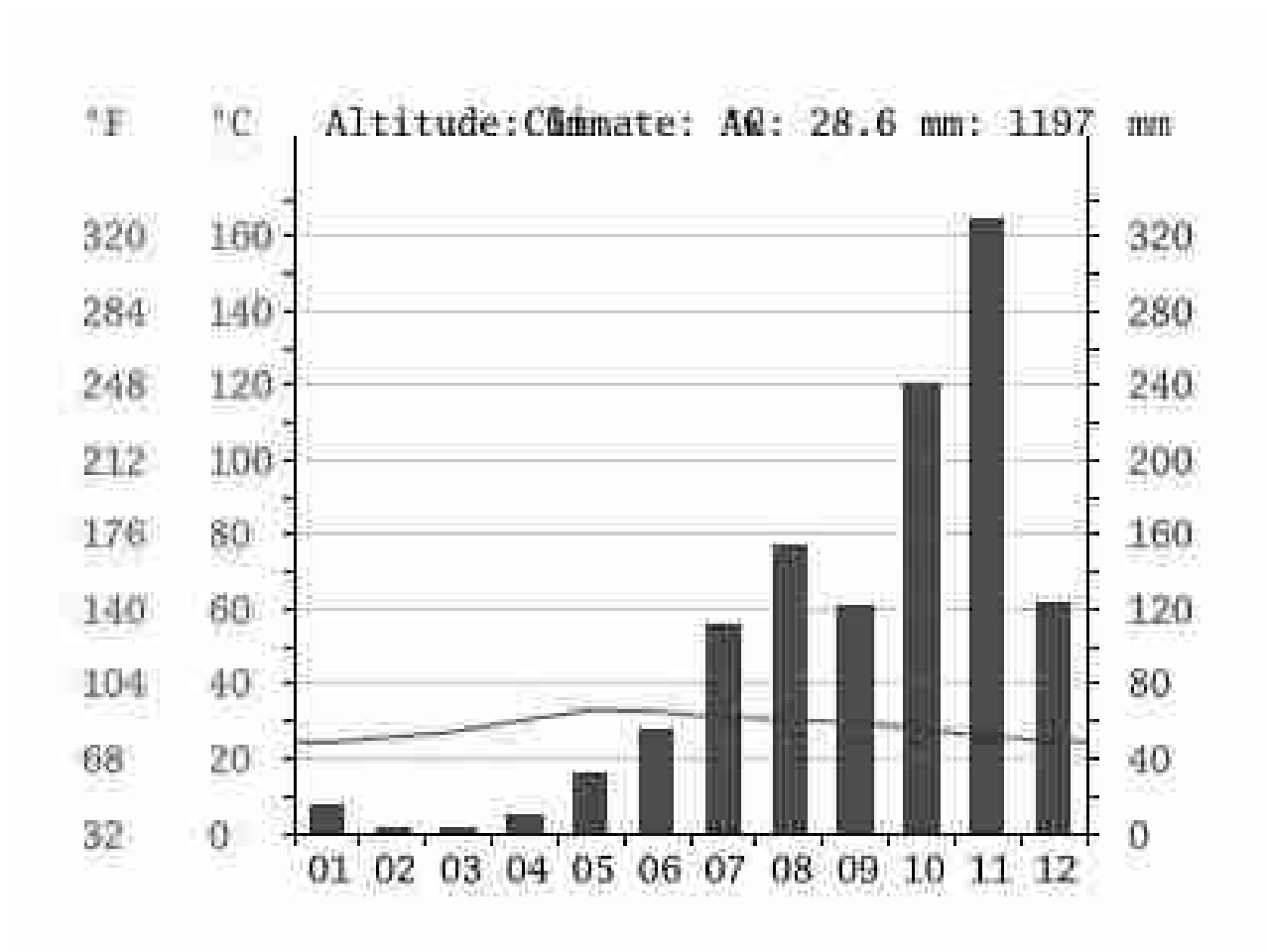


**Watershed Map of Vellore district and adjacent areas**

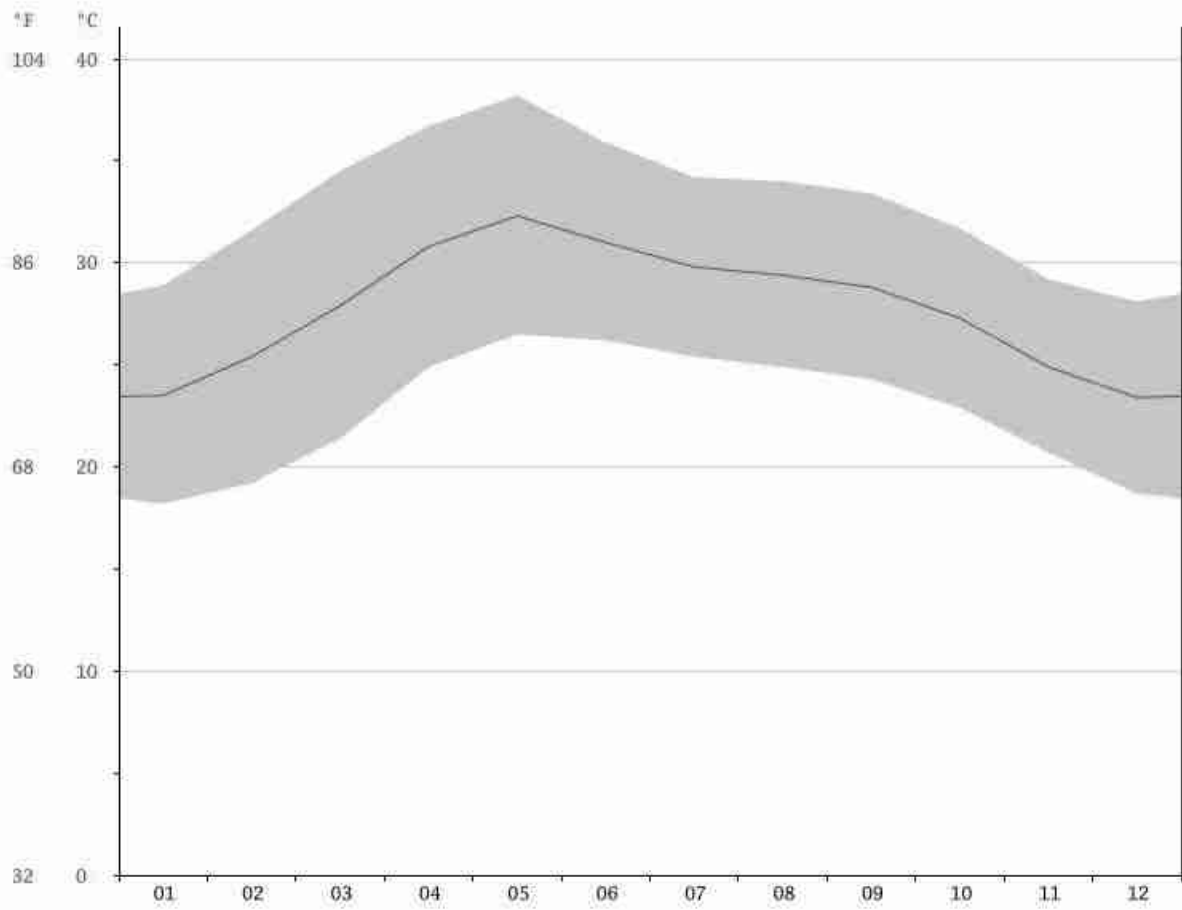
### **CLIMATIC CHARACTERISTICS: HUMIDITY AND WIND**

Vellore experiences a tropical savanna climate (Köppen climate classification *Aw*). The temperature ranges from a maximum of 39.4 °C (102.9 °F) to a minimum of 13 °C (55 °F). Like the rest of the state, April to June are the hottest months and December to January are the coldest. Vellore receives 1,034.1 mm (40.71 in) of rainfall every year. The southwest monsoon, with an onset in June and lasting up to September, brings rainfall of 517.1 mm, with September being the rainiest month. The northeast monsoon which lasts from October to December brings rainfall of 388.4mm. The humidity ranges from 40%–63% during summer and 67%–86% during winter

**CLIMOGRAPH OF VELLORE DISTRICT**



## AVERAGE TEMPERATURE VELLORE





## VELLORE WEATHER BY MONTH // WEATHER AVERAGES

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	23.5	25.4	27.9	30.8	32.3	31	29.8	29.4	28.8	27.3	24.9	23.4
Min. Temperature (°C)	18.2	19.2	21.4	24.9	26.5	26.2	25.4	24.9	24.3	22.9	20.7	18.7
Max. Temperature (°C)	28.9	31.6	34.5	36.7	38.2	35.9	34.2	34	33.4	31.7	29.2	28.1
Avg. Temperature (°F)	74.3	77.7	82.2	87.4	90.1	87.8	85.6	84.9	83.8	81.1	76.8	74.1
Min. Temperature (°F)	64.8	66.6	70.5	76.8	79.7	79.2	77.7	76.8	75.7	73.2	69.3	65.7
Max. Temperature (°F)	84.0	88.9	94.1	98.1	100.8	96.6	93.6	93.2	92.1	89.1	84.6	82.6
Precipitation / Rainfall (mm)	9	6	7	24	67	70	117	124	158	179	144	66

The variation in the precipitation between the driest and wettest months is 173 mm. The average temperatures vary during the year by 8.9 °C.

### Humidity

The temperature ranges from a maximum of 39.4 °C (102.9 °F) to a minimum of 13 °C (55 °F). Like the rest of the state, April to June are the hottest months and December to January are the coldest. Vellore receives 1,034.1 mm (40.71 in) of rainfall every year. The southwest

monsoon, with an onset in June and lasting up to September, brings rainfall of 517.1 mm, with September being the rainiest month. The northeast monsoon which lasts from October to December brings rainfall of 388.4mm. The humidity ranges from 40%–63% during summer and 67%–86% during winter.

### Humidity Graph

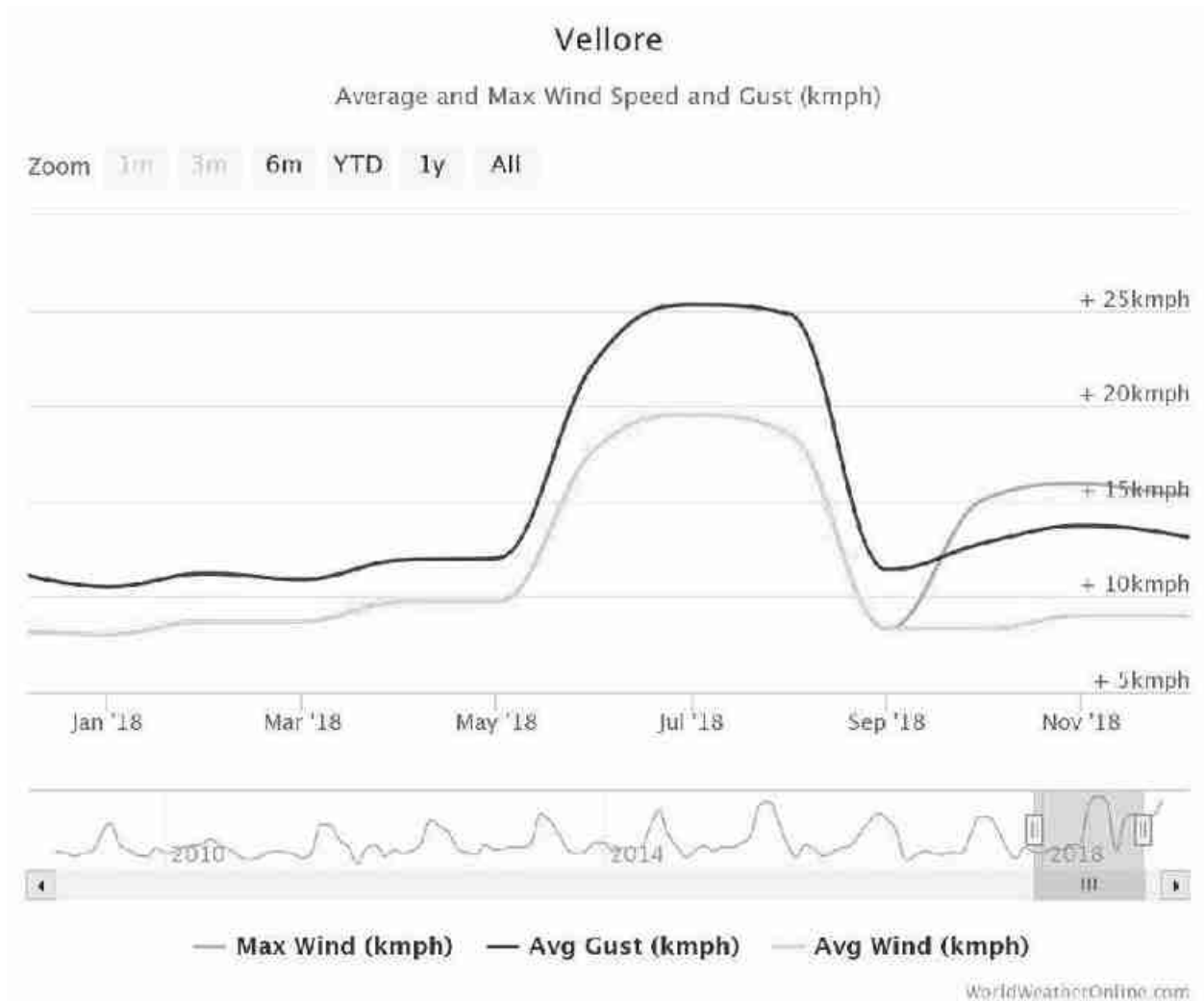


### Wind:-

The windier part of the year lasts for 3.2 months, from May 26 to September 02 with average wind speed of more than 10.1 km / hour. The windiest day of the year is June 30th , with an average hourly wind speed of 18.4 km / hour.

The calmer time of year lasts for 8.7 months, from September 2 to May 26th . The calmest day of the year in November 21st with an average hourly wind speed of 4.8 km / hour.

### Average wind speed diagram



### 13. DRAINAGE SYSTEM WITH DESCRIPTION OF MAIN RIVERS

S.NO	Name of the River	Area drained (Sq. km)	% Area drained in the District
1.	PALAR	435.85	7.36

#### 14. SALIENT FEATURES OF IMPORTANT RIVERS AND STREAMS

S.NO	Name of the River or Stream	Total Length in the District (in Km)	Place of Origin	Altitude at Origin (m)
1.	PALAR	122	Nandhi Hills, Karnataka	761
2.	MALATTAR	22	Bathalapalli dam	359
3.	AGARAM	75	Alangayam RF	434
4.	KOUNDANYA RIVER	48	Mordhana dam	331
5.	PONNAI	36	Andhar Pradesh	412

#### 15. MINERAL POTENTIAL OF THE DISTRICT :

SL. No	River or stream	Length of area recommended for mineral concession (in km)	Average width of area recommended for mineral concession (in m)	Area recommended for mineral concession (in square meter)	Mineable Mineral Potential (in Metric Tonne) (60% of total mineral potential)
1.	PALAR	60.00	800	48.00x10 <sup>6</sup>	28.80X10 <sup>6</sup>
2.	PONNAI	36.00	400	14.40x10 <sup>6</sup>	8.64X10 <sup>6</sup>

## 16. ECONOMIC IMPACT OF MINING

The mining will generate direct and indirect employment during mining operations. In general, there will be no adverse effect on human health as no blasting or handling of toxic material involved in sand mining. All the safety measures will be strictly followed to prevent occupational risk during excavation, loading and transportation.

The State is highly urbanised State after Maharashtra, the sand mining operation in the district will be the backbone for infrastructural development besides generate the revenue to the Government. Since the operation is carrying out by the Public Works Department they properly identify the aggradation area over the river bed in the district It will be useful to maintain the hydro geological cross section of the river to carry the maximum flood discharge.

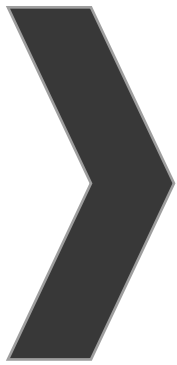
## 17. CONCLUSION/RECOMMENDATION:

Vellore district of the South Indian state, Tamil Nadu, 135 km (84 mi) west of the state capital Chennai. Vellore lies in the Eastern Ghats region and Palar river basin. The topography is almost plain with slopes from west to east. The detailed scientific study reveals that the Palar River carrying sand sediments whenever there is sufficient flows along its entire length in the district. This cumulative sediments have resulted in shoal formation and reduce the carrying capacity of flood. The properly managed sand mining activities are recommended in Palar and Ponnai. Hence, it is concluded that, the permission of sand quarries in the potential areas of river in the district will be beneficial for infrastructural development of the state of Tamil Nadu.

ASSISTANT DIRECTOR, (MINES)  
VELLORE DISTRICT

Sd//xxxxxxx(31.05.2019)  
DISTRICT COLLECTOR  
VELLORE





# ANNEXURE-8







# Shrient Analytical and Research Labs Pvt. Ltd

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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/984	Report Date.	17.02.2024
------------	-------------	--------------	------------

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-984	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	06.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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.)	-

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

For Shrient Analytical and Research Labs Pvt. Ltd

8 Paul  
**Verified**



J. G  
**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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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



# Shrient Analytical and Research Labs Pvt. Ltd

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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/985	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-985	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	06.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.9	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.2	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 Paul  
**Verified**



J. G.  
**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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/986	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-986	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	07.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	58.9	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.7	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>	8.3	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 Paul  
**Verified**



J. G.  
**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/24/987	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-987	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	07.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	3.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.7	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 Paul  
**Verified**



J. G.  
**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/24/988	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-988	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	08.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.7	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 Paul  
**Verified**



J. G.  
**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/24/989	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-989	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	08.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.2	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/990	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-990	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	09.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	42.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.2	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>	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 Paul  
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J. G.  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/991	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-991	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	09.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	51.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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

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**Verified**



J. G.  
**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/24/992	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-992	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	10.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	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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**Verified**



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**Authorized Signatory**  
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Technical Manager

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



# Shrient Analytical and Research Labs Pvt. Ltd

416/15, Dhargas Road, West Tambaram, Chennai- 600045  
Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/993	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-993	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	10.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	3.9	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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



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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/994	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-994	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	11.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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 Paul  
**Verified**



J. G  
**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/24/995	Report Date.	17.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-995	Sample Received on	12.02.2024
Sample Collected by	LABORATORY	Test Commenced on	12.02.2024
Sample Collected on	11.02.2024	Test Completed on	17.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.3	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/1020	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1020	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	13.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	52.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	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>	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

8 Paul  
**Verified**



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/24/1021	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1021	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	13.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.7	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>	13.1	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 Paul  
**Verified**



J. G  
**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/24/1022	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1022	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	14.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.7	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 Paul  
**Verified**



J. G  
**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/24/1023	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1023	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	14.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.6	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>	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

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**Verified**



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**Authorized Signatory**  
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Technical Manager

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## TEST REPORT

Report No.	SARL/24/1024	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1024	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	15.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	5.0	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

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**Verified**



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Technical Manager

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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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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1025	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1025	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	15.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	28.4	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>	13.3	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 Paul  
**Verified**



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/24/1026	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1026	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	16.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	47.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.1	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>	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 Paul  
**Verified**



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/24/1027	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1027	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	16.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	57.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.1	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/1028	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1028	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	17.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.2	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>	8.3	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 Paul  
**Verified**



J. G  
**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/24/1029	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1029	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	17.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.0	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 Paul  
**Verified**



J. G.  
**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/24/1030	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1030	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	18.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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>	27.8	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>	8.5	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
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CIN : U74999TN2017PTC116807 / GST No : 33AAYCS7325R1ZA / PAN No: AAYCS7325R



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## TEST REPORT

Report No.	SARL/24/1031	Report Date.	24.02.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1031	Sample Received on	19.02.2024
Sample Collected by	LABORATORY	Test Commenced on	19.02.2024
Sample Collected on	18.02.2024	Test Completed on	24.02.2024
Temperature	34.5°C	Relative Humidity	62%
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	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.4	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 Paul  
**Verified**



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**Authorized Signatory**  
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Technical Manager

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





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## TEST REPORT

Report No.	SARL/24/1056	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1056	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	20.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.3	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1057	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1057	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	20.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.7	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1058	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1058	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	21.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	54.3	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>	4.5	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

8 Paul  
**Verified**



J. G  
**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/24/1059	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1059	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	21.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	49.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.2	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 Paul  
**Verified**



J. G.  
**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/24/1060	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1060	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	22.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.6	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>	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 Paul  
**Verified**



J. G.  
**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/24/1061	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1061	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	22.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	58.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.4	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/1062	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1062	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	23.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.3	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>	9.9	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 Paul  
**Verified**



J. G.  
**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/24/1063	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1063	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	23.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.3	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>	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 Paul  
**Verified**



J. G  
**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/24/1064	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1064	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	24.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.9	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>	12.3	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\*\*\*

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



# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1065	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1065	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	24.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	50.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.4	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>	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 Paul  
**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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1066	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1066	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	25.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.7	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>	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1067	Report Date.	03.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1067	Sample Received on	26.02.2024
Sample Collected by	LABORATORY	Test Commenced on	26.02.2024
Sample Collected on	25.02.2024	Test Completed on	03.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.9	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>	12.3	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 Paul  
**Verified**



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/24/1092	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1092	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	27.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.7	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

8 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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

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



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## TEST REPORT

Report No.	SARL/24/1093	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1093	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	27.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	51.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.6	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>	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 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/24/1094	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1094	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	28.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.2	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>	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

8 Paul  
**Verified**



J. G  
**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/24/1095	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1095	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	28.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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

8 Paul  
**Verified**



J. G.  
**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/24/1096	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1096	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	29.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	5.4	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 Paul  
**Verified**



J. G.  
**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



# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1097	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1097	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	29.02.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	60.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	28.4	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>	12.9	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1098	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1098	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	01.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	44.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.9	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>	8.6	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1099	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1099	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	01.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	56.1	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>	4.8	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

8 Paul  
**Verified**



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/24/1100	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1100	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	02.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	49.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.9	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 Paul  
**Verified**



J. G  
**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/24/1101	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1101	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	02.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.8	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.0	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 Paul  
**Verified**



J. G.  
**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/24/1102	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1102	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	03.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	55.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.3	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/1103	Report Date.	11.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1103	Sample Received on	04.03.2024
Sample Collected by	LABORATORY	Test Commenced on	04.03.2024
Sample Collected on	03.03.2024	Test Completed on	11.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	53.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	24.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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

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**Verified**



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**Authorized Signatory**  
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Technical Manager

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





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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1128	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1128	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	05.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	65.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.9	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>	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 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/24/1129	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1129	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	05.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.4	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. Pal*  
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/24/1130	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1130	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	06.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	28.7	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>	8.8	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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

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



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## TEST REPORT

Report No.	SARL/24/1131	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1131	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	06.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.8	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 Paul  
**Verified**



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/24/1132	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1132	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	07.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	45.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.1	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>	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 Paul  
**Verified**



J. G.  
**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/24/1133	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1133	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	07.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.2	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>	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 Paul  
**Verified**



J. G.  
**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/24/1134	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1134	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	08.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	48.8	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>	5.7	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 Paul  
**Verified**



J. G.  
**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/24/1135	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1135	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	08.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.6	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>	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 Paul  
**Verified**



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





# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1136	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1136	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	09.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	5.8	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 Paul  
**Verified**



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/24/1137	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1137	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	09.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.7	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

8 Paul  
**Verified**



J. G  
**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/24/1138	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1138	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	10.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.6	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 Paul  
**Verified**



J. G.  
**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/24/1139	Report Date.	16.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1139	Sample Received on	11.03.2024
Sample Collected by	LABORATORY	Test Commenced on	11.03.2024
Sample Collected on	10.03.2024	Test Completed on	16.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.1	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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**Verified**



J. G.  
**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/24/1164	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1164	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	12.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.3	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 Paul  
**Verified**



J. G.  
**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/24/1165	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1165	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	12.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	47.1	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>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.2	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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**Verified**



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**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/1166	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1166	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	13.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	44.6	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>	3.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.2	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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**Verified**



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**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/1167	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1167	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	13.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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

8 Paul  
**Verified**



J. G  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1168	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1168	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	14.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	56.0	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	30.8	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>	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1169	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1169	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	14.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.8	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>	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 Paul  
**Verified**



J. G  
**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/24/1170	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1170	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	15.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.7	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>	9.5	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 Paul  
**Verified**



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/24/1171	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1171	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	15.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.8	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>	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

8 Paul  
**Verified**



J. G  
**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/24/1172	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1172	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	16.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	65.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	31.1	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>	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

8 Paul  
**Verified**



J. G.  
**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/24/1173	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1173	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	16.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	61.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.3	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>	8.7	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 Paul  
**Verified**



J. G  
**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/24/1174	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1174	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	17.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	67.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	30.4	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>	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

8 Paul  
**Verified**



J. G  
**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/24/1175	Report Date.	23.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1175	Sample Received on	18.03.2024
Sample Collected by	LABORATORY	Test Commenced on	18.03.2024
Sample Collected on	17.03.2024	Test Completed on	23.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	59.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.5	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 Paul  
**Verified**



J. G.  
**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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1200	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1200	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	19.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	64.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.0	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>	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1201	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1201	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	19.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	58.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.4	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>	8.2	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1202	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1202	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	20.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	27.7	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>	8.8	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 Paul  
**Verified**



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/24/1203	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1203	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	20.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.8	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>	8.4	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 Paul  
**Verified**



J. G.  
**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/24/1204	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1204	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	21.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.5	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>	8.5	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 Paul  
**Verified**



J. G  
**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/24/1205	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1205	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	21.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	4.1	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

8 Paul  
**Verified**



J. G  
**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/24/1206	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1206	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	22.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	55.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.3	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>	8.9	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 Paul  
**Verified**



J. G  
**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/24/1207	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1207	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	22.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.2	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1208	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1208	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	23.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.3	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1209	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1209	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	23.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.8	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>	12.6	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 Paul  
**Verified**



J. G  
**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/24/1210	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1210	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	24.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	45.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	20.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.1	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 Paul  
**Verified**



J. G.  
**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/24/1211	Report Date.	30.03.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1211	Sample Received on	25.03.2024
Sample Collected by	LABORATORY	Test Commenced on	25.03.2024
Sample Collected on	24.03.2024	Test Completed on	30.03.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.6	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>	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 Paul  
**Verified**



J. G.  
**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/24/1236	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1236	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	26.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	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

8 Paul  
**Verified**



J. G.  
**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/24/1237	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1237	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	26.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.5	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 Paul  
**Verified**



J. G.  
**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/24/1238	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1238	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	27.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	47.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	21.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	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 Paul  
**Verified**



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Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/1239	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1239	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	27.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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Please Contact:

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

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





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## TEST REPORT

Report No.	SARL/24/1240	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1240	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	28.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.4	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>	8.4	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 Paul  
**Verified**



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/24/1241	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1241	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	28.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.1	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>	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 Paul  
**Verified**



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/24/1242	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1242	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	29.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.1	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>	8.8	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 Paul  
**Verified**



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/24/1243	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1243	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	29.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	48.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.8	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 Paul  
**Verified**



J. G  
**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/24/1244	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1244	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	30.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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 Paul  
**Verified**



J. G.  
**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/24/1245	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1245	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	30.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	56.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.5	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>	8.0	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 Paul  
**Verified**



J. G  
**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/24/1246	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1246	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	31.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.2	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.7	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 Paul  
**Verified**



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



# Shrient Analytical and Research Labs Pvt. Ltd

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Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1247	Report Date.	06.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1247	Sample Received on	01.04.2024
Sample Collected by	LABORATORY	Test Commenced on	01.04.2024
Sample Collected on	31.03.2024	Test Completed on	06.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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 Paul  
**Verified**



J. G.  
**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/24/1272	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1272	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	02.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.6	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>	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 Paul  
**Verified**



J. G.  
**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/24/1273	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1273	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	02.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.2	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

8 Paul  
Verified



J. G.  
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/24/1274	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1274	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	03.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	50.1	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>	4.0	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

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J. G.  
**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/24/1275	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1275	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	03.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	51.7	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>	4.0	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 Paul  
**Verified**



J. G  
**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/24/1276	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1276	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	04.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.1	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>	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 Paul  
**Verified**



J. G.  
**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/24/1277	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1277	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	04.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.8	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

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**Verified**



J. G.  
**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/24/1278	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1278	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	05.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.1	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>	9.3	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 Paul  
**Verified**



J. G.  
**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



# Shrient Analytical and Research Labs Pvt. Ltd

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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1279	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1279	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	05.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.8	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.8	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1280	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1280	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	06.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.2	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	5.5	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 Paul  
**Verified**



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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1281	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1281	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	06.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.4	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.4	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.4	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 Paul  
**Verified**



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/24/1282	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1282	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	07.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.1	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.3	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 Paul  
**Verified**



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/24/1283	Report Date.	15.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1283	Sample Received on	08.04.2024
Sample Collected by	LABORATORY	Test Commenced on	08.04.2024
Sample Collected on	07.04.2024	Test Completed on	15.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.8	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 Paul  
**Verified**



J. G.  
**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/24/1308	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1308	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	09.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	20.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.3	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 Paul  
**Verified**



J. G  
**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/24/1309	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1309	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	09.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.3	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.2	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 Paul  
**Verified**



J. G.  
**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/24/1310	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1310	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	10.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.9	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 Paul  
**Verified**



J. G  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1311	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1311	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	10.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.0	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>	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 Paul  
**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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1312	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1312	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	11.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.2	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>	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 Paul  
**Verified**



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/24/1313	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1313	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	11.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	3.5	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	6.6	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 Paul  
**Verified**



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/24/1314	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1314	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	12.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	50.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.9	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>	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

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



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## TEST REPORT

Report No.	SARL/24/1315	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1315	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	12.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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

8 Paul  
**Verified**



J. G.  
**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/24/1316	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1316	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	13.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	59.4	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	27.2	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>	8.5	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 Paul  
**Verified**



J. G  
**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/24/1317	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1317	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	13.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.5	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>	7.7	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 Paul  
**Verified**



J. G.  
**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/24/1318	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1318	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	14.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	63.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	29.0	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>	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1319	Report Date.	20.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1319	Sample Received on	15.04.2024
Sample Collected by	LABORATORY	Test Commenced on	15.04.2024
Sample Collected on	14.04.2024	Test Completed on	20.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	25.5	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>	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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





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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1344	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1344	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	16.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.7	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.1	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 Paul  
**Verified**



J. G  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1345	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1345	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	16.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.9	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

8 Paul  
**Verified**



J. G.  
**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/24/1346	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1346	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	17.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.3	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>	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 Paul  
**Verified**



J. G  
**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/24/1347	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1347	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	17.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	58.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.1	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>	8.2	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 Paul  
**Verified**



J. G  
**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/24/1348	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1348	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	18.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	26.1	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>	8.8	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 Paul  
**Verified**



J. G.  
**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/24/1349	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1349	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	18.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.6	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	80
4	Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182: Part 06:2006	µg/m <sup>3</sup>	7.1	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1350	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1350	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	19.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	50.1	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	23.5	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>	8.3	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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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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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1351	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1351	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	19.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.5	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.9	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 Paul  
**Verified**



J. G  
**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/24/1352	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1352	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	20.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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

8 Paul  
**Verified**



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/24/1353	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1353	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	20.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	22.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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

8 Paul  
**Verified**



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/24/1354	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1354	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	21.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.1	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.3	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 Paul  
**Verified**



J. G  
**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/24/1355	Report Date.	27.04.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1355	Sample Received on	22.04.2024
Sample Collected by	LABORATORY	Test Commenced on	22.04.2024
Sample Collected on	21.04.2024	Test Completed on	27.04.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.9	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.7	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 Paul  
**Verified**



J. G.  
**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/24/1408	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1408	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	23.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.5	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>	12.1	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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**Verified**



J. G.  
**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/24/1409	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1409	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	23.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.7	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>	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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**Verified**



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Technical Manager

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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

416/15, Dhargas Road, West Tambaram, Chennai- 600045  
Phone Number +91 82208 36377 Email: - [info@shrientanalytical.com](mailto:info@shrientanalytical.com)  
[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No.	SARL/24/1410	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-KAVANUR VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1410	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	24.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	50.6	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>	4.1	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 Paul  
**Verified**



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/24/1411	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VILAPAKKAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1411	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	24.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.7	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	3.6	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 Paul  
**Verified**



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/24/1412	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1412	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	25.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	21.4	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>	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 Paul  
**Verified**



J. G  
**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/24/1413	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1413	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	25.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	54.5	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.4	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>	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 Paul  
**Verified**



J. G  
**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/24/1414	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-VARAGUR PATANAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1414	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	26.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	42.2	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	19.9	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>	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 Paul  
**Verified**



J. G.  
**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/24/1415	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-NAMBARAI VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1415	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	26.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	24.0	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.2	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

8 Paul  
**Verified**



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**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/1416	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1416	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	27.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	56.3	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	25.8	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>	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 Paul  
**Verified**



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**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

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



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## TEST REPORT

Report No.	SARL/24/1417	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1417	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	27.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	59.8	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.7	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>	8.4	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 Paul  
**Verified**



J. G.  
**Authorized Signatory**  
**J. GNANAPRAKASAM**  
Technical Manager

\*\*\*END OF THE REPORT\*\*\*

Please Contact:

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

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



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## TEST REPORT

Report No.	SARL/24/1418	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-WITHIN MINE LEASE AREA
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1418	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	23.3	60
3	Sulphur dioxide (SO <sub>2</sub> )	IS:5182: Part 02:2001	µg/m <sup>3</sup>	4.1	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 Paul  
**Verified**



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/24/1419	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-MOHANAVARAM VILLAGE
Positioned height of Sampler	1.5 M above Ground Level

Customer Reference	By Mail	Sampling Duration	24 hrs
Sample Reference No	SARL/A/CHE-1419	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Temperature	34.5°C	Relative Humidity	62%
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>	57.6	100
2	Particulate Matter less than 2.5micron size (PM <sub>2.5</sub> )	IS 5182 (Part 24):2019	µg/m <sup>3</sup>	26.1	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>	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 Paul  
**Verified**



J. G  
**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/24/1434
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Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet 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-1434	Date of Monitoring	27.04.2024 / 28.04.2024
Sample Collected by	LABORATORY		

Time in hrs	N1	N2	N3	N4	N5	N6
06.00	39.2	38.6	39.2	38.6	37.6	36.2
07.00	41.6	41.3	40.1	41.3	40.2	40.2
08.00	44.2	43.2	42.2	45.2	43.2	46.4
09.00	47.2	45.1	40.6	44.3	45.1	48.5
10.00	50.6	49.2	43.2	47.2	44.2	52.7
11.00	53.2	48.4	41.1	45.6	47.2	49.3
12.00	52.1	45.4	39.6	42.1	46.1	48.2
13.00	50.4	48.2	41.2	45.2	45.2	50.1
14.00	52.2	46.2	43.2	43.2	43.3	48.6
15.00	49.2	45.3	45.1	42.1	46.4	52.1
16.00	50.1	44.6	42.2	44.1	44.2	47.6
17.00	47.2	43.2	44.6	43.2	48.2	49.2
18.00	45.1	42.1	43.3	45.1	47.3	47.4
19.00	40.6	40.6	42.2	44.2	42.4	44.2
20.00	39.2	43.7	40.6	41.2	45.4	43.2
21.00	45.2	40.6	39.2	42.1	43.2	40.6
22.00	44.2	41.3	37.2	40.6	41.3	41.3
23.00	40.6	40.4	39.1	42.2	38.2	42.2
24.00	41.2	41.2	38.2	39.2	39.2	40.6
01.00	38.2	38.2	36.2	36.2	38.1	38.2
02.00	39.1	37.1	38.3	37.2	36.2	39.1
03.00	36.2	36.4	35.2	38.2	35.2	37.2
04.00	37.5	38.2	37.2	36.1	36.3	39.1
05.00	38.4	36.5	38.1	37.2	38.1	37.4

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

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## TEST REPORT

Report No. SARL/24/1434

Report Date. 04.05.2024

	N1	N2	N3	N4	N5	N6
DAY EQUIVALENT	48.7	45.1	42.1	43.9	45.0	48.2
NIGHT EQUIVALENT	40.1	39.1	37.6	38.9	38.2	39.7
DAY & NIGHT EQUIVALENT	47.2	43.8	41.0	42.8	43.7	46.7

Remarks:

### LOCATIONS:

N1-WITHIN MINE LEASE  
AREA  
N2-MOHANAVARAM  
VILLAGE  
N3-VARAGUR PATANAM  
VILLAGE  
N4-NAMBARAI VILLAGE  
N5-KAVANUR VILLAGE  
N6-VILAPAKKAM VILLAGE

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No.	SARL/24/1428	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S1-WITHIN MINE LEASE AREA

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1428	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.62
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	62.47
3	Dry matter content	IS 15106: 2002	%	95.14
4	Water Content	IS 15106: 2002	%	4.86
5	Organic Matter	IS 2720: Part 22: 1972	%	0.87
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	221
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	30.56
	i. Sand			
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	51.16
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	18.28
9	Phosphorus as P	IS 10158: 1982	mg/kg	0.89
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	700
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	765
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	23.2
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.1

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



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## TEST REPORT

Report No.	SARL/24/1429
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Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S2-MOHANAVARAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1429	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	6.12
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	54.89
3	Dry matter content	IS 15106: 2002	%	96.68
4	Water Content	IS 15106: 2002	%	3.32
5	Organic Matter	IS 2720: Part 22: 1972	%	1.02
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	329
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	27.02
	i. Sand			
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	61.50
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	11.49
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.63
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	674
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	733
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	25.2
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.4

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/24/1430
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Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S3-VARAGUR PATANAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1430	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.54
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	76.58
3	Dry matter content	IS 15106: 2002	%	97.04
4	Water Content	IS 15106: 2002	%	2.96
5	Organic Matter	IS 2720: Part 22: 1972	%	0.56
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	165
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	44.36
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	45.42
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	10.22
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.58
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	799
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	897
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	27.4
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.6

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
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## TEST REPORT

Report No.	SARL/24/1431	Report Date.	04.05.2024
------------	--------------	--------------	------------

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S4-NAMBARAI VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1431	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.28
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	104.5
3	Dry matter content	IS 15106: 2002	%	93.91
4	Water Content	IS 15106: 2002	%	6.09
5	Organic Matter	IS 2720: Part 22: 1972	%	0.73
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	193
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	40.58
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	47.24
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	12.18
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	12.18
9	Phosphorus as P	IS 10158: 1982	mg/kg	2.81
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	594
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	683
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	22.3
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	2.9

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



  
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/24/1432
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Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S5-KAVANUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1432	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.11
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	45.68
3	Dry matter content	IS 15106: 2002	%	95.91
4	Water Content	IS 15106: 2002	%	4.09
5	Organic Matter	IS 2720: Part 22: 1972	%	0.81
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	249
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	SILT LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	23.86
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	57.83
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	18.32
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	18.32
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.53
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	831
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	959
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	29.8
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.8

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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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/24/1433	Report Date.	04.05.2024
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Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	SOIL
Sample Mark	S6-VILAPAKKAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	-
Sample Reference No	SARL/SO/CHE-1433	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
Sample Condition	Fit for Analysis		

S. No.	Parameters	Protocol	Unit	Results
1	pH at 25 °C	IS 2720: Part 26: 1987	-	7.36
2	Electrical Conductivity	IS 14767: 2000	µmhos/cm	87.11
3	Dry matter content	IS 15106: 2002	%	93.55
4	Water Content	IS 15106: 2002	%	6.45
5	Organic Matter	IS 2720: Part 22: 1972	%	1.40
6	Nitrogen and Nitrogenous compounds	IS 14684: 1999	mg/kg	442
7	Soil Texture	Methods Manual - Soil testing in India - P. No-67: 2011	%	LOAM
8	<u>Grain Size Distribution</u>	Methods Manual - Soil testing in India - P. No-67: 2011	%	45.7
	i. Sand	Methods Manual - Soil testing in India - P. No-67: 2011	%	43.82
	ii. Silt	Methods Manual - Soil testing in India - P. No-67: 2011	%	10.48
	iii. Clay	Methods Manual - Soil testing in India - P. No-67: 2011	%	
9	Phosphorus as P	IS 10158: 1982	mg/kg	1.92
10	Sodium as Na	USEPA 3050 B: 1996	mg/kg	402
11	Potassium as K	USEPA 3050 B: 1996	mg/kg	539
12	Total soluble sulphates	IS 2720: Part 27: 1977	%	BDL (D.L.0.02)
13	Porosity	SARL/SOP/SO/001 (Issue No:01, Issue Date – 01.03.2023): 2023	%	21.5
14	Water holding capacity	Methods Manual - Soil testing in India - P. No-76: 2011	Inches/foot	3.5

BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
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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/2024/1420

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	SW1-US NEAR KUPPAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1420	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.29	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	259	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	155	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	72.4	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	12.8	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	9.7	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	32.1	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	40.3	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	94.6	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	42.3	1000



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## TEST REPORT

Report No. SARL/2024/1420

Report Date. 04.05.2024

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	20.5	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.15	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.36	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.16	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/2024/1421

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	SW2-DS NEAR VILAPAKKAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1421	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.38	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	372.7	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	226	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	95.0	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	17.4	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	12.4	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	43.6	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	51.5	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	137	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	48.9	1000



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## TEST REPORT

Report No. SARL/2024/1421

Report Date. 04.05.2024

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	34.6	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.21	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.67	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.19	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/2024/1422

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W1-WITHIN MINE LEASE AREA

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1422	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.69	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	726.5	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	440	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	341	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	87.1	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	29.5	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	218	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	123	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	267	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	27.6	1000



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## TEST REPORT

Report No. SARL/2024/1422

Report Date. 04.05.2024

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	82.3	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.03	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	2.36	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.15	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\*\*\*

  
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## TEST REPORT

Report No. SARL/2024/1423

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W2-MOHANAVARAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1423	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.4	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	803.6	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	482	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	313	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	85.5	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	23.8	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	99.0	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	323	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	31.5	1000



# Shrient Analytical and Research Labs Pvt. Ltd

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[www.shrientanalytical.com](http://www.shrientanalytical.com)

## TEST REPORT

Report No. SARL/2024/1423

Report Date. 04.05.2024

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	90.8	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	2.14	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.19	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
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/2024/1424

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W3-VARAGUR PATANAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1424	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.23	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1896	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	1140	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	570	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	96.6	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	78.9	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	242	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	329	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	412	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	337	1000



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## TEST REPORT

Report No. SARL/2024/1424

Report Date. 04.05.2024

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	292	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	3.67	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.41	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

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## TEST REPORT

Report No. SARL/2024/1425

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W4-NAMBARAI VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1425	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	7.22	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1655	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	995	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	463	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	105	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	48.5	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	261	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	202	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	457	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	256	1000



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## TEST REPORT

Report No. SARL/2024/1425

Report Date. 04.05.2024

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	204	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	3.98	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.24	1.5
18	Manganese (as Mn)	APHA 24th Edition 3500 Mn B: 2023	mg/L	BDL (D.L - 0.05)	0.3

Remarks: \*Drinking Water Specifications as per IS – 10500:2012. BDL – Below Detectable limit (DL - Detectable limit).

For Shrient Analytical and Research Labs Pvt. Ltd

  
Verified



\*\*\*END OF THE REPORT\*\*\*

  
Authorized Signatory  
J. GNANAPRAKASAM  
Technical Manager

Please Contact:

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## TEST REPORT

Report No. SARL/2024/1426

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W5-KAVANUR VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1426	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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)	2235	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	1344	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	491	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	101	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	57.0	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	253	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	238	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	505	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	394	1000



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## TEST REPORT

Report No. SARL/2024/1426

Report Date. 04.05.2024

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	372	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	4.56	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.12	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/2024/1427

Report Date. 04.05.2024

Customer Name & Address	Thiru. S. Dhana kotti, 4.04.50 Ha, Pala Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu.
Sample Description	WATER
Sample Mark	W6-VILAPAKKAM VILLAGE

Customer Reference	By Mail	Sampling Procedure	IS 17614: Part 14: 2021
Sample Reference No	SARL/W/CHE-1427	Sample Received on	29.04.2024
Sample Collected by	LABORATORY	Test Commenced on	29.04.2024
Sample Collected on	28.04.2024	Test Completed on	04.05.2024
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	-	6.9	6.50-8.50
4	Electrical Conductivity	APHA 24 <sup>th</sup> Edition 2510 B: 2023	(µS/cm)	1892	-
<b>B.</b>	<b>Chemical parameters</b>				
5	Total Dissolved Solids	APHA 24 <sup>th</sup> Edition 2540-C: 2023	mg/L	1136	2000
6	Total hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2340 C: 2023	mg/L	535	600
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	124	200
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	54.2	100
9	Calcium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Ca B: 2023	mg/L	309	-
10	Magnesium Hardness (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 3500 Mg B: 2023	mg/L	226	-
11	Total alkalinity (as CaCO <sub>3</sub> )	APHA 24 <sup>th</sup> Edition 2320 B: 2023	mg/L	376	600
12	Chloride (as Cl)	APHA 24 <sup>th</sup> Edition 4500 Cl- B: 2023	mg/L	342	1000



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## TEST REPORT

Report No. SARL/2024/1427

Report Date. 04.05.2024

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	280	400
15	Iron (as Fe)	APHA 24th Edition 3500 Fe B: 2023	mg/L	0.07	0.3
16	Nitrate (as NO3)	IS 3025 (Part 34): 1988	mg/L	3.79	45
17	Fluoride (as F)	APHA 24th Edition 4500 F- D: 2023	mg/L	0.17	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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**ANNEXURE-9**





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))

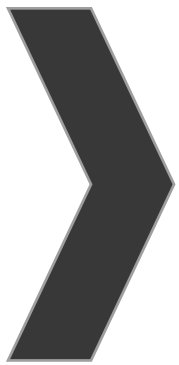
Name of Legal Entity: SHRIENT ANALYTICAL AND RESEARCH LABS PRIVATE LIMITED

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer

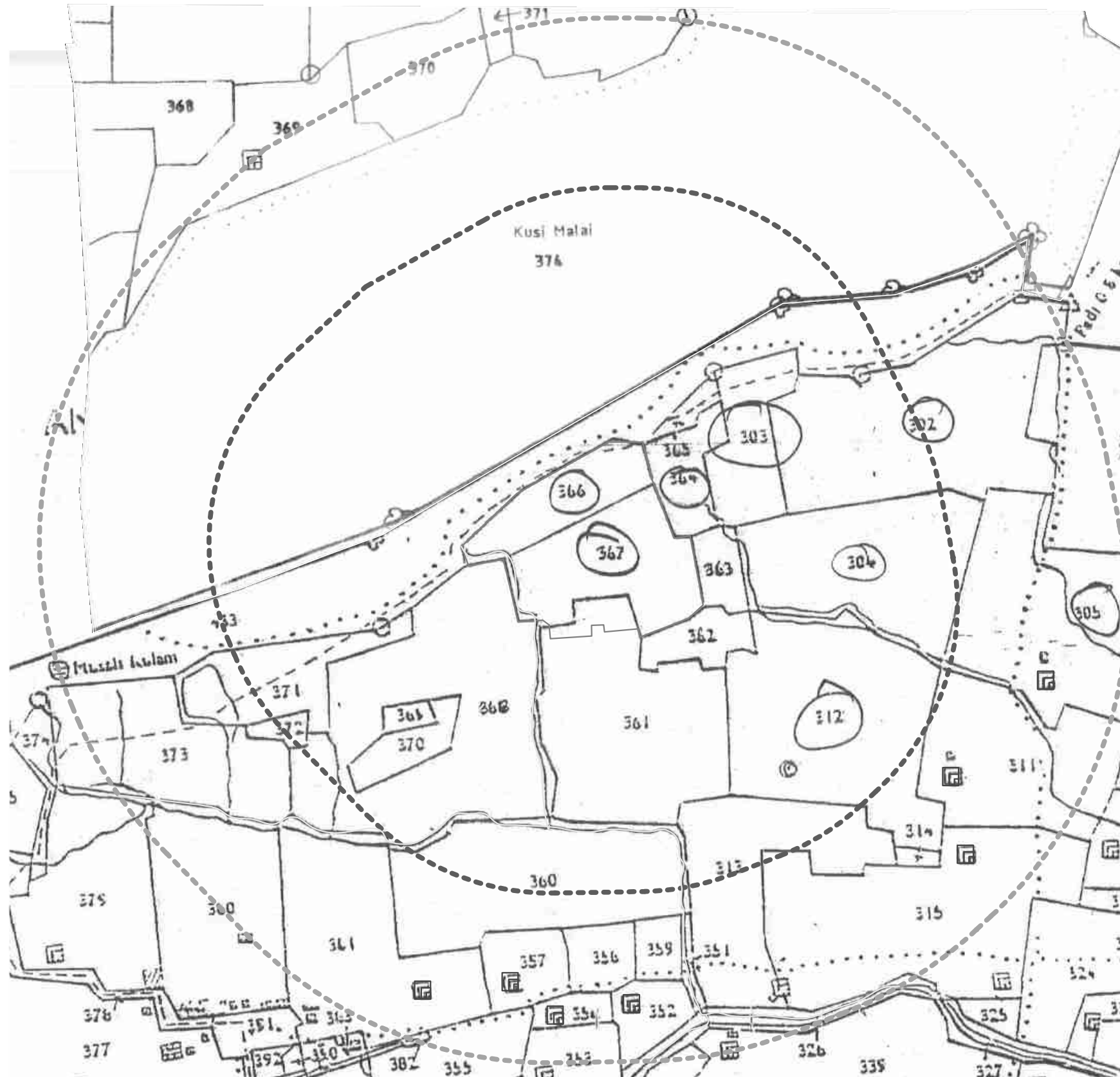
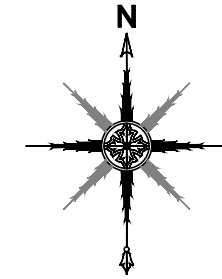




**ANNEXURE-10**






PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S, DHANA BLUE METALS, (PROPRIETOR THIRU.S.DHANAKOTTI,)  
 OVER AN EXTENT 4.04.50HA LOCATED AT S.F.NOS.361/1A,361/2A2,361/2B1,366/1,366/2,366/3,366/4,366/5,367/1,367/2,  
 367/3A367/3B,367/3C&367/4 OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE



**APPLICANT:**  
 M/S, DHANA BLUE METALS,  
 (PROPRIETOR THIRU.S.DHANAKOTTI,  
 NO:6 GST ROAD,  
 PALLAVARAM TALUK,  
 CHENGALPATTU DISTRICT.

**QUARRY APPLIED LEASE AREA:**  
 S.F.NO's :361/1A,361/2A2,361/2B1,366/1,366/2,  
 :366/3,366/4,366/5,367/1,367/2,367/3A  
 :367/3B,367/3C&367/4

EXTENT : 4.04.50 Ha,  
 VILLAGE :NAMBARAI,  
 TALUK :ARCOT,  
 DISTRICT : RANIPET.

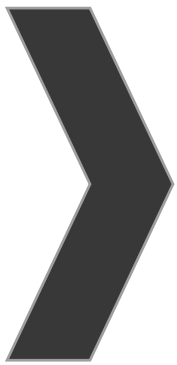
300m Radius :   
 500m Radius :   
 Q.L.Applied Area :   
 TOPO SHEET NO : 57 P/ 05  
 LATITUDE :12°49'11.77"Nto12°49'19.36"N  
 LONGITUDE :79°16'15.96"Eto79°16'25.31"E

**INDEX**

WELL   
 ODAI 



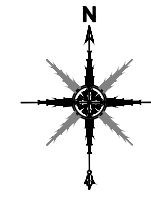




**ANNEXURE-11**

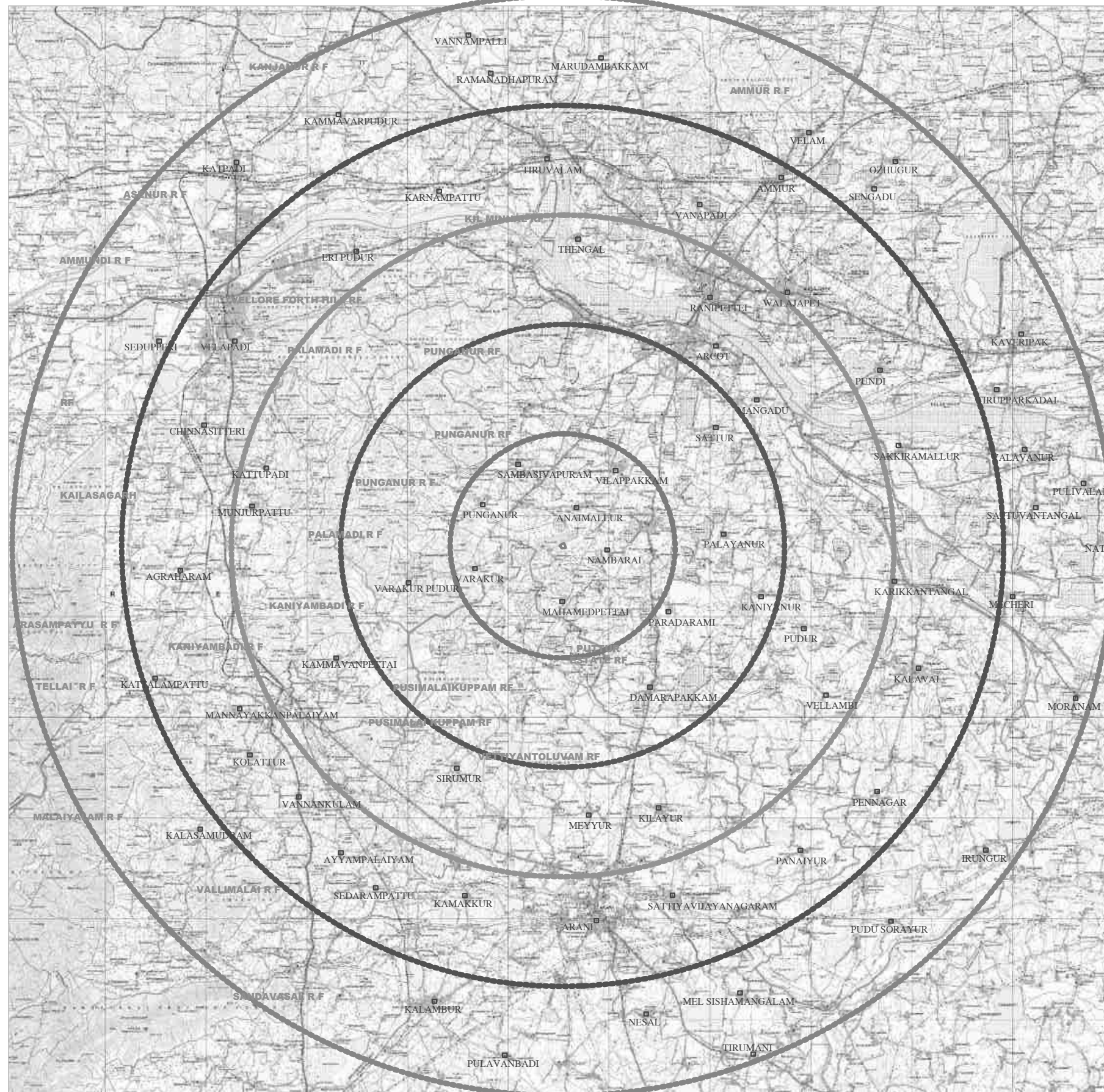


PROPOSED ROUGH STONE AND GRAVEL QUARRY OF M/S, DHANA BLUE METALS, (PROPRIETOR THIRU.S.DHANAKOTTI,) OVER AN EXTENT 4.04.50HA LOCATED AT S.F.NOS.361/1A,361/2A2,361/2B1, 366/1,366/2,366/3,366/4,366/5,367/1,367/2,367/3A367/3B,367/3C&367/4 OF NAMBARAI VILLAGE, ARCOT TALUK, RANIPET DISTRICT, TAMIL NADU STATE



**INDEX**

TOPO SHEET NOS: 57O/04, 57O/08,  
57P/01, 57P/02, 57P/05, 57P/06,  
57P/09 & 57P/10



CONVENTIONAL SYMBOLS	
Proposed highway with left and right hand side drains	
Roads, elevated according to importance	
Roads, double cartage way according to importance	
Unimproved road, cart track, path with pack, footpath	
Channel with bank in bed, artificial canal	
Ditch, recovery of rock, shell, with bank, dry	
Water dy with bank, channel, with bank, dyke, dyke	
Submerged rock, clear, swamp, dead	
Well, hand, wind, tubewell, spring, tank, perennial, dry	
Empressment, fall or fall, dam, dam, dam	
Fallways, hand gauge, double, single with station, other marks	
Railways, other gauges, double, single with station, other marks	
Marginal line of railway, tele. cutting with tele. line	
Centenary with side station, heavy, steep, cliffs	
Small houses, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Towns or villages, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Huts, permanent, temporary, tower, flagpole	
Temples, Chattri, Church, Mosque, Mith, Tank, Ghat	
Lighthouse, Lighter, Signal, Lighted, unlighted, Anemometer	
Mine, Veneer, shaft, shaft, shaft	
Forest, plantation, forest, forest, forest, forest, forest	
Area, outlined, wooded, Surveyed, forest	
Boundary, international	
State, international, international	
Subsidiary, level or (1:1000) level	
Boundary, international, international	
Height, triangulation, station, point, elevation	
Boundary, possible, primary, canal	
Post office, Telegraph office, Overhead line	
Rail station or junction, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Camping ground, Forest, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Spotted, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Hospital, Dispensary, Veterinary, Hospital, Dispensary	
Airplane, Helicopter, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	
Forest, (1:1000) (2:1000) (3:1000) (4:1000) (5:1000)	

**Q.L.APPLIED AREA**



**25km RADIUS**



**20km RADIUS**



**15km RADIUS**



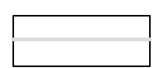
**10km RADIUS**



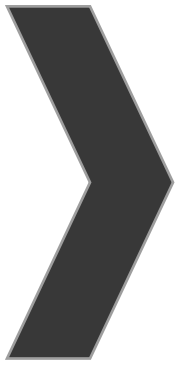
**5km RADIUS**



**RESERVED FOREST**







**ANNEXURE-12**





தமிழ்நாடு தமிழ்நாடு TAMILNADU

₹. 100/-

3-11-2023

DD 776949

M/s. Dhana Blue Metals  
Ranipet

M. ஜோசி (எ) தமிழ்நாடு, மு.தா.  
பரிமம் எண்: 6206-14/91  
கச்சேரி வீதி, ஓமலூர்  
செவ்வாய் மாலை

AFFIDAVIT TO SEIAA - TAMIL NADU

I, M/s. Dhana Blue Metals, (Proprietor Thiru. S. Dhanakotti), No. 6, GST Road, Thiruvavaram Taluk, Chengalpattu District. Pin Code- 600 043, I have applying for Environmental Clearance to SEIAA - Tamil Nadu for my proposed Rough Stone and Gravel Quarry lease over an extent of 4.04.50 hectares of Patta land in S.F.Nos. 361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C and 367/4 of Nambarai Village, Arcot Taluk, Ranipet District, Tamil Nadu State, do hereby solemnly declare and sincerely affirm that;

1. None of the following features are located within a 10 km radius from the proposed quarry site;
  - a. Protected areas notified under the Wildlife (Protection) Act, 1972 (NBWL).
  - b. Wild Life Sanctuary
  - c. Critically polluted areas as notified by the central pollution control board constituted under Water (Prevention and Control of Pollution) Act 1974.



*[Handwritten Signature]*

2. My proposal for Corporate Environment Responsibility (CER) activities is given as follows;

PROPOSED CER ACTIVITIES	PROJECT COST (INR)	CER COST 2.0% OF PROJECT COST (INR)
To implement various social development activities for the nearby Government school	96,87,000/-	1,93,740/-
<b>Revised CER budget allotted</b>	<b>5,00,000/-</b>	

I assure you that, I will complete the above proposed Corporate Environment Responsibility (CER) activities before the commencement of the quarrying operations.

**3. Details of quarries located within a 500m radius from the applied mine lease area:**

Sl. No	Name and address	G.O. No. and Date	Village and Taluk	S.F.No.	Extent (in Ha)	Period of lease
<b>Expired quarries</b>						
<b>NIL</b>						
<b>Existing Quarries</b>						
1	Thiru.A.V. Srathy (Partner) "S" Traders	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-11)	0.80.00	10 Years 25.01.2018 to 24.01.2028
2	Thiru.A.V.Sarathy (Partner) "S" Traders	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-10)	0.80.00	10 Years 18.07.2018 to 17.07.2028
3	Tmt. Subanithyadeepa	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-9)	2.00.00	10 Years 26.03.2018 to 25.03.2028
4	Tmt.S.Aruti Selvi	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-12)	4.50.00	10 Years 18.11.2021 to 17.11.2031
5	M/s. Argunt Aggregate Pvt.Ltd (K.Chandrasekaran)	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-14)	2.00.00	10 Years 10.06.2021 to 09.06.2031
6	Aggregate Engineering Thiru.P.Radhakrishnan	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/ Anaimallur	374/5 (Part-13)	0.61.00	10 Years 23.01.2022 to 22.01.2032



*[Handwritten Signature]*

167.



Extent: 10.71.0 Ha						
<b>Abandoned Quarries:</b>						
1	R.Adikesavelu	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/Anaimallur	433 (Part-2)	1.00.00	10 Years 10.08.2009 to 09.08.2019
2	G.S.Venkatesh	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/Anaimallur	374/5 (Part-7)	1.00.00	10 Years 20.09.2010 to 19.09.2020
3	M.A.Sangeethkumar	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/Anaimallur	433 (Part-1)	0.80.00	10 Years 04.08.2009 to 03.08.2019
4	M.Sathishkumar	RC.No.149/2023 (Mines), dated 06.10.2023	Arcot/Anaimallur	374/5 (Part-2)	0.80.00	10 Years 04.11.2008 to 03.11.2018
Extent: 3.6.0 Ha						
<b>Proposed Quarries</b>						
S.No.	Name and address	Village & Taluk	S.F.No.	Extent (in Ha)	Remarks	
1.	M/s. Dhana Blue Metal, Prop: Thiru.S. Dhanakotti	Arcot/Anaimallur	361/1A, 361/2A2, 361/2B1, 366/1, 366/2, 366/3, 366/4, 366/5, 367/1, 367/2, 367/3A, 367/3B, 367/3C& 367/4.	4.04.50	Proposed	
Extent: 4.04.50 Ha						
<b>Total Extent: 18.03.55 Ha</b>						

4. There will be no hindrance/disturbance due to the proposed quarrying activities to the people living nearby my proposed quarry site.
5. There are no approved habitations within a 300m radius from the periphery of my proposed quarry lease.
6. I assure you that the greenbelt will be developed and maintained before commencing the quarrying operations as proposed in the EC application.
7. I assure you that the required life insurance policy for the employees engaged in the quarrying operations will be taken without fail.



8. The existing main road connecting the quarry road will be maintained in good condition and it will be utilized for the mineral transportation.
9. I assure you that I will not engage any child for labor in the quarrying operations and I am aware that engaging child labor is punishable under the law.
10. Personnel Protective Equipment (PPE) will be provided to all the employees engaged in the quarrying operations.
11. No permanent structures, such as temples, etc., are located within a 300 meter radius of the periphery of our quarry.
12. I will erect the wire fence with barbed wires all around the periphery of the quarry lease before the commencement of mining activities.
13. The mining operations will be carried out in a systematic and scientific manner by employing a qualified statutory person as per the requirement of the Mines Act, Mines Rules, and other Guidelines issued by Govt.
14. I will inform DGMS before the commencement of mining activities.
15. To the best of our knowledge, I ensure to do the social and environmental commitments as mentioned in the mining plan.

**Notary Sign & Seal**



**Lessee Sign & Seal**

For M/s.Dhana Blue Metals

  
S. Dhanaakotti  
(Proprietor)

  
R. RAMANATHAN, B.Sc., MA., B.L.  
ADVOCATE & NOTARY  
Enroll No : 588/1997  
D.O. Office Opposite, Sukumaran Co  
Omalur, Salem (Dt) - 636 455  
Cell: 9436762205



