DRAFT ENVIRONMENTAL IMPACT ASSESSMENT` AND ENVIRONMENT MANAGEMENT PLAN

FOR OBTAINING

Environmental Clearance under EIA Notification – 2006

Schedule Sl. No. 1 (a) (i): Mining Project

"B1" CATEGORY – MINOR MINERAL – CLUSTER – NON-FOREST LAND

Rough Stone & Gravel Quarry for Five Years

CLUSTER EXTENT = 16.22.0hectares

At

Karudayampalayam Village, Pugalur Taluk,
Karur District, Tamil Nadu

ToR Identification No. TO25B0108TN5285596N on 01.12.2025, File No.12920

NAME AND ADDRESS OF THE PROPOSED PROJECT PROPONENT

Name and Address	Extent & S.F. No.	Mineral Production
Mrs. K. Dhanamal, W/o. Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District – 639111.	4.02.50Ha & 288	Rough Stone- 410116m^3 or 1127819MT Gravel- 42834m^3 or 85668MT & Depth- 20m (BGL)

ENVIRONMENTAL CONSULTANT

GEO TECHNICAL MINING SOLUTIONS

No: 1/213-B, Ground Floor, Natesan Complex
Oddapatti, Collectorate Post office,
Dharmapuri-636705. Tamil Nadu.
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

NABET ACC. NO: NABET/EIA/23-26/RA 0319
Valid till: 31.12.2026

INTERSTELLAR TESTING CENTRE Pvt. Ltd

Plot.No.2, Site No.12/2A,

Industrial Estate, Perungudi, Chennai, Tamil Nadu

NABL Certificate Number: TC-6952,

Valid Until: 30.07.2026

Baseline study period- March through May 2025

DECEMBER- 2025

TERMS OF REFERENCE (ToR) COMPLIANCE

ToR File No.12920

TOR Identification No. TO25B0108TN5285596N, dated. 01/12/2025

Tmt. K. Dhanamal, Rough Stone and Gravel Quarry

Specific Terms of Reference for (Mining of Minerals)

1. SEAC Conditions - Site Specific:

S.No	Terms of Reference			Remarks
	Major Condition:			
1.1	The PP shall furnish the existing pit letter including the details of quantity mined, period of mining, details of lessees and details of violations, if any from the competent authority.			The letter from AD (Mines) will be submitted in final EIA report.
	Other site-specific condition:			
	1	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal:		The Cluster Management Committee (CMC) regarding following these conditions and same documents will be submitted during the EIA appraisal meeting.
		a.	Copy of the agreement forming CMC.	
		b.	The Organisation chart of the Committee with defining the role of the members	

		c.	The 'Standard Operating Procedures' (SoP) executing the planned activities.	
	2	The Geo referenced Boundary pillars to be erected on the field as per the mine rules and the evidence should be submitted along with the EIA report.		The evidence of the boundary pillars will be submitted along with final EIA Presentation.
	3	The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report.		The details of enumeration of structures will be submitted in final EIA report.
	4	The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m & up to 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc. and spell out the mitigation measures to be proposed for the protection of the above structures, if any during the quarrying operations.		The structures within 500m radius is discussed in section 3.8 Table 3.36 under chapter III in the EIA report page 100.
	5	The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.		The greenbelt and garland drain photographs will be submitted in the final EIA report.
	6	The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report.		The detailed biodiversity report is discussed in section 3.6 under chapter III page no.72-86

	7	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	A detailed environment management plan has been prepared following the suggestion made by SEAC, as shown in Chapter X in the EIA report page 153-156. The sworn affidavit stating to abide the EMP for the entire life of mine will be submitted in final EIA report.
	8	The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures.	Cumulative environmental impacts of existing and proposed quarries are discussed in section 7.4 under chapter VII in the EIA report page- 139- 144.
	9	The PP shall prepare a conceptual action plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed and existing quarry wall.	A conceptual action plan design has been prepared and included in Chapter II, page no- 21-22.
	10	The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/video graphic evidence along with the EIA report	The Photocopy of CCTV installation will be submitted in final EIA report.

2. SEAC Standard Conditions

S. No	Terms of Reference			Remarks
2.1	1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:		
		(i)	Original pit dimension	The letter from AD (Mines) will be submitted in final EIA report.
		(ii)	Quantity achieved vs EC Approved Quantity	

		(iii)	Balance Quantity as per Mineable Reserve calculated.	
		(iv)	Mined out Depth as on date Vs EC Permitted depth	
		(v)	Details of illegal/illicit mining	
		(vi)	Violation in the quarry during the past working.	
		(vii)	Quantity of material mined out outside the mine lease area	
		(viii)	Condition of Safety zone/ benches	
		(ix)	Revised/ Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	
	2	Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.		The VAO certificate is attached in Annexure V.
	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		The map showing the details of structures within the radius of 500m will be submitted in final EIA report.
	4	The PP shall submit a detailed hydrological report indicating the impact		Hydrological study is conducted and discussed in section 3.4.3 &

		of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.	3.4.4 under chapter III in the EIA report Page 49- 58.
	5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	The details of Bio diversity from the reputed institution will be submitted in the final 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.	The DFO letter enclosed Annexure- VI.
	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.	There is an existing pit was noticed at depth of 6m only. So, slope stability report is not required.

	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.	There is an existing pit was noticed with a depth of 6m only. So, there is slope stability report is not required.
	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.	The affidavit for blasting will be submitted in final EIA report.
	10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	A conceptual design of blasting has been given in Section 2.5.1 under Chapter II in the EIA report page 16-18.
	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.	Details of past quarry operated by the proponent will be submitted in final EIA report.
	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?	The letter from AD/DD mines will be submitted in final EIA report.

	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/Toposheet, 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).	All corner coordinates of the mine lease area have been superimposed on a high-resolution Google Earth Image, as shown in Figure 2.2 under Chapter II in the EIA report page 11.
	16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.	The drone video will be submitted during final presentation.
	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	Photographs of adequate fencing, green belt along the periphery of the project area and the photographs showing nearby

		nearby provided as per the approved mining plan.	water bodies will be included in final EIA report.
	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 Resources and Reserves of Rough Stone were calculated based on cross-section method by plotting sections to cover the maximum lease area for the proposed project. The details reserve estimation has been shown in Table 2.6 under Chapter II in the EIA report page 13.
	19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Details of manpower required for this project have been given in Table 2.16 under Chapter II in the EIA report page 23.
	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	Hydrological study is conducted and discussed in section 3.4.3 & 3.4.4 under chapter III in the EIA report Page 49- 58.

		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.	The baseline data were collected for the environmental components including land, soil, water, air, noise, biology, socio-economy, and traffic and the results have been discussed under Chapter III in the EIA report page 28-104.
	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.	Results of cumulative impact study due to mining operations are given in Section 7.4 under Chapter VII in the EIA report page 139-145.
	23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	As part of rainwater harvesting measures, the rain water from garland drainage system will be diverted to nearby check dams after treating the water in settling tanks. The detailed rain water harvesting report will be submitted in the final EIA report.

	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.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.2 under Chapter III in the EIA report page 28-36. The details of surrounding sensitive ecological features have been provided in Table 3.42 under Chapter III in the EIA report page 103. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 2.10 under Chapter II in the EIA report page 18-19.
	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.	This condition is not applicable to this project because no dumps have been proposed outside the lease area.
	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	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.

		Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	
	27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	As part of rainwater harvesting measures, the rain water from garland drainage system will be diverted to nearby check dams after treating the water in settling tanks.
	28	Impact on local transport infrastructure due to the Project should be indicated.	Details regarding the impact of the project on traffic are given in Section 3.9 under Chapter III in the EIA report page 101-102.
	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.	A detailed tree survey was caried out within 300m radius and the results have been discussed in Section 3.6 Table 3.36 under Chapter III in the EIA report page 100.
	30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	A progressive mine closure plan has been attached with the approved mining plan report in Annexure III. The budget details for the progressive mine closure plan are shown in Table 2.1 under Chapter II in the EIA report page 6.
	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	The EIA coordinator and the FAE for ecology and biodiversity visited the study area and educated the local students about the importance of

		involving them in the study, wherever possible.	protecting the biological environment.
	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.	A detailed greenbelt development plan has been provided in Section 4.6 under Chapter IV in the EIA report page 122-124.
	33	Taller/one year old Saplings raised in appropriate size of bags; preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	The FAE of ecology and biodiversity has advised the project proponent that saplings of one year old raised in the eco-friendly bags should be purchased and planted with the spacing of 3m between each plant around the proposed project area as per the advice of local forest authorities/botanist.
	34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A disaster management plan for the project has been provided in Section 7.3 under Chapter VII in the EIA report page 137-138.
	35	A Risk Assessment and management Plan shall be prepared and included in the	A risk assessment plan for the project has been provided in

		EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	Section 7.2 under Chapter VII in the EIA report page 135-137.
	36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been discussed in detail in Section 4.8 under Chapter IV in the EIA report 125-127.
	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 public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII in the EIA report page 148-149.
	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.	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 23 people directly as discussed in Section 8.1 under Chapter VIII in the EIA report page 147.
	39	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation is pending in any court against this project.

	40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	The benefits of the project are discussed in Section 8.5 & 8.8 under Chapter VIII in the EIA report page 148-149.
	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.	Previous EC compliance report with certified site photographs will be submitted in final EIA report.
	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.	A detailed environment management plan has been prepared following the suggestion made by SEAC, as shown in Chapter X in the EIA report page 153-156. The sworn affidavit stating to abide the EMP for the entire life of mine will be submitted during final EIA report.
	43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	The EIA report has been prepared keeping in mind the fact that concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may lead to withdrawal of this terms of reference besides

			attracting penal provisions in the Environment (Protection) Act, 1986.

3. SEIAA Specific Conditions:

S.No	Terms of Reference	Remarks
3.1	After detailed discussions, the Authority accepts the recommendation of SEAC-II and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 2,54,375m^3 of Rough Stone & 3,393m^3 of Gravel up to the depth of 50m BGL and the annual peak production is 35,670m^3 of Rough Stone & 3,393m^3 of gravel as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the following condition & conditions as recommended by SEAC-II & normal conditions & the SEIAA Standard conditions in addition to the following SEIAA Specific conditions:	After the detailed discussions of SEAC, as per the ToR conditions the quantity of production has not exceed 4,10,116m^3 of rough stone and 42,834m^3 of gravel up to depth of mining 20m BGL. these details are discussed in section 2.4 under chapter II.

4. SEIAA Standard Conditions:

S.No	Terms of Reference		Remarks
Cluster Management Committee			
4.1	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.	A cluster management committee including all the proponents of the rough stone quarrying projects within the cluster of 500m radius will be constituted for the effective implementation of green belt development plan, water sprinkling, blasting, etc.

	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.,	The members of the cluster management committee will be instructed to carry out EMP in coordination.
	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.	The list of members of the committee formed will be submitted to AD/Mines before the execution of mining lease.
	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.	All the information has been discussed in Section 2.5 under Chapter II in the EIA report page 16-22.
	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.	It will be informed to the committee.
	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	It will be advised to the cluster management committee 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 will be given in detail.

		devised shall be given in detail in the EIA report.	
	7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	A proper action plan regarding the restoration will be followed by the committee.
	8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity.	The information on the health of the workers and the local people will be updated periodically.
	Agriculture & Agro-Biodiversity		
	9	Impact on surrounding agricultural fields around the proposed mining Area.	There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly, as shown in Section 4.6 under Chapter IV in the EIA report page 122-124.
	10	Impact on soil flora & vegetation around the project site.	The details on flora have been provided in Section 3.7 under Chapter III in the EIA report page 72-80. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
	11	Details of type of vegetations including no. of trees & shrubs within the	Details of vegetation in the lease area have been provided in Section 3.7

		proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	under Chapter III in the EIA report page 76-80. Details about transplantation of plants have been provided in Section 4.6 under Chapter IV in the EIA report page 123.
	12	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	The ecological details have been provided in Section 3.7 under Chapter III in the EIA report page 72-86 and measures have been provided in Section 4.6 under Chapter IV in the EIA report page 123.
	13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	All the essential environmental protective measures will be followed by the proponent to manage the surrounding environment and restore the ecosystem, as discussed in Chapter IV in the EIA report page 124-126.
	14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	The impact of project on the land environment has been discussed in Section 4.1 under Chapter IV in the EIA report page 122.
		Forests	
	15	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	The project proponent shall do barbed wire fencing work and develop a green belt around the lease area to prevent wildlife from entering the site.
	16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The impacts of the project on ecology and biodiversity have been discussed in Section 4.6 under Chapter IV in the EIA report page 122.

	17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	The impacts of the project on standing trees and the existing trees have been discussed in Section 4.6 under Chapter IV in the EIA report page 122.
	18	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	The protected areas, National Parks, Corridors and Wildlife pathways near project site within 10km radius has been provided in Table 3.42 under Chapter III in the EIA report page 103.
	Water Environment		
	19	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	The hydrological study is conducted and discussed in section 3.4.3 & 3.4.4 under chapter III in the EIA report Page 49- 58.
	20	Erosion Control measures.	Garland drainage structures will be constructed around the lease area to control the erosion, as discussed in Section 4.3 under Chapter IV in the EIA report page 119.

	21	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.	The matter has been discussed in section 4.4 under Chapter IV in the EIA report page 111-112.
	22	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	An analysis for food chain in aquatic ecosystem has been discussed in Section 3.7 under Chapter III in the EIA report page 85-86.
	23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	The impacts of the proposed project on the surrounding environment have discussed in Chapter IV in the EIA report page 106- 125.
	24	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	The impact of the proposed project on aquatic plants and animals in water bodies has been discussed in Section 4.6 under Chapter IV in the EIA report page 122- 123.
	25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	The impact of mining on soil environment has been discussed in Section 4.2 under Chapter IV in the EIA report page 107.
	26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	The impacts on water bodies, streams, lakes have been discussed in Section 4.3 under Chapter IV in the EIA report page 108-109.
	27	The EIA shall include the impact of mining activity on the following:	
		a) Hydrothermal / Geothermal effect due to destruction in the Environment.	The proposed mining area and the surrounding falls under hard rock formation i.e., Charnockite Formation and the district has not

			recorded any Hydrothermal / Geothermal effect and as per the Seismic Zonation Map of India, the district falls under the Zone II of seismic zones classification. The resultant of this open cast mining shall not have any Hydrothermal/ Geothermal effect on the surrounding environment.
		b) Bio-geochemical processes and its foot prints including environmental stress.	No, Bio-geochemical processes and its foot prints including environmental stress are anticipated and at the end of life of mine the proposed quarry shall be left as an artificial reservoir structure and allowed to collect rain water and shall enrich the ecosystem.
		b) Sediment geochemistry in the surface streams.	Sediment geochemistry in surface streams refers to the analysis of the chemical composition of streambed and suspended sediments to understand natural geological inputs and possible contamination.
	Energy		
	28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	The measures taken to control noise, air, water, and dust have been given under Chapter IV in the EIA report page 108-120.
	Climate Change		
	29	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including	The carbon emission and the measures to mitigate carbon emission have been discussed in Section 4.6

		development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	under Chapter IV in the EIA report page 122.
	30	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features.	The matter has been discussed in section 4.4 under Chapter IV in the EIA report page 111-112.
	31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	There is no emission impact to local livelihood from this quarry project. All the vehicles used for transportation of the quarry materials will be maintained regularly to keep the GHGs emissions with in statuary limits.
	Mine Closure Plan		
	32	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	A progressive mine closure plan has been attached with the approved mining plan report in Annexure IV. The budget details for the progressive mine closure plan are shown in Table 2.11 under Chapter II in the EIA report page 19.
	EMP		
	33	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs.	A detailed Environment Management plan has been given under Chapter X in the EIA report page 151- 157.
	34	The Environmental Impact Assessment should hold detailed study on EMP with	A detailed Environment Management plan has been given in

		budget for green belt development and mine closure plan including disaster management plan.	Tables 10.1 & 10.2 under Chapter X in the EIA report page 153-156.
	Risk Assessment		
	35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	The risk assessment and management plan for this project has been provided in Section 7.2 under Chapter VII in the EIA report page 135-137.
	Disaster Management Plan		
	36	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII in the EIA report page 137-139.
	Others		
	37	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.	The VAO certificate of 300 m radius have been attached in the attached in the Annexure V.
	38	As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns	The concerns raised during the public consultation will be submitted in the final EIA report.

		raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	
	39	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	The plastic waste management has been given in Section 7.5 under Chapter VII in the EIA report page 146.

Standard Terms of Reference for (Mining of minerals) & Standard Terms of Reference 1.

1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	Not applicable. This is not a violation category project. This proposal falls under B1- category.
1.2	A copy of the document in support of the fact that the proponent is the rightful lessee of the mine should be given.	The proposed site for quarrying is a private land. A copy of the document showing that the proponent is the rightful lessee has been enclosed along with the approved mining plan in Annexure III.
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and	All the documents are in the name of the lessee.

	its management, mining technology etc. and should be in the name of the lessee.	
1.4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	All corner coordinates of the mine lease area have been superimposed on a high- resolution Google Earth Image, as shown in Figure 2.2 under Chapter II in the EIA report page 11.
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Toposheets of Survey of India have been used for showing sampling locations of air, soil, water, and noise, as shown Figure 3.1 in Chapter III in the EIA report page 27.
1.6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority	The lease area was inspected by the officers of Department of Geology along with revenue officials and found that the land is fit for quarrying under the policy of State Government.
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the. prescribed operating process/ procedures to bring into focus any infringement/ deviation/ violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental	The Environmental Policy is discussed in the Section 10.1 under Chapter X in the EIA report page 153- 156.

	issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report	
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided	It is an opencast quarrying operation proposed to operate in Manual method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 900 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate. Necessary permissions will be obtained from DGMS after obtaining Environmental Clearance.
1.9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc., should be for the life of the mine / lease period.	The study area considered for this study is of 5km radius for air, soil, water, and noise level sample collections, while the study area is 10km radius for ecology and biodiversity studies and all data contained in the EIA report such as waste generation etc., is for the life of the mine / lease period.
1.10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife	Land use of the study area delineating forest area, agricultural

	sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in under Chapter III in the EIA report page 29-31. The details of surrounding sensitive ecological features have been provided in Table 3.37 under Chapter III in the EIA report page 100. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 2.10 under Chapter II in the EIA report page 18.
1.11	Details of the land for any over burden dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.	It is not applicable as no dumps have been proposed outside the lease area. The entire quarried out rough stone will be transported to the needy customers.
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative ofthe State	It is not applicable as there is no forest land involved within the proposed project area. The details have been discussed in Table 3.42 under Chapter III in the EIA report page 103.

	Forest Department to assist the Expert Appraisal Committees.	
1.13	Status of forestry clearance for the broken- up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	It is not applicable as the proposed project area does not involve any forest land.
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006 as there are neither forests nor forest dwellers / forest dependent communities in the mine lease area. There shall be no forest impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Reserve Forest is found within the study area. The matter has been discussed in section 3.10 under Chapter III in the EIA report page 103.
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	There is no any wildlife/ protected area within 10km radius from the periphery of the project area. Information regarding the same has been given in Table 3.42 under Chapter III in the EIA report page 103.

1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/ (existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/ Elephant Reserves within 10km radius from the periphery of the project area. Information regarding the same has been given in Table 3.42 under Chapter III in the EIA report page 103.
1.18	A detailed biological study of the study area [core zone and buffer zone (10 KM radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	A detailed biological study was carried out in both core and buffer zones and the results have been discussed in Section 3.7 under Chapter III in the EIA report page 72- 84.
1.19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli Range', (attracting court	Not Applicable. Project area / Study area is not declared. in ‘Critically Polluted’

	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.	Area and does not come under 'Aravalli Range.
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease 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 The project doesn't attract the C.R.Z. Notification, 2018.
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspect should be discussed in the Report	Not Applicable. There are no approved habitations of SCs/STs and other weaker sections in the lease area. Therefore, R&R Plan / Compensation Plan for the Project Affected People (PAP) are not provided.

1.22	One season (non-monsoon) [i.e., March- May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.	Baseline data were collected for the period of March- May 2025 as per CPCB notification and MoEF & CC Guidelines. Primary baseline data and the results have been included in Sections 3.3- 3.10 under Chapter III in the EIA report page 37- 71.
1.23	Air quality modelling 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 modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map	Air quality modelling for prediction of incremental GLCs of pollutants was carried out using AERMOD view 11.2.0. The model results have been given in Section 4.4 under the Chapter IV in the EIA report page 111-116.

1.24	The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should be indicated.	The water requirement for the project, its availability and source have been provided in Table 2.13 under Chapter II in the EIA report page 19.
1.25	Necessary clearance from the competent Authority for drawl of requisite quantity of water for the project should be provided.	Not Applicable. Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Part of the working pit will be allowed to collect rain water during the spell of rain. The water thus collected will be used for greenbelt development and dust suppression. The mine closure plan has been prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Impact studies and mitigation measures of water environment including surface water and ground water have been discussed in Section 4.3 under Chapter IV in the EIA report page 108- 111.

1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	The ground water table is found at the depth of 75m below ground level. The ultimate depth of quarry is 20m BGL. Therefore, the mining activity will not intersect the ground water table. Data regarding the occurrence of groundwater table have been provided in Section 3.4.4 under Chapter III in the EIA report page 57.
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out	Not Applicable. There are no streams, seasonal or other water bodies passing within the project area. Therefore, no modification or diversion of water bodies is anticipated
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.	The highest elevation of the project area is 178m AMSL. Ultimate depth of the mine is 20m BGL. Depth to the water level in the area is 75m BGL.
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up. Front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation	Greenbelt development plan has been given in Table 4.13 under Chapter IV in the EIA report page 123.

	should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution	
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Traffic density survey was carried out to analyses the impact of transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details have been provided in Section 3.9 under Chapter III in the EIA report page 101- 102.
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Infrastructure & other facilities will be provided to the mine workers after the grant of quarry lease and the same has been discussed in Section 2.5.7 under Chapter II in the EIA report page 19.
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Progressive mine closure plan has been prepared for this project and is given in Section 2.5.5 under Chapter II in the EIA report page 19.

1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been explained in detail in Section 4.8 under Chapter IV in the EIA report page 125-126.
1.36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 & 8.8 under Chapter VIII in the EIA report page 148-151.
1.37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 23 people directly as discussed in Section 8.1 under Chapter VIII in the EIA report page 147.
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	A detailed Environment Management Plan has been prepared and provided in Tables 10.1 & 10.2 under Chapter X in the EIA report page 153-156.
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along	The outcome of public hearing will be submitted in the final EIA report.

	with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	No litigation is pending in any court against this project.
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Project Cost is **Rs. 227.83Lakhs**, CER Cost is **Rs.5,00,000/-** In order to implement the environmental protection measures, an amount of **Rs. 27.99Lakhs** as capital cost and recurring cost as **Rs. 36.18Lakhs** as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 10 years will be Rs. **Rs. 227.83Lakhs** as shown in Tables 10.1 & 10.2 under Chapter X in the EIA report page 153-156.
1.42	A disaster management plan shall be prepared and included in the EIA/EMP Report.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII in the EIA report page 137-138.
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Benefits of the project details have been given under Chapter VIII in the EIA report page 148.

1.44	Besides the above, the below mentioned general points are also to be followed:	
a)	All documents to be properly referenced with index and continuous page numbering.	All the documents have been properly referenced with index and continuous page numbering.
b)	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	List of tables and source of the data collected have been mentioned.
c)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.	Original Baseline monitoring reports will be submitted in the final EIA report.
d)	Where the documents provided are in a language other than English, an English translation should be provided.	All the documents provided here are in English language.
e)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The questionnaire will be submitted in the final EIA report.
f)	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.	Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) dated 4th August, 2009 have been followed while preparing the EIA report
g)	Changes, if any made in the basic scope and project parameters (as submitted in Form-Iand 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	No changes are made in the basic scope and the project parameters.

	structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	
h)	As per the circular no. J-11011/618/2010- IA. II(I) Dated: 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.	CCR report will be submitted in final EIA report.
i)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	All the plans including surface & geological plans, and progressive closure plan have been included in Annexure IV.

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CHAPTER I

INTRODUCTION

1.0 PREAMBLE

Environmental Impact Assessment (EIA) study is a process used to identify the environmental, social and economic impacts of a project prior to decision-making. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are considered during the project designing. According to the Ministry of Environment and Forests, Govt. of India, EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments the projects are categorized into A, B1 & B2 to determine the level of scrutiny and process. The mining projects whose extent is ≥ 5 ha or the cluster of quarries (if homogeneous mineral) within 500m radius extent is greater than 5ha falls under category B1. These projects require preparation and submission of an EIA report after public consultation to SEIAA to obtain environmental clearance as per the Office Memorandum F.No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018.

1.1 PURPOSE OF THE REPORT

The purpose of the report is to evaluate the project's potential environmental, social and economic effects of the before it is implemented adhering to the guidelines outlined in the MoEF & CC Notification, S.O. 996 (E) dated 10.04.2015 and MoEF & CC Office Memorandum dated 29.08.2017.

1.2 ENVIRONMENTAL CLEARANCE

The Environmental Clearance process for the project will comprise of four stages. These stages are screening, scoping, public consultation & appraisal.

Screening

The project had applied in PARIVESH 2.O proposal no. SIA/TN/MIN/556106/2025, Dated: 27.10.2025 to obtain terms of reference.

Scoping

The mechanism for issuing online system generated Standard ToR as well as reference to SEAC has been enabled on the PARIVESH Portal on the acceptance of the complete application online. The concerned Member Secretary of SEAC shall refer the project to the concerned SEAC for prescribing additional ToR as per the circular F.No. IA 3-22/15/2022-IA-III Dated: 6th May 2022.

Public Consultation

In this stage, an application along with the draft EIA and EMP report will be made to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) and request to conduct Public Hearing as per EIA notification 2006. The outcome of the public hearing is given in Chapter VII.

Appraisal

In this stage, the final EIA report will submit in PARIVESH 2.O to SEIAA, TN. Based on the recommendations of SEAC the SEIAA, TN will grant EC or castoff.

1.3 TERMS OF REFERENCE (ToR)

The total extent of quarries within the 500m radius is greater than 5Ha. The details of the quarries within the cluster are given in Table 1.1 & Figure 1.1.

Table 1.1 Details of Quarries within the cluster area of 500m radius

Proposed Quarries					
Code	**Name of the Owner**	**S.F. No**	**Village**	**Extent (ha)**	**Status**
P1	Tmt.K.Dhanamal	288	Karudayampalayam	4.02.50	Proposed Area
P2	Tvl. Ram Blue Metals	289/2	Karudayampalayam	4.09.0	Proposed Area
Existing Quarry					
E1	Tvl. Ram Blue Metals	289/1, 290/1B 290/2	Karudayampalayam	1.23.0	10.11.2023 to 09.11.2028
E2	Tvl. Sri Ganesh Murugan	881/1, 882/ (Part), 893/4	Punnam	2.51.0	15.06.2023 to 14.06.2033
E3	Tvl. Sri Ganesh Murugan	293/1 (P) 293/3 (P) 293/4 (P) 294/2B 295/1 (P)	Punnam	4.36.5	13.11.2024 to 12.11.2029
Total Cluster Extent				**16.22.0**	

Source: *AD Letter - Rc.No. 827/Mines/2025, dated: 04.10.2025.*

The file was appraised in 642rd SEAC meeting on 13.11.2025 and issued terms of reference (ToR) identification no **TO25B0108TN5285596N** on **01/12/2025** by SEIAA, TN.

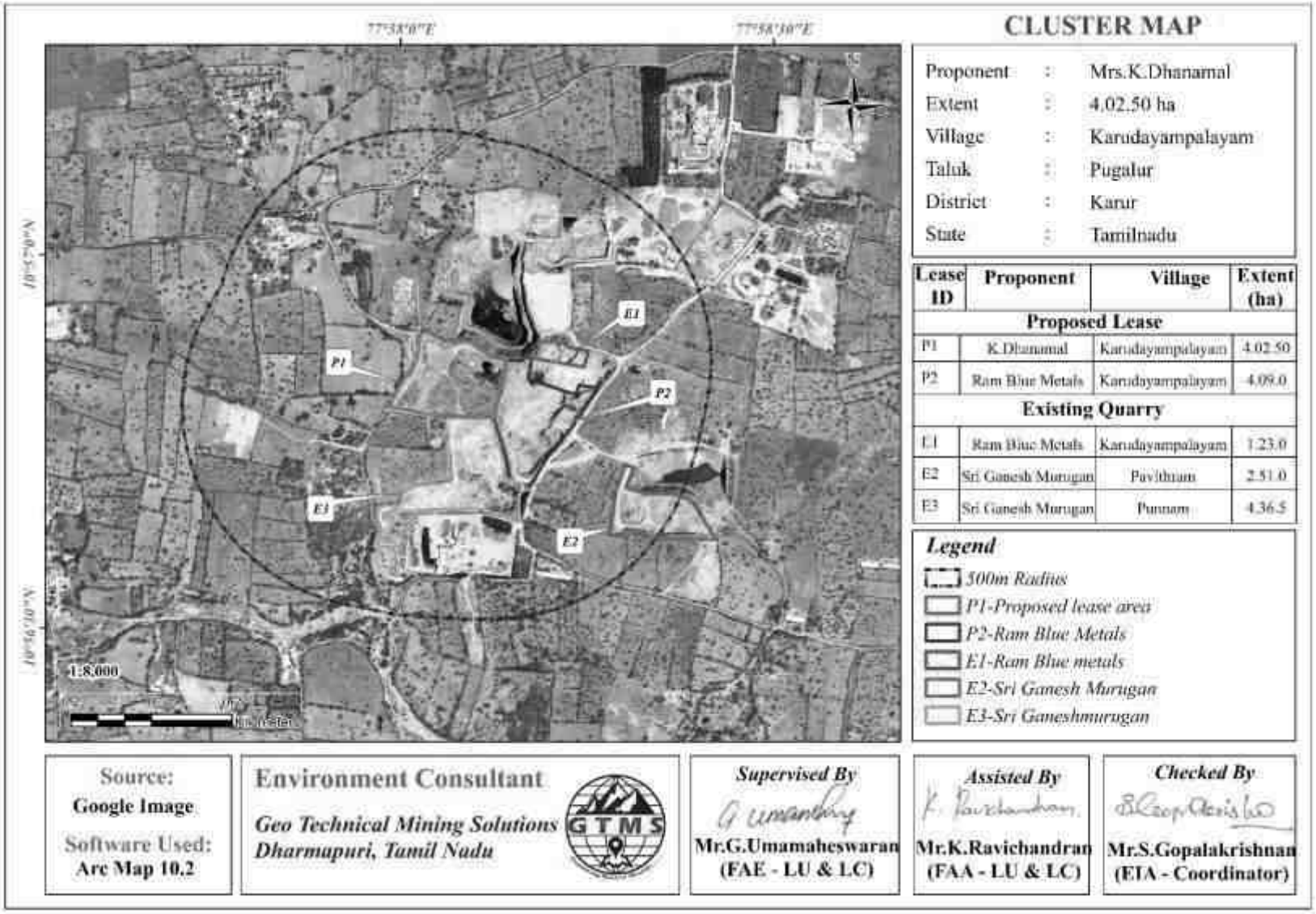


Figure 1.1 Location of the proposed and existing rough stone and gravel quarries in the cluster of 500m radius

1.4 POST ENVIRONMENT CLEARANCE MONITORING

- The project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environmental clearance and the details of the website where it is displayed.
- The project proponent will submit a half-yearly compliance report of the stipulated environmental conditions to Regional Office, MoEF & CC & SEIAA on 1st June and 1st December of every year.

1.5 TRANSFERABILITY OF ENVIRONMENTAL CLEARANCE

The prior environmental clearance granted for a project or activity may be transferred as per the provisions of para 11 of the Environmental Impact Assessment Notification, 2006 and its subsequent amendments and the office memorandum File No. IA3-22/19/2023- IA.III [E226246] Dated: 3rd November 2023.

1.6 IDENTIFICATION OF THE PROJECT PROPONENT

The profile of the project proponent who has involved in this quarrying project has been given in Table 1.2.

Table 1.2 Details of Project Proponent

Name of the Project Proponent	Tmt.K. Dhanamal
Address	W/o. Kandhasamy No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District.
Status	Private - Active

1.7 BRIEF DESCRIPTION OF THE PROJECT

The method adopted for rough stone excavation is open cast semi mechanized method involving formation of benches with 5m height and 5m width and the overall bench slope is less than 65°. The quarry operation involves shallow jackhammer drilling, slurry blasting, excavation, loading and transportation.

The overall extent of the project site is 4.02.50ha and it is located in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu.

The proposed project deals with excavation of rough stone and gravel which is primarily used in construction projects. The increasing demand for rough stone fueled by a booming construction industry presents a valuable opportunity. This project will not only meet the rising demand for rough stone but also create jobs for the surrounding villages.

1.8 SCOPE OF THE STUDY

The main scope of the EIA study is to quantify the cumulative impact of the quarries in the cluster and formulate the effective mitigation measures. The baseline monitoring study has been carried out during the period of **March to May 2025** for various environmental components such as land, soil, air, water, noise, ecology, etc. to assess the anticipated impacts of the cluster on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project.

1.9 LEGISLATION APPLICABLE TO MINING OF MINERAL SECTOR

A few important legislations are given below:

- The Mines Act, 1952.
- The Mines and Mineral (Development and Regulation) Act, 1957.
- Mines Rules, 1955.
- Mineral Concession Rules, 1960.
- Mineral Conservation and Development Rules, 1988.
- State Minor Mineral Concession Rules, 1960.
- Granite Conservation and Development Rule, 1999.
- The Water (Prevention and Control of pollution) Act, 1974.
- The Air (Prevention and Control of pollution) Act,1981.
- The Environment (Protection) Act, 1986.
- The Forest (Conservation) Act, 1988.
- The Wildlife (Protection) Act, 1972.

CHAPTER II

PROJECT DESCRIPTION

2.0 DECSCRIPTION OF THE PROJECT

The proponent Tmt. K. Dhanamal has involved in the mining and its auxiliary activities. The proponent had applied for quarry lease on 04.08.2025 to extract rough stone and gravel. The precise area communication letter was issued by Deputy Director of Geology and Mining, Karur vide (Roc.No.827/Mines/2025, Dated 12.09.2025). The mining plan thus prepared was approved by Deputy Director Department of Geology and Mining, Karur (Rc.No.827/Mines/2025 Dated. 06.10.2025). The project area and the proposed excavation details were given in Table 2.1.

Table 2.1 Proposed project area and excavation details

Name of the Quarry	Mrs. K. Dhanamal, Rough stone and gravel quarry			
Type of Land	Patta Land			
Extent	4.02.50 Ha			
S.F.No	288			
Toposheet No	58- F/13			
Location of Project Site	10°56'46.96"N to 10°56'53.78"N 77°57'58.93"E to 77°58'8.51"E			
Highest Elevation	178m AMSL			
Proposed depth of Mining	20m BGL			
Description	Rough Stone in m^3		Gravel in m^3	
	m^3	Tons (m^3 * 2.75)	m^3	Tons (m^3 * 2)
Geological Resources	627244	1724921	54144	108288
Mineable Reserves	410116	1127819	42834	85668
Proposed production for 5 years	410116	1127819	42834	85668
Method of Mining	Open- Cast Mechanized mining			
Topography	Flat Terrain			
Machinery proposed	Jack Hammer		2	
	Compressor		2	
	Tipper		8	
	Hydraulic Excavator		1	
	Rock Breaker		1	
Blasting Method	The quarrying operation is proposed to carried out by open cast mining in conjunction with conventional method using jack hammer drilling and blasting for shattering effect and loosen the rough stone.			
Proposed Manpower Deployment	23Nos			
Project Cost	Rs. 84,62,000/-			
CER Cost	Rs. 5,00,000/-			
Proposed Water Requirement	3.5 KLD			

2.1 LOCATION AND ACCESSIBILITY

The proposed quarry project is located in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu as shown in Figure 2.2.

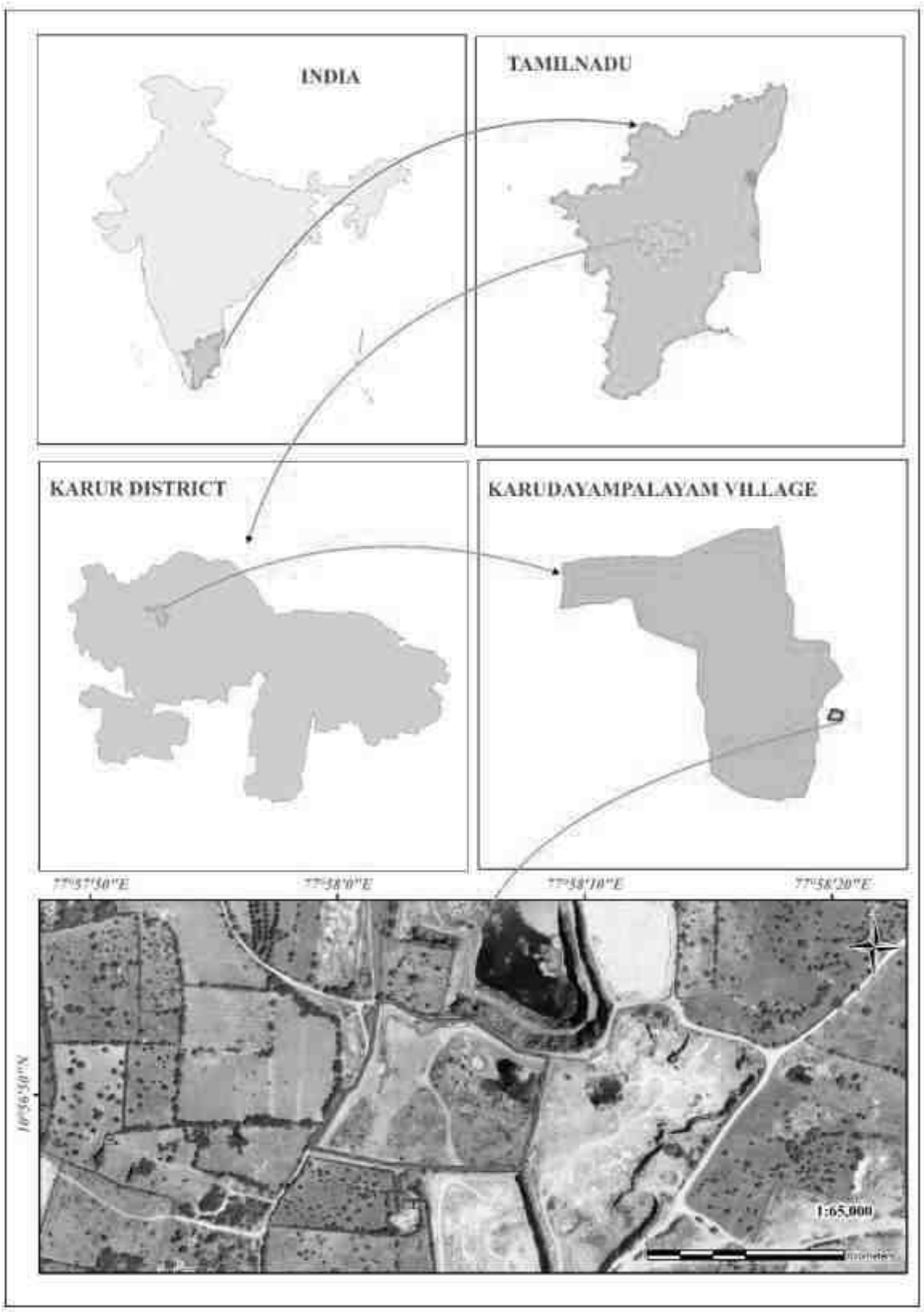


Figure 2.1 Location Map Showing the Project Site

The aerial distance between the project site Coimbatore- Trichy NH- 81 road is about 1.25m in Northern site. The travel distance from takes a right turn and travel upto 1.25km from lease area. Accessibility details to the proposed project site have been given in Table 2.2.

Table 2.2 Site Connectivity to the Project Area

Nearest Roadways	NH-81 K. Paramathi- Karur	1.25km- N
Nearest Town	Karur	9.98km- E
Nearest Railway Station	Murthipalayam	10.0km- NE
Nearest Airport	Tiruchirapalli	84.0km- E
Nearest Seaport	Thoothukudi	242.40km- E
Nearest Village	Pudukkanali	0.50km- NW
	Pavithiram	1.8km- NE
	Pallamaruthapatti	2.1km- SE
	Malapalayampudur	0.9km- W

2.2 LEASEHOLD AREA

The details of the field survey number, subdivision and their extent and the overall extent of the proposed project site is given in Table 2.3.

Table 2.3 Lease hold area details

Survey No	**Sub Division**	**Total Extent in Hect**	**Patta No.**	**Village and Name of the Land Owner**	**Mine lease Applied S.F.No.**	**Mine lease Applied area out of total area in hect.**
288	-	4.02.5	2880	Mrs. K. Dhanamal W/o. Kandasamy	288	4.02.5
Total Extent		**4.02.5**	Applied lease area extent			**4.02.5**

The proposed project is site specific. There is no mineral beneficiation or processing proposed inside the project area. There is no forest land involved in the proposed area and is devoid of major vegetation and trees. The overall extent of the project area is 4.02.50Ha as per the precise area communication letter vide Roc.No.827/Mines/2025 Dated 12.09.2025 issued by Dept of Geology and Mining, Karur District lies near the Karudayampalayam village, Pugalur Taluk, Karur District, Tamil Nadu. The breakup of the existing land use for mining and ancillary feature is given in Table 2.4.

Table 2.4 Present Land use pattern of the project area

Description	Present Area (ha)
Area under quarry	0.82.6
Infrastructure	Nil
Roads	Nil
Green Belt & Dump	Nil
Drainage & Settling Tank	Nil
Unutilized area	3.19.9
Total	**4.02.50**

2.2.1 Corner Coordinates

The proposed lease area is flat topography. The maximum elevation (178m) was observed southeast of the site and the minimum elevation (177m) was observed northeast of the site. The boundary corner and the intermediate stone geographic coordinates is given in Table 2.5. The quarries within the cluster of 500m radius as per the letter Rc.No.827/Mines/2025, Dated: 06.10.2025 is enclosed as Annexure II is shown in Figure 2.3.

Table 2.5 Corner Coordinates of Proposed Project

PILLAR ID	LATITUDE	LONGITUDE
1	10°56'51.52"N	77°58'8.51"E
2	10°56'48.70"N	77°58'7.91"E
3	10°56'46.98"N	77°58'7.38"E
4	10°56'46.96"N	77°58'6.29"E
5	10°56'47.19"N	77°58'2.12"E
6	10°56'47.85"N	77°57'58.93"E
7	10°56'50.11"N	77°58'0.34"E
8	10°56'50.37"N	77°58'0.72"E
9	10°56'51.74"N	77°58'1.34"E
10	10°56'53.72"N	77°58'1.62"E
11	10°56'53.78"N	77°58'2.22"E
12	10°56'53.32"N	77°58'2.97"E
13	10°56'53.01"N	77°58'3.66"E
14	10°56'53.02"N	77°58'5.48"E
15	10°56'51.77"N	77°58'7.30"E

2.3 GEOLOGY

The compositional characteristics of co-existing orthopyroxene, garnet and biotite have established several petrographic varieties within the Charnockites– Enderbites such as the granulites and gneisses. The mineral composition shows an unvarying presence of pleochroic rhombic pyroxene. Plagioclase feldspars, alkali feldspars and quartz are the salic minerals present in this series of rocks. Order of superposition of the proposed lease

Age	Group	Rock Formation
Recent to Sub recent	---	Gravel
Archean	Charnockite Group	Charnockite

The gravel available at a depth of 1m followed by gravel exists up to a depth of 1m and the rough stone occurs at a depth of 5m below ground level.

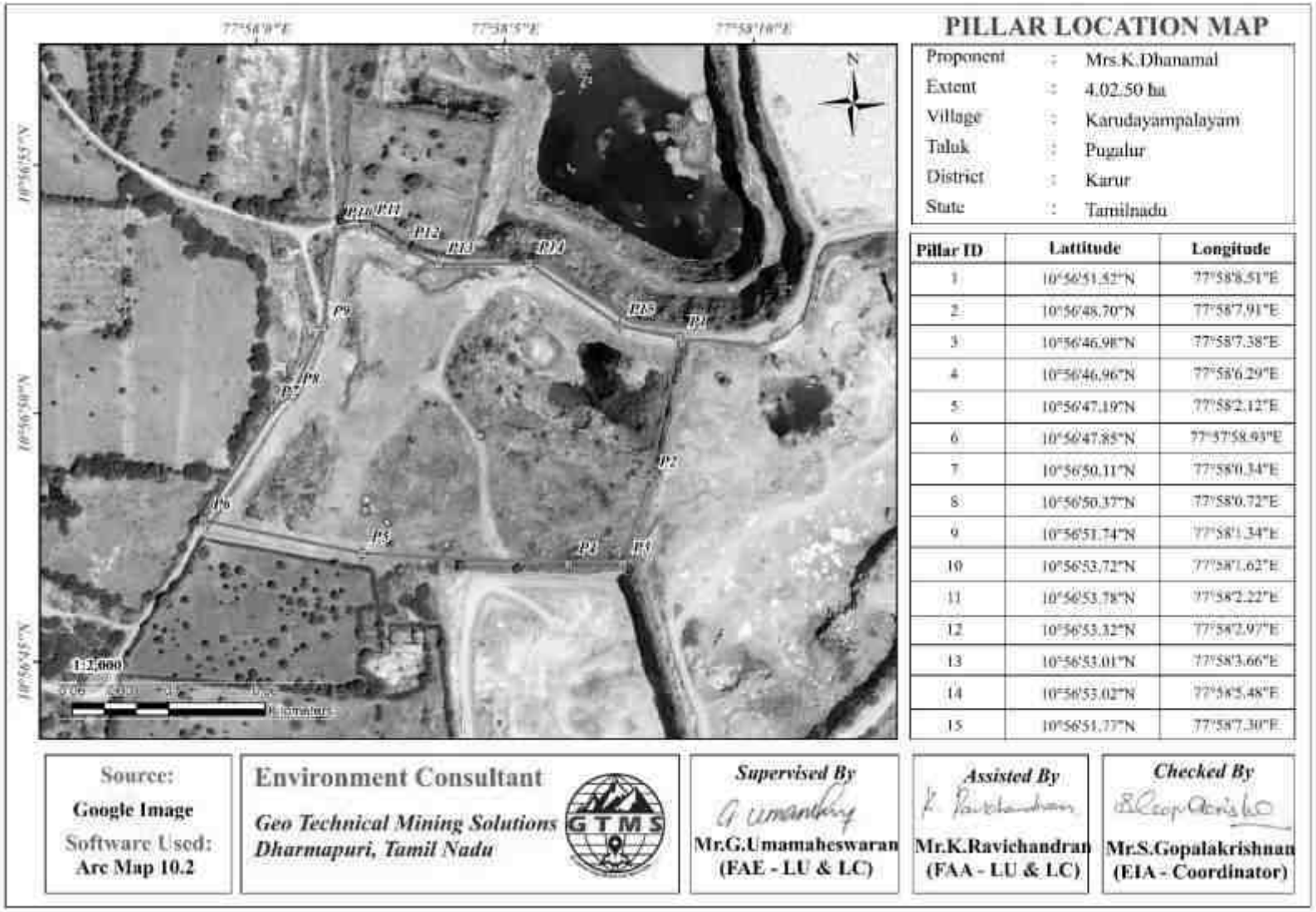


Figure 2.2 Google Earth Image Showing Lease Area with Pillars

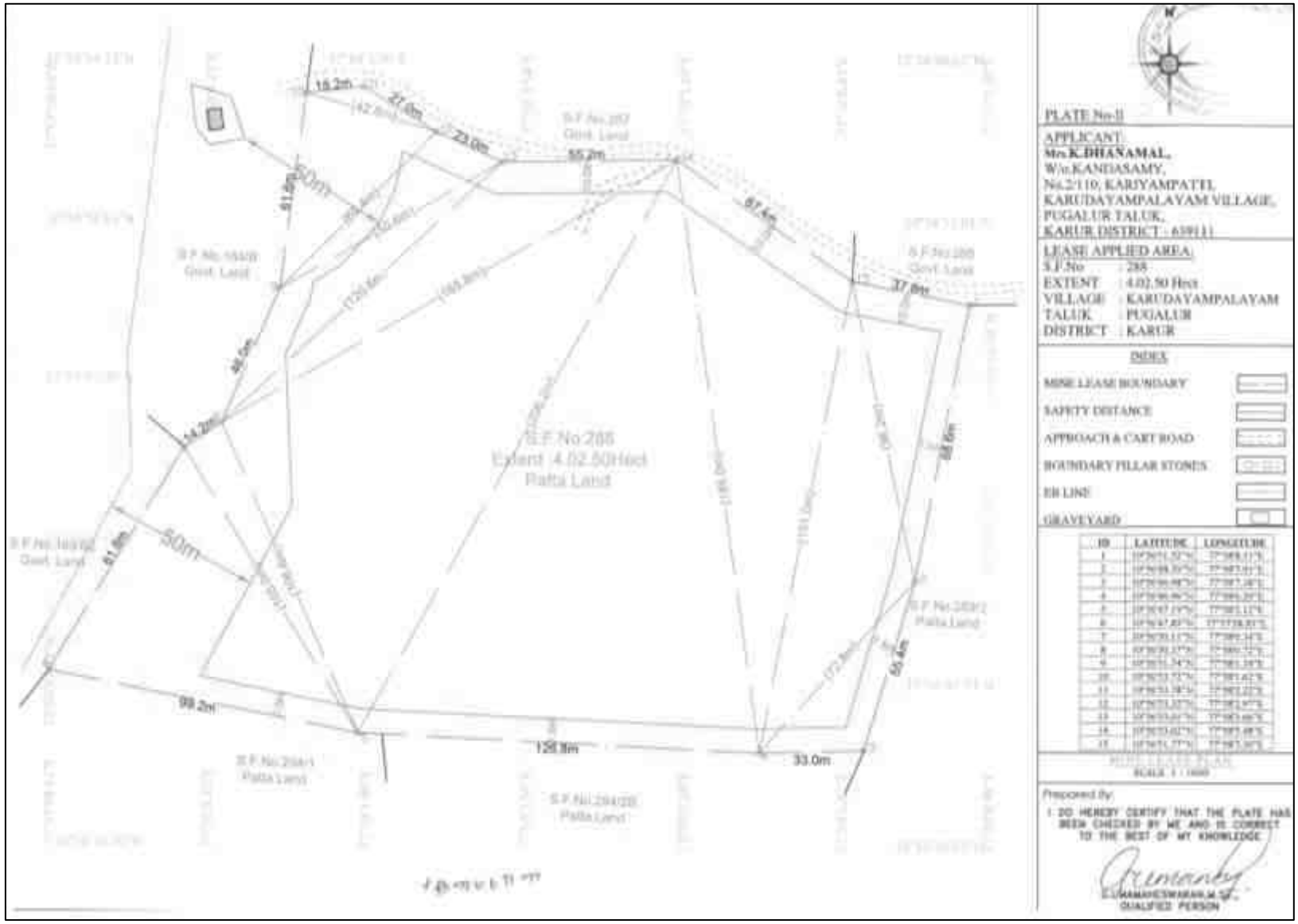


Figure 2.3 Mine Lease Plan

2.4 QUANTITY OF RESERVES

The resources and reserves of rough stone and gravel were calculated based on cross-section method by plotting sections to cover the maximum lease area for the proposed project. Based on the availability of geological resources, the mineable reserves are calculated by considering excavation system of bench formation and leaving essential safety distance of 7.5m and 10m safety distance as per precise area communication letter and deducting the locked-up reserves during bench formation (also called as bench loss). The mineable reserves are calculated up to the depth of 20m below the ground level considering there is no waste/ overburden/ side burden (100% Recovery anticipated) for the proposed project. The plate used for reserve estimation has been attached in approved mining plan results of geological resources and reserves have been shown in Table 2.6.

Table 2.6 Estimated Resources and Reserves of the Project

Resource Type	Rough Stone		Gravel in	
	m^3	Ts	m^3	Ts
Geological Resource in m^3 & Ts	627244	1724921	54144	108288
Mineable Reserves in m^3 & Ts	410116	1127819	42834	85668
Five years Production m^3 & Ts	410116	1127819	42834	85668

Based on the year wise development and production plan and sections, the year wise production results have been given in Table 2.6, Year- Wise Production plan has been shown in Figure 2.4-2.7.

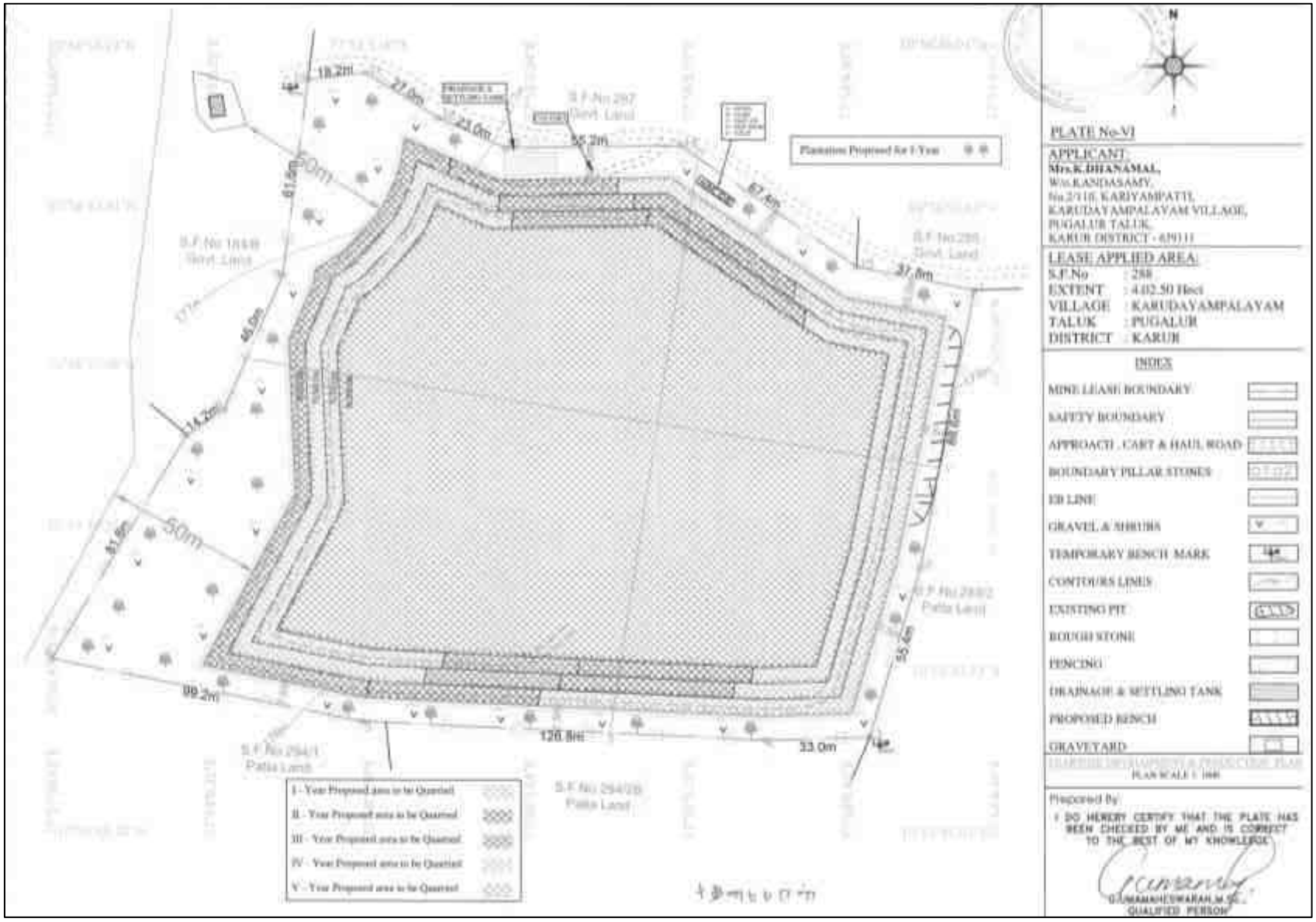


Figure 2.4 Year- Wise Production Plan & Section (Five Years)

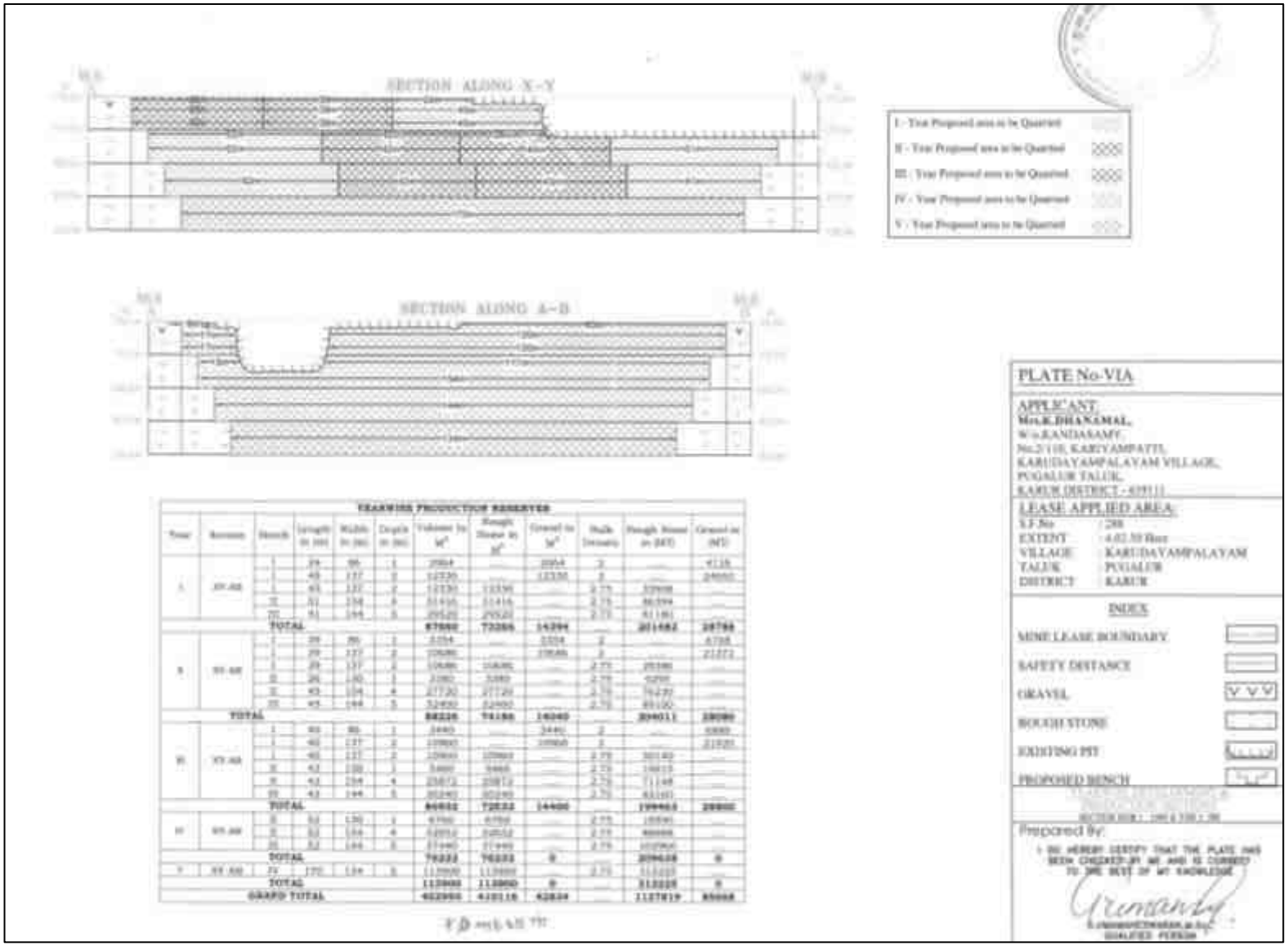


Figure 2.5 Year-Wise Production Section (Five Years)

2.5 MINING METHOD

The Quarrying operation is proposed to be carried out by open cast semi-mechanized mining method with the bench height and width of 5m each. The open cast semi-mechanized method involving drilling and blasting is proposed to extract rough stone and gravel. The extracted rough stone will be loaded manually to the trucks for dispatch to the customers. In this project, NONEL blasting will be adopted to extract rough stone.

2.5.1 Conceptual Blasting Design

In this project, NONEL blasting will be employed to win rough stone. This method will involve closed spaced perimeter holes to reduce the overbreak/ backbreak on a blast. The objective of the blasting design is to prevent fly rocks from damaging the nearby structures.

Rules of Thumb for Blast Design

Based on practical experience and technical information, a set of rules for blasting have been provided as below (Chapter 8 (nps.gov)). These rules will be applied to blast rocks in the proposed project.

Rule 1: **The detonation velocity (VOD) of the explosive should be close to the same value of the sonic velocity (VSO) of the rock to be blasted.**

The sonic velocity of a rock is considered to be a reliable indicator of its structural integrity and resistance to fragmentation. As the VOD of the explosive approaches close to the VSO of the rock, the blasting would result in relatively smaller size of fragmentation with uniformity. There is no value in using an explosive that has a VOD greatly in excess of the VSO of the rock, since there is little or no improvement in fragmentation above the VSO. When selecting an explosive to match up the VSO of a rock mass, variance of <10% in the velocities is acceptable.

Rule 2: Generally, select the densest explosive possible.

When the density of explosives is higher, the potential energy of the explosives can be greater and the more of it can be placed within a borehole of a given size.

Rule 3: Select explosives according to the characteristics of the rock formation to be blasted.

When planes of separation in the rock are smaller than the degree of fragmentation required, the rock can often be blasted by using lower density and lower detonation velocity explosives.

Rule 4: When using slurry or water gel explosives, always determine the critical temperature below which the explosive will fail to reliably detonate.

Almost all slurry explosives have a critical temperature below which they may not detonate, or may not sustain detonation in elongated columns. The explosives should not be used when the temperature of the explosive at time of loading is below that critical temperature.

Rule 5: The distance between holes (spacing) should not be greater than one-half the depth of the borehole.

When the distance between holes in a row is greater than one-half the depth of the hole, the angles of breakage intersect above the bottom of the holes. This causes both a great deal of vertical throw and a very uneven bottom.

Rule 6: Stemming should be equal to the burden.

Stemming is useful to confine and maximize efficient use of the explosive's energy. It also reduces noise as much as possible. If the stemming is greater than the burden, the rock at the top of the borehole will have less cracking from reflection and refraction of compressive and tensile waves. Therefore, stemming should be equal to burden. Drill fines can be used for loading the borehole.

Rule 7: Subdrill (if necessary) should be between 0.3 and 0.5 of spacing/ burden.

Subdrill should be equal to 0.3 of burden. It will work when there is row-for-row delay. In blasts where the delay system is both row-for-row and hole-for-hole, the subdrill should be determined by the largest dimension, which can be the spacing or the burden. An average subdrill of 0.4 of spacing is best to use for planning purposes. Based on the above-mentioned rules, blasting design has been conceptualized and has been provided in Table 2.7.

Table 2.7 Conceptual Blasting Design

BLAST DESIGN	
Blasthole Diameter (D) in mm	32
Burden (B) in m	1.5
Spacing (S) in m	1.30
Subdrill in m	0.45
Charge length (C) in m	0.64
Stemming	1.5
Hole Length (L) in m	2.6
Bench Height (BH) in m	2.1
Mass of explosive/hole in g	400
Stemming material size in mm	3.2
Burden stiffness ratio	1.43
Blast volume/hole in m^3	4.16
Production of rough stone/day in m^3	304
Number of blast holes/day	35
Number of blast round/day	1
Blasthole pattern	Staggered
Mass of explosive /day in kg	**29.23**
Powder factor in kg/m^3	0.10
Loading density	0.63
Type of explosives	Slurry
Diameter of packaging in mm	25
Initiation system	NONEL

Note: If>2kg of explosives per day use for blasting if proponent get the permission from the DGMS

Statutory Provision & Precaution during Blasting: -

- Blasting permission from DGMS will be taken by the proponent within 6 months from the date of execution of mine.
- Control blasting will be carried out by using delay detonators during multi rows blasting
- No secondary blasting will be carried out.
- Stemming column will be half of the depth of hole with coarse sand.
- Only Statutory designated Blaster will supervise the blasting operation.
- All persons in the radius of minimum 300m from the blasting site will be removed by siren.
- Blasting operation will be carried out during day time only particularly at noon time.

2.5.2 Magnitude of Operation

Based on the results of estimated production for the 5 years, details about the size of operation have been provided in Table 2.8.

Table 2.8 Operational Details for Proposed Project

	Rough Stone in (m^3 & Ts) 5 years	**Gravel in (m^3 & Ts) / 3 year**
Proposed production for 5 years	410116 & 1127819	42834 & 85668
Number of Working Days /Annum	270	270
Production of /Day (m^3 & Ts)	303 & 833	53 & 106
No. of Lorry Loads	51	9

2.5.3 Extent of Mechanization

List of machineries proposed for the quarrying operation is given in Table 2.9.

Table 2.9 Machinery Details

S. No.	**Type**	**No. of Unit**	**Size /Capacity**	**Motive Power**
1	Jack Hammers	2	Hand held	Diesel
2	Compressor	2	Air	Diesel
3	Hydraulic Excavator	2	$3.0m^3$	Diesel
4	Tipper	8	15T	Diesel

2.5.4 Post Mining land use

The progressive quarry closure plan of the proposed project shows past, present, and future land use statistics. According to the land use results, as shown in Table 2.10 At present about 4.02.50ha of land is unutilized. Whereas, at the end of the mine life, about 3.03.16ha of land is used for area under quarry, about 0.05.0ha will be used for roads, 0.02.0ha is used for infrastructure and 0.15.64ha is used for dump.

Table 2.10 Land use data at present, during scheme of mining, and at the end of mine life

Description	**Present Area (ha)**	**Area at the end of life of quarry (ha)**
Area under quarry	0.82.6	3.03.16
Infrastructure	Nil	0.02.0
Roads	Nil	0.05.0
Unutilized	3.19.9	0.03.70
Dump	Nil	0.15.64

Drainage & Settling Tank	Nil	0.73.0
Total	**4.02.50**	**4.02.50**

2.5.5 Progressive Quarry Closure Budget

As the proposed project has the enormous potential for continuous operations even after the expiry of lease period, mine closure plan is not proposed for now. Based on the progressive mine closure plan for the scheme period, the mine closure cost is given in Table 2.11.

Table 2.11 Mine Closure Budget

Activity	Capital Cost
1500 plants inside the lease area	4,50,000
513 plants outside the lease area	1,53,900
Wire Fencing	4,50,000
Renovation of Garland Drain	22,800
Total	**10,76,700**

Source: Environment Management plan

2.5.6 Conceptual Mining Plan

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc. Details of ultimate pit dimensions have been derived from given in Table 2.12. Conceptual Plan has been shown in Figure 2.9.

Table 2.12 Ultimate Pit Dimension

Pit	Length (m)	Width (m) (Max)	Depth (m)
I	190	154	20

Source: Approved Mining Plan & ToR

2.5.7 Infrastructures

Infrastructures like mines office, temporary rest shelters for workers, latrine and urinal facilities have been proposed as per the mine rule and will be established after the grant of quarry lease. There is no proposal for the mineral processing or ore beneficiation plants in this project.

2.5.7.1 Other Infrastructure Requirement

Domestic effluent from the mine office will be discharged to septic tank and soak pit. As there is no toxic effluent expected to generate in the form of solid, liquid or gaseous form, there is no requirement of waste treatment plant.

2.5.8 Water Requirement

Detail of water requirement in 3.5 KLD is given in Table 2.13.

Table 2.13 Water Requirement for the Project

Purpose	Quantity	Source
Dust Suppression	1.2 KLD	Will obtained from water vendors
Green Belt development	1.3 KLD	
Drinking & Domestic	1.0 KLD	
Total	**3.5KLD**	

2.5.9 Energy Requirement

High speed Diesel (HSD) will be used for quarrying machineries. As per the data shown in Table 2.14. Around 241840 litres of HSD will be used for rough stone and gravel extraction during this 5 years plan period. The diesel will be brought to the site from nearby diesel pumps.

Table 2.14 Fuel Requirement Details

Fuel Requirement for Excavator			
Details	**Rough Stone ($410116m^3$)**	**Gravel ($42834m^3$)**	**Total Diesel (litre)**
Average Rate of Fuel Consumption (1/hr)	16	10	---
Working Capacity (m^3/hr)	20	60	---
Time Required (hours)	20506	714	---
Total Diesel Consumption for 5 years (litre)	328092.8	7139	**335232**
Fuel Requirement for Compressor			
Average Rate of Fuel Consumption/hole (litre)	0.4	---	---
Number of Drill holes/day	51	10	---
Total Diesel Consumption for 5 years (litre)	328092.8	---	**328092.8**
Fuel Requirement for Tipper			
Average Rate of Fuel Consumption/Trip (litre)	671	60	---
Carrying Capacity in m^3	20	10	---
Number of Trips / days	34	60	---
Number of Trips / 5 years	45900	714	---
Total Diesel Consumption for 5 years (litre)	328093	7139	**335232**
Total Diesel Consumption by Excavator, Compressor and Tipper			**998556.8**

** Number of truck loads for gravel has been calculated for five years.*

2.5.10 Capital Requirement

The project proponent will invest **Rs. 84,62,000/-**to the project. The breakup summary of the investment has been given in Table 2.15.

Table 2.15 Capital Requirement Details

S. No.	**Description**	**Cost (Rs.)**
1	Fixed Asset Cost	30,12,000/-
2	Machinery cost (Rental)	25,00,000/-
3	EMP Cost	29,50,000/-
Total Project Cost		**84,62,000/-**

Source: Approved Mining Plan

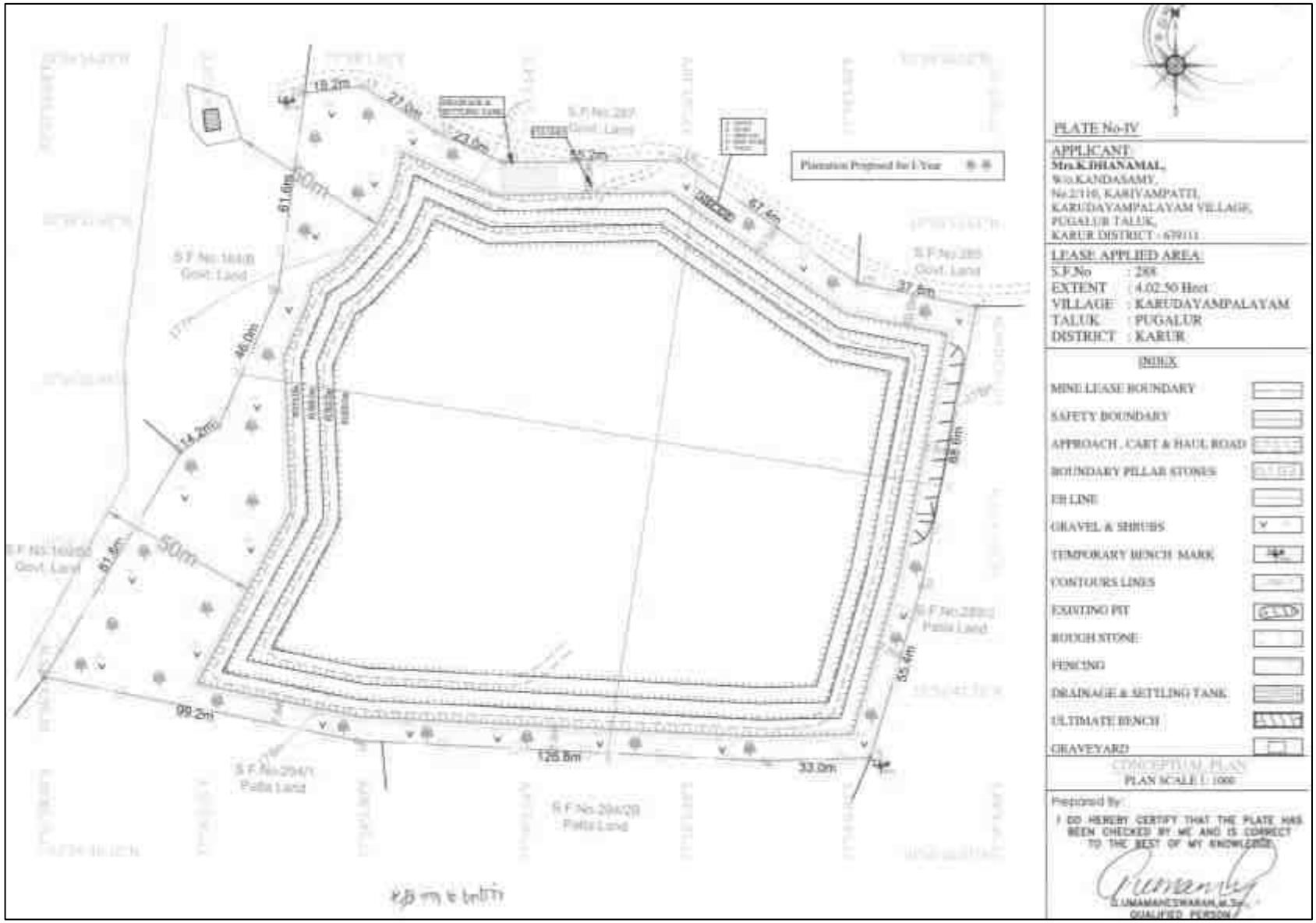
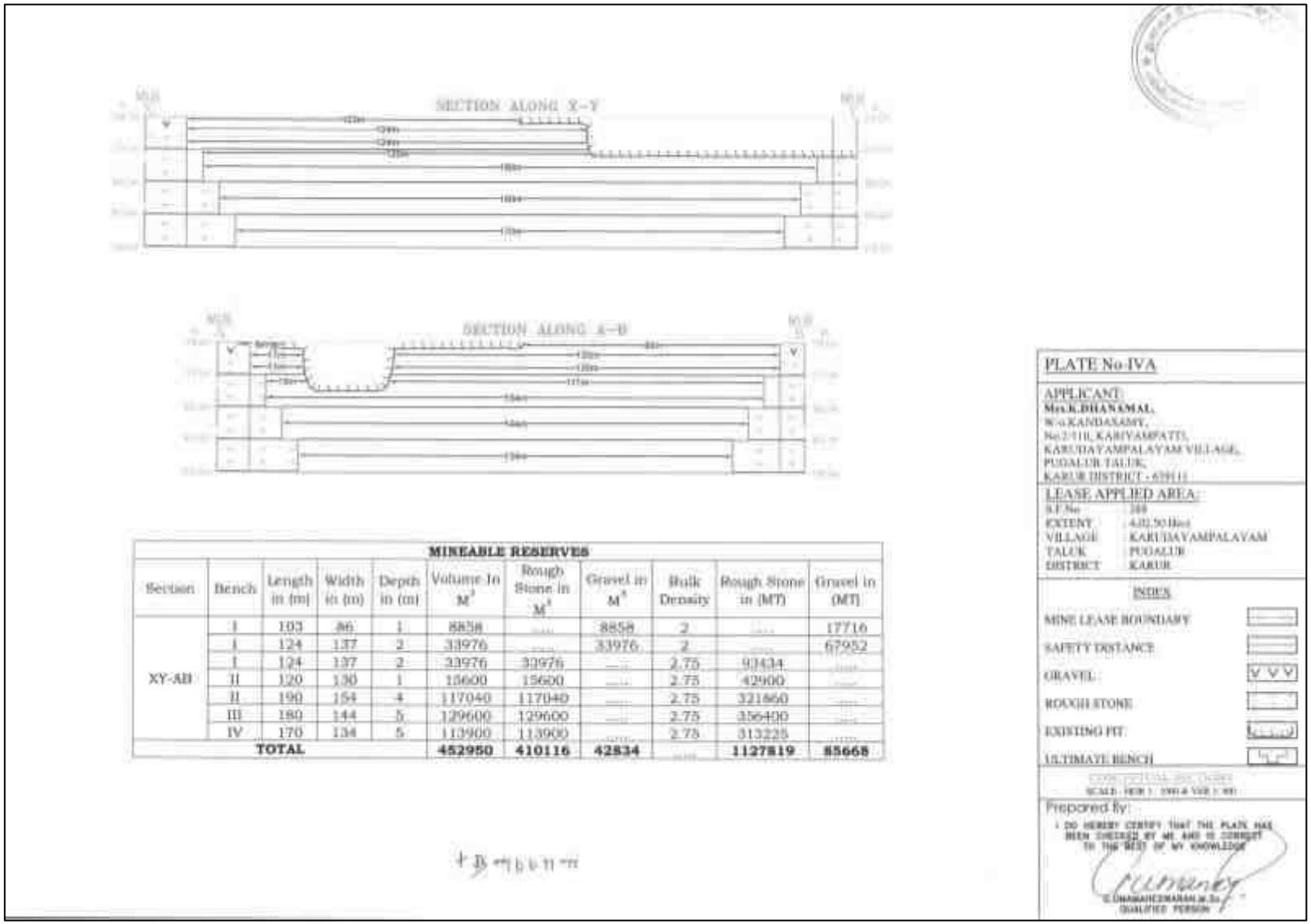


Figure 2.8 Conceptual Plan



MINEABLE RESERVES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	103	86	1	8858	.....	8858	2	.....	17716
	I	124	137	2	33976	.....	33976	2	.....	67952
	I	124	137	2	33976	33976	.....	2.75	93434	.....
	II	120	130	1	15600	15600	.....	2.75	42900	.....
	II	190	154	4	117040	117040	.....	2.75	321860	.....
	III	180	144	5	129600	129600	.....	2.75	356400	.....
	IV	170	134	5	113900	113900	.....	2.75	313225	.....
TOTAL					**452950**	**410116**	**42834**	.....	**1127819**	**85668**

Figure 2.9 Conceptual Section

2.6 MANPOWER REQUIREMENT

The skilled, competent qualified statutory persons will be engaged for quarrying operation, preference will be given to the local community. Number of employees required for this project have been provided in Table 2.16.

Table 2.16 Employment Potential for the proposed project

S. No.	Category	Role	Nos.
1.	Highly Skilled	Mines manager	1
		Mine Geologist	1
		Mines Engineer	1
		Blaster	1
2.	Unskilled	Musdoor/ Labours	19
Total			**23**

Source: Prefeasibility Report

2.7 PROJECT IMPLEMENTATION SCHEDULE

The commercial operation will commence after the grant of Environmental Clearance. CTO and CTE will be obtained from the Tamil Nadu State Pollution Control Board. The conditions imposed during the environmental clearance will be compiled before the start of mining operation. Expected time schedule for the quarrying operation is given Table 2.17.

Table 2.17 Expected Time Schedule

S. No.	Particulars	Time Schedule (in Months)					Remarks, if any
		1st	2nd	3rd	4th	5th	
1	Environmental Clearance						
2	Consent to Establish						Project Establishment Period
3	Consent to operate						Production starting period.
Time line may vary; subjected to rules and regulations /& other unforeseen circumstances							

Source: Anticipated based on Timelines framed in EIA Notification & CPCB Guidelines

CHAPTER III
DESCRIPTION OF THE ENVIRONMENT

3.1 BASELINE ENVIRONMENTAL STUDIES

Baseline environmental studies were carried out within 5km radius of the extraction of rough stone quarry to assess the existing environmental scenario in the area by **Interstellar Testing Centre Private Limited**, which is MOEF recognized and NABL certified lab. For the purpose of EIA studies, Quarry lease area of rough stone quarry was considered as the core zone and area outside the mine upto 5km radius was considered as buffer zone. The baseline environmental monitoring for various components of environment viz. air, noise, water, land was carried out during **Pre- Monsoon Season** (**March to May 2025)** in the study area covering 5km radius distance from the rough stone quarry. Other environmental data on flora and fauna, land-use pattern, forest etc. Were also generated through field surveys and secondary information collected from different departments of State Govt. socio-economic survey was conducted, through interaction with the people, medical officers by floating questionnaires and collection of information is supported by census data for demographic structures, amenities and infrastructure availability within the study area.

Study Area

Study area covers 5km radius from the mine located at S.F.No. 288 of Karudayampalayam Village, Pugalur Taluk, Karur District and Tamil Nadu. Core zone and buffer zone. Core zone is considered as lease area and buffer zone as 5km radius from the periphery of the cluster, except for ecological study, which considers 10km as buffer zone. Both core and buffer zones are taken as the study area briefly given in Table 3.1 & 3.2. The study area map on Topo sheet is represented in Figure 3.1.

Table 3.1 Classification of study Area

Sl. No	Classification of Study area	Type of Baseline data collection	Environmental Attributes
1	Core Zone (Cluster Lease Area)	Primary Data	Soil Environment, Water Quality, Ambient Air Quality, Noise Levels, Flora Fauna, Socio Economic study.
2	Extended Core Zone (upto 500m radius from the Cluster lease boundary)	Primary and Secondary Data	Soil Environment, Water Quality, Ambient Air Quality, Noise Levels, Flora Fauna, Socio Economic study.

3	Buffer Zone (Cluster lease boundary of 500m to 10km radius)	Primary and Secondary Data	Meteorological Data, Soil Environment, Water Quality (Surface/ Groundwater), Ambient Air Quality, Noise Levels, Flora Fauna, Socio Economic study.

Table 3.2 Monitoring Attributes and Frequency of Monitoring

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land Use/ Land Cover	Land-use Pattern within 5 km radius of the study area	Once during the study period	Study Area	Satellite Imagery & Primary Survey
*Soil	Physico-Chemical characteristics	Once during the study period	7 (1 in core & 6 in buffer zone)	IS 2720 Agriculture Handbook - Indian Council of Agriculture Research, New Delhi
*Water Quality	Physical, Chemical and Bacteriological Parameters	Once during the study period	7 (5 Ground water & 2 Surface water)	IS 10500& CPCB Standards
Meteorology	Wind speed Wind direction Temperature Cloud cover Dry bulb temperature Rainfall	1 hourly continuous mechanical/ automatic weather station	1	Site specific primary data & secondary data from IMD Station
*Ambient Air Quality	PM_{10} $PM_{2.5}$ SO_2 NO_X	24 hours, twice a week	6 (1 core & 5 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB

*Noise Levels	Ambient noise	Hourly observation for 24 hours per location	6 (1 core & 5 buffer zone)	IS 9989 As per CPCB Guidelines
Ecology	Existing flora and fauna	Through field visit during the study period	Study area	Primary Survey by Quadrate & Transect Study Secondary Data – Forest Working Plan
Socio Economic Aspects	Socio-economic characteristics, Population statistics and existing infrastructure in the study area	Site visit & Census Handbook, 2011	Study area	Primary Survey, census handbook & need based assessments.

**All monitoring and testing have been carried out as per the Guidelines of CPCB and MoEF & CC.*

Components and Methodology

To achieve the objectives of ToR, NABET approved in Functional Area Experts (FAE) of Geo Technical Mining Solutions- members visited the study area and monitored the environmental parameters in accordance with the Guidelines of EIA, issued by the Ministry of Environment, Forests and Climate Change (MoEF and CC) Government of India. The components of the study are given in Table no. 3.3.

Table No. 3.3 Component of the EIA/EMP studies

Sl. No	Component	Sl. No	Component
1.	Geology & Geomorphology	7.	Air Quality and Meteorology
2.	Land Use & Land Cover	8.	Noise Environment
3.	Hydrogeology	9.	Biological Environment
4.	Soil Environment	10.	Socio-economic Environment
5.	Water Environment	11.	Solid and Hazardous waste
6.	Air Environment	12.	Risk Assessment

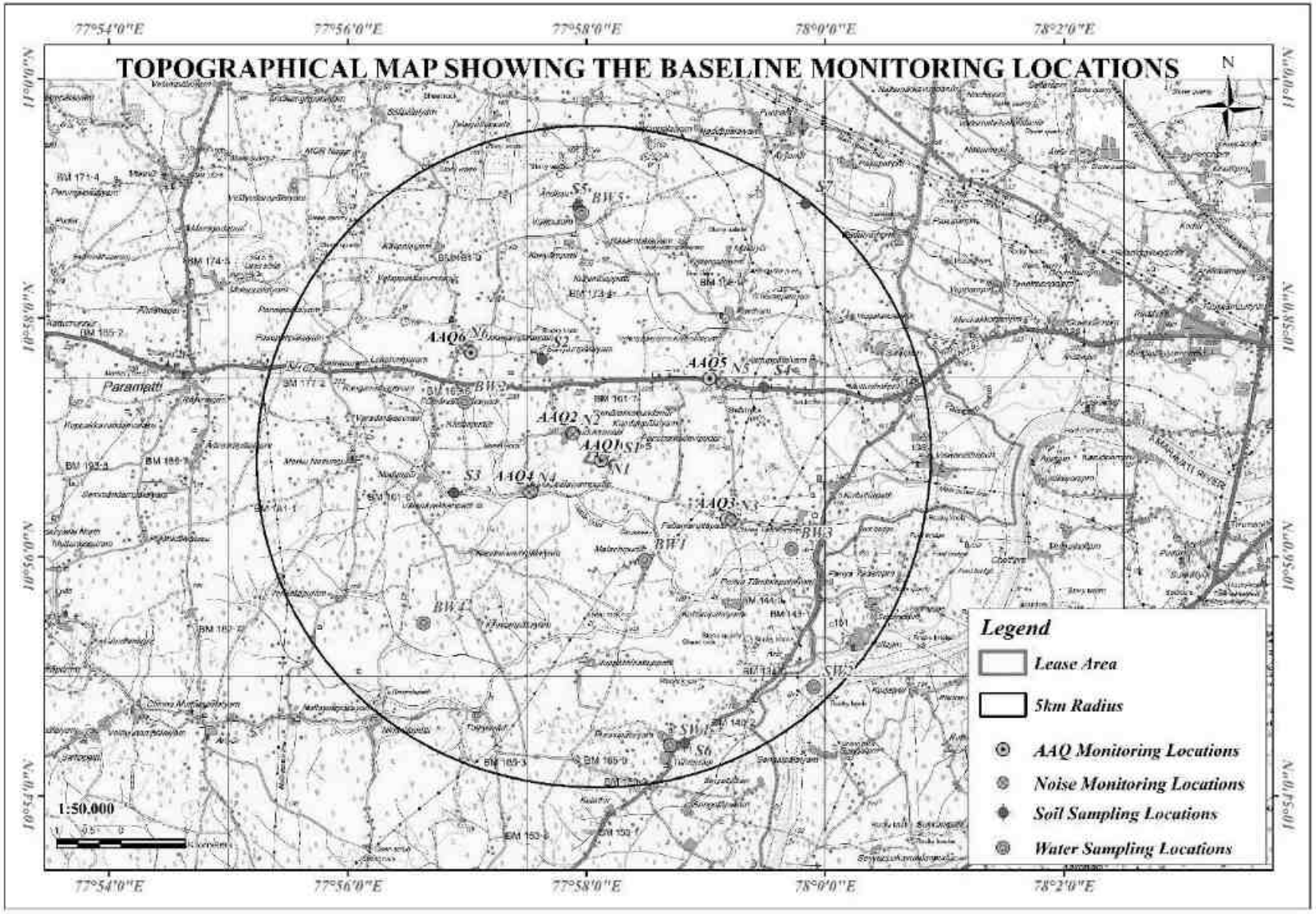


Figure 3.1. Topographical Map of 5Km Radius Study Area

3.2 LAND ENVIRONMENT

Since mining involves in an excavation of minerals the land environment is mainly affected by it, especially in the case of opencast mines.

3.2.1 Geology and Geomorphology

(i) Geology

Geologically, the entire district can be broadly classified into hard rock and sedimentary formations.

a) Hard rock formations More than 90% of the district is underlain by hard rock of Archaean age. The gneissic type of formation is the major formation among the various types of hard rocks. Charnockite occurs in this district as pockets in Karur and Aravakurichi taluks. Quartzites which are resistant to weathering are also seen as patches in charnockite and gneiss varieties.

b) Sedimentary formations Recent alluvial deposits such as sand, silt, clay, gravel, etc., which are transported sediments by river are found on either side of Cauvery River in Karur, Krishnarayapuram and Kulithalai blocks. These formations are overlying the hard rock.

(ii) Geomorphology

The entire area of the district is a pediplain. The Rangamalai hills and Kadavur hills occurring in the southern side of the district constitutes the remnants of the much-denuded Eastern Ghats and rise to heights of over 1031m above mean sea level. There are numerous small residual hills represented by Ayyarmalai, Thanthonimalai and Velayuthampalayam hills. The general elevation of the area is ranging between 100m and 200m above mean sea level. The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Structural hill, 2) Pediments, 3) Shallow Pediments, 4) Buried Pediments and 5) Alluvial plain.

3.2.2 Purpose of Land Use Map

The given land use map has been prepared as a requirement for the Environmental Impact Assessment (EIA) reporting. It enables the decision makers in various stages of EIA. The map is prepared by creating a buffer of 5km around the project site. It provides a description of land use types present in the given square kilometre of area which in turn facilitates in assessing the environmental consequences of a development project on the present land use. It describes the baseline conditions which are required for the setting up of the project. A land use map is a vital spatial planning aid identifying suitable areas not only for establishing the project, but also other features associated with it. Additionally, it is extremely functional in

the process of identification and assessment of magnitude of potential impacts thereby enabling the planners to devise mitigation strategies.

3.2.3 Land Use classification system

The land use/land cover classes used in the map have been designed according to the MoEF & CC guidelines in the EIA Guidance of Mining and Minerals as given in Table 3.4.

Table 3.4 Land Use/ Land Cover classification according to EIA Guidance

Level- I	Level- II	Level- III
Built – up land	Built –up land	Urban (towns and cities)
Agricultural land	Crop land i. Kharif ii. Rabi iii. Double cropped	Irrigated crop land
		Unirrigated crop land
	Fallow	Fallow
	Plantation	Types of plantations casurina, coconut, Teak etc.,
Forest	Evergreen/ Semi-Evergreen	Dense/ closed
		Open
	Deciduous	-
	Degraded scrub land	-
	Forest blank	Degraded forest
		Forest blank
	Forest Plantation	Type of plantation e.g. Teak, sal etc
	Mangrove	-
Wastelands	Salt affected land	-
	Waterlogged land	-
	Marshy / swampy land	-
	Gullied / ravinous land	-
	Land with or without scrub	-
	Sandy area (coastal and desertic)	Minimum mappable unit is 2.25 hectares on 1:50,000 scale
	Barren rocky/ stony waste/ sheet rock areas	-

Water bodies	River / stream	-
	Lake/reservoir/tank/canal	-
Others	Shifting cultivation	Current
		Old / abandoned
	Grassland / grazing land	Grassland / grazing land
	Snow covered/glacial area	Snow covered / glacial area
	Mining area	Mining dumps

3.2.4 Land Use/ Land Cover

Land Use and Land Cover (LULC) map, as shown in Figure 3.4 & 3.4a was prepared using Sentinel II image for the study area of 5km radius to provide a baseline status of the study area covering 5km radius around the proposed mine site. Totally, 6 LULCs were mapped using ArcGIS software version-10.2. The areal extent of each LULC is provided in Table 3.5. of the total cluster area, mining area covers only 309.50 ha accounting for 3.72 %, of which lease area of 4.09.0 ha contributes only about 0.049%. Hence very least percentage of mining activities shall not have any significant impact on the land environment.

Table 3.5 LULC Statistics of the Study Area

S. No.	Classification	2024	
		Area (ha)	Area (%)
1	Water bodies	14.06	0.17
2	Plantation	10.57	0.13
3	Crop lands	4151.44	49.91
4	Built-up land	1289.69	15.50
5	Mining/Industrial area	309.50	3.72
6	Fallow land	2543.26	30.57
Total		**8318.52**	**100**

Source: Sentinel II Satellite Imagery

Comparative study of Land Use Land Cover (LULC) Changes within 5 km Radius (2020 vs 2025) was done and significant changes in land use and land cover were observed (Table 3.5a). Crop land has decreased from 5598.72ha (67.30%) to 4151.44ha (49.91%), indicating the decrease in agricultural activities, this change is due to the land are not suitable for agriculture and source of irrigation is uncertain. But that cultivation land is included in the fallow land whose extent have been increased. Mining activity has been increased to a little extent from 302.12 ha (3.63%) to 309.50 ha (3.72%), suggesting increased demand of building materials for various infrastructure developments. The increase in common vegetation has noticed of 2.12 ha (0.03%) in last five years due to the afforestation activities carried out by

the past quarry proponents. Built-up areas also rise from 1027.48 ha (12.35%) to 1289.69 ha (15.50%), pointing out the urban development due to increase in economic activity. In fact, the agricultural land has been reduced but that too included in fallow land which can be reversible during availability of irrigation factors.

Table 3.5a Comparison of LULC Statistics of the 5km Radius

S. No.	Classification	2020		2025	
		Area (ha)	Area (%)	Area (ha)	Area (%)
1	Water bodies	1.53	0.02	14.06	0.17
2	Plantation	2.12	0.03	10.57	0.13
3	Crop lands	5598.72	67.30	4151.44	49.91
4	Built-up land	1027.48	12.35	1289.69	15.50
5	Mining/Industrial area	302.12	3.63	309.50	3.72
6	Fallow land	1386.55	16.67	2543.26	30.57
Total		**8318.52**	**100**	**8318.52**	**100**

Source: Sentinel II Satellite Imagery

3.2.5 Topography

The proposed lease area Exhibits flat topography the height elevation in 181m AMSL observed in northwest Side of the lease area the Slope is towards southeast Side and falls in Toposheet No 58-F/13.

3.2.6 Drainage Pattern

Drainage pattern is the pattern formed by the streams, rivers, and lakes in a particular drainage basin over time that reveals characteristics of the kind of rocks and geological structures in a landscape. The proposed area shows dendritic drainage pattern indicating uniform lithology beneath the surface, as shown in Figure 3.5.

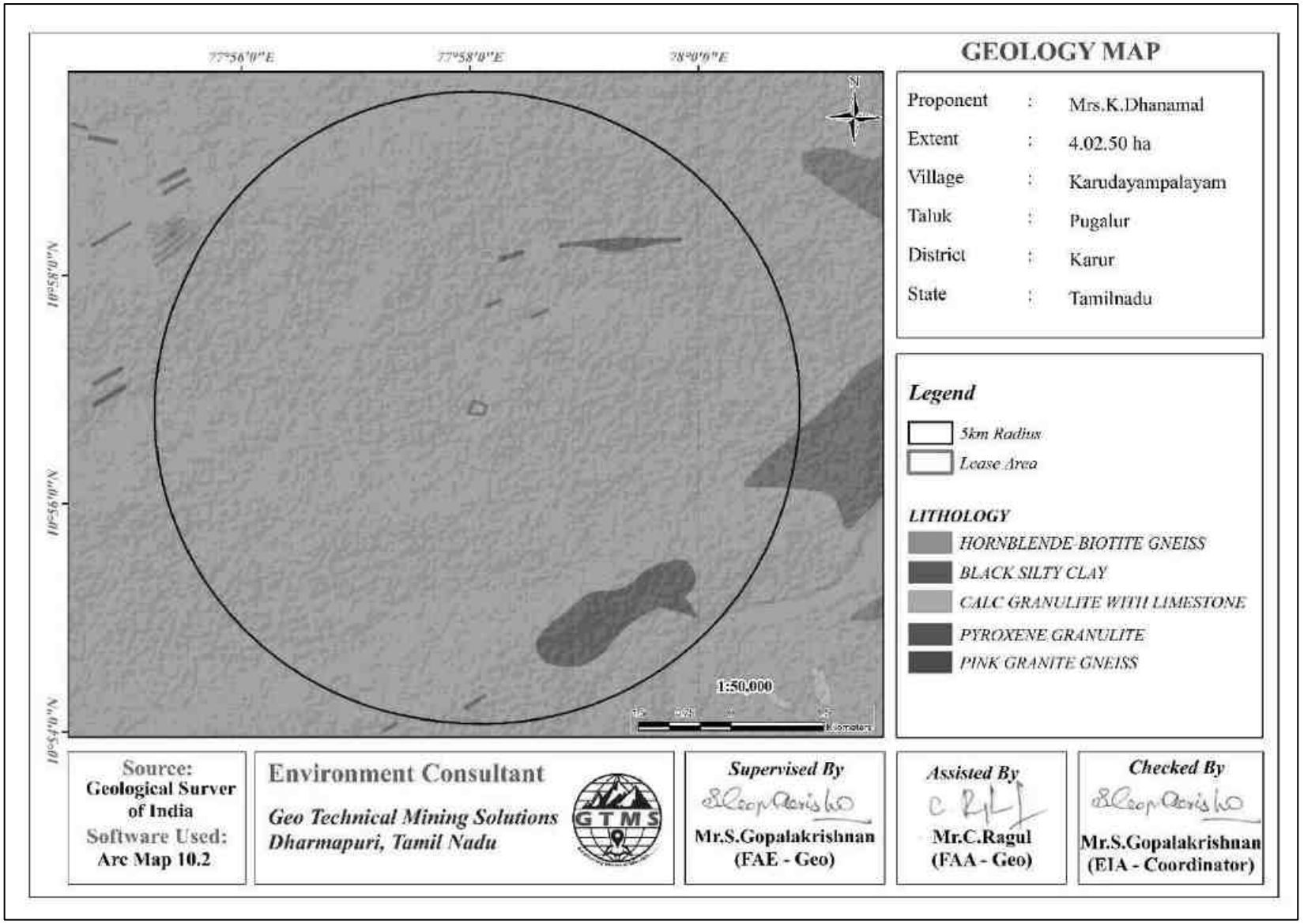


Figure 3.2 Geology Map of 5 km Radius from Proposed Project Site

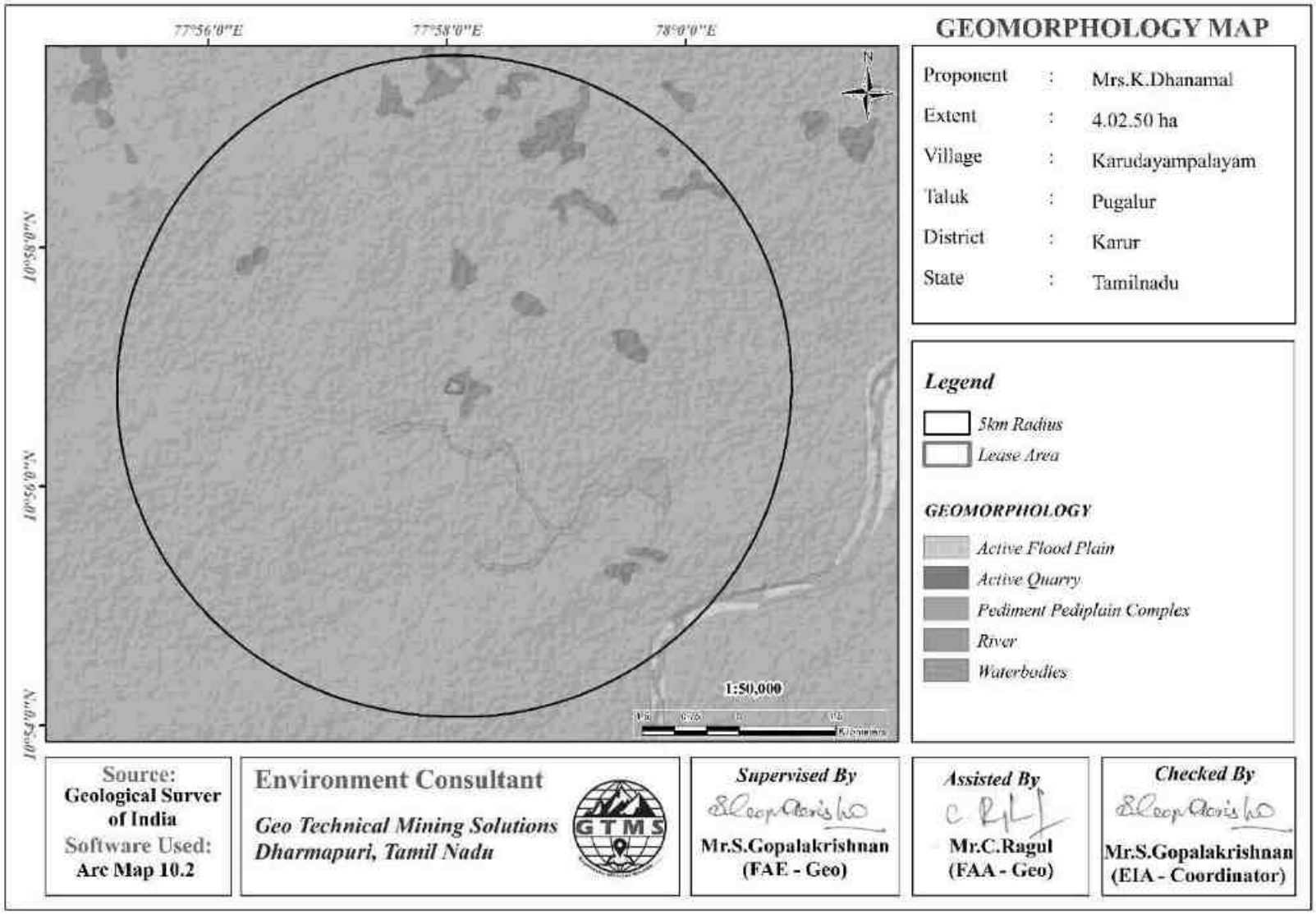


Figure 3.3 Geomorphology Map of 5 km Radius from Proposed Project Site

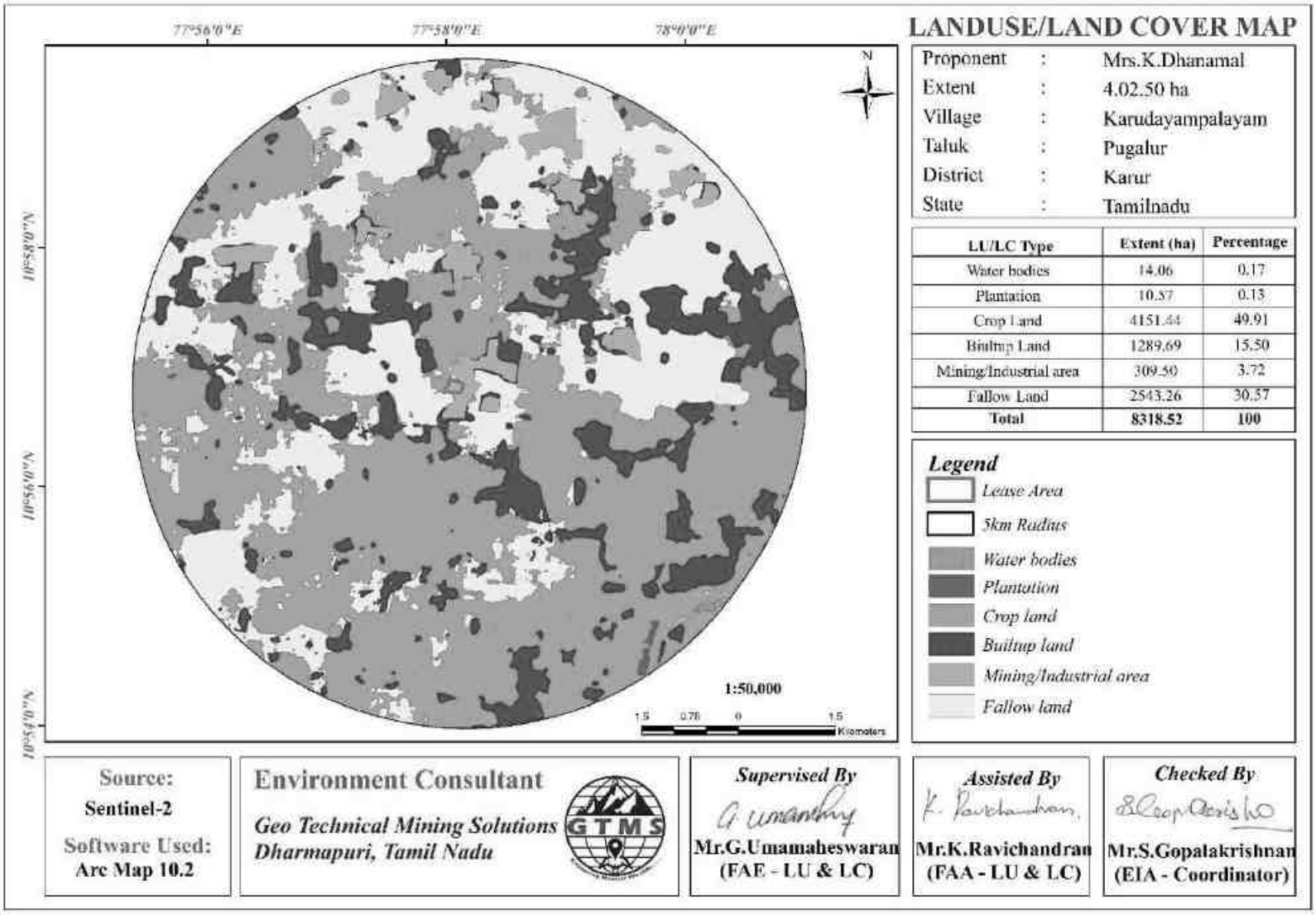


Figure 3.4 LULC Map of 5 km Radius from Proposed Project Site

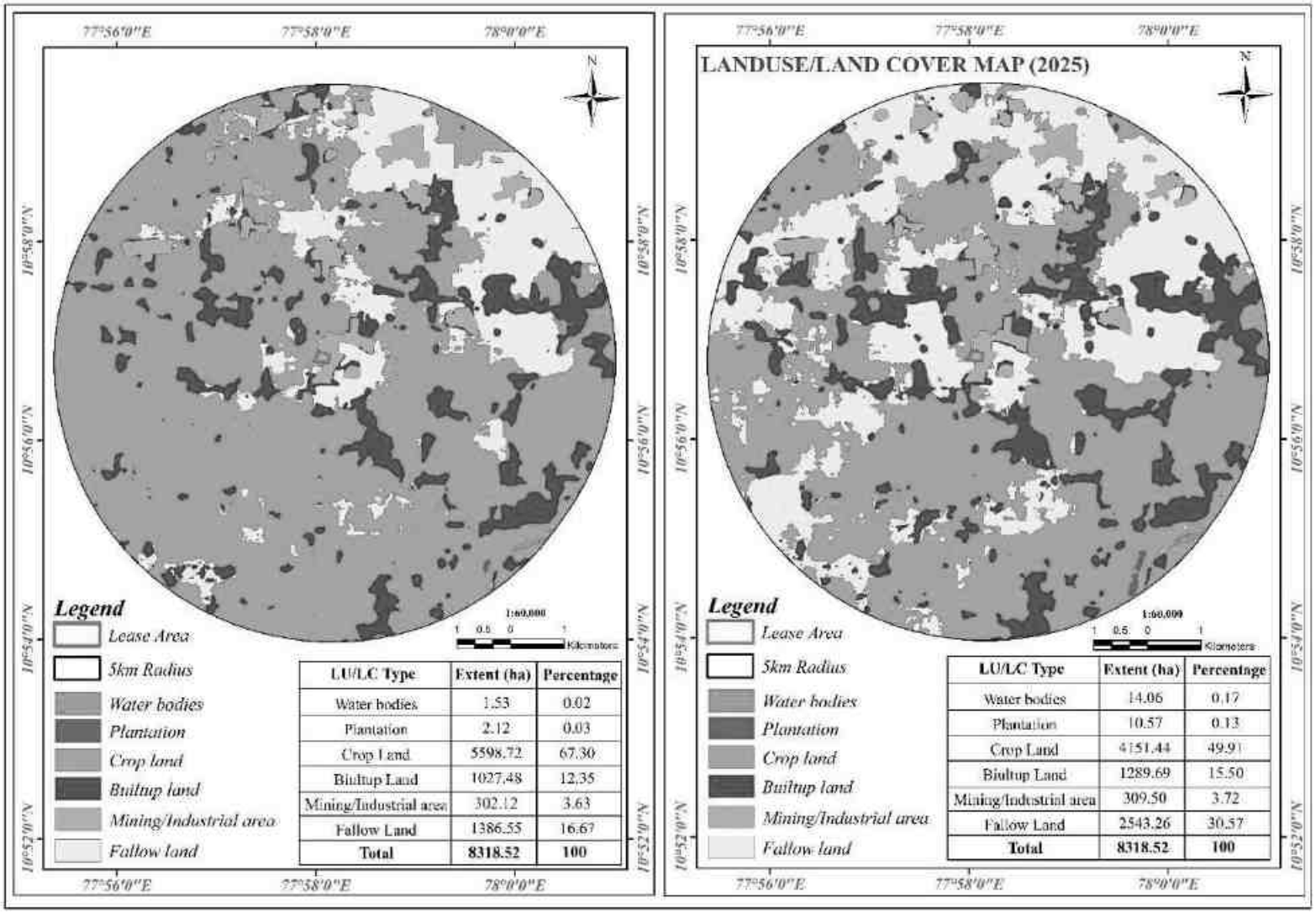


Figure 3.4a LULC Map of 5 km Radius from Proposed Project Site (2020 - 2025)

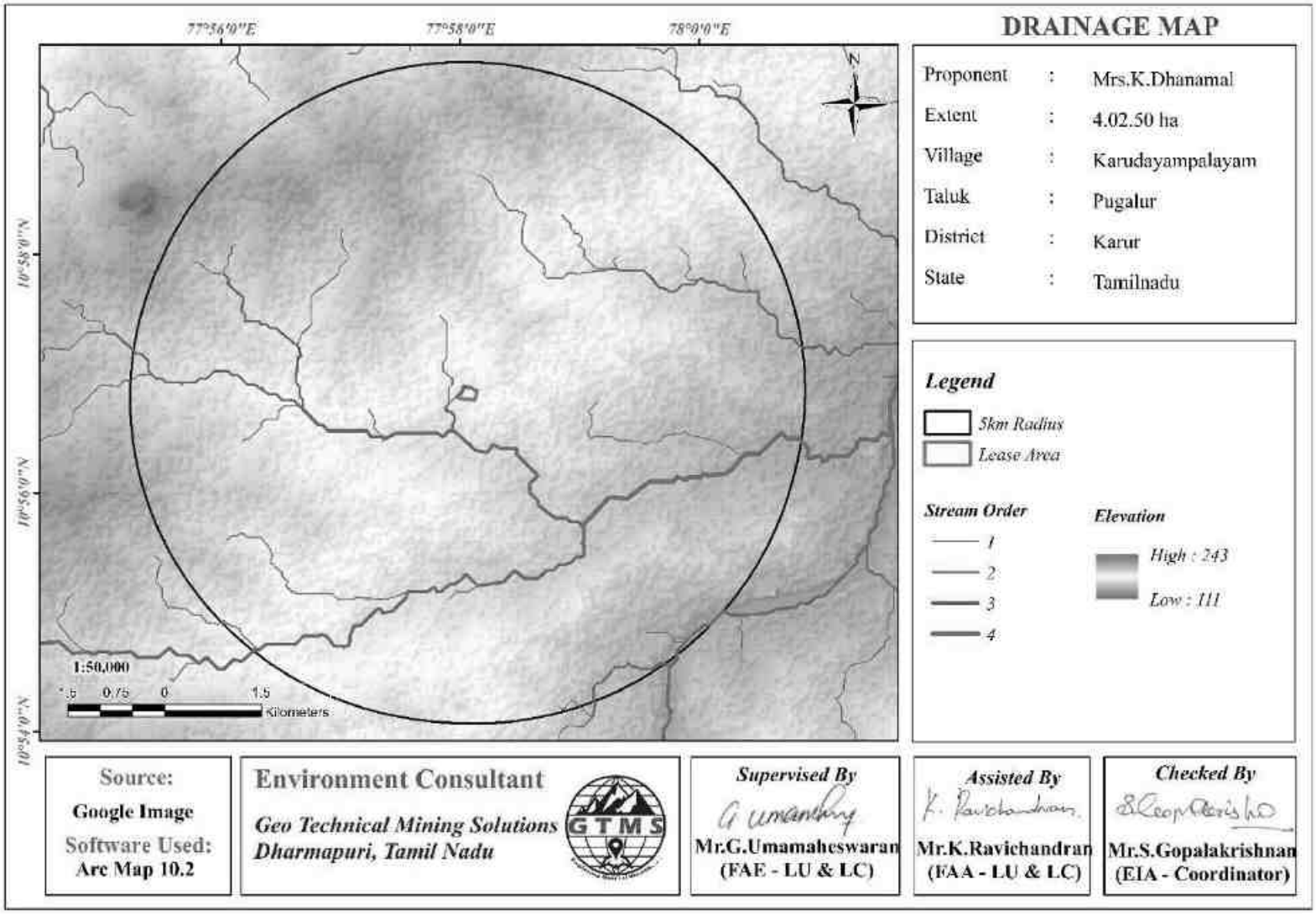


Figure 3.5 Drainage Map of 5 km Radius from Proposed Project Site

3.2.7 Seismic Sensitivity

The proposed lease area is situated in a Seismic Zone II, as defined by National Centre for Seismology (Official Website of National Centre of Seismology). The Zone II is defined as the region where only minor damage is expected from seismic events. In this respect, the proposed lease area is located in a low earthquake hazard area.

3.3 SOIL ENVIRONMENT

Soil samples were collected from 7 locations of the study area using a hand auger method at depth of 90cm below ground level filled in polythene bags, coded and sent to laboratory for analysis. The sampling was conducted in accordance with standard soil sampling protocols to ensure representativeness and consistency. The analyses were carried out following standardized procedures as prescribed by relevant national and international guidelines (e.g., APHA, BIS, or ASTM standards, as applicable). The coordinates and descriptions of the soil sampling locations are provided in Table 3.6 and Figure 3.7. The locations were selected for soil sampling based on soil types, vegetative cover, and industrial & residential activities including infrastructure facilities. The samples thus collected were analysed for physical and chemical characteristics. The physical and chemical characteristic results of soil samples are provided in Table 3.7 & 7a.

Table 3.6 Soil Sampling Locations

Location code	Monitoring Locations	Distance in m	Directions	Coordinates	
				Latitude	Longitude
S1	Nearby Core	0.19	E	10°56'46.16"N	77°58'13.57"E
S2	Karudayampalayam	1.57	NW	10°57'39.16"N	77°57'37.68"E
S3	Nedungur	2.05	SW	10°56'32.32"N	77°56'53.28"E
S4	Pavithiram	2.66	NE	10°57'25.20"N	77°59'29.09"E
S5	Kuppam	3.76	N	10°58'56.01"N	77°57'55.54"E
S6	Thumbivadi	4.50	S	10°54'26.43"N	77°58'49.23"E
S7	Punnam	4.95	NE	10°58'57.48"N	77°59'50.11"E

*Source: On-site monitoring/sampling **Interstellar Testing Centre Private Limited**, in association with GTMS.*

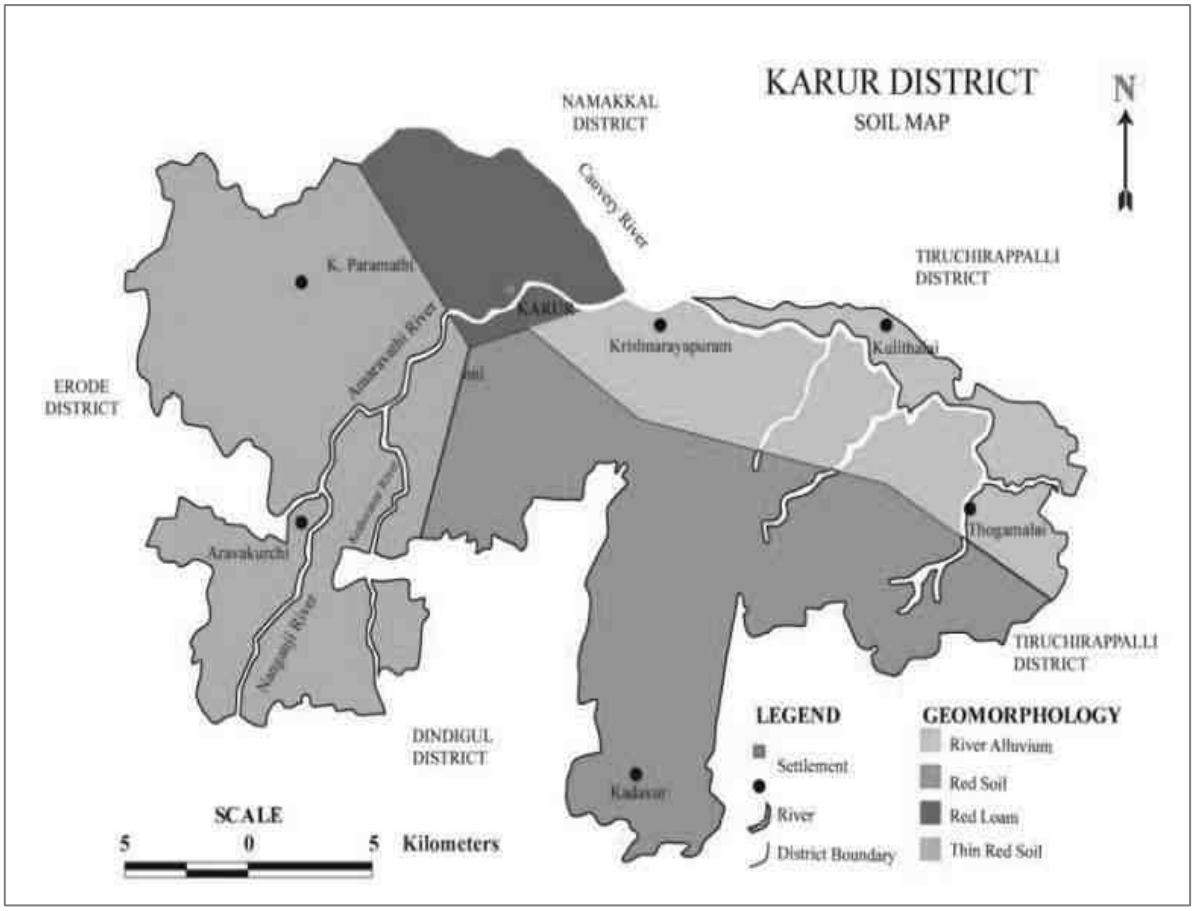


Figure 3.6 Soil Map of Karur District

Physical Characteristics & Chemical Characteristics

1. Soil pH and Electrical Conductivity (EC):

- **pH ranged from** 7.89 to 8.64 indicating that the soil is **neutral to slightly alkaline**, which is favourable for most crops.
- **EC** value ranged from 0.19 to 0.45 ms/m, suggesting low salt concentration and non-saline soil across the sampling area.

2. Physical Properties

- **Bulk Density** values ranged from 1.12 to 1.38 g/cc, which are within the typical range for loamy soils and support good root penetration and aeration.

3. Soil Fertility Status:

- **Total Organic matter** levels ranged from 0.16 to 0.28% by weight, classifying soils as low to moderately fertile in terms of organic matter.
- **Nitrogen (N)** content varied from 0.04 to 0.08% by mass indicating moderate nitrogen availability.
- **Potassium (K)** ranged from 0.0018 to 0.0042% by mass moderate fertility potential in terms of potassium.

4. **Base Elements and Cation Ratios:**

- **Calcium (Ca)** levels were highest with 1086 mg/kg and lowest with 2248 mg/kg.
- **Magnesium (Mg)** ranged from 288 to 768 mg/kg.

Conclusion:

The soils in the study area are generally non-saline, neutral to slightly alkaline, and moderately fertile with low contamination levels. They exhibit good permeability, porosity, and suitable textural classes for agriculture and greenbelt development. The absence of heavy metals confirms that baseline soil conditions are unpolluted and safe for reclamation and vegetation growth.

Table 3.7 Assigning Scores to Soil Quality Indicators

S. No.	OM	BD	pH	EC	Total Score	Recommendation
S1	15	1	6	5	27	The Soil Requires Major and Immediate Treatment
S2	15	1	6	5	27	
S3	15	1	3	5	24	
S4	15	1	3	5	24	
S5	15	1	3	5	24	
S6	15	1	6	5	27	
S7	15	1	6	5	27	

Organic Matter- (%- 0.1 to 2.0- 15), (2.5 to 3.5- 20), (3.5 to 5.0- 25), Bulk Density- (0.64 to 0.92- 6), (0.92 to 0.98- 3), (0.98> - 1)

pH- (5.8 to 7.3- 9), (7.3 to 8.0- 6), (8.0> - 3), Electrical Conductivity-dS/m (<0.98- 5), (0.98 to 1.71- 3), (1.71> - 1)

OM (Organic Matter) BD (Bulk Density) pH (Potential of Hydrogen) EC (Electrical Conductivity) Source: PSS-2262_Soil_Quality_Monitoring.pdf (okstate.edu)

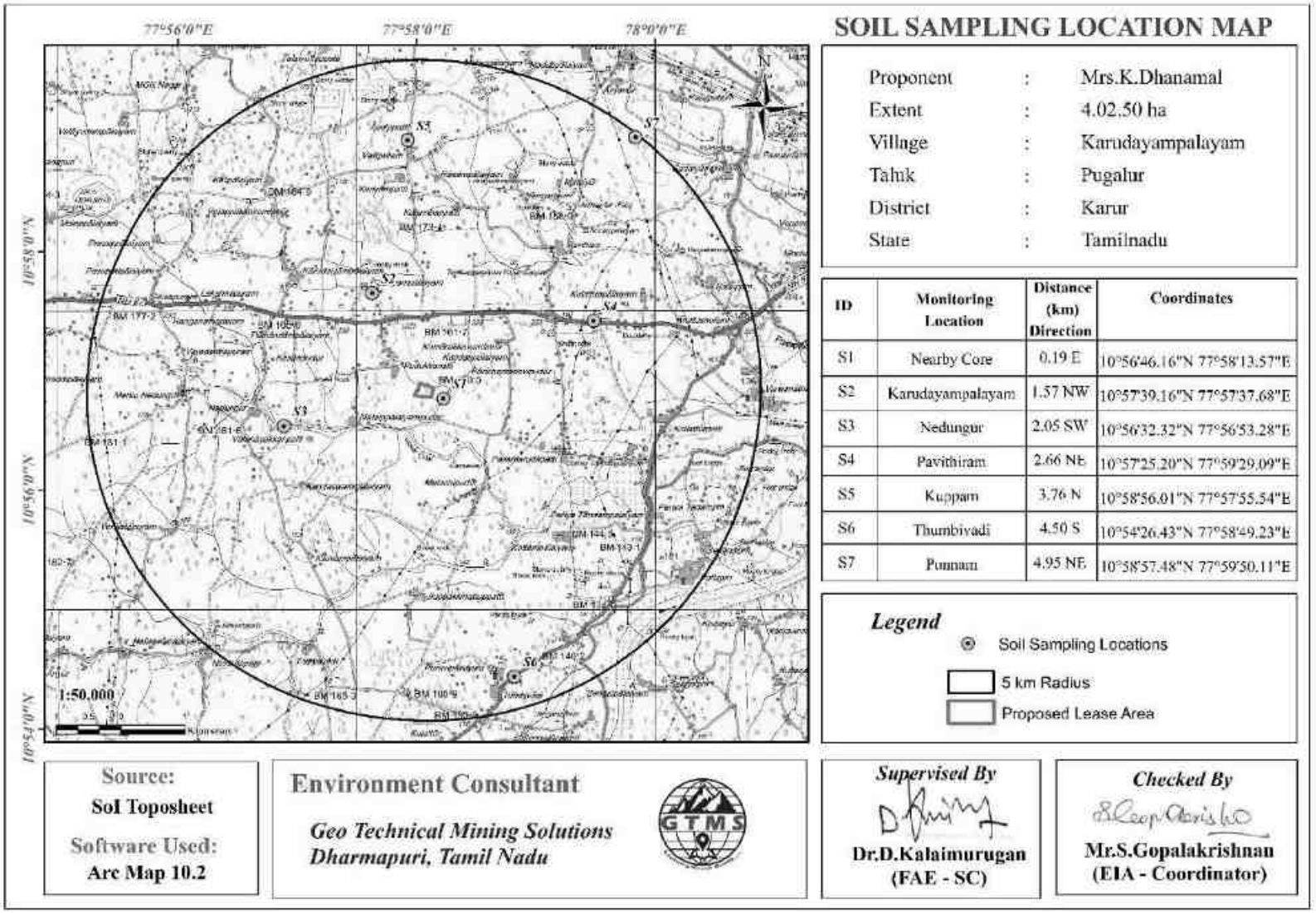


Figure 3.7 Map Showing Soil Sampling Locations within 5km Radius around Proposed Project Site

Table 3.7a Soil Quality of the Study Area

S.No	Parameters	Units	S1	S2	S3	S4	S5	S6	S7
1	Description		**Light brown**	**Light brown**	**Brown**	**Light brown**	**Brown**	**Brown**	**Light brown**
2	Total Organic Matter	% by weight	0.192	0.280	0.260	0.160	0.240	0.270	0.210
3	pH Value		8.04	7.89	8.64	8.24	8.08	7.89	8.36
4	Total Nitrogen (as N)	% by mass)	0.056	0.072	0.056	0.042	0.084	0.066	0.082
5	Potassium (as K)	% by Weight	0.0018	0.0022	0.0042	0.0036	0.0024	0.0018	0.0021
6	Total Phosphate (as P)	% by Weight	0.0008	0.0014	0.0024	0.0011	0.0024	0.0032	0.0018
7	Total Soluble Sulphate (as SO_4)	% by Weight	0.0087	0.0124	0.0241	0.0158	0.0172	0.0290	0.0324
8	Chloride (as Cl)	% by Weight	0.0017	0.0540	0.0034	0.0028	0.0044	0.0072	0.0036
9	Total Organic Carbon	% by weight	0.11	0.16	0.15	0.09	0.14	0.16	0.12
10	Cation Exchange Capacity	Meq /100g	30.42	29.56	21.45	22.54	32.22	35.45	29.58
11	Grain size: Sand	%	15.10	12	15.5	16.8	8	8.8	19.2
12	Silt	%	74.30	81.2	73.6	71.6	84.4	82.6	71.6
13	Clay	%	10.6	6.8	10.9	11.6	7.6	8.6	9.2
14	Textural Class		Silt Loam	Silt Loam	Silt Loam	Silt Loam	Silt Loam	Silt Loam	Silt Loam
15	Bulk Density	g/cc	1.142	1.345	1.384	1.161	1.242	1.342	1.128
16	Electrical Conductivity	(ms/m)	0.288	0.425	0.196	0.245	0.324	0.308	0.458
17	Moisture content	% by Weight	6.7	9.2	10.4	9.4	7.2	8.8	6.4
18	Calcium as Ca	mg/kg	1845	2104	1645	2248	1086	1345	1542
19	Magnesium as Mg	mg/kg	382	402	465	566	768	288	408

Source: On-site monitoring/Sampling Results ***Interstellar Testing Centre Private Limited in association with GTMS****.*

3.4 WATER ENVIRONMENT

The status of water environment has been assessed through field monitoring/ sampling of groundwater and surface water quality from the study area play a significant role in the development of the area and through secondary data sources from government/ semi government organizations such as Central Ground Water Board, Water Resource Information System, Central Water Commission, Tamil Nadu Water Authority etc. The water sample collected locations were given in Table 3.8 as well as in Figure 3.8.

Table 3.8 Water Sampling Locations

Sampling ID	Location	Distance (km)	Direction	Coordinates
BW1	Pavithiram	1.64	SE	10°55'58.35"N 77°58'29.39"E
BW2	Karudayampalayam	2.04	NW	10°57'17.64"N 77°56'58.86"E
BW3	Thathampalayam	3.29	SE	10°56'14.86"N 77°59'51.47"E
BW4	Nimindampatti	3.49	SW	10°55'26.78"N 77°56'38.12"E
BW5	Punnam	3.65	N	10°58'52.44"N 77°57'57.82"E
SW1	Thumbivadi	4.48	S	10°54'25.40"N 77°58'42.08"E
SW2	Amaravathi River	4.73	SE	10°54'54.61"N 77°59'54.23"E

Source: On-site monitoring/sampling Interstellar Testing Centre Private Limited, in association with GTMS.

3.4.1 Water Consumption and Sources:

The water consumption in this opencast mine is mostly used for dust suppression by water sprinkling on haulage road, afforestation and domestic use etc.

Table No.3.9 Water Requirement

Sl. No	Activities	Average demand (m^3 /day)	Peak demand (m^3 /day)
1	Drinking water	0.2	0.2
2	Utilized Water	0.8*	0.8*
3	Afforestation	1.3	2.5
4	Dust suppression	1.2*	0.5*
	Total	**3.5***	**4.0***

*Water for dust suppression and afforestation may not be required for four to five months during the monsoon

- The water required for quarrying activities shall be drawn from the Rainwater Harvesting Ponds and from nearby old pits.
- 4-5 months during the monsoon season, water is not required for dust suppression.
- Packed drinking water shall be provided at site for workers.

WATER BALANCE DIAGRAM

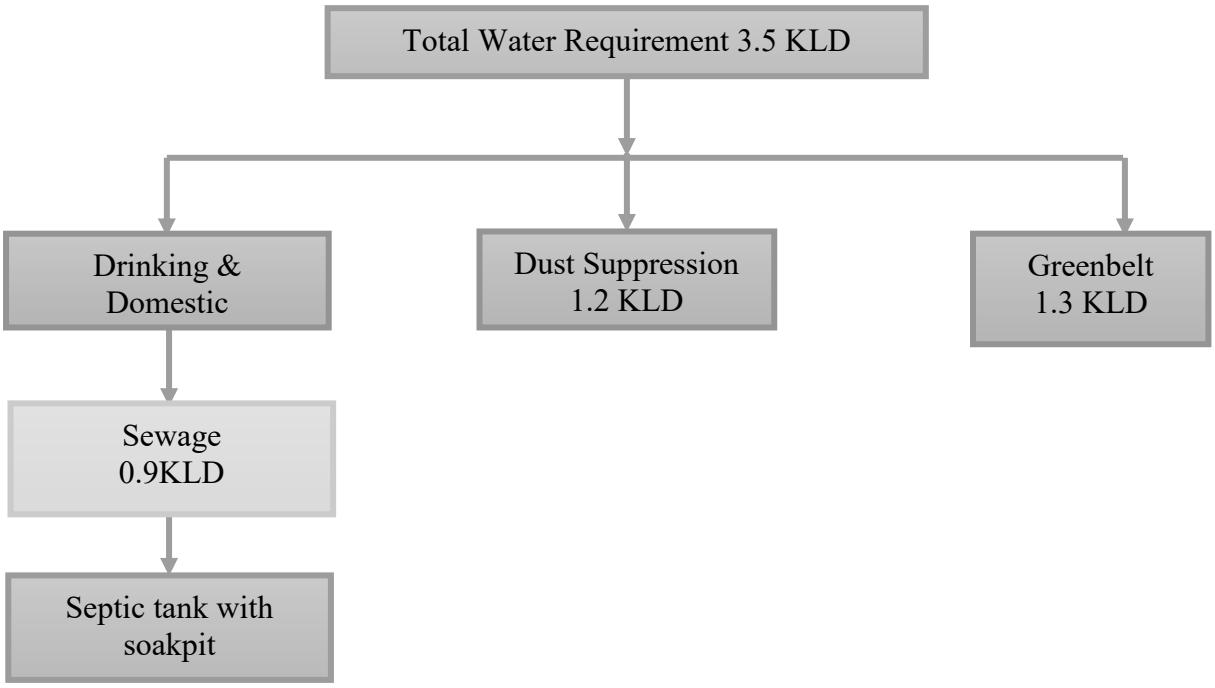


Table 3.10 Nearest Water Bodies

S. No	Location	Distance (km)	Direction
1	Amaravathi River Bank	4.61km	SE
2	Kocheeswaran dam	6.38km	SE
3	Noyyal River	7.10km	N
4	Amaravathi Check dam- E	7.62km	E
5	Karvazhi Noyyal Dam	13.25km	NW
6	TNWRD- Aathupallayam Dam	18.54km	NW

3.4.2. Ground Water Quality Result

1. Ammonia, Phenolphthalein Alkalinity, Potassium, RFC, BOD, COD, Chromium, Zinc – All " Below the Limit of Quantification (BLQ)"

- These are toxic heavy metals. Their presence in groundwater is usually due to industrial effluents or natural geogenic sources (minerals in rocks).
- Since all are below detection limits, there is no sign of industrial or geogenic contamination from these toxic metals.
- This is positive from an environmental and health risk perspective.
- Interpretation: No heavy metal pollution.

2. Calcium (56.2 – 107.1 mg/l)

- Calcium contributes to hardness of water. High calcium makes water hard but is not harmful.
- Acceptable limit is 75 mg/l, permissible up to 200 mg/l.
- Slightly above acceptable but within limits.
- Interpretation: Slightly hard water, no major concern.

3. Magnesium (3.6 – 6.9 mg/l)

- Also contributes to water hardness.
- BIS acceptable limit: 30 mg/l (permissible up to 100 mg/l).
- Some samples exceed acceptable but are still under permissible limits.
- Interpretation: Water is moderately hard, but usable.

4. Chloride (107.2 – 204.2 mg/l)

- High chloride affects taste and can cause corrosion in pipelines.
- Acceptable limit: 250 mg/l; permissible up to 1000 mg/l.
- Your values are slightly above the acceptable limit but safe.
- Interpretation: Mild salinity – may affect taste but not health.

5. Fluoride (0.18 – 0.44 mg/l)

- Fluoride is beneficial in small quantities but harmful in excess (>1.5 mg/l causes fluorosis).
- All values are below the 1.0 mg/l limit.
- Interpretation: No risk of dental or skeletal fluorosis.

6. Nitrate (7.63– 14.53 mg/l)

- Nitrates come from agricultural runoff or sewage.
- Safe limit is 45 mg/l (to avoid blue baby syndrome in infants).
- Your values are below the limit.
- Interpretation: No significant nitrate pollution.

7. Iron (0.19 – 0.56 mg/l)

- Iron causes staining, bad taste, and bacterial growth when >0.3 mg/l.
- Your samples are well below the limit.
- Interpretation: No iron-related issues.

8. pH (6.98 – 8.01)

- pH is 6.5–8.5 for drinking water.
- All values within this range.

- Interpretation: Neutral pH, no corrosion or scaling tendency.

9. Total Dissolved Solids (TDS) (401 – 765 mg/l)

- TDS represents total minerals and salts in water.
- Acceptable limit is 500 mg/l; permissible up to 2000 mg/l.
- BW01, BW03, and BW05 exceed the acceptable but are within permissible.
- Interpretation: Slightly mineral-rich water; taste may be affected but safe to use.

10. Electrical Conductivity (EC) (692 – 1342 µS/cm)

- Indicates overall ionic concentration in water.
- Higher EC = higher salinity.
- EC > 1000 µS/cm (in BW01 and BW05) suggests moderately saline water.
- Interpretation: Suitable for irrigation, but may need softening for drinking.

11. Total Alkalinity (116 – 242 mg/l)

- Indicates the buffering capacity (resistance to pH change).
- Acceptable: 200 mg/l; Permissible: 600 mg/l.
- High alkalinity may indicate presence of bicarbonates/carbonates.
- Interpretation: Alkaline nature is common in groundwater. No health issue but may affect taste.

12. Total Hardness (TH) (157 – 352 mg/l)

- Acceptable: 200 mg/l; Permissible: 600 mg/l.
- TH > 200 (BW03, OW01) means moderately hard water.
- Interpretation: May require softening for household use.

13. Turbidity (0.4 – 1.8)

- Very clear water, no suspended solids.
- Interpretation: Visually and physically very good water quality.

14. Silica (6.02 – 11.47 mg/l)

- No BIS standard, but useful for understanding scaling potential in boilers and pipes.
- Normal in groundwater.
- Interpretation: No concern.

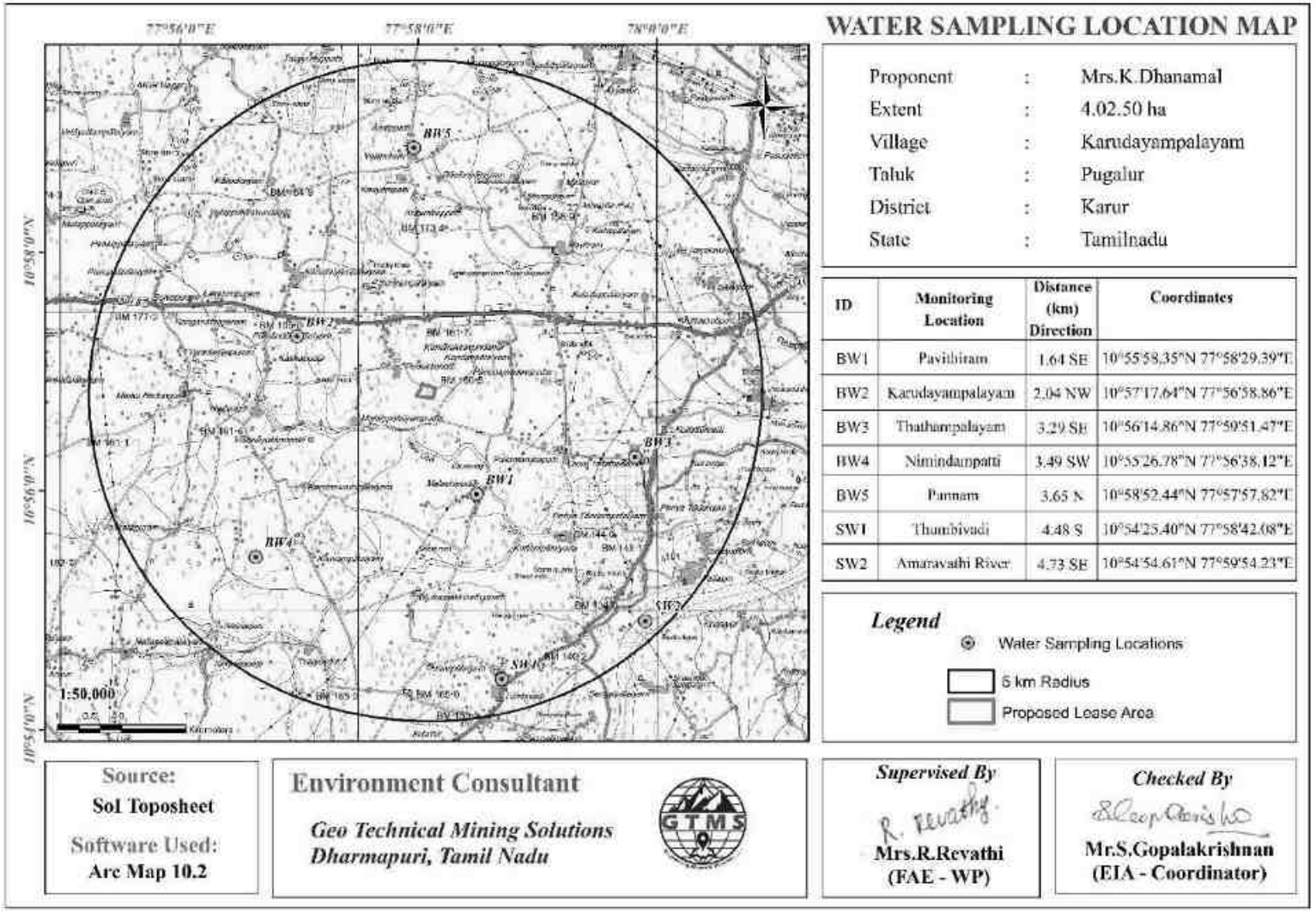


Figure 3.8 Map Showing Water Sampling Locations within 5km Radius around Proposed Project Site

Table 3.11 Ground Water & Surface Water Quality Result

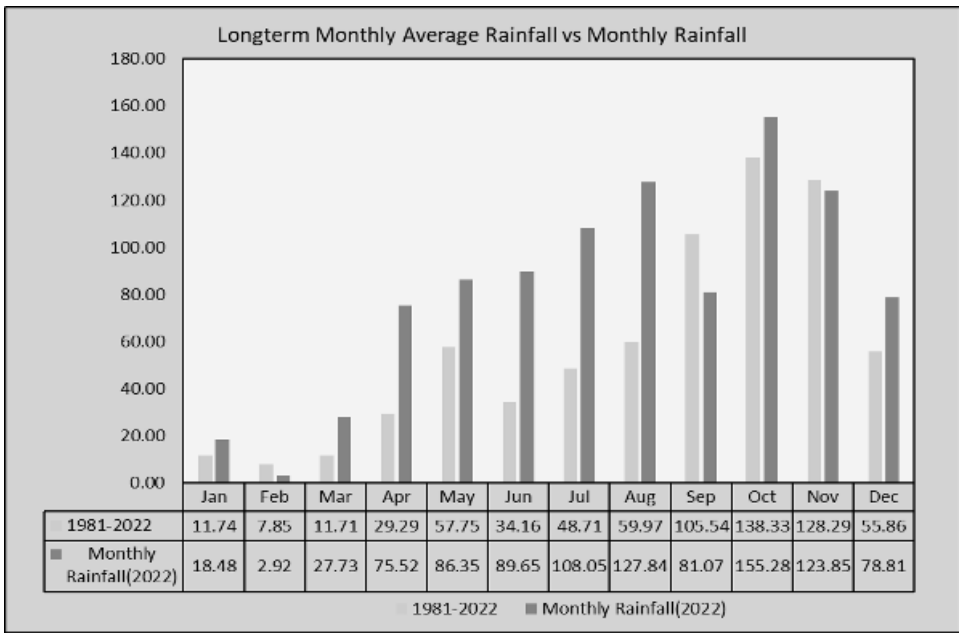
S. No.	Parameters	Units	BW 1	BW 2	BW 3	BW 4	BW 5	SW 1	SW 2
1.	Description	NA	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid
2.	Ammonia as NH_3	mg/l	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)
3.	Carbonate Hardness (as $CaCO_3$)	mg/l	242.0	216.0	226.0	237.0	176.0	116.0	171.0
4.	Phenolphthalein Alkalinity (as $CaCO_3$)	mg/l	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)
5.	Non-Carbonate Hardness (as $CaCO_3$)	mg/l	57	98	25	115	24	41	21
6.	EC @ 25°C	µS/cm	1208	1245	986	1342	756	692	954
7.	Phosphate (PO_4)	mg/l	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)
8.	Appearance	mg/l	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid
9.	Silica (SiO_2)	mg/l	10.69	10.46	9.17	11.47	7.14	6.02	8.01
10.	Odour	NA	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
11.	pH	NA	6.98	8.01	7.55	7.21	7.88	7.12	7.42
12.	Colour	NTU	5	5	2	5	2	2	2
13.	Taste	NA	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable

14.	Turbidity (TUR)	Hazen	0.4	1.1	0.1	0.4	0.2	0.1	0.2
15.	TDS	mg/l	713	697	611	765	476	401	534
16.	Calcium (Ca)	mg/l	99.8	97.6	85.6	107.1	66.7	56.2	74.8
17.	Iron (Fe)	mg/l	0.44	0.32	0.28	0.39	0.19	0.48	0.56
18.	Magnesium (Mg)	mg/l	6.4	6.3	5.5	6.9	4.3	3.6	4.8
19.	Chlorides (Cl)	mg/l	190.3	186.2	163.2	204.2	127.2	107.2	142.6
20.	Sulphates (SO_4)	mg/l	42.1	41.1	36.1	45.1	28.1	23.7	31.5
21.	Free Residual Chloride (RFC)	--	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)
22.	Fluoride (F)	mg/l	0.29	0.34	0.18	0.42	0.25	0.36	0.44
23.	Nitrate (NO_3)	mg/l	13.54	13.25	11.62	14.53	9.05	7.63	10.15
24.	Total Alkalinity ($CaCO_3$)	mg/l	242	216	226	237	176	116	171
25.	Total Hardness ($CaCO_3$)	mg/l	299	314	251	352	200	157	192
26.	BOD	--	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	2.2	2.8
27.	COD	--	BLQ(LOQ:5.0)	BLQ(LOQ:5.0)	BLQ(LOQ:5.0)	BLQ(LOQ:5.0)	BLQ(LOQ:5.0)	36	52
28.	Dissolved Oxygen	mg/l	6.6	6.8	7.1	6.5	6.7	5.4	5.8
29	Total Coliform	CFU/100ml	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT
30	E.Coli.	CFU/100ml	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT	ABSENT

*Source: On-site monitoring/sampling **Interstellar Testing Centre Private Limited**, in association with GTMS.*

Rainfall

Rainfall data for the study area were collected for the period of 1981-2021(POWER | Data Access Viewer (nasa.gov)**)**. Long term monthly average rainfall was estimated from the data of 1981-2021 and compared with the monthly rainfall for the year 2022, shown in Figure 3.9. The Figure 3.9 shows that rainfall is generally high in the months of September through November in every year. Particularly, rainfall in April through August and October of 2022 is higher than the previous years.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981-2022	11.74	7.85	11.71	29.29	57.75	34.16	48.71	59.97	105.54	138.33	128.29	55.86
Monthly Rainfall(2022)	18.48	2.92	27.73	75.52	86.35	89.65	108.05	127.84	81.07	155.28	123.85	78.81

Figure 3.9 Long-Term Monthly Average Rainfall Vs Monthly Rainfall

HYDROGEOLOGICAL STUDY

3.4.3 Groundwater Levels and Flow Direction

Data regarding depth to groundwater levels are essential to infer the direction of groundwater movement within the study area. Knowledge of groundwater flow direction is must in choosing location for background groundwater quality monitoring well and in locating recharge and discharge areas. Therefore, data regarding groundwater elevations were collected from 9 open wells and 9 bore wells at various locations within 2 km radius around the proposed project sites for the period from March through May 2025 (Pre-Monsoon Season) and from October through December 2025, (Post Monsoon Season).

The open well water level data thus collected onsite are provided in Tables 3.12 and 3.13. According to the data, average depths to the static water table in open wells range from 12.5 to 16.5 m BGL in pre monsoon and 9.1 to 13.9 m BGL in post monsoon. The bore well data thus collected onsite are provided in Tables 3.14 and 3.15. The average depths to static

potentiometric surface in bore wells for the period of October through December (Post-Monsoon Season) vary from 60.4 to 69.5 m and from 65.6 to 75.2 m for the period of March through May, (Pre-Monsoon Season). Data on the depths to static water table and potentiometric surface were used to draw contour lines connecting groundwater elevation (also known as equipotential hydraulic head) to determine the groundwater flow direction perpendicular to the contour lines.

Table 3.12 Pre-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Static Water Table BGL (m)				Latitude	Longitude
	Mar-2025	Apr-2025	May-2025	Average		
OW01	14.6	14.8	15.2	14.87	10°56'15.27"N	77°57'47.79"E
OW02	14.8	15.1	15.6	15.17	10°56'48.61"N	77°57'55.76"E
OW03	15.7	15.9	16.2	15.93	10°57'21.33"N	77°58'16.93"E
OW04	15.4	15.7	16.1	15.73	10°57'7.96"N	77°57'38.22"E
OW05	15.8	16.2	16.5	16.17	10°56'56.06"N	77°57'9.96"E
OW06	13.9	14.3	14.8	14.33	10°56'39.18"N	77°58'54.84"E
OW07	12.5	13.2	13.7	13.13	10°55'57.88"N	77°58'20.65"E
OW08	14.5	14.8	15.2	14.83	10°56'55.18"N	77°59'6.20"E
OW09	15.1	15.5	15.7	15.43	10°57'1.24"N	77°57'53.44"E

Source: Onsite monitoring data

Table 3.13 Post-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Static Water Table BGL(m)				Latitude	Longitude
	Oct-2025	Nov- 2025	Dec-2025	Average		
OW01	11.5	11.2	10.8	11.17	10°56'15.27"N	77°57'47.79"E
OW02	12.2	11.8	11.2	11.73	10°56'48.61"N	77°57'55.76"E
OW03	13.8	12.4	11.7	12.63	10°57'21.33"N	77°58'16.93"E
OW04	13.4	12.6	12.2	12.73	10°57'7.96"N	77°57'38.22"E
OW05	13.9	13.2	12.5	13.20	10°56'56.06"N	77°57'9.96"E
OW06	10.6	10.2	9.6	10.13	10°56'39.18"N	77°58'54.84"E
OW07	9.7	9.5	9.1	9.43	10°55'57.88"N	77°58'20.65"E
OW08	11.2	10.8	10.2	10.73	10°56'55.18"N	77°59'6.20"E
OW09	11.5	11.1	10.7	11.10	10°57'1.24"N	77°57'53.44"E

Source: Onsite monitoring data

Table 3.14 Pre-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Static Potentiometric Surface BGL(m)				Latitude	Longitude
	Mar-2025	Apr-2025	May- 2025	Average		
BW01	72.5	72.8	73.5	72.93	10°57'0.45"N	77°57'50.36"E
BW02	73.5	74.2	75.2	74.30	10°56'49.18"N	77°57'31.59"E
BW03	71.8	72.4	73.4	72.53	10°56'32.23"N	77°57'28.69"E
BW04	65.4	66.8	67.2	66.47	10°56'0.13"N	77°58'31.46"E
BW05	73.2	73.5	74.6	73.77	10°57'14.83"N	77°58'46.31"E
BW06	65.6	66.2	67.1	66.30	10°56'18.57"N	77°59'13.17"E
BW07	72.1	72.9	73.4	72.80	10°56'30.54"N	77°57'7.49"E
BW08	72.4	73.1	73.5	73.00	10°56'12.87"N	77°57'52.04"E

Source: Onsite monitoring data

Table 3.15 Post-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Static Potentiometric Surface BGL(m)				Latitude	Longitude
	Oct-2025	Nov-2025	Dec-2025	Average		
BW01	68.4	67.4	66.2	67.33	10°57'0.45"N	77°57'50.36"E

BW02	69.5	68.2	67.3	68.33	10°56'49.18"N	77°57'31.59"E
BW03	68.2	67.8	67.2	67.73	10°56'32.23"N	77°57'28.69"E
BW04	62.4	67.3	66.5	65.40	10°56'0.13"N	77°58'31.46"E
BW05	65.7	61.5	60.4	62.53	10°57'14.83"N	77°58'46.31"E
BW06	62.3	65.2	64.3	63.93	10°56'18.57"N	77°59'13.17"E
BW07	66.2	61.6	60.2	62.67	10°56'30.54"N	77°57'7.49"E
BW08	66.4	65.2	64.6	65.40	10°56'12.87"N	77°57'52.04"E

Source: Onsite monitoring data

The water samples were collected from both borewells and dug wells during the pre-monsoon and post-monsoon in order to understand the water table dynamics within 2km radius of the lease area. After interpreting the observed values of water table depths in the sampling locations gradual variations in the depths were inferred from pre-monsoon to the post monsoon (Table 3.12 to 3.15). But this variation might be the usual due to differential downpour in the region. The uncertainty of the monsoon plays a vital role in the fluctuation of water depths in and around the lease area. As mentioned in rainfall data (1981-2021) and 2022, the region experiencing higher rainfall during the months of September to November than the other months of the year. The difference in depth of water table of open wells and borewells in the sampling locations exposes a gradual increase during the pre-monsoon and evidencing the decrease in depth during the post monsoon. This shows the rainfall influencing the water table of the region by the recharging the water bearing bodies naturally and regularly. And can be concluded that, mining activities has no impact on the quality and quantity of ground water in and around the lease area.

Water Balance management in site

A sustainable eco-friendly water management strategy will be adopted in this project. Since the water requirement during the mining period is estimated about 3.5KLD for drinking, domestic and sanitary needs, creation and maintenance of green belt and for sprinkling purposes. The drinking water must be pure and safe, so it will be outsourced from nearby vendors/ RO- water plant will be installed in the site. The artificial rainwater harvesting structures are planned in and around the site. The excavated pits nearby the site will be connected by the garland drain system and water will be stored and this water will be utilised for the green belt maintenance and dust suppression sprinkling purpose. The rooftop harvesting structure is also planned from the labour sheds and other structures will be connected to the nearby excavated pits and utilised. These implementations will reduce the dependency of water from the nearby borewells and open wells. According to the soil resistivity data of the region, few locations are porous and permeable in nature. It will help in infiltration of rainwater and recharge the aquifer naturally during monsoon. This sustainable strategy will be helpful in maintaining the water balance within 2km radius of project site.

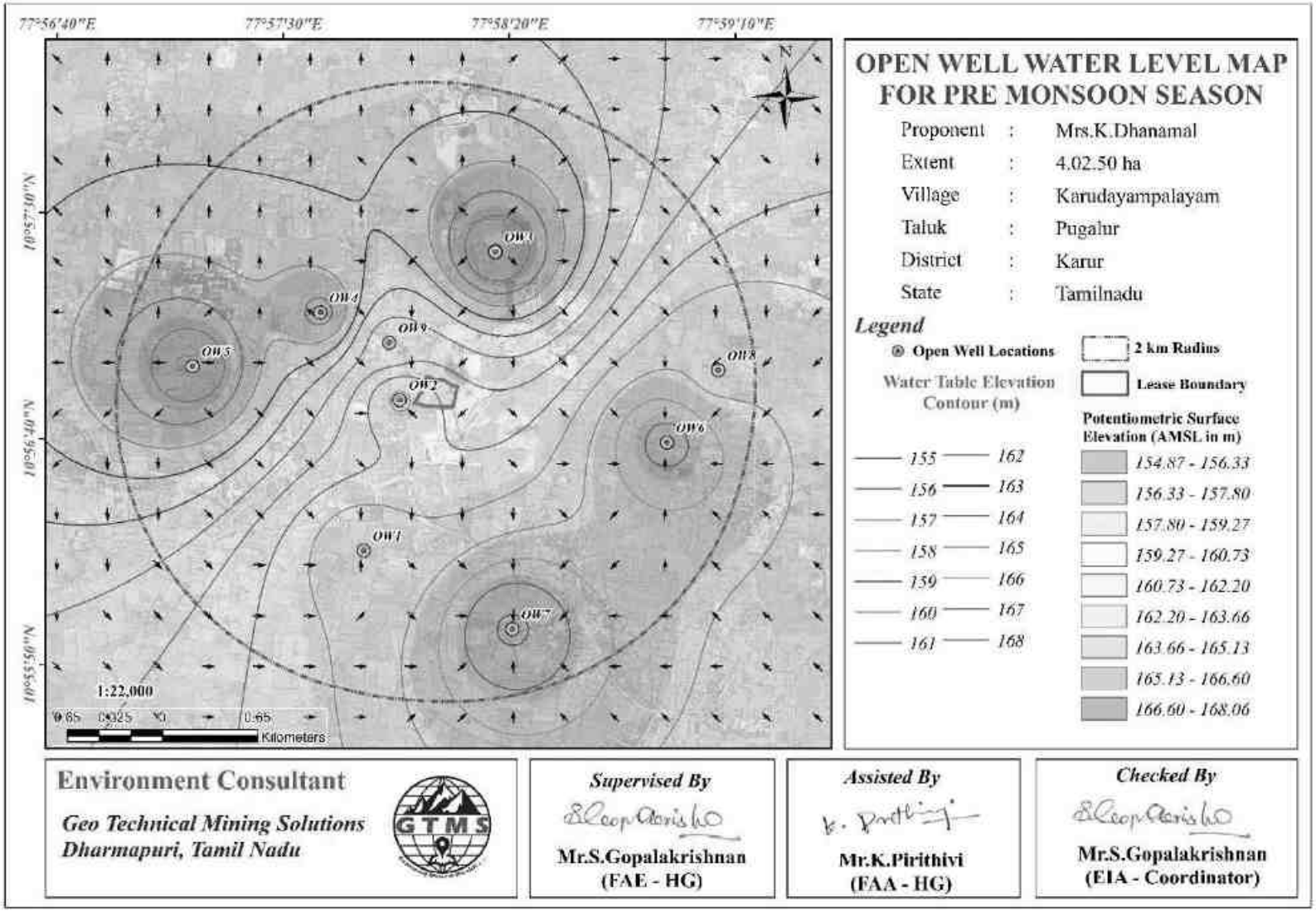


Figure 3.10 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre-Monsoon Season

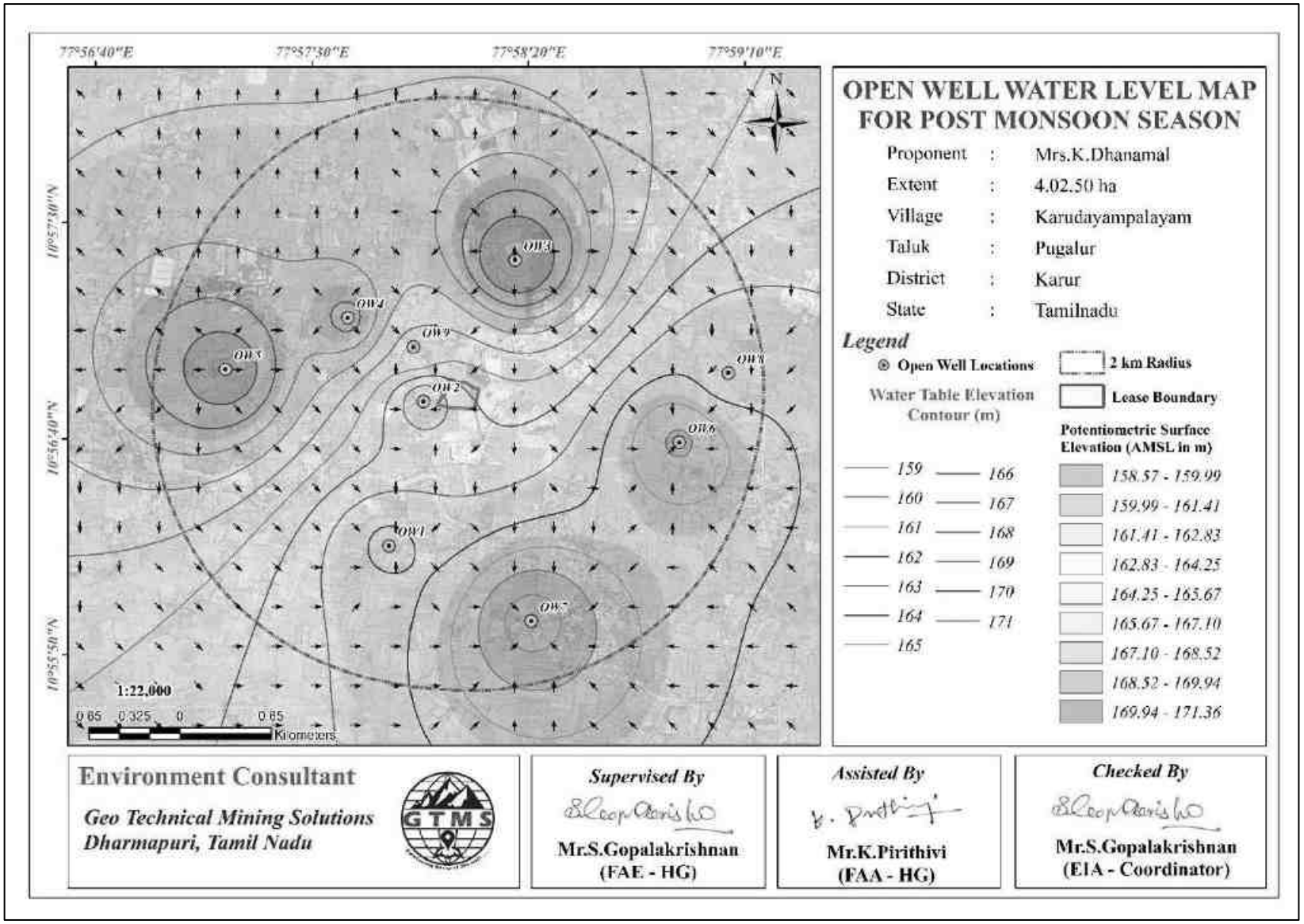


Figure 3.11 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

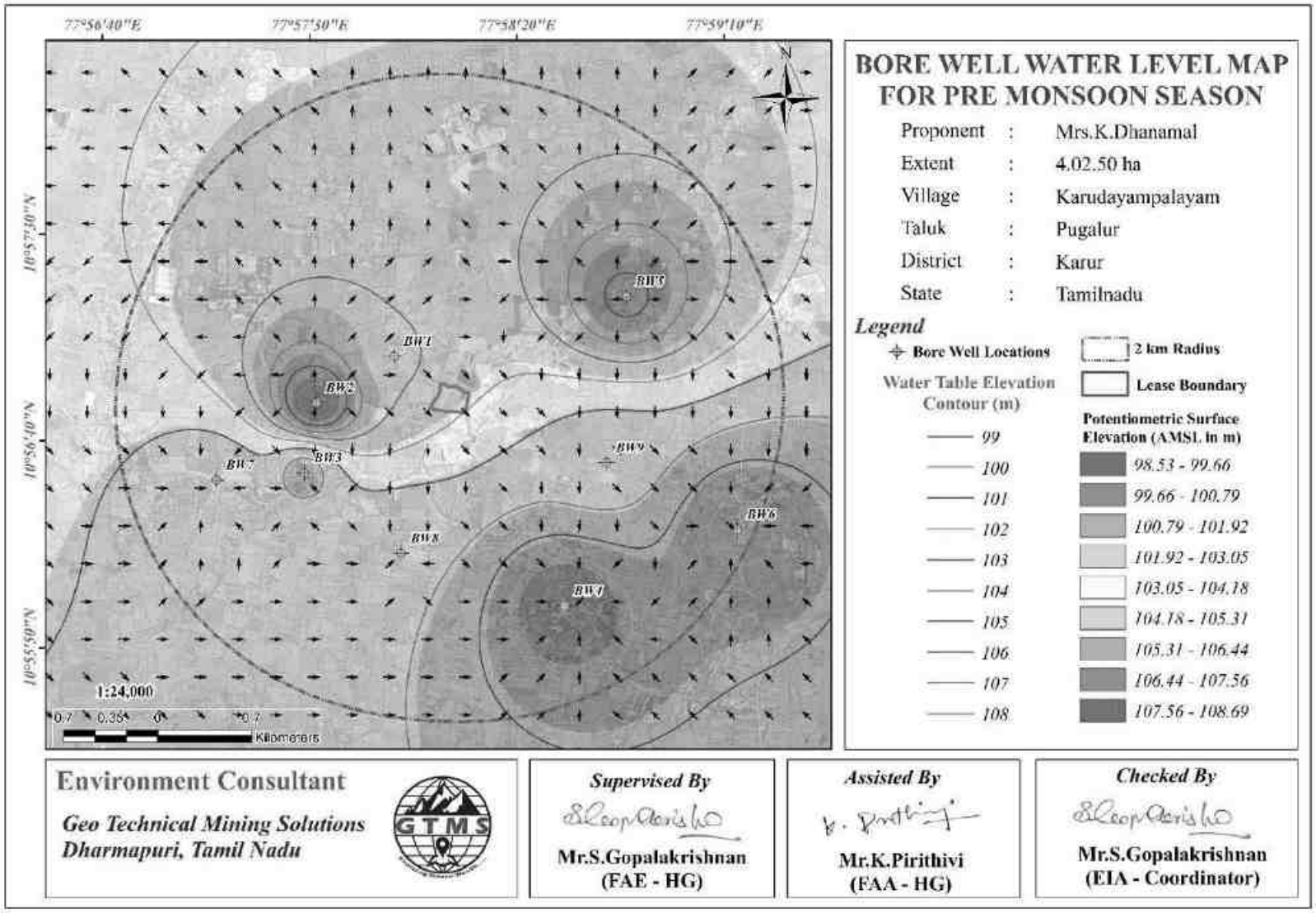


Figure 3.12 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre-Monsoon Season

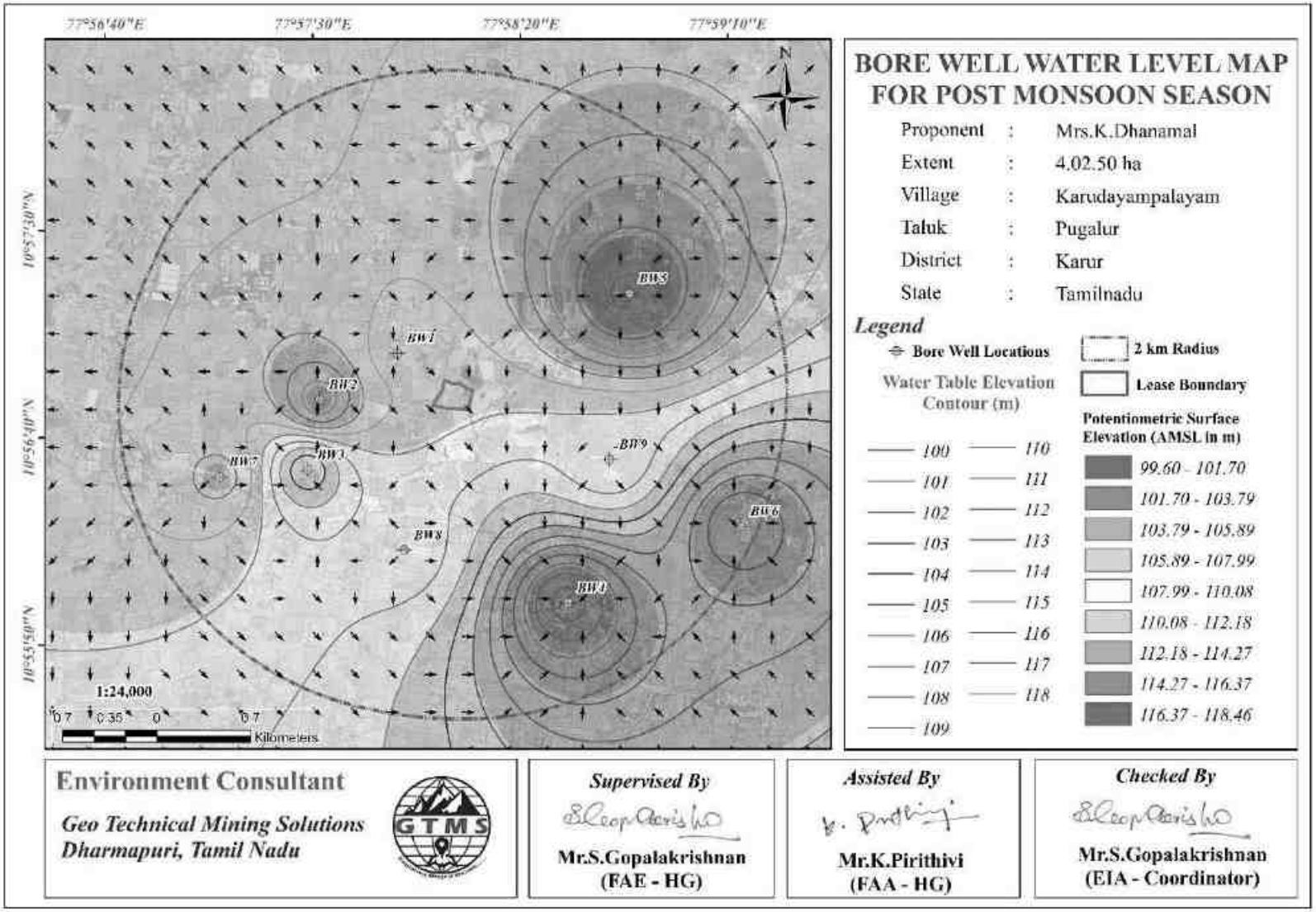


Figure 3.13 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

3.4.4 Electrical Resistivity Investigation

Electrical resistivity investigation is especially useful in the areas where there are no adequate exploratory well data about the aquifer conditions. The present study makes use of vertical electric sounding (VES) to delineate earth's subsurface layers. The electrical resistivity investigation uses four electrodes set up where current is sent through outer electrodes into the ground and the inner electrodes measure the potential difference.

Result

The Geophysical VES data obtained from the project site have been shown in Table 3.16. The field data obtained from a detailed geophysical investigation were plotted using excel spreadsheet for interpretation. The plot for the purpose of interpretation has been shown in Figure 3.14.

Table 3.16 Vertical Electrical Sounding Data

Location Coordinates - 10°56'46.03"N 77°58'14.29"E					
S. No.	**AB/2 (m)**	**MN/2 (m)**	**Geometrical Factor (G)**	**Resistance in Ω**	**Apparent Resistivity in Ωm**
1	2	2	11.78	13.248	156.061
2	4	2	49.46	6.127	303.041
3	6	5	112.26	3.937	441.968
4	8	5	200.18	2.798	560.104
5	10	5	75.36	8.997	678.014
6	15	10	173.49	5.188	900.066
7	20	10	310.86	3.558	1106.04
8	25	10	487.49	2.603	1268.94
9	30	10	274.75	5.001	1374.02
10	35	10	376.8	3.883	1463.11
11	40	10	494.55	3.160	1562.78
12	45	10	628	2.683	1684.92
13	50	10	777.15	1.943	1710.13
14	60	20	453.6	2.213	1922.1
15	70	20	989.1	2.651	1003.82
16	80	20	1256	2.196	2758.18
17	90	20	1554.3	1.846	2869.24
18	100	20	1653.6	2.213	3659.42

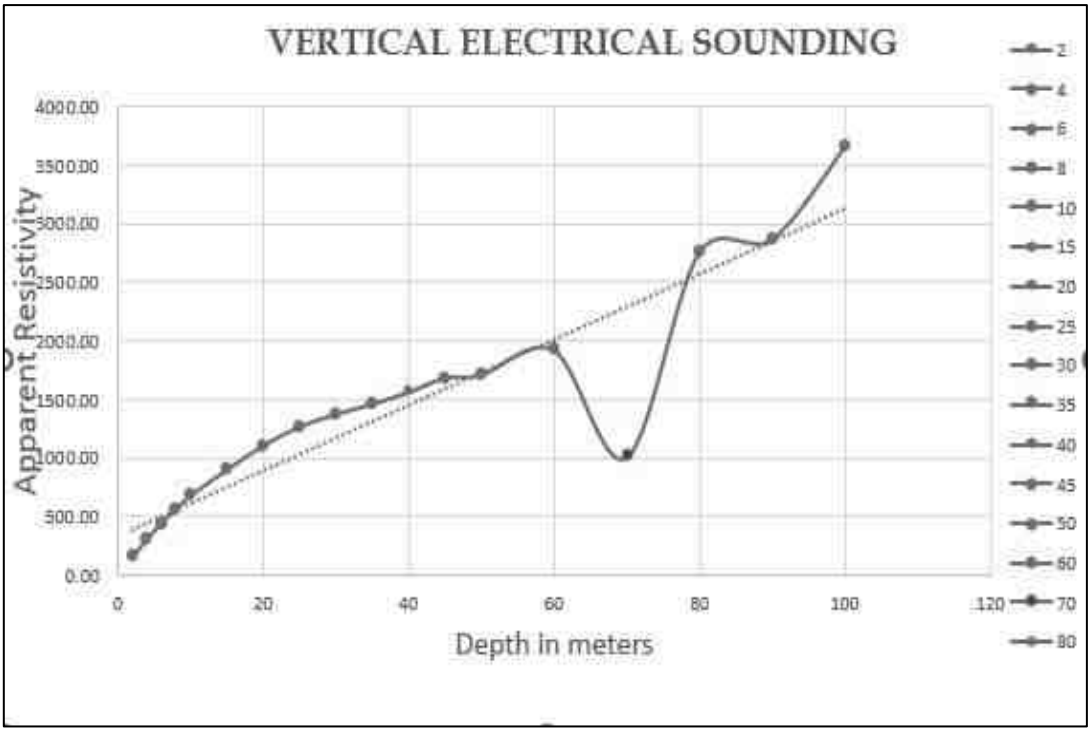


Figure 3.14 Graph Showing Occurrence of Water Bearing Fracture Zones at the Depth of 75m Below Ground Level in Proposed Project

The rock formation of low resistivity values indicates occurrence of water at the depth of about 75m below ground level. The ultimate depth of the proposed project is 70m below ground level. Therefore, the mining operation will not affect the aquifer throughout the entire mine life period.

Soil Resistance Test (SRT)

Soil electrical resistivity testing involves a systematic approach. The procedure includes site preparation, electrode placement, current injection, voltage measurement, and subsequent data analysis. The collected data helps in creating a resistivity profile of the soil, offering valuable insights for various applications. It assesses the soil's electrical properties, providing valuable data for diverse applications, including construction, grounding systems, and environmental impact assessments.

WENNER METHOD

Wenner Method is a widely used technique for soil resistivity testing. This method involves placing four equally spaced electrodes in the ground, forming a square or rectangle. The distance between these electrodes and the depth of insertion are crucial parameters in the accurate measurement of soil resistivity. It involves inserting electrodes into the soil and measuring the voltage drop to calculate the soil’s resistivity. High resistivity soils are generally less corrosive than low resistivity soils.

$$Resistivity, \rho = 2\pi AR$$

In this formula:

- **ρ** represents the soil resistivity, measured in ohm-meters (Ω·m).
- **A** is the spacing between adjacent electrodes, measured in meters (m).
- **R** denotes the measured resistance between the inner electrodes, in ohms (Ω).
- The factor **2π** accounts for the geometric arrangement of the electrodes in the Wenner configuration.

Field Procedure to conduct Werner's test:

- Four electrodes are inserted into the earth at an equal distance, to a depth of one-third of their distance.
- The outer electrodes are called current electrodes (C1 and C2) and the inner probes are called potential electrodes (P1 and P2).
- You can use an earth resistance tester to measure the soil resistance. Connect the measurement probes to the electrodes and to the measurement and read the resistance values.
- Continue measuring the soil resistivity by moving the electrodes far apart from C1 at an equal distance and inserting the probes deeper.
- Note down the resistances at difference distances and depths and calculated the resistivity using the following formula.

In conclusion, soil resistivity testing is a vital component in various industries, ensuring the efficient design and implementation of projects while meeting regulatory requirements. Understanding the methods, procedures, and associated costs empowers professionals and stakeholders to make informed decisions, fostering sustainable development.

3.5 AIR ENVIRONMENT

The baseline studies on air environment include identification of specific air pollutants and their existing levels in ambient air. The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities.

3.5.1 Meteorology

3.5.1.1 Climatic Variables

A temporary meteorological station was installed at the project sites by covering cluster quarries. The station was installed at a height of 3m above the ground level as there are no

obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature. Meteorological data obtained from the onsite monitoring station are provided in Table 3.17.

Table 3.17 Onsite Meteorological Data

S. No.	Parameters		March, 2025	April, 2025	May, 2025
1	Temperature (^{0}C)	Min	18.82	23.37	23.25
		Max	39.91	38.65	38.24
		Avg	29.04	30.04	29.47
2	Relative Humidity (%)	Min	12.79	24.5	30.05
		Max	100	95.31	94.95
		Avg	58.26	62.51	67.47
3	Wind Speed (m/s)	Min	0.02	0.07	0.16
		Max	6.23	4.13	7.99
		Avg	2.02	1.62	2.49
4	Wind Direction (degree)	Min	2.8	3.8	2.6
		Max	359.2	359.40	350
		Avg	111.67	155.75	240.60
5	Surface Pressure(kPa)	Min	97.91	97.92	97.69
		Max	99.16	98.9	98.59
		Avg	98.57	98.37	98.14

*Source: On-site monitoring/sampling by **Interstellar Testing Centre Private Limited** in association with GTMS*

3.5.1.2 Wind Pattern

Wind pattern will largely influence the dispersion pattern of air pollutants and noise from the proposed project site. Analysis of wind pattern requires hourly site-specific data of wind speed and direction. Two types of wind rose were generated: historical seasonal wind rose for the period of March through May of the years from 2021 to 2024 and the seasonal wind rose for the study period of March through May 2025. The wind rose diagrams thus produced are shown in Figures 3.15-3.15a. Figure 3.16 reveals that:

- The measured average wind velocity during the study period is 2.03m/s.
- Predominant wind was dominant in the directions ranging from Southeast to Northeast.

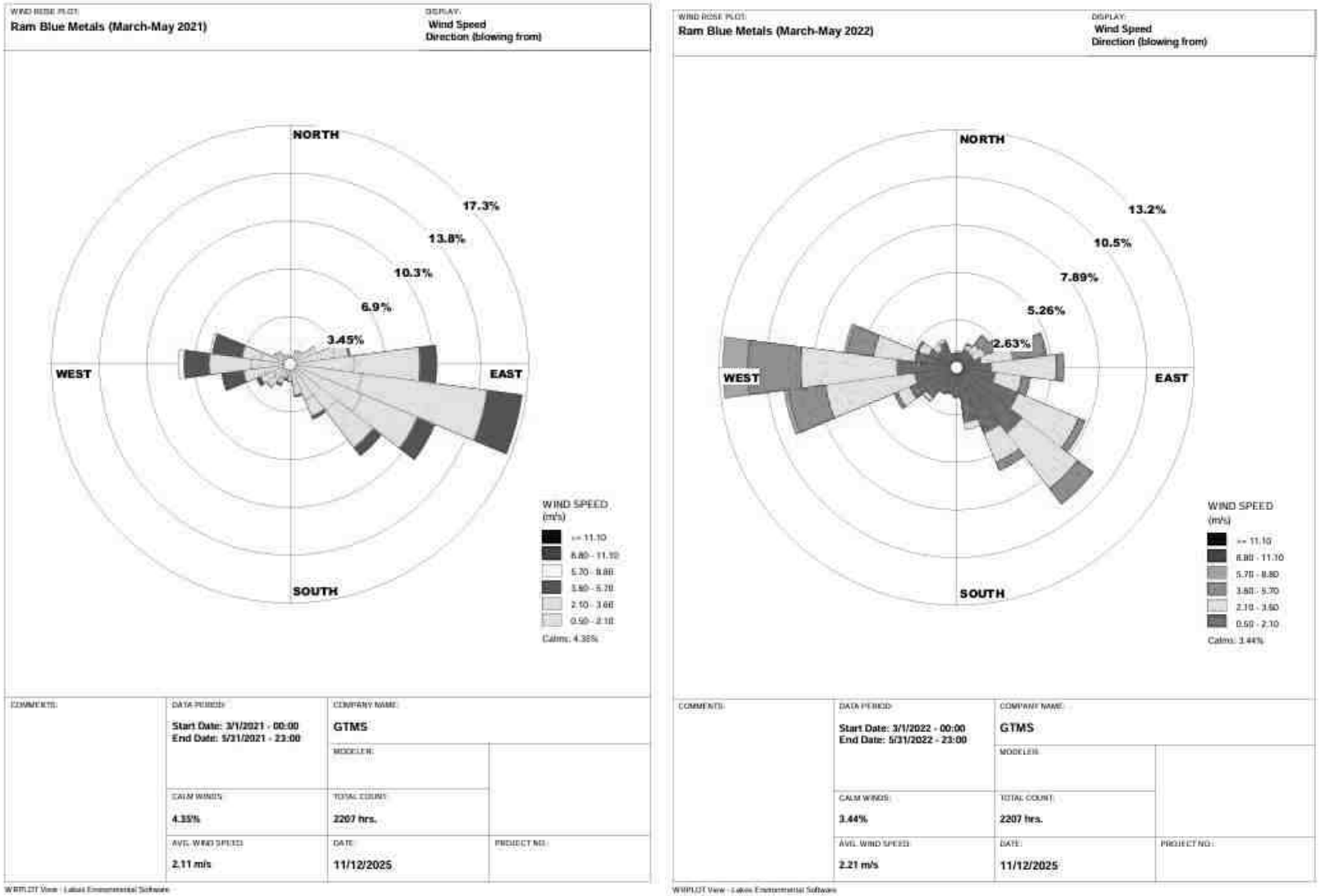
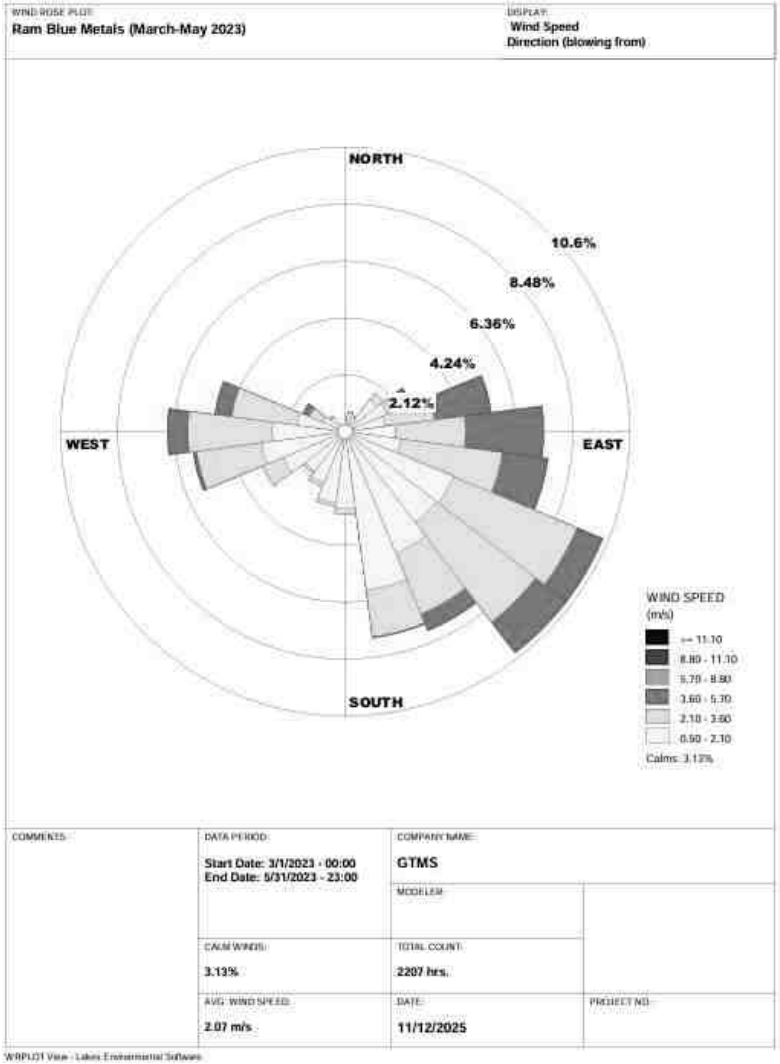


Figure 3.15 Windrose Diagram for 2021 and 2022 (March to May)



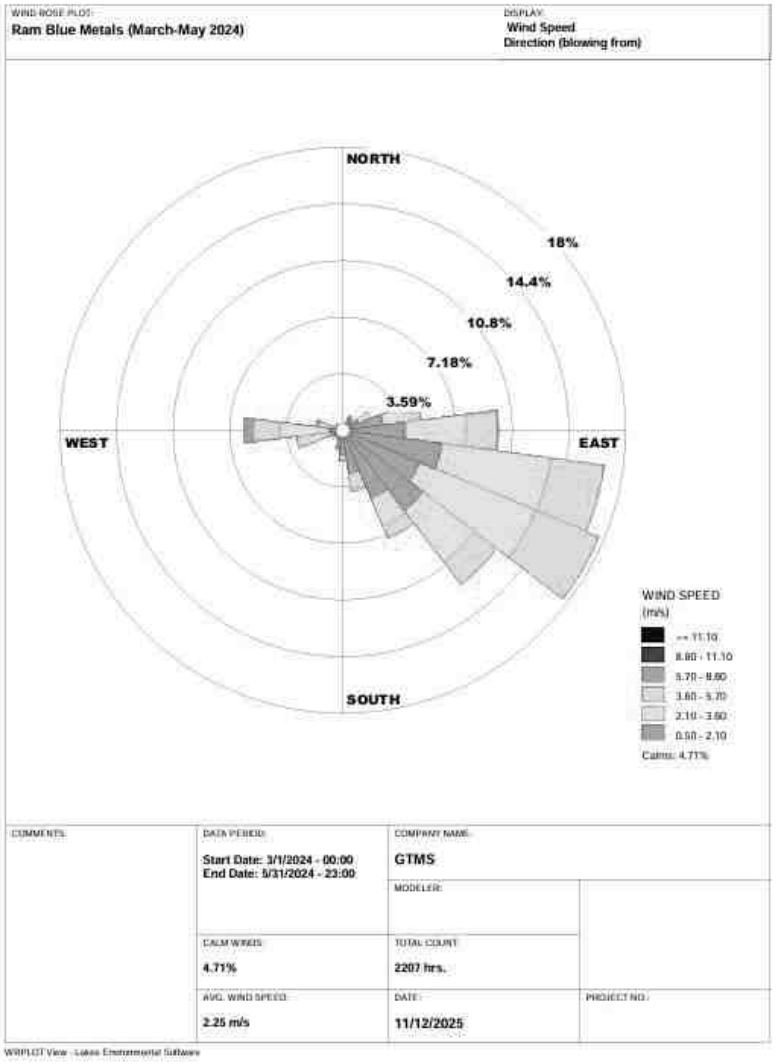


Figure 3.15a Windrose Diagram for 2023 and 2024 (March to May)

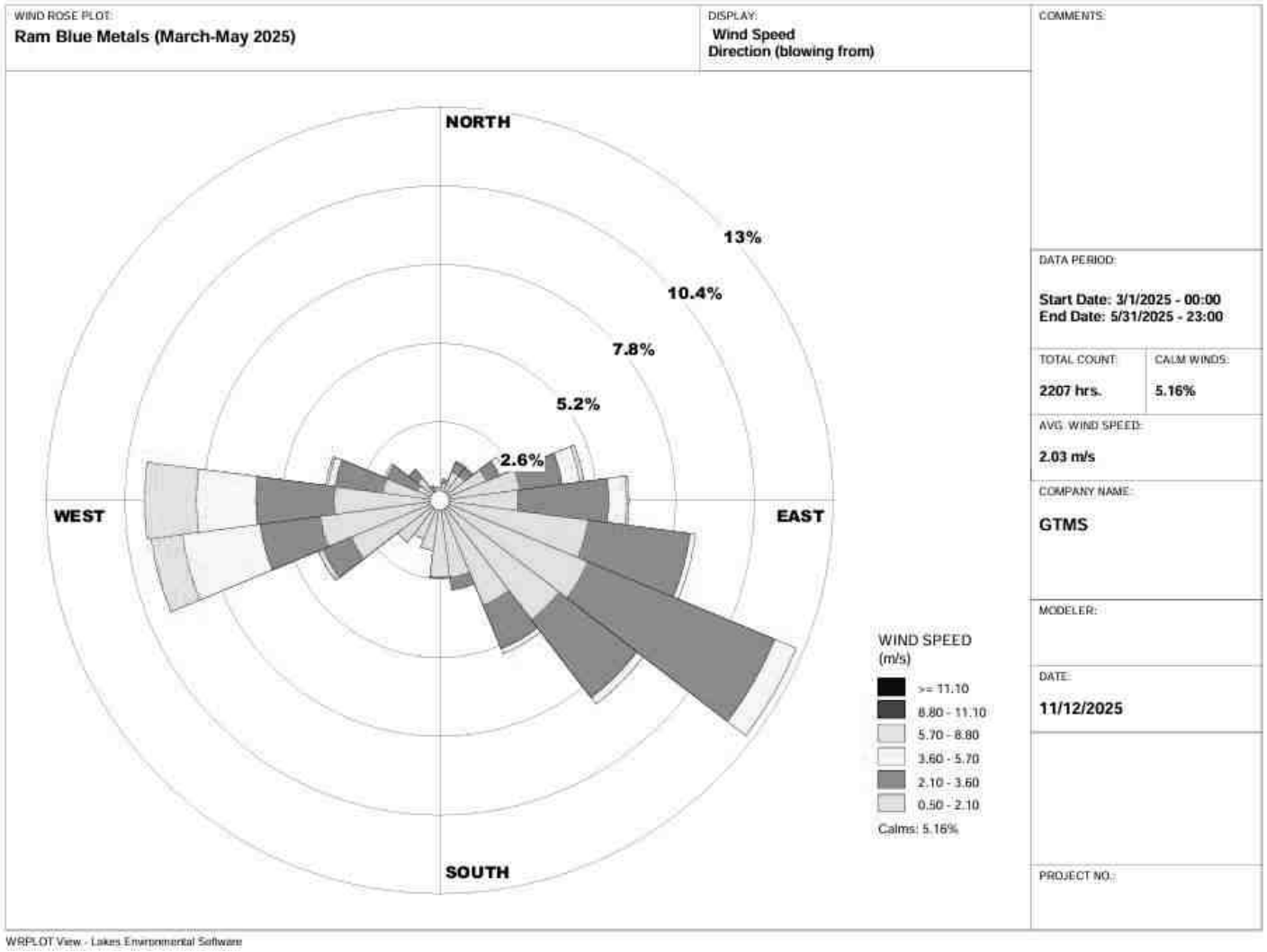


Figure 3.16 Onsite Wind Rose Diagram

3.5.2 Ambient Air Quality Study

The baseline ambient air quality is studied through a scientifically designed ambient air quality monitoring network considering the followings

- Meteorological condition on synoptic scale
- Topography of the study area
- Representatives of regional background air quality for obtaining baseline status
- Location of residential areas representing different activities
- Accessibility and power availability

Table 3.18 Methodology and Instrument Used for AAQ Analysis

Parameter	Method	Instrument
$PM_{2.5}$	Gravimetric method Beta attenuation method	Fine Particulate Sampler
PM_{10}	Gravimetric method Beta attenuation method	Respirable Dust Sampler
SO_2	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
NO_x	IS-5182 Part II (Jacob & Hoch heiser modified method)	Respirable Dust Sampler with gaseous attachment

*Source: Sampling Methodology based **Interstellar Testing Centre Private Limited** & CPCB* Notification

Table 3.19 National Ambient Air Quality Standards

S. No.	Pollutant	Time Weighted Average	Concentration in ambient air	
			Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
1	SO_2 (µg /m^3)	Annual Avg.* 24 hours**	50.0 80.0	20.0 80.0
2	NO_x (µg/m^3)	Annual Avg. 24 hours	40.0 80.0	30.0 80.0
3	PM_{10} (µg/m^3)	Annual Avg. 24 hours	60.0 100.0	60.0 100.0
4	$PM_{2.5}$ (µg/m^3)	Annual Avg. 24 hours	40.0 60.0	40.0 60.0

Source: NAAQS CPCB Notification No. B-29016/20/90/PCI-I Dated: 18th Nov 2009

Methodology

Ambient air quality monitoring was carried out with a frequency of two samples per week at Six (06) locations, adopting a continuous 24 hourly (3 shift of 8- hour) schedule for the period March to May, 2025 as per the CPCB, MoEF guidelines and notifications.

It was ensured that the equipment was placed preferably at a height of at least 3 ± 0.5m above the ground level at each monitoring station for negating the effects of wind-blown ground dust. The equipment was placed at space free from trees and vegetation which otherwise act as a sink of pollutants resulting in lower levels in monitoring results. The baseline data of ambient air were generated for $PM_{2.5}$, PM_{10}, sulphur dioxide (SO_2) and nitrogen dioxide (NO_x). The sampling locations are shown in Figure 3.17 and average concentrations of air pollutants are summarized in Tables 3.20 and are shown in Figures 3.18-3.22.

Table 3.20 Ambient Air Quality (AAQ) Monitoring Locations

Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
AAQ1	Core	-- --	-- --	10°56'48.44"N	77°58'7.37"E
AAQ2	Pudhukkanalli	0.37	NW	10°57'2.32"N	77°57'53.08"E
AAQ3	Pallamarudhapatti	2.11	SE	10°56'19.07"N	77°59'10.68"E
AAQ4	Malapalayampudur	0.93	SW	10°56'32.72"N	77°57'32.25"E
AAQ5	Pavithiram	2.00	NE	10°57'29.58"N	77°59'1.87"E
AAQ6	Karudayampalayam	2.35	NW	10°57'42.49"N	77°57'1.93"E

*Source: On-site monitoring/sampling **Interstellar Testing Centre Private Limited** in association with GTMS*

Results

As per the monitoring data, $PM_{2.5}$ ranges from 15.87 µg/m^3 to 19.52 µg/m^3; PM_{10} from 41.50 µg/m^3 to 50.74 µg/m^3; SO_2 from 5.08 µg/m^3 to 5.80 µg/m^3; NO_x from 10.15µg/m^3 to 11.95g/m^3. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index

The AQI shows that the air quality of the study area falls within good category 44 causing minimal impact to human health.

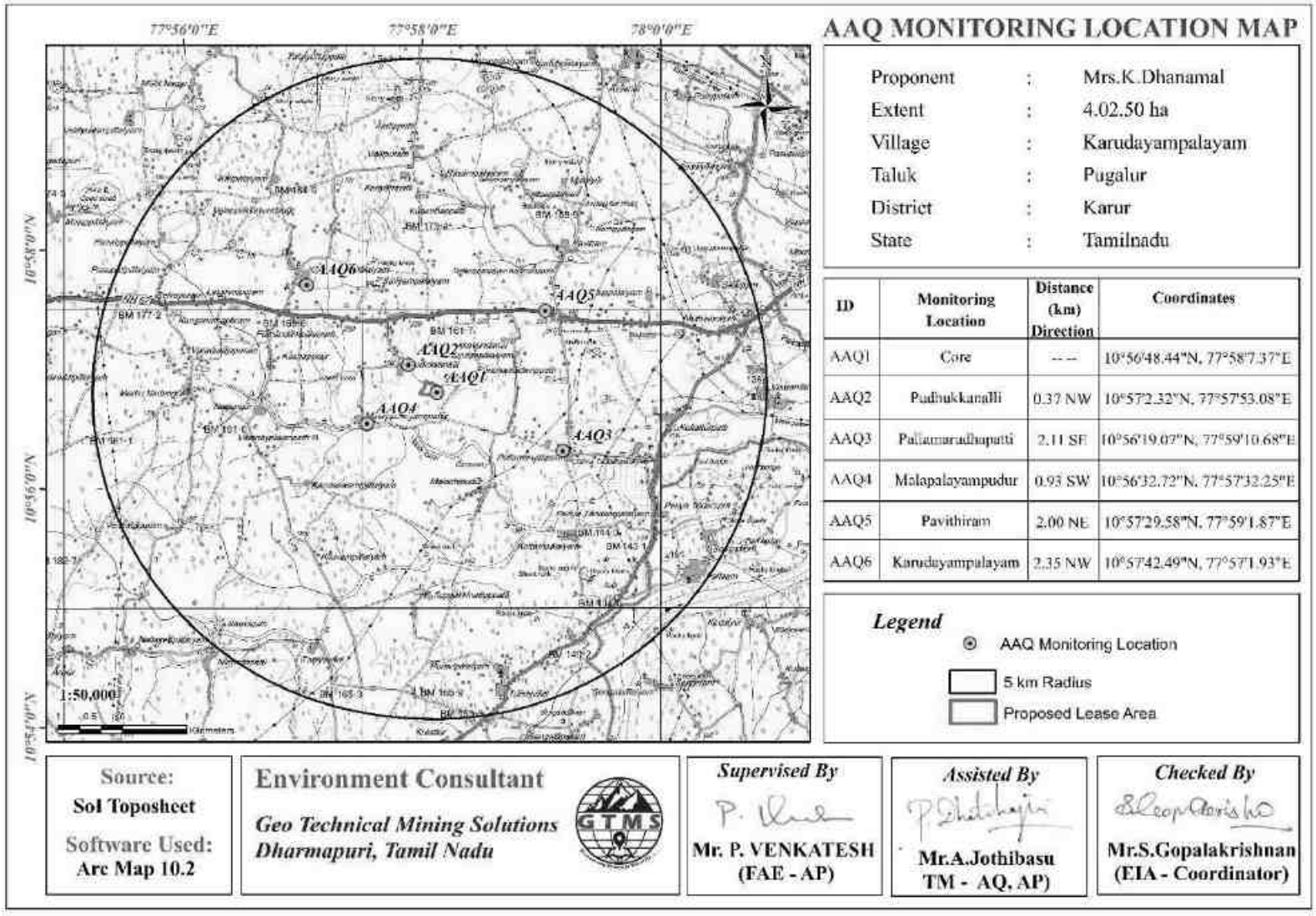


Figure 3.17 Map Showing Ambient Air Quality Monitoring Station Locations Around 5km Radius from Proposed Project Site

Table 3.21 Summary of AAQ Result

	$PM_{2.5}$				PM_{10}			
Station ID	**Max**	**Min**	**Mean**	**98th Percentile**	**Max**	**Min**	**Mean**	**98th Percentile**
AAQ1	20.32	16.21	17.48	20.32	52.83	41.26	45.33	51.23
AAQ2	19.42	15.23	16.82	18.89	50.48	41.61	43.96	49.00
AAQ3	20.17	16.65	17.65	18.23	52.43	43.28	45.79	50.99
AAQ4	18.65	15.27	16.29	18.02	48.50	40.06	43.08	48.19
AAQ5	19.15	15.81	16.97	18.79	49.78	41.12	44.07	48.61
AAQ6	19.40	16.02	16.99	18.96	50.44	41.65	44.13	48.72
	SO_2				NOx			
AAQ1	6.29	5.12	5.54	6.21	12.58	10.21	10.86	12.21
AAQ2	6.01	5.02	5.31	5.95	12.02	10.11	10.62	11.91
AAQ3	6.24	5.25	5.55	6.09	12.48	10.50	10.88	12.06
AAQ4	5.39	5.01	5.14	5.36	10.78	10.01	10.32	10.74
AAQ5	5.39	5.01	5.16	5.35	11.85	9.98	10.37	11.45
AAQ6	5.46	5.08	5.24	5.44	12.01	10.11	10.58	11.66

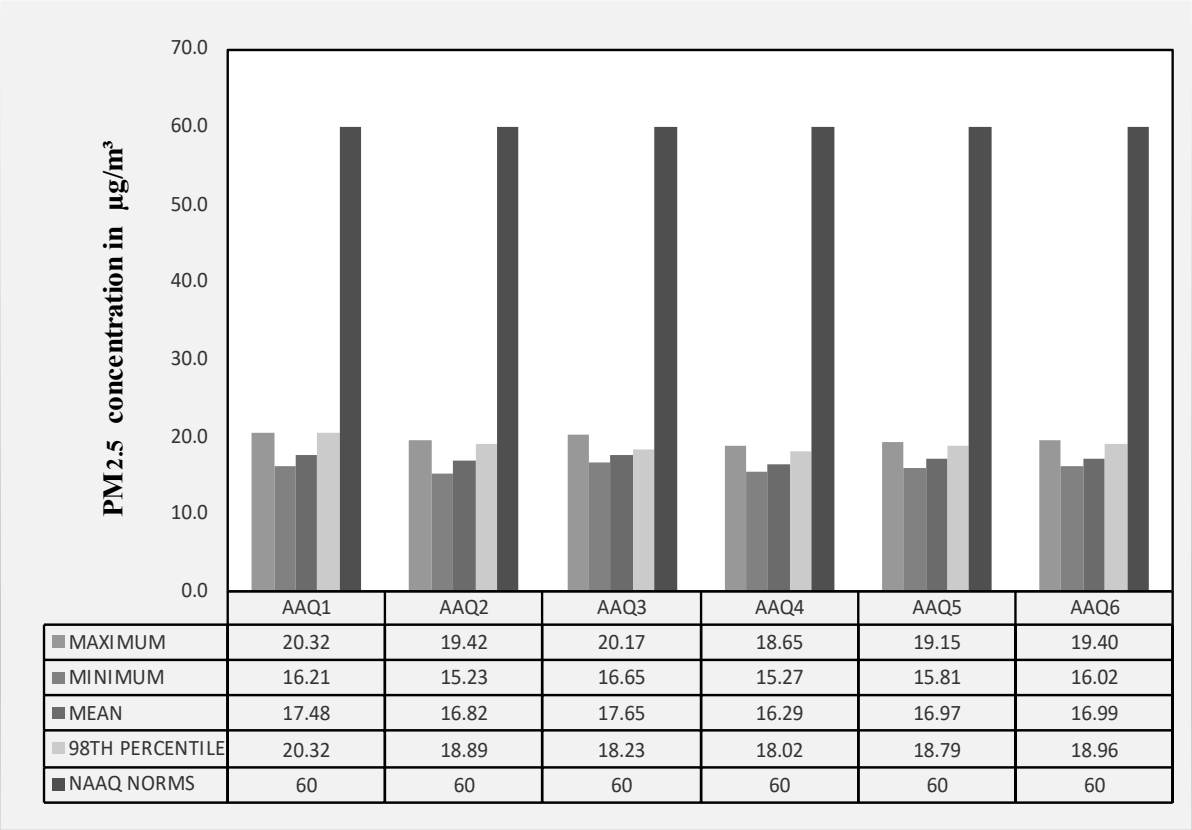
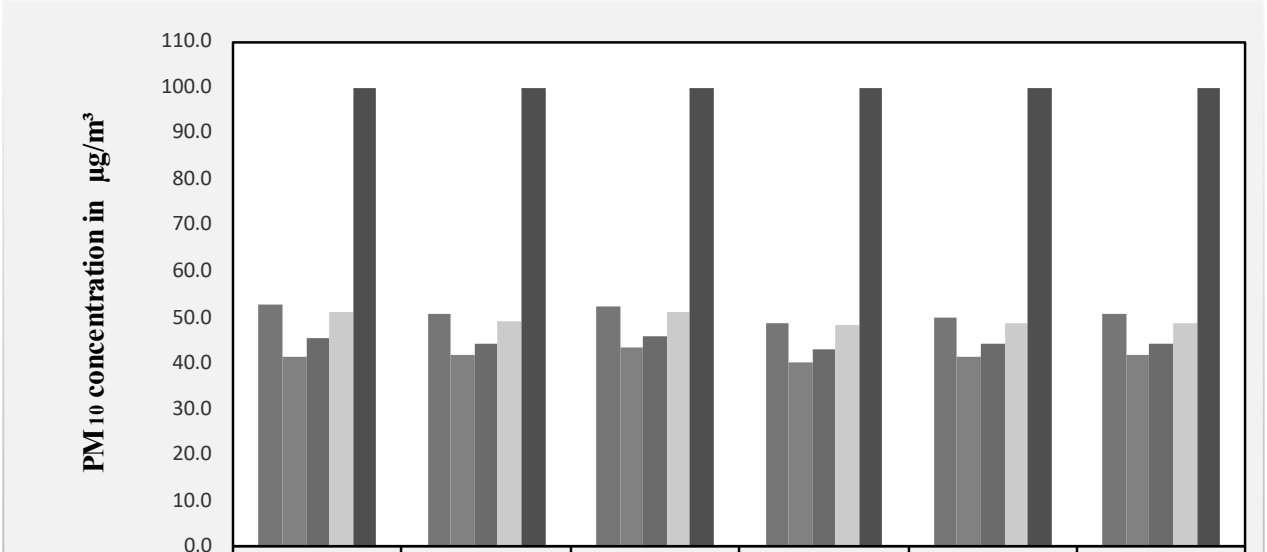
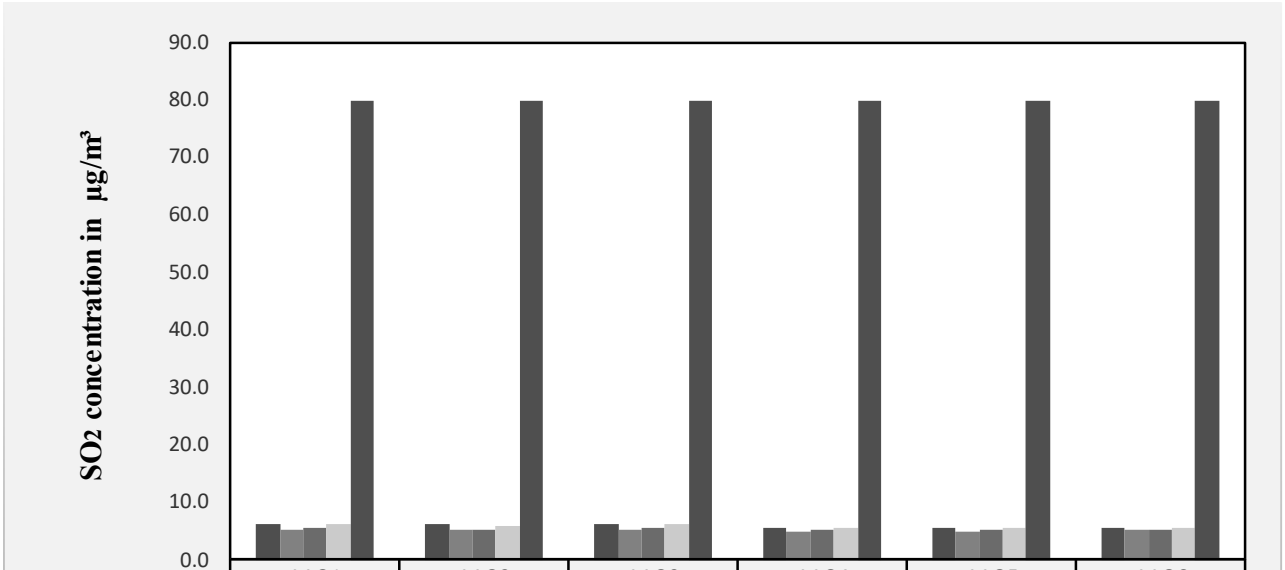


Figure 3.18 Bar Chart Showing Maximum, Minimum, and Average Concentrations of $PM_{2.5}$ Measured from 6 Air Quality Monitoring Stations within 5 km Radius



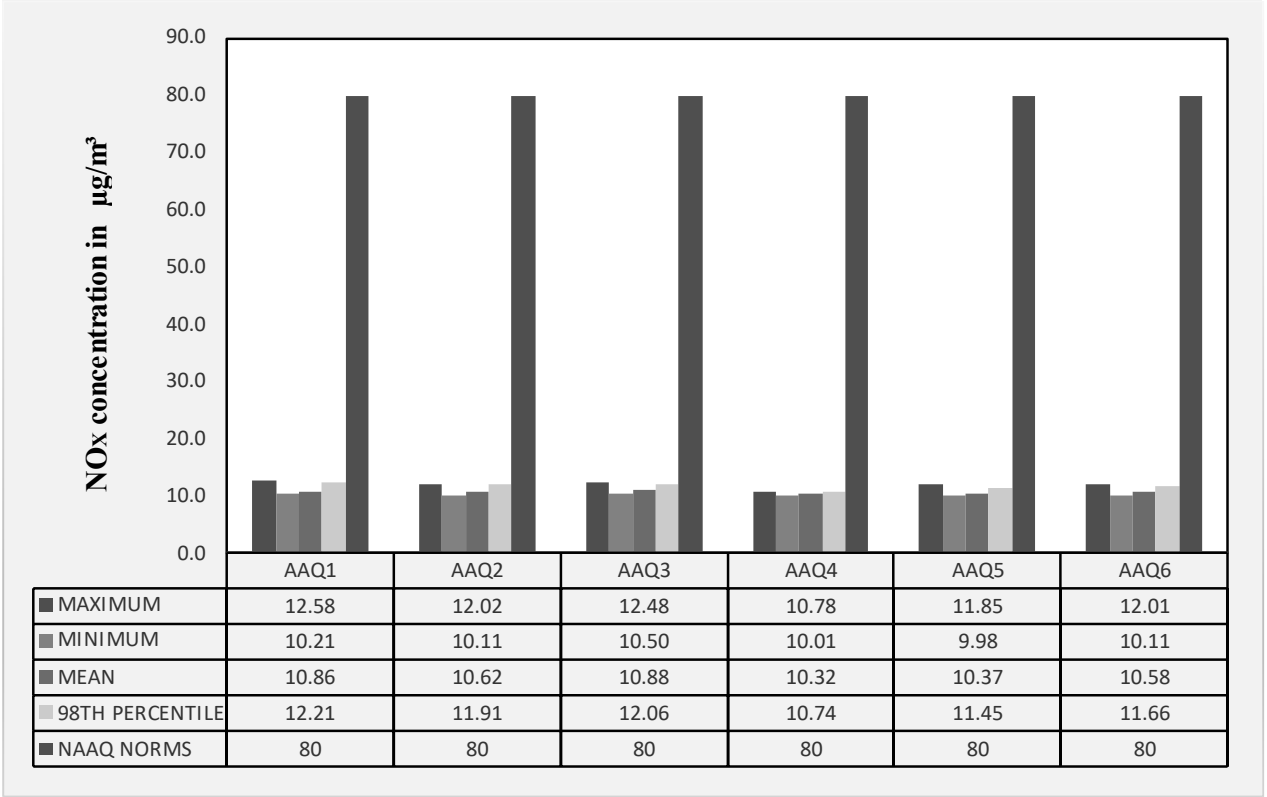
	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6
MAXIMUM	52.83	50.48	52.43	48.50	49.78	50.44
MINIMUM	41.26	41.61	43.28	40.06	41.12	41.65
MEAN	45.33	43.96	45.79	43.08	44.07	44.13
98TH PERCENTILE	51.23	49.00	50.99	48.19	48.61	48.72
NAAQ NORMS	100	100	100	100	100	100

Figure 3.19 Bar Chart Showing Maximum, Minimum, and Average Concentrations of PM_{10} Measured from 6 Air Quality Monitoring Stations within 5 km Radius



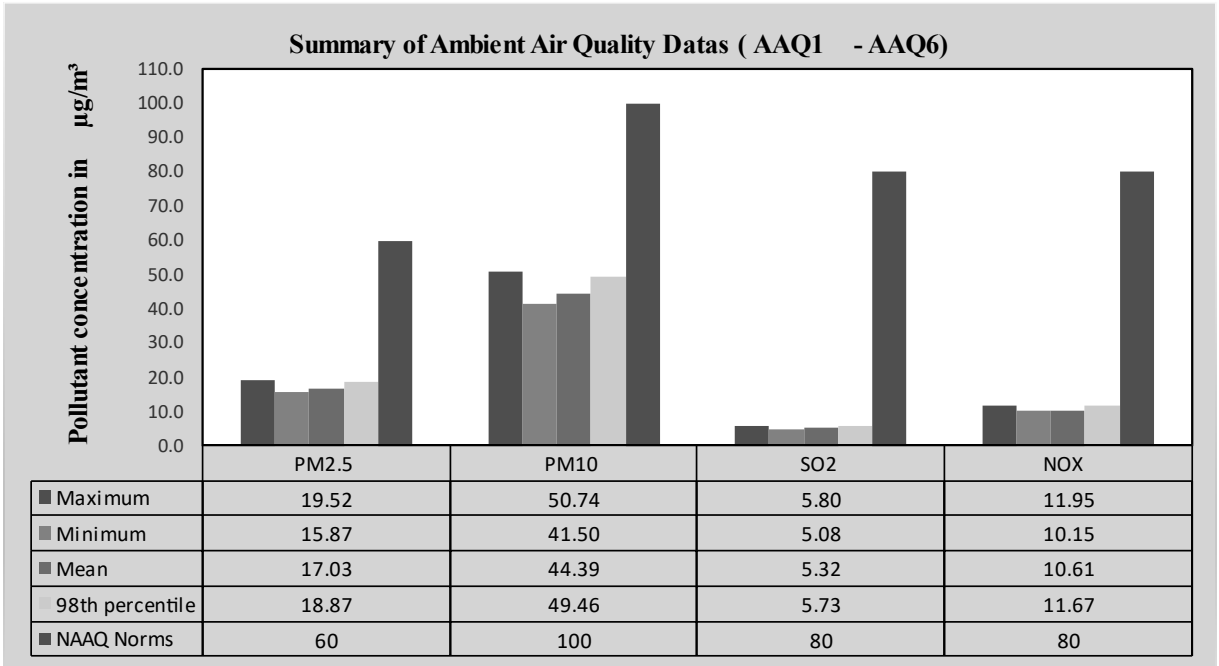
	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6
MAXIMUM	6.29	6.01	6.24	5.39	5.39	5.46
MINIMUM	5.12	5.02	5.25	5.01	5.01	5.08
MEAN	5.54	5.31	5.55	5.14	5.16	5.24
98TH PERCENTILE	6.21	5.95	6.09	5.36	5.35	5.44
NAAQ NORMS	80	80	80	80	80	80

Figure 3.20 Bar Chart Showing Maximum, Minimum, and Average Concentrations of SO_2 Measured from 6 Air Quality Monitoring Stations within 5 km Radius



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6
MAXIMUM	12.58	12.02	12.48	10.78	11.85	12.01
MINIMUM	10.21	10.11	10.50	10.01	9.98	10.11
MEAN	10.86	10.62	10.88	10.32	10.37	10.58
98TH PERCENTILE	12.21	11.91	12.06	10.74	11.45	11.66
NAAQ NORMS	80	80	80	80	80	80

Figure 3.21 Bar Chart Showing Maximum, Minimum, and Average Concentrations of NO_x Measured from 6 Air Quality Monitoring Stations within 5km Radius



	PM2.5	PM10	SO2	NOX
Maximum	19.52	50.74	5.80	11.95
Minimum	15.87	41.50	5.08	10.15
Mean	17.03	44.39	5.32	10.61
98th percentile	18.87	49.46	5.73	11.67
NAAQ Norms	60	100	80	80

Figure 3.22 Bar Chart Showing Maximum, Minimum, And Average Concentrations of Pollutants in Atmosphere within 5 km Radius

3.6 NOISE ENVIRONMENT

The vehicular movement on road and mining activities is the major sources of noise in the study area. The main objective of noise monitoring in the study area is to establish the baseline noise level, which will in turn be used to assess the impact of the total noise expected to be generated during the project operations around the project site. In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Six (06) locations covering commercial, residential, rural areas within the radius of 5 km. Details of noise monitoring locations are provided in Table 3.22 and spatial occurrence of the locations are shown in Figure 3.23.

Table 3.22 Noise Monitoring Locations

S. No.	Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
					Latitude	Longitude
1	N1	Nearby Core	-- --	-- --	10°56'51.64"N	77°58'8.46"E
2	N2	Pudhukkanalli	0.35	NW	10°57'1.42"N	77°57'53.32"E
3	N3	Pallamarudhapatti	2.17	SE	10°56'18.12"N	77°59'12.73"E
4	N4	Malapalayampudur	0.97	SW	10°56'32.26"N	77°57'31.22"E
5	N5	Pavithiram	2.12	NE	10°57'27.12"N	77°59'8.27"E
6	N6	Karudayampalayam	2.51	NW	10°57'44.98"N	77°56'57.12"E

Source: On-site monitoring/sampling by ***Interstellar Testing Centre Private Limited*** *in association with GTMS*

Table 3.23 Ambient Noise Quality Result

Station ID	Location	Environmental setting	Average day noise level (dB(A))	Average night noise level (dB(A))	Day time (6.00 AM – 10.00 PM)	Night time (10.00 PM – 6.00 AM)
					Standard (L_{eq} in dB (A))	
N1	Nearby Core	Industrial Area	48.1	39.8	75	70
N2	Pudhukkanalli	Residential Area	43.9	39.9	75	70
N3	Pallamarudhapatti		46.7	40.6	55	45
N4	Malapalayampudur		44.5	39.5	55	45
N5	Pavithiram		41.1	36.8	55	45
N6	Karudayampalayam		45.3	40.2	55	45

Source: On-site monitoring/sampling by ***Interstellar Testing Centre Private Limited jhu****in association with GTMS*

The Table 3.23 shows that noise level in core zone was 48.1 dB (A) Leq during day time and 39.8 dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 41.1 to 46.7 dB (A) Leq and during night time from 36.8 to 40.6 dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB. The results are also depicted below in Figures 3.24 and 3.25.

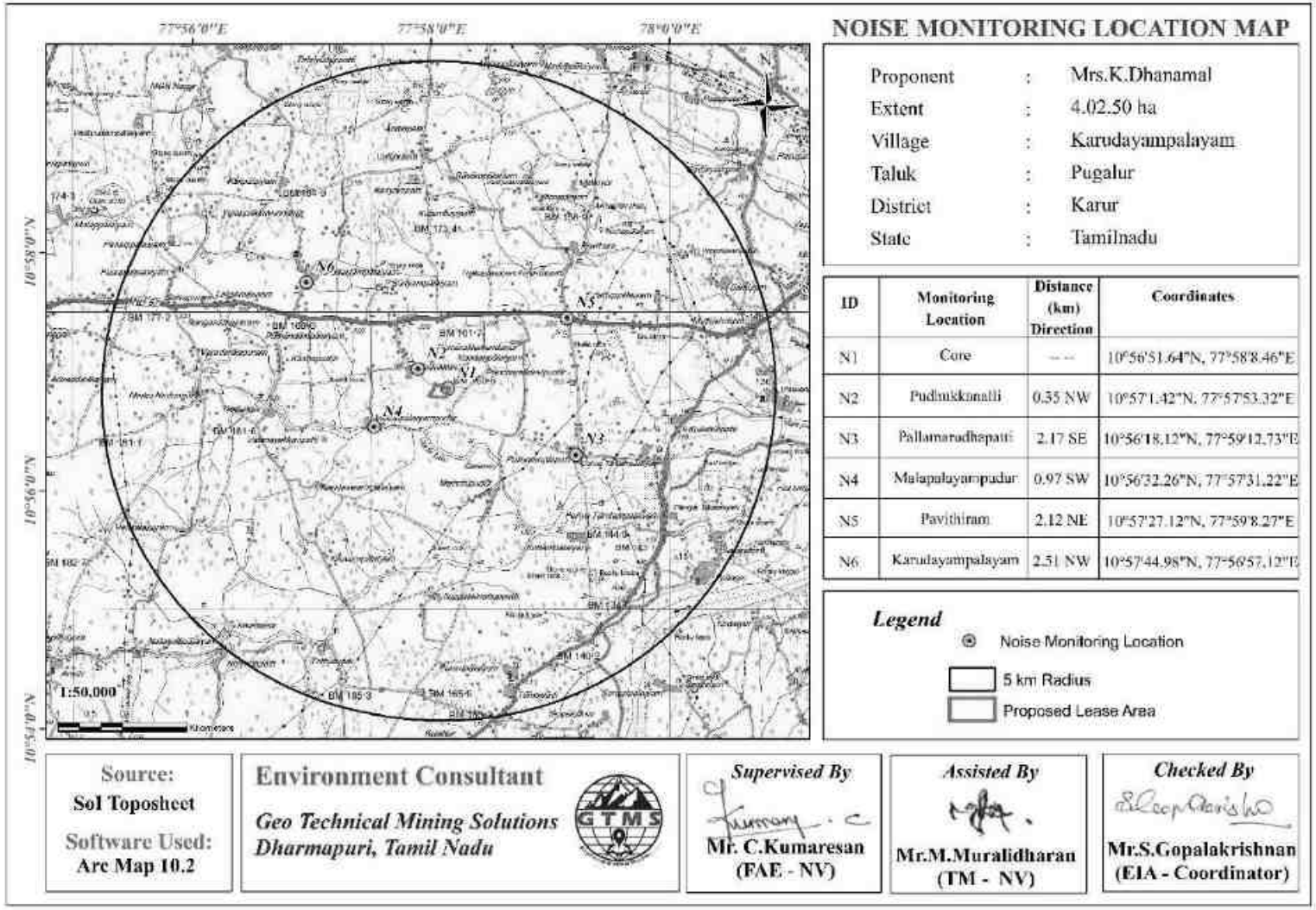


Figure 3.23 Map Showing Noise Level Monitoring Station Locations around 5 km Radius from Proposed Project Site

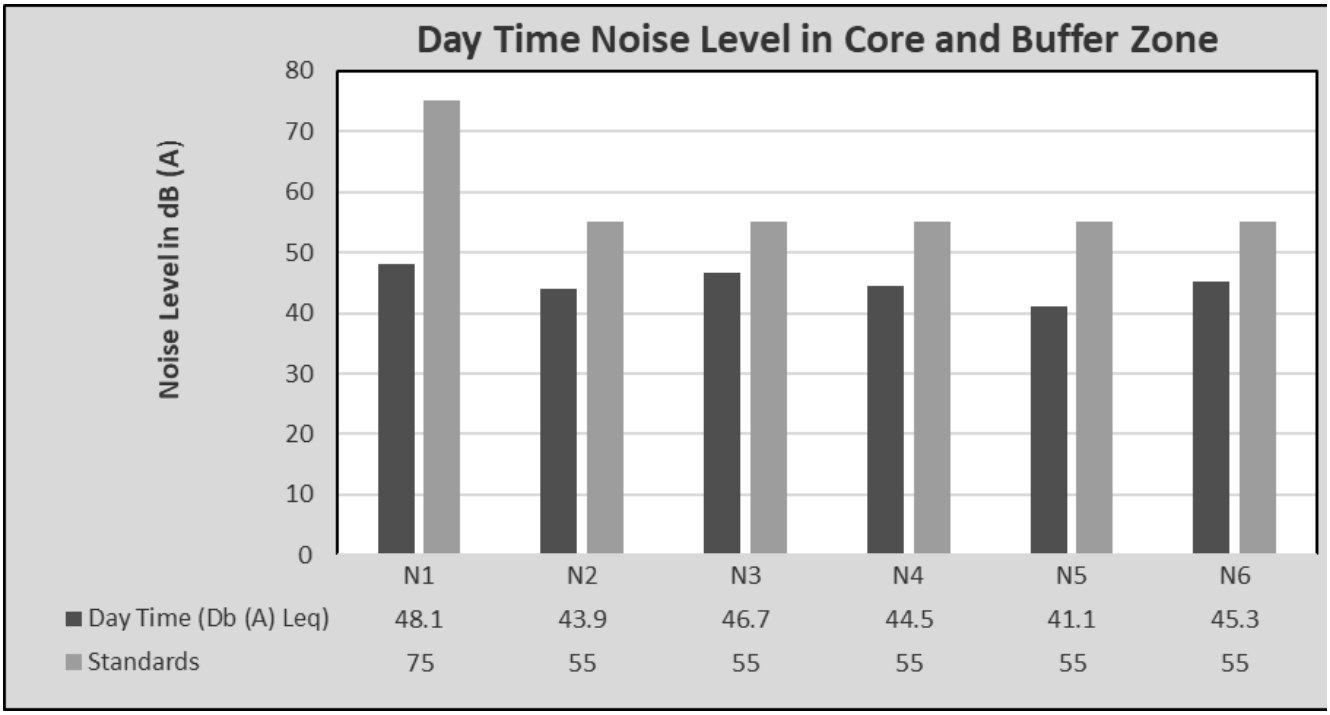


Figure 3.24 Bar Chart Showing Day Time Noise Levels Measured in Core and Buffer Zones

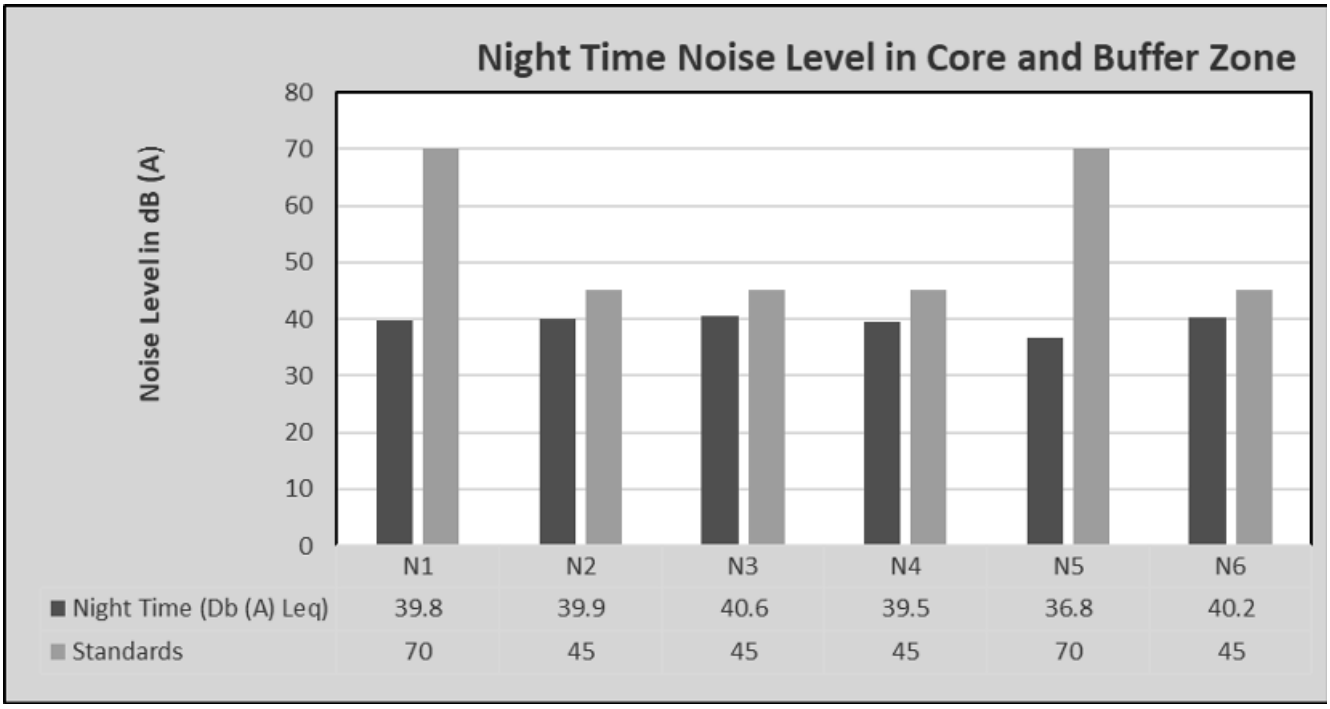


Figure 3.25 Bar Chart Showing Night Time Noise Levels Measured in Core and Buffer Zones

3.7 BIOLOGICAL ENVIRONMENT

Biological study of the ecosystem is essential to understand the impact of rough stone quarry on existing flora and fauna of the study area. Studies on various aspects of ecosystem play an important role in identifying sensitive issues for undertaking appropriate action to mitigate the impact, if any. A survey was conducted to study the flora and fauna in 10km radius by direct and indirect sightings/ data. Some of the information was gathered from the local habitants. All the collected data were classified to interpret the impact of pollution on the flora and fauna of that region. Survey of the wild plants as well as cultivated crop plants was made, and all the available information was recorded.

3.7.1 Biodiversity assessment methods

The Rapid Biodiversity Assessment (RBA) provides information about individual flora and fauna species and their habitats, ecosystems and communities, and threatening processes. It reviews existing information and the results of priority taxa and communities.

A major systematic program of fauna survey has been undertaken during the preparation of this RBA. Analysis of data involves the information identifying the flora and selected fauna groups in relation to different environmental strata across the site, and analysis of species and their responses to disturbance.

The RBA has focused primarily on the ecosystem and species levels of biodiversity because information about genetic variation within species is limited. The trees in each plot have been marked with metal plates so as to cater further field inspection easier. Physical marking of biodiversity has been dealt with for flora only, because of logical reasons. Floristic studies are dealt with in detail in the second part of the RBA.

The biodiversity information presented here is intended to reflect the best understanding of the available information, including information obtained through data audit, expert scientific opinion, and analysis of available data. It also points to deficiencies in existing information. The data presented will be used in the development of the restoration plans, including configuration of the quarry closure, and in the formulation of management recommendations by the experts.

The study has covered the following aspects to appraise the biodiversity of the site

S. No	Floral Component	Fauna elements
1	Plantations/ Agro-forestry	Total Listing of major Faunal elements
2	Natural Vegetation/ Forest type	Endangered Species / Endemic Species
3	Flora Identification- Trees	Wildlife Schedules
4	Flora Identification- Shrubs	Migratory Species

5	Flora Identification- Herbs	Migratory corridors or Paths
6	Flora Identification- Climbers	Breeding & Spawning Grounds

The objective of this Section is to characterize and understand the present status of the ecosystems in the study area to assess the bio-diversity and to identify the critical areas. The present study was undertaken as a part of EIA report to understand the present status of ecosystem prevailing in the study area, to compare it with the past condition with the help of available data, to predict changes as a result of present activities and to suggest measures for maintaining the conditions.

3.7.2 Objectives of Biological Studies

The present study was undertaken with the following objectives:

- To study the likely impact of the proposed mining project on the local biodiversity and to suggest mitigation measure, if required, for vulnerable biota.
- To assess the nature and distribution of vegetation (Terrestrial and Aquatic) in and around the mining activity.
- Detail of flora and fauna, Endemic, Rare, Endangered and Threatened (RET Species) separately for core and buffer area based on such primary field survey and clearly indicating the Schedule of fauna present. In case of any schedule- 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.
- Devise management & conservation measures for biodiversity.

3.7.3 Methodology

A methodology of Sampling Flora and fauna studies were carried out to assess the list of terrestrial plant and animal species that occur in the core area and the buffer area up to 10km radius from the project site. No damage is created to flora and fauna during the sampling.

3.7.4 Flora Study

Identification of vegetation in relation to the natural flora and crops was conducted through reconnaissance field surveys and onsite observations in core and buffer zone. The plant species identification was done based on the reference materials and also by examining the morphological characteristics and reproductive materials i.e. flowers, fruits and seeds. Land use pattern in relation to agriculture crop varieties were identified through physical verification of land and interaction with local villagers. Transect method is used in the floral documentation in the buffer zone. Six

transects were selected for the study. Each transects were occupied within 10km radius. For trees plots of (10x10-m), shrubs (5x5-m) and herbs (1x1-m) were used and recorded.

3.7.5 Fauna Study

The faunal elements of core and buffer zone were identified by direct sightings or indirect evidences by recording occurrences such as holes, markings, hairs, spines, scats, pellets, droppings and quills (Menon 2003). Standard binocular was used for the observations. The authenticity of faunal elements occurrence was confirmed by interaction with the local people. Avifauna identification was done with pictorial descriptions of published literature. Information pertaining to existence of any migratory corridors and paths were obtained from local inhabitants. The status of each faunal element was determined and wildlife schedule category was ascertained as per the IUCN-Red Data Book and Wildlife protection (Amendment) Act 2022. The Birds, butterflies, reptiles and odonates were mainly focused during faunal assessment, in which transect method was employed for birds and butterflies. Transect is a path along which one counts and records the occurrence of an individual for study. A straight-line walk covering one km, within a time span of one hour to 30 minutes was carried out in each of the habitats. Each transects were occupied within the 10km radius of the site. Bird species were recorded during the hours of peak activity 07 am to 12 am and evening 3.00 pm to 5.00 pm. Direct observations and bird calls used for bird documentation. Same transects were used for counting birds and butterflies. Opportunistic observations were made for Amphibians, reptiles and odonates. Presence of mammals were recorded by indirect signs. They were classified into species level as and when possible. Recorded bird species were identified to species level using standard books (Ali & Ripley 1987, Grimmett et al., 2016).

Important Value Index (IVI)

The concept of 'Important Value Index (IVI)' has been developed for expressing the dominance and ecological success of any species, with a single value (Mishra, 1968, Sharma, 2005). This index utilizes three characteristics, they are (i) Relative frequency and (ii) Relative density. The three characteristics computed using frequency, density and abundance for all the species falling in all the quadrat by using the following formula. The relative frequency, relative density and relative abundance has been calculated to calculate the IVI value

IVI = Relative frequency + Relative abundance + Relative density [RF + RA + RD]

Relative Value Index (RVI) = Relative Density +Relative Frequency [RD + RF].

Relative Value Index used for Expressing dominance and Ecological success of Shrub and herb Species in a particular area.

Shannon – Wiener Index, Evenness and Richness

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

The **Shannon Diversity Index** (sometimes called the Shannon-Wiener Index) is a way to measure the diversity of species in a community.

The species diversity index (H) for floral and faunal diversity is calculated by the use of Shannon Wiener Index (Shannon Wiener, 1963) as:

$$H = - \Sigma (ni/n) \times \ln (ni/n)$$

- Where, ni is individual density of a species and n is total density of all the species
- The Evenness Index (E) is calculated by using Shannon's Evenness formula (Magurran, 2004).
- The higher the value of H, the higher the diversity of species in a particular community

The lower the value of H, the lower the diversity. A value of H = 0 indicates a community that only has one species

$$\text{Evenness Index (E)} = H / \ln(S)$$

Where, H is Shannon Wiener Diversity index; S is number of species

The Shannon evenness Index is a way to measure the evenness of species in a community. The term “evenness” simply refers to how similar the abundances of different species are in the community.

Floral diversity Analysis

Flora study was conducted using the above said methodology to inventory the existing terrestrial plants in both core and buffer zones. Details of plants have been described in the succeeding sections.

3.7.6 Flora Composition in Core Zone

The core zone presents in tree, shrubs, herbs and grasses. Taxonomically total of 13 species belonging to 6 families have been recorded from the core mining lease area. Based on habitat classification of the enumerated plants the majority of species were Herbs 3 followed by Trees 3, Shrubs 3 and Climbers 2. The result of core zone of flora studies shows that Fabaceae and Solanaceae are the main dominating species in the study area it mentioned in Table 3.24 & 3. 25. No species found as threatened category.

3.7.7 Flora Composition in buffer Zone

There are 144 different species identified in the buffer zone. Among the identified, floral (144) species were 50 trees, 39 herbs, 31 shrubs, 11 climbers, 5 Creepers, and 8 grasses. According to the findings of the buffer zone flora studies, the dominant species in the study area are Fabaceae, Asteraceae, and Euphorbiaceae, as shown in Table 3.26. Apart from the proposed project area, there is agricultural land. Horticulture and agricultural land are untouched. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. Details of flora with the scientific name were mentioned in Table 3.26. A list of floral species has been prepared based on a primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.26.

Table 3.24 Number of flora life in study area

S. No	Plant Life form	Number of Species
1.	Trees	3
2.	Shrubs	3
3.	Herbs	3
4.	Climber	2
5.	Creepers	-
6.	Grasses	2
Total No. of Species		**13**

Table 3.25 Flora in mine lease area

S.no	Local name	Scientific name	Family name	IUCN Conservation Status
Trees				
1	Karuvealan	*Prosopis juliflora*	Fabaceae	Not Listed
2	Arapu maram	*Albizia amara*	Fabaceae	Not Listed
	Neem	*Azadirachta indica*	Meliaceae	Not Listed
Shrubs				
3	Avaram chedi	*Senna auriculata*	Fabaceae	Not Listed

4	Communist pacha	*Chromolaena odorata*	Asteraceae	Not Listed
5	Thuthi	Abutilon indicum	Meliaceae	Not Listed
Herbs/ Climber				
6	Kolunji chadi	*Tephrosia purpurea*	Fabaceae	Not Listed
7	Nayuruvi	*Achyranthes aspera*	Amaranthaceae	Not Listed
8	Nearunji mull	*Tribulus zeyheri*	Zygophyllaceae	Not Listed
9	Pulapoo	*Aerva lanata*	Amaranthaceae	Not Listed
10	Kattu kanchippul	*Apluda mutica*	Poaceae	Not Listed
11	Chevvarakupul	*Chloris barbata*	Amaranthaceae	Not Listed
12	Sithrapaalavi	*Euphorbia prostrata*	Euphorbiaceae	Not Listed
13	Thumattikai	*Cucumis callosus*	Cucurbitaceae	Not Listed

NE- Not evaluated; LC- Least Concern, NT –Near Threatened, T-Threatened

Table 3.34 Species Richness (Index) in mine lease area

Details	H	H max	Evenness	Species Richness
Trees	0.99	1.0	0.68	0.75
Shrubs	1.34	1.47	0.54	1.31
Herbs	1.29	1.68	0.77	1.19

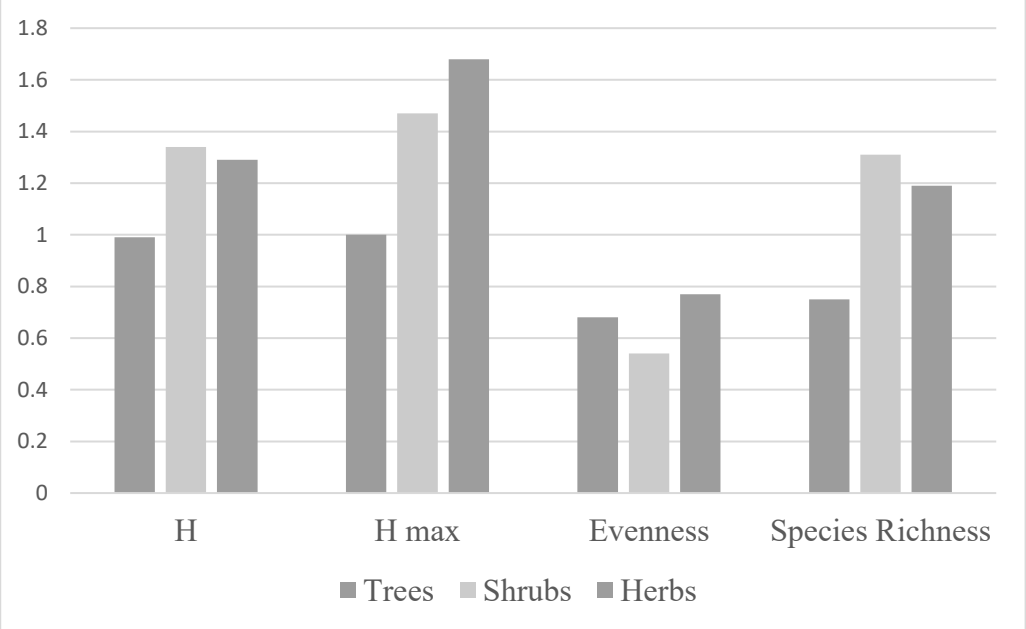


Figure 3.26 Species Richness (Index) in Mine Lease area

Table 3.26 Flora in Buffer Zone

S. No	Local name	Scientific name	Family Name	IUCN Conservation Status
Trees				
1.	Velikathan maram	*Prosopis juliflora*	Fabaceae	Not Listed
2.	Pongam oiltree	*Pongamia pin nata*	Fabaceae	Not Listed

3.	Panai maram	*Borassus flabellifer*	Arecaceae	Not Listed
4.	Nuna maram	*Morinda citrifolia*	Rubiaceae	Not Listed
5.	Vembu	*Azadirachta indica*	Meliaceae	LC
6.	Manga maram	*Mangifera indica*	Anacardiaceae	Not Listed
7.	Thennai maram	*Cocos nucifera*	Arecaceae	Not Listed
8.	Wetpalai maram	*Wrightia tinctoria*	Apocynaceae	Not Listed
9.	Unjai maram	*Albizia amara*	Fabaceae	Not Listed
10.	Neruppu Kondrai	*Delonix regia*	Fabaceae	LC
11.	Kodukkapuli maram	*Pithecellobium dulce*	Fabaceae	Not Listed
12.	Teak	*Tectona grandis*	Lamiaceae	Not Listed
13.	Savukku	*Casuarina equisetifolia*	Casuarinaceae	Not Listed
14.	Thailamaram	*Eucalyptus*	Myrtaceae	Not Listed
15.	Puliyamaram	*Tamarindus indica*	Fabaceae	Not Listed
16.	Arasanmaram	*Ficus religiosa*	Moraceae	Not Listed
17.	Puliyamaram	*Calophyllu inophyllum*	Calophyllaceae	Not Listed
18.	Athi	*Ficus recemosa*	Moraceae	Not Listed
19.	Vazhaimaram	*Musa*	Musaceae	Not Listed
20.	Kadukkai	*Terminalia chebula*	Combretaceae	Not Listed
21.	Nettilinkam	*Polylathia longifolia*	Annonaceae	Not Listed
22.	Sapota	*Manilkara zapota*	Sapotaceae	Not Listed
23.	Navalmaram	*Sygygium cumini*	Myrtaceae	Not Listed
24.	Ezhumuchaipalam	*Citrus lemon*	Rutaceae	Not Listed
25.	Alamaram	*Ficus benghalensis*	Moraceae	Not Listed
26.	Nelli	*Emblica officinalis*	Phyllanthaceae	Not Listed
27.	Nettilinkam	*Polylathia longifolia*	Annonaceae	Not Listed
28.	Vadanarayani	*Delonix elata*	Fabaceae	Not Listed
29.	Marudaani	*Lawsonia inermis*	Lythraceae	Not Listed
30.	Manja kadambai	*Adina cordifolia*	Rubiaceae	Not Listed
31.	Pappali maram	*Carica papaya L*	Caricaceae	Not Listed
32.	Nochi	*Vitex negundo*	Verbenaceae	Not Listed
33.	Vilvam	*Aegle marmelos*	Rutaceae	Not Listed

34.	Kariveppilai	*Murraya koenigii*	Asclepiadaceae	Not Listed
Shrubs				
35.	Unichedi	*Lantana camara*	Verbenaceae	Not Listed
36.	Sundaika	*Solanum torvum*	Solanaceae	Not Listed
37.	Erukku	*Calotropis gigantea*	apocynaceae	Not Listed
38.	Avarai	*Senna auriculata*	Fabaceae	Not Listed
39.	Sappathikalli	*Cereus pterogonus*	Cactus	Not Listed
40.	Kattamanaku	*Jatropha gossypiifolia*	Euphorbiaceae	Not Listed
41.	Nochi	*Vitex negundo*	Lamiaceae	Not Listed
42.	Idlipoo	*xoracoc cinea*	Rubiaceae	Not Listed
43.	Neermulli	*Hydrophila auriculata*	Acanthaceae	Not Listed
44.	Chaturakalli	*Euphorbia antiquorum*	Euphorbiaceae	Not Listed
45.	Thuthi	*Abutilon indicum*	Meliaceae	Not Listed
46.	Chemparuthi	*Hibiscu rosa-sinensis*	Malvaceae	Not Listed
Herbs/ Climber				
47.	Ponnangani	*Alternanthera pungens*	Amaranthaceae	Not Listed
48.	Wild thulasi	*Hyptis suaveolens (L.)*	Lamiaceae	Not Listed
49.	Gopuram Tangi	*Andrographis echioides*	Acanthaceae	Not Listed
50.	Amman Paccharisi	*Euphorbia hirta*	Euphorbiaceae	Not Listed
51.	Paca poondu	*Pavonia gallaensis*	Malvaceae	Not Listed
52.	Perandai	*Cissus quadrangularis*	Vitaceae	Not Listed
53.	Vishnukrandai	*Evolvulus alsinoides*	Convolvulaceae	Not Listed
54.	Musumusukkai	*Mukia maderaspatana*	Cucurbitaceae	Not Listed
55.	Sirupunaikkali	*Passiflora foetida*	Passifloraceae	Not Listed
56.	Nagathali	*Opuntia dillenii*	Cactaceae	Not Listed
57.	Thumbai	*Leucas aspera*	Lamiaceae	Not Listed
58.	Kantang kathrikai	*Solanum virginianum*	Solanaceae	LC
Creepers/ Grasses				
59.	Sithrapaalavi	*Euphorbia prostrata*	Euphorbiaceae	Not Listed
60.	Vallarai	*Merremia gangetica*	Convolvulaceae	Not Listed
61.	Thumattikai	*Cucumis callosus*	Cucurbitaceae	Not Listed

62.	Siru puladi	*Desmodium triflorum*	Fabaceae	Not Listed
63.	Vallikeerai	*Ipomoea aquatica*	Convolvulaceae	Not Listed
64.	Malli	*Jasminum augustifolium*	Oleaceae	Not Listed
65.	Sangupoo	*Clitoriaternatia*	Fabaceae	Not Listed
66.	Mudakkotan	*Cardiospermum helicacabum*	Sapindaceae	Not Listed
67.	Kattu kanchippul	*Apluda mutica*	Poaceae	Not Listed
68.	Korai	*Cyperus rotandus*	Poaceae	Not Listed
69.	Chevvarakupul	*Chloris barbata*	Amaranthaceae	Not Listed
70.	Arugampul	*Cynodon dactylon*	Poaceae	Not Listed
71.	Chevvarakupul	*Chloris barbata*	Amaranthaceae	Not Listed
72.	Nagathali	*Opuntia dillenii*	Nagathali	Not Listed
73.	Kala Pullu	*Eragrostis ferruginea*	Poaceae	Not Listed

NE- Not evaluated; LC- Least Concern, NT –Near Threatened, T-Threatened

3.7.8 Fauna

The faunal survey was carried out for Mammals, Birds, Reptiles, Amphibians and Butterflies. All the listed species were compared with Red Data Book and Indian Wildlife Protection Act, 1972. There are no rare, endangered, threatened (RET), and endemic species present in the core area.

Table 3.27 Methodology applied during survey of fauna

S. No.		Method of Sampling	References
1	Insects	Random walk, Opportunistic observations	Pollard (1977); Kunte (2000)
2	Reptiles	Visual encounter survey (Direct Search)	Daniel J.C (2002)
3	Amphibians	Visual encounter survey (Direct Search)	
4	Mammals	Tracks and Signs	Menon V (2014)
5	Avian	Random walk, Opportunistic observations.	Grimmett R (2011); Ali S (1941)

3.7.8.1 Fauna Composition in Core Zone

A total of 14 varieties of species were observed in the Core zone (Table.3.28). Among them are 7 Insects, 2 Reptiles, 2 Mammals and 3 Avian. A total of 14 species belonging to 12 families were recorded from the core area. The study shows that number of species decreases towards the mining area. This might be due the lack of vegetation. None of these species in the

core zone are threatened or endemic. The survey was conducted to identify species listed in IUCN Red List. According to the field data, any species are not of Schedule I and nine species are of schedule IV. There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of fauna in core zone with the scientific name were mentioned in Table 3.28.

Table 3.28 Fauna in Core Zone

S. No	Common name/ English Name	Family Name	Scientific Name	Schedule list wildlife protection Act 1972	IUCN Red List data
Reptiles					
1	Garden lizard	Agamidae	*Calotes versicolor*	NE	NE
2	Rat snake	Colubridae	*Ptyas mucosa*	Sch II (Part II)	LC
Insects					
1	Plain Tiger	Nymphalidae	*Dananuschrysippus*	NL	LC
2	Tawny coster	Nymphalidae	*Danaus chrysippus*	Schedule IV	LC
3	Red-veined darter	Libellulidae	*Sympetrum fonscolombii*	NE	LC
4	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
5	Termite	Blattodea	*Hamitermes silvestri*	NE	LC
6	Blue tiger	Nymphalidae	*Tirumala limniace*	Schedule IV	LC
7	Ant	Formicidae	*Camponotus vicinus*	NL	NL
Mammals					
1	Asian Small Mongoose	Herpestidae	*Herpestes javanicus*	Schedule II	LC
2	Rat	Murids	*Rattusrattus*	Schedule IV	LC
Avian					
1	Koel	Cucalidae	*Dynamism scolopaceus*	Schedule IV	LC
2	House crow	Corvidae	*Corvus splendens*	NE	LC
3	Crow Pheasant	Cucalidae	*Centropus sinensis*	Schedule IV	LC

*NE- Not evaluated; LC- Least Concern, NT –Near Threatened, T-Threatened

3.7.8.2 Fauna Composition in Buffer Zone

A total of 49 species belonging to 36 families have been recorded from the buffer zone area (Table.3.29). Based on habitat classification the majority of species were Birds 15, followed by Insects 13, Reptiles 13, Mammals 5 and Amphibians 3. There are 7 Schedule II species and 27

species are under schedule IV according to Indian wild life Act 1972. A total fifteen species of bird were sighted in the study area. There are no critically endangered, endangered, vulnerable and endemic species were observed.

Table 3.29 Fauna in Buffer Zone

S. No	Common name/ English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	UCN Red List data
Insects					
1.	Blue tiger	Nymphalidae	*Tirumala limniace*	Schedule IV	LC
2.	Common Indian crow	Nymphalidae	*Euploea core*	Schedule IV	LC
3.	Tawny coster	Nymphalidae	*Danaus chrysippus*	Schedule IV	LC
4.	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
5.	Jewel beetle	Buprestidae	*Eurythyrea austriaca*	Schedule IV	LC
6.	Red-veined darter	Libellulidae	*Sympetrum fonscolombii*	NL	LC
7.	Ant	Formicidae	*Camponotus vicinus*	NL	LC
8.	Praying mantis	Mantidae	*mantis religiosa*	NL	LC
9.	Dragonfly	Gomphidae	*Ceratogomphus pictus*	Schedule IV	LC
10.	Milkweed butterfly	Nymphalidae	*Danainae*	NL	LC
11.	Striped tiger	Nymphalidae	*Danaus plexippus*	Schedule IV	LC
12.	Lesser grass blue	Lycaenidae	*Zizina otis indica*	Schedule IV	LC
13.	Common Tiger	Nymphalidae	*Danaus genutia*	Schedule IV	LC
Reptiles					
1	Garden lizard	Agamidae	*Calotes versicolor*	NL	LC
2	Chameleon	Chamaeleonidae	*Chameleon zeylanicus*	Schedule II	LC
3	Fan-Throated Lizard	Agamidae	*Sitanaponticeriana*	NL	LC
4	Common house gecko	Gekkonidae	*Hemidactylus frenatus*	NL	LC
5	Rat snake	Colubridae	*Ptyas mucosa*	Sch II (Part II)	LC
6	Olive keel back water snake	Natricidae	*Atretium schistosum*	Sch II (Part II)	LC
7	Whip Snake	Elapidae	*Dryphis nasutus*	Sch II (Part II)	LC
8	Common krait	Elapid snakes	*Bungarus caeruleus*	Schedule IV	LC

9	Indian wall lizard	Gekkonidae	*Hemidactylus flaviviridis*	Schedule IV	NL
10	Saw scaled viper	Elapidae	*Echis carinatus*	Sch II (Part II)	LC
11	Brahminy skink	Scincidae	*Eutropis carinata*	NL	LC
12	Scincidae	Viperidae	*Vipera russseli*	Sch II (Part II)	LC
13	Common skink		*Mabuya carinatus*	NL	LC
Mammals					
1	Indian palm squirrel	Sciuridae	*Funambulus palmarum*	Schedule IV	LC
2	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	LC
3	Indian hare	Leporidae	*Lepus nigricollis*	Schedule IV	LC
4	Asian Small Mongoose	Herpestidae	*Herpestes javanicus*	Schedule (Part II)	LC
5	Brown rat	Muridae	*Rattus norwegicus*	Schedule IV	LC
Aves					
1	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
2	Cattle egret	Ardeidae	*Bubulcus ibis*	NL	LC
3	Common myna	Sturnidae	*Acridotheres tristis*	NL	LC
4	House crow	Corvidae	*Corvussplendens*	NL	LC
5	Asian green bee-eater	Meropidae	*Meropsorientalis*	NL	LC
6	Red-vented Bulbul	Pycnonotidae	*Pycnonotuscafer*	Schedule IV	LC
7	Rose-ringed parkeet	Psittaculidae	*Psittacula krameri*	Schedule IV	LC
8	Shikra	Accipitridae	*Accipiter badius*	NL	LC
9	Common quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
10	Black drongo	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
11	Two-tailed Sparrow	Dicruridae	*Passer domesticus*	Schedule IV	LC
12	Grey Francolin	Phasianidae	*Francolinus pondicerianus*	Schedule IV	LC
13	Common Quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
14	White-breasted waterhen	Rallidae	*Amaurornis phoenicurus*	NL	LC
15	Common Coot	Rallidae	*Fulica atra*	Schedule IV	LC
Amphibians					

1	Indian Burrowing frog	Dicroglossidae	*Sphaerotheca breviceps*	Schedule IV	LC
2	Pond Frog	Ranidae	*Rana hexadactyla*	Schedule IV	LC
3	Tiger Frog	Chordata	*Hoplobatrachus tigerinus (Rana tigerina)*	Schedule IV	LC

**NL-Not listed, LC-Least concern, NT-Near threatened*

3.7.9 Aquatic Vegetation

The field survey for assessing the aquatic vegetation was also undertaken during the study period. Fish is commonly found in all types of natural water bodies and very common source of food in Easterner South India. The local fishermen were enquired and also the secondary resources were reviewed to collect information on the fishes found in the study area. Few common species are; *Catla (Catla catla), Channa striata, Oreochromis niloticus.*

Table 3.30 Aquatic Fauna and Flora

Sl. No	Common Name	Scientific name	Family Name	IUCN Red List of Threatened Species
Flora				
1	Water hyacinth	*Eichornia crassipes*	Pontederiaceae	NA
2	Blue waterlily	*Nymphaea nouchali*	Nymphaeaceae	LC
3	Cross Grass	*Carex cruciata*	Cyperaceae	NA
4	Scutch grass	*Cynodon dactylon*	Poaceae	LC
Fauna				
5	Thilopia	*Oreochromis niloticus*	Cichlidae	LC
6	Catla	*Catla*	Cyprinidae	LC
7	Koravi meen	*Channa striata*	Channidae	LC
8	Roghu	*Labeo rohita*	Cyprinidae	LC

*LC- Least Concern, NA-Not yet assessed

Phytoplankton's:

Microcystis, Nitzschia, Oscillatoria, Navicula and Pediastrum sps.

Zooplanktons:

These consist of microscopic organisms from groups Protozoa, Rotifers, Cladocera and Copepoda etc. Some common species of zooplanktons are; *Deflandre, Arcella vulgaris, Centropyxis spinosa Arcella discoides, Arcella hemispherica, Centropyxis aculeate, Trigonopyxis arcula, Brachionus calyciflorus, Lecane curvicornis, Brachionus angularis, Polyarthra vulgaris, Filinia longiseta.*

Food chain

The food chain in aquatic ecosystems often begins with the algae or phytoplankton producers, and then the zooplankton that feed on them. This type of food chain is found in nearby lakes and rivers with phytoplankton, zooplankton, fish Artiola gray and humans.

Ex: Phytoplankton→ Zooplankton→ small fish→ large fish → Human

3.7.10 Agriculture & Horticulture in Karur district:

The principal crops of the district are paddy, millets, pulses, oilseeds, sugarcane and banana. The major paddy area is in Kulithalai and Krishnarayapuram taluks. Pulses are grown in rice fallow areas. In uplands millets like sorghum, pearl millet pulses such as red gram, horse gram oilseeds such as groundnut, gingelly and sunflower are grown both under irrigated and rain fed conditions.

Major Agricultural Crops

Major horticulture crops cultivated in this district are vegetables crops like tomato, brinjal, chillies, onion and turmeric. Details of major field crops and Agricultural in 1km radius is given in Table. 3.31.

Table 3.31 Major Crops in 1km radius

S. No	Major crops	Scientific name	Families
1	Sorghum	*Sorghum bicolor*	Poaceae
2	Gingelly	*Sesamum indicum*	Pedaliaceae
3	Groundnut	*Arachis hypogaea*	Legumes
4	Millets	*Panicum miliaceum L*	Poaceae
5	Sesame	*Sesamum indicum*	Pedaliaceae
6	Cotton	*Gossypium herbaceum*	Malvaceae

Major Horticulture Crops

Horticulture includes cultivation of fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds and non-food crops such as grass and ornamental trees and plants. It also includes plant conservation, landscape restoration, landscape and garden design.

Horticulture

Major horticulture crops cultivated in Karur district are fruit crops like Banana & Gloriosa lily. Moringa and Banana cultivation and other prominent crops under cultivation are Tapioca, Gloriosa, Betelvine, Jasmine, Ixora, Coconut and other vegetable crops. Thanthoni, Aravakurichi, Kadavur and K. Paramathy were major vegetable growing region and Thogamalai, Krishnarayapuram, Kulithalai were major Banana growing region and Karur block was major

Coconut growing region. Details of major field crops and horticulture cultivation in 1km radius is given in Table 3.32.

Table 3.32 Major Field Crops & Horticulture cultivation in 1km radius.

S. No	Common Name	Scientific Name	Family
Major Horticultural Crops			
1.	Tapioca	*Manihot esculenta*	Euphorbiaceae
2.	Gloriosa	*Gloriosa superba*	Sapotaceae
3.	Lemon	*Citrus limon*	Rutaceae
4.	Papaya	*Carica papaya*	Caricaceae
5.	banana	*Musa × paradisiaca*	Musaceae
Vegetables			
6.	Onion	*Allium cepa*	Amaryllidaceae
7.	Tapioca	*Manihot esculenta*	Spurges
8.	Brinjal	*Solanum melongena*	Nightshade
9.	Tomato	*Solanum lycopersicum*	Nightshade
10.	Moringa	*Moringa oleifera*	Moringaceae
11.	Tomato	*Solanum lycopersicum*	Nightshade

Results

Biological assessment of the site was done to identify ecologically sensitive areas and whether there are any rare, endangered, endemic or threatened (REET) species of flora & fauna in the core area as well its buffer zone to be impacted. The study has also been designed to suggest suitable mitigation measures, if necessary, for protection of wildlife habitats and conservation of REET species if any. The study found that there is no endemic, endangered migratory fauna found in the area. This area is not also a migratory path of any faunal species. Hence, this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

3.8 SOCIO ECONOMICS ENVIRONMENT

The major developmental activities in the mining and industrial sector are crucial for economic development and the creation of direct and indirect employment opportunities. These activities also fulfil society's basic and modern needs of the society, ultimately improving the quality of life through advancements in social, economic, health, education, and nutritional status within the project region, state, and country. In this manner all developmental projects have direct as well as indirect relationships with socioeconomic aspects, which also include public acceptability for developmental projects. Thus, the study of socio-economic environment component incorporating various facets related to prevailing social and cultural conditions and economic status of the mining (rough stone quarry) project region is an important part of the EIA

study. The study of these parameters helps in identification, prediction and evaluation of the likely impacts on the socio-economics and parameters of human interest due to the project.

Objectives of the Study

The objectives of the socio-economic impact assessment are as follows:

a) To study the socio-economic status of the people living in the study area of the project.
b) To identify the basic needs of the nearby villages within the study area.
c) To assess the impact on socio-economic environment due to the project.
d) To provide the employment and improved living standards.
e) To analysis of impact of socio economic and Environmental Infrastructure facilities and road accessibility.

Methodology

The study employed cluster sampling to outline two zones around the proposed project site: Zone 1 (Core Zone, 0-1 km radius) and Zone 2 (Low Impact Zone, 1–5 km radius). The primary data collection was conducted through structured interviews, field observation, and focus group discussions with the local people of in Karudayampalayam Village, Pugalur Taluk of Karur District, Tamil Nadu. The secondary data were collected from the Census report 2011 and official records, covering demographics and basic services including information on population, number of households, literacy rates, sex ratios, worker details and the availability of basic services. This study covers the positive and negative impacts of the project's establishment, and provides recommendations for analysing and mitigating adverse effects. The study areas are illustrated in Figure 3.27.

Demographic Profile of Karur District

Karur District is centrally located in the state of Tamil Nadu. It lies between 10.45° and 11.45° North latitude and 77.45° and 78.07° East longitude, covering a total geographical area of 2,895.57 sq. km. The district is bounded by North: Namakkal, South: Dindigul District West: Erode District and East: Tiruchirappalli District. Karur is situated along National Highway 7 (NH7), which connects the northern and southern terminals of India. The district is geographically positioned at the centre of Tamil Nadu between Coimbatore (Manchester City) in the west, Thanjavur (Paddy Land) in the east, Salem (Steel City) in the north, and Madurai (Temple City) in the south. Its neighbouring districts are Namakkal, Dindigul, Erode, and Tiruchirappalli.

Population Characteristics

According to the Census of India 2011, the total population of Karur District was 1,064,493, comprising 528,184 males and 536,309 females. In the 2001 Census, the population was 935,686 (465,538 males and 470,148 females). This represents a population growth rate of

13.77% between 2001 and 2011, compared to a 9.54% increase recorded between 1991 and 2001. Karur District accounts for approximately 1.48% of Tamil Nadu's total population.

Literacy Rate

The average literacy rate of Karur District in 2011 was 75.60%, which is higher than the national average of 59.5%. The Male literacy is 84.54% and Female literacy is 66.86% respectively. In 2001, the literacy rates were 79.63% for males and 56.76% for females. The total number of literates in 2011 was 727,044 comprising 401,726 males and 325,318 females as compared to 566,728 literates in 2001.

Sex Ratio and Child Population

The sex ratio of Karur District in 2011 was 1,015 females per 1,000 males, slightly higher than 1,010 in 2001 and above the national average of 940. The child sex ratio (for children below 6 years) was 939 girls per 1,000 boys, compared to 930 in 2001. Children under six years of age constitute about 10% of the total population.

Workforce Composition

Karur District's economy is predominantly agrarian, with a large share of its population engaged in rural and agricultural activities. Male workers: 59% of total workforce, Rural workers: 72% of total workforce and Cultivators and agricultural labourers: 51% of total workforce. This composition highlights the district's dependence on agriculture and allied rural occupations for livelihood.

Karur District demonstrates robust demographic and socio-economic characteristics. The district records a high literacy rate, a favourable sex ratio, and balanced population growth between genders. Its economy is predominantly rural and agriculture-based, reflecting the importance of primary sector activities in local livelihoods. The district's strategic central location, coupled with its fertile river systems and rising educational standards, provides a strong foundation for sustained socio-economic growth and development in the years to come.

Source: census2011.co.in/census/district/35-karur.html

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Profile of Study Area - Karudayampalayam Village

Karudayampalayam is a large village located in Pugalur Taluka of Karur district, Tamil Nadu with total 577 families residing. The Karudayampalayam village has population of 2347 of which 1211 are males while 1136 are females as per Population Census 2011. In Karudayampalayam village population of children with age 0-6 is 132 which makes up 5.62 % of total population of village. Average Sex Ratio of Karudayampalayam village is 938 which is lower than Tamil Nadu state average of 996. Child Sex Ratio for the Karudayampalayam as per census is 1129, higher than Tamil Nadu average of 943.

Literacy Rate

Karudayampalayam village has lower literacy rate compared to Tamil Nadu. In 2011, literacy rate of Karudayampalayam village was 72.87 % compared to 80.09 % of Tamil Nadu. In Karudayampalayam Male literacy stands at 85.03 % while female literacy rate was 59.76 %. The demographic profile of Karudayampalayam Village including household data, population statistics, literacy levels, child population, caste composition, and workforce distribution is presented in Table 3.33.

Caste Composition

In terms of social composition, Schedule Caste (SC) constitutes 18.66 % of total population in Karudayampalayam village. The village Karudayampalayam currently doesn't have any Schedule Tribe (ST) population.

Workforce Profile

Out of the total population, 1176 were engaged in work activities. 72.02 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 27.98 % were involved in Marginal activity providing livelihood for less than 6 months. Of 1176 workers engaged in Main Work, 301 were cultivators (owner or co-owner) while 265 were Agricultural labourer. This highlights the predominance of agriculture as the key source of livelihood in the village.

Table 3.33 Karudayampalayam Village Population Facts

Particulars	Total	Male	Female
Total No. of Houses	577	-	-
Population	2,347	1,211	1,136
Child (0-6)	132	62	70
Schedule Caste	438	219	219
Schedule Tribe	0	0	0
Literacy	72.87 %	85.03 %	59.76 %
Total Workers	1,176	646	530
Main Worker	847	-	-
Marginal Worker	329	145	184

Source:https://www.census2011.co.in/data/village/635496-Karudayampalayam-tamil-nadu.html

The village presents a predominantly agrarian economy, with most residents engaged in cultivation and agricultural labour. Despite its lower literacy rate compared to the state average, the village shows a relatively strong level of male literacy. However, gender disparity in education and a low sex ratio remain key demographic challenges. The village's workforce structure underscores its dependence on agriculture and highlights the need for enhanced educational and employment opportunities to promote balanced rural development.

Demographic Structure of the Study Villages

The local people have been provided with either direct employments or indirect employment such as business, contract works and development work like roads, etc. and other welfare amenities such as medical facilities, conveyance, free education, drinking water supply etc. The number of villages and human settlements within a radius of 5 km from the project site along with population, their education level etc. The demographic data presented in Table 3.34 provides a detailed overview of the population characteristics of nine villages in the study area. The parameters include the number of houses, gender-wise population, child population (0–6 years), Scheduled Caste (SC) and Scheduled Tribe (ST) composition, literacy rate, and total workers (by gender). This data helps to understand the population structure, social composition, literacy patterns, and workforce participation across the selected villages.

Distribution of Households and Population

The gender-wise population distribution across the twelve study villages shows notable variation in both population size and gender balance. Andankoil (West) is the largest village, with 2,939 males and 3,099 females, reflecting a slightly female-skewed population and indicating its status as a major demographic centre among these villages. Pavithiram, Punnam, and Thalapatti are medium-sized villages, each having a relatively balanced population, with Pavithiram showing a slightly higher female population (2,862 males vs. 3,019 females). Smaller villages like Nadanthai (South), Viswanathapuri, and Nedungur have populations under 1,200, with Viswanathapuri showing a noticeable female majority (594 females vs. 511 males). Overall, the data indicates a relatively balanced gender distribution, with larger villages concentrating most of the population and smaller villages showing a dispersed rural settlement pattern.

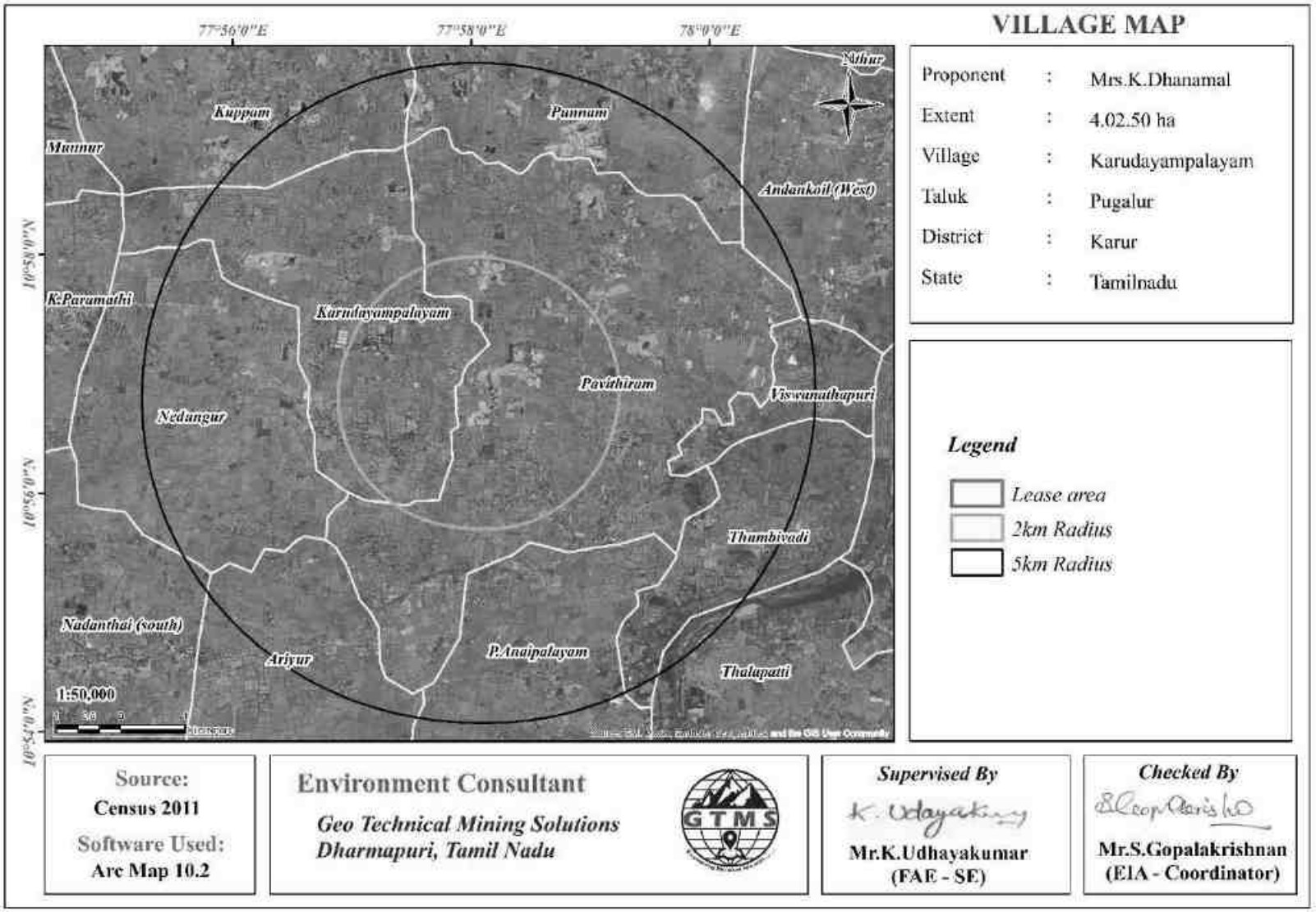


Figure 3.27 Details Village Boundaries within 5 km Radius of the Project Lease area

Child Population (0–6 years)

The proportion of children under six years offers insight into the dependency ratio and potential growth trends. Among the villages, Andankoil (West) records the highest child population with 580 children (304 males and 276 females), whereas Nadanthai (South) has the lowest, with only 30 children (17 males and 13 females). This variation suggests differences in fertility rates and family size across the villages, with larger villages generally showing higher proportions of young children.

Social Composition (SC/ST People)

The Scheduled Caste (SC) population is present in all villages, while Scheduled Tribe (ST) representation is negligible. The largest SC population is observed in Pavithiram (1,546 persons: 779 males and 767 females), followed by Viswanathapuri (1,005 persons: 466 males and 539 females). In contrast, smaller villages such as Nadanthai (South) and Nedungur show lower absolute SC numbers but still reflect a notable SC presence relative to their total population. The Scheduled Tribe (ST) populations are nearly absent across all villages, except for a very small number in Andankoil (West) and Nedungur, where they account for less than 0.5% of the total population.

Literacy Rate

Literacy is an important indicator of socio-economic development. Literacy rates vary considerably among the villages. Andankoil (West) shows the highest literacy, with 4,404 literates (2,342 males and 2,062 females), reflecting better access to education. Pavithiram and Punnam also have relatively high literacy, with 3,738 and 2,718 literates respectively. In contrast, Nadanthai (South) and Viswanathapuri have the lowest literacy, with 266 and 759 literates, likely due to smaller populations and limited educational infrastructure. Across all villages, male literacy exceeds female literacy, indicating a persistent gender gap in education.

Table 3.34 Demographic Profile of the Study Area

Village Name	No. of Houses	Population in Gender wise		Child (0-6)		Schedule Caste		Schedule Tribe		Literacy Rate		Total Workers	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Punnam	1452	2839	2607	237	190	468	438	0	0	2208	1471	1531	1187
Kuppam	1120	1697	1806	127	137	286	314	0	0	1143	804	1198	1048
Andankoil (West)	1687	2939	3099	304	276	381	420	3	1	2342	2062	1859	1180
Pavithiram	1799	2862	3019	234	217	779	767	0	0	2165	1573	1875	1418
Karudayampalayam	577	1211	1136	62	70	219	219	0	0	977	637	646	530
Nedungur	403	586	604	33	28	149	149	5	1	469	331	432	321
Viswanathapuri	350	511	594	48	56	466	539	1	0	416	343	354	372
Thumbivadi	750	1149	1171	94	83	417	427	0	0	814	579	757	539
Nadanthai (south)	161	251	249	17	13	40	41	0	0	151	116	190	190
P.Anaipalayam	387	629	632	45	42	102	109	0	0	464	298	438	350
Ariyur	443	694	684	54	36	249	244	0	0	512	375	493	297
Thalapatti	1001	2896	2007	159	133	428	375	2	0	2223	1125	1510	847

Source: *Census Reports, Tamil Nadu – 2011.*

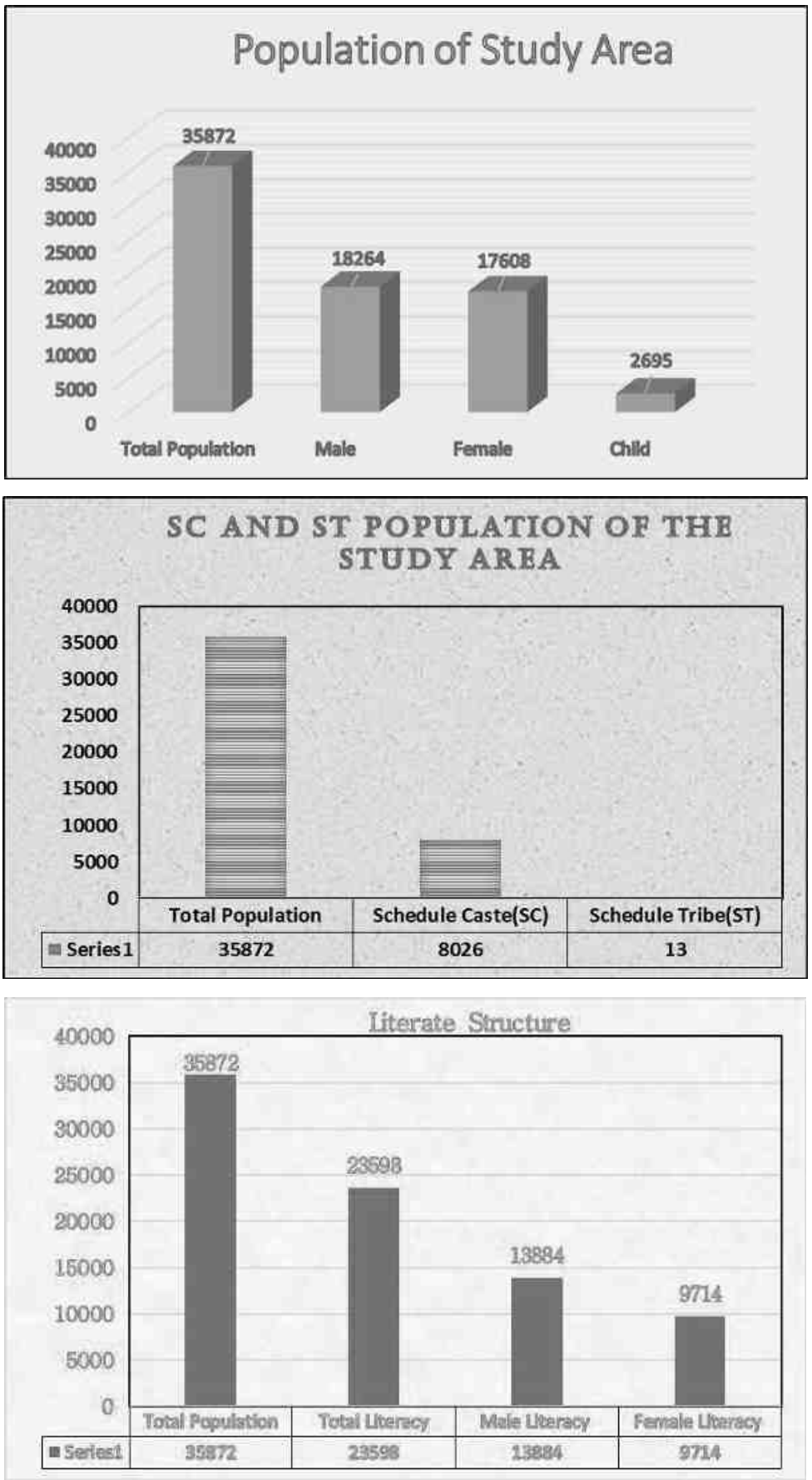


Figure 3.28 Details of the gender, social groups, and literacy rate in the study villages

3.8.1 Workforce Participation

Among the twelve study villages, Pavithiram has the largest workforce with 3,293 workers, reflecting its relatively large population and diverse economic activities. A high proportion of workers in Pavithiram are engaged in non-agricultural activities (1,242 other workers), indicating a shift toward semi-urbanized or diversified livelihoods. Similarly, Andankoil (West) (3,039 total workers) and Punnam (2,718 total workers) show substantial numbers of other workers, alongside cultivators and agricultural laborers, reflecting a mixed economic base. n contrast, smaller villages like Viswanathapuri (726 workers), Nedungur (753 workers), and Nadanthai (South) (380 workers) have smaller, agriculture-dependent workforces. In these villages, a large proportion of workers are cultivators or agricultural laborers, highlighting the dominance of primary-sector employment and limited economic diversification. Medium-sized villages such as Thumbivadi, Karudayampalayam, and P. Anaipalayam show a balanced workforce structure, with significant numbers of cultivators and agricultural laborers alongside other workers, indicating a combination of traditional farming and emerging non-agricultural occupations.

Analysis of main and marginal workers indicates that the majority of the workforce across all villages is engaged in main work, reflecting employment for six months or more. For example, Pavithiram has 2,879 main workers out of 3,293 total workers, Andankoil (West) has 2,888 main workers out of 3,039, and Punnam has 2,665 main workers out of 2,718. Even smaller villages like Thumbivadi and Karudayampalayam maintain a majority of main workers. Marginal workers, who work less than six months, are relatively few across all villages, indicating stability in employment.

The non- working population is substantial in most villages, emphasizing a high dependency ratio. Punnam has 2,728 non-workers, Thalapatti has 2,546, and Pavithiram has 2,588, reflecting the presence of children, elderly, and homemakers who rely on the working population. Smaller villages like Viswanathapuri (379 non-workers) and Nadanthai (South) (120 non-workers) also have considerable non-working populations relative to their size, highlighting limited employment opportunities outside agriculture

The demographic profile reveals heterogeneity in population size, literacy, and work participation, influencing economic activity and social conditions. Larger settlements demonstrate more developed socio-economic characteristics, whereas smaller villages are primarily agrarian. Figure 3.29 further visualizes population by gender, social composition,

and literacy rate across the study villages, providing insights into their livelihood patterns and quality of life.

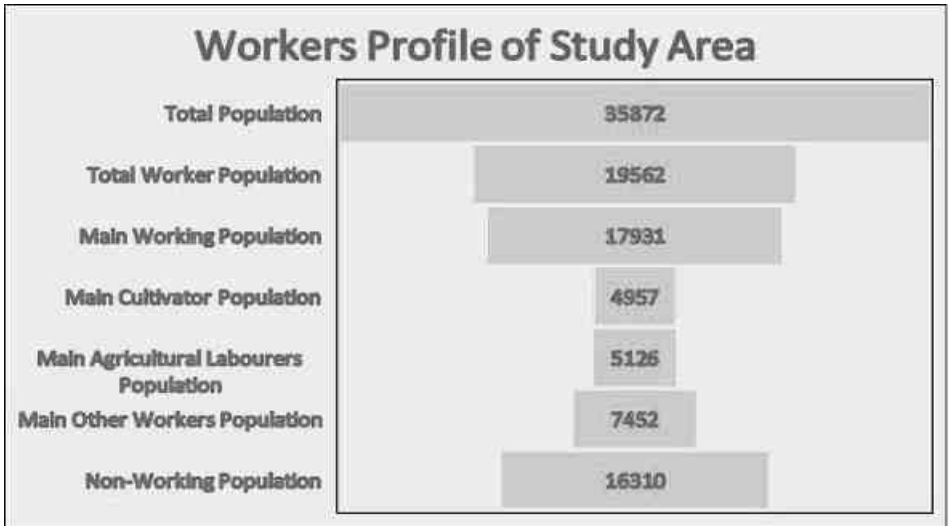


Figure 3.29 Details of Workforce in the Study Villages

Benifites of the Project

As per SEAC recommendation the project proponent should spend minimum of 5 lakhs to the nearby school from the proposed project site as part of CER cost. Also, the village panchayat will get direct benefit from the government through District mineral Resource fund (DMF) for infrastructure development activities. Also, the project will provide employment opportunities directly and indirectly to the villagers as well as to people in the surrounding areas.

- Awareness and Opinion of the People About the Project, to assess public awareness and opinions regarding the proposed project, the following key observations were recorded:
- During the survey, it was observed that only residents of nearby villages were aware of the proposed project, while those in more distant villages were largely unaware.
- People in the region expressed expectations that the project would generate employment opportunities and lead to improvements in education, transportation, and sanitation facilities provided by the project authorities.

Recommendation and Suggestion

The village development plans are made in consultation with the community through Gram Sabha; these appear to address the needs of the community. However, it may be noted that at the implementation stage these plans often are fraught with problem of inadequate funds, lack of proper planning, corruption, vested interests and political agendas. Hence while ascertaining

the scope for convergence with the government activities, care must be taken to ascertain realistic possibilities for implementation.

- Women empowerment: Home based income generation activities, vocational training programs and common education centre for increasing the literacy rate.
- Education: Free uniform, construction of common rooms and library, computer education and physical education, furniture and equipment in schools, up-gradation of existing school infrastructure through the CSR funds.
- Agriculture/livestock: Infrastructure such as agricultural practices, electricity connections, assistance with buying improved tools and equipment, capacity building, supply and/or knowledge of better variety of seeds, pasture land development and trainings on animal husbandry & facility of veterinary doctor.
- Health: Improvements in sanitary conditions of villages, assistance with construction of latrines, improvement in drainage system, health camps and awareness campaigns for diseases like common cold, malaria, typhoid, tuberculosis, yellow fever and pneumonia. Repairing of PHCs and Anganwadi centres.
- People with disability: Establishment of centre for special education, sensitization of the community towards disabled and awareness on Government schemes.
- Marginalized Communities and Vulnerable Groups: While Developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.
- Connectivity: Transport connectivity to easiness accessibility to the region.
- Greenbelt: Establish a greenbelt and plant saplings around quarry boundaries, village schools, and village roads.

While developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.

Conclusion

This study was carried out the baseline socio-economic conditions of the study area. It examined parameters including the population, number of households, literacy rate, sex ratio, workforce details, and the availability of essential amenities like transportation, drinking water, road connectivity, and educational facilities. The study revealed both positive and negative socio-economic implications associated with the proposed project and cluster quarries. While potential environmental and social impacts must be addressed, the project is expected to

provide significant economic benefits in terms of local employment and improved livelihood opportunities in directly and indirectly. Therefore, with the implementation of effective mitigation and management measures, the project can contribute positively to the socio-economic development of the area while minimizing adverse impacts.

Recommendation and Suggestion

- Awareness program should be conducted to make the population aware of education and to get a better livelihood.
- Vocational training programme should be organized to make the people self - employed, particularly for women and unemployed youth.
- On the basis of qualification and skills local community may be preferred. Long term and short-term employments should be generated.
- Health care centre and ambulance facility should be provided to the population to get easy access to medical facilities. Apart from that, as these areas are prone to various diseases a hospital with modern facilities should be opened on a priority basis in a central place to provide better health facilities to the villagers around the project.
- While developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.

Summary & Conclusion

The socio-economic study in the study area gives a clear picture of its population, average household size, literacy rate and sex ratio etc. It is also found that a part of population is suffering from a lack of permanent job to run their day-to-day life. Their expectation is to earn some income for their sustainability on a long-term basis. The proposed project will aim to provide preferential employment to the local people there by improving the employment opportunity in the area and in turn the social standards will improve.

Table 3.35 Details of Workforce Participation of the Study Area

Village Name	Total Worker	Total Male Workers	Total Female Workers	Total Main Workers	Total Main Cultivators	Total Main Agricultural Labourers	Total Other Workers	Total non-Workers
Punnam	2718	1531	1187	2665	731	632	1269	2728
Kuppam	2246	1198	1048	1941	822	529	565	1257
Andankoil (West)	3039	1859	1180	2888	286	435	2096	2999
Pavithiram	3293	1875	1418	2879	747	829	1242	2588
Karudayampalayam	1176	646	530	847	301	265	251	1171
Nedungur	753	432	321	734	409	241	81	437
Viswanathapuri	726	354	372	724	82	465	170	379
Thumbivadi	1296	757	539	1211	288	627	276	1024
Nadanthai (south)	380	190	190	380	66	305	7	120
P.Anaipalayam	788	438	350	751	326	151	214	473
Ariyur	790	493	297	790	337	309	130	588
Thalapatti	2357	1510	847	2121	562	338	1151	2546

Source: *Census Reports, Tamil Nadu – 2011.*

Table 3.36 Enumeration of Structures from 0m - 300m Radius

S.No	Radius in m	Distance Directions	Purpose of structures	Type of structures	No of Occupants	Structure belongs to owner (Yes/No)
1	0-100	-	-	-	-	-
		-	-	-	-	-
2	100-200	153m- South	Crusher- 1	Crusher	15Nos	Yes
3	200-300	213m- South	Labour Shed- 1	Sheet Structure	7Nos	Yes

Table 3.37 Enumeration of Structures from 300m-1km Radius

S. No	Radius in m	Purpose of structures	No. of structures	Type of structures	No of Occupants	Structure belongs to owner (Yes/No)
1	300- 400	Labour Shed	2	Sheet Structure	10Nos	Yes
2	400- 600	Pudukkanali Village	11	Sheet Structure	35Nos	Yes
3	600- 700	Pudukkanali Village	13	Sheet Structure	40Nos	Yes
			11	RCC Structure	20Nos	Yes
4	700- 800	Pudukkanali Village	20	RCC, Sheet Structure	28nos	Yes
		Habitation	4	RCC Structure	15Nos	Yes
5	800- 900	Crusher	1	Sheet Structure	Nil	Yes
		Labour Shed	1	Sheet Structure	Nil	Yes
		Habitation	2	RCC Structure	7Nos	Yes
		Shed	1	Sheet Structure	Nil	Yes
6	900m- 1km	Habitation	11	RCC Structure Sheet Structure	17Nos	Yes
		Shed	1	RCC Structure	Nil	Nil

3.9 TRAFFIC DENSITY

The traffic survey conducted based on the transportation route of material, the Rough Stone and gravel is proposed to be transported mainly through Village Road and K. Paramathi to Karur (NH-67) as shown in Table 3.38-3.39 and in Figure 3.30. Traffic density measurements were made continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., Heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station. During each shift one person on either direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken. Direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken.

Table 3.38 Traffic Survey Locations

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Village Road	1.07Km-East	Village Road
TS2	Karappalayam – Kattur (NH -81)	1.10 Km-North	Karappalayam – Kattur (NH -81)

Source: On-site monitoring by GTMS FAE & TM

Table 3.39 Existing Traffic Volume

Station code	HMV		LMV		2/3 Wheelers		Total PCU
	No	PCU	No	PCU	No	PCU	
TS1	42	126	51	51	68	34	211
TS2	117	351	142	142	220	110	603

Source: On-site monitoring by GTMS FAE & TM

* PCU conversion factor: HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 2/3 Wheelers = 0.5

Table 3.40 Rough Stone and Gravel Transportation Requirement

Transportation of Rough Stone and Gravel Per day		
Capacity of trucks	No. of Trips per day	Volume in PCU
15 tonnes	16	48

Source: Approved Mining Plan

Table 3.41 Summary of Traffic Volume

Route	Existing traffic volume in PCU	Incremental traffic due to the project	Total traffic volume	Hourly Capacity in PCU as per IRC – 1960guidelines
Village Road	211	48	259	1200
K.Paramathi to Karur (NH-67)	603	48	651	1200

Source: On-site monitoring analysis summary by GTMS FAE & TM

o Due to these projects the existing traffic volume will not exceed the traffic limit. As per the IRC 1960 this existing village road can handle 1,200 PCU in hour and Major district road can handle 1500 PCU in hour. Hence there will not be any conjunction due to this proposed transportation.

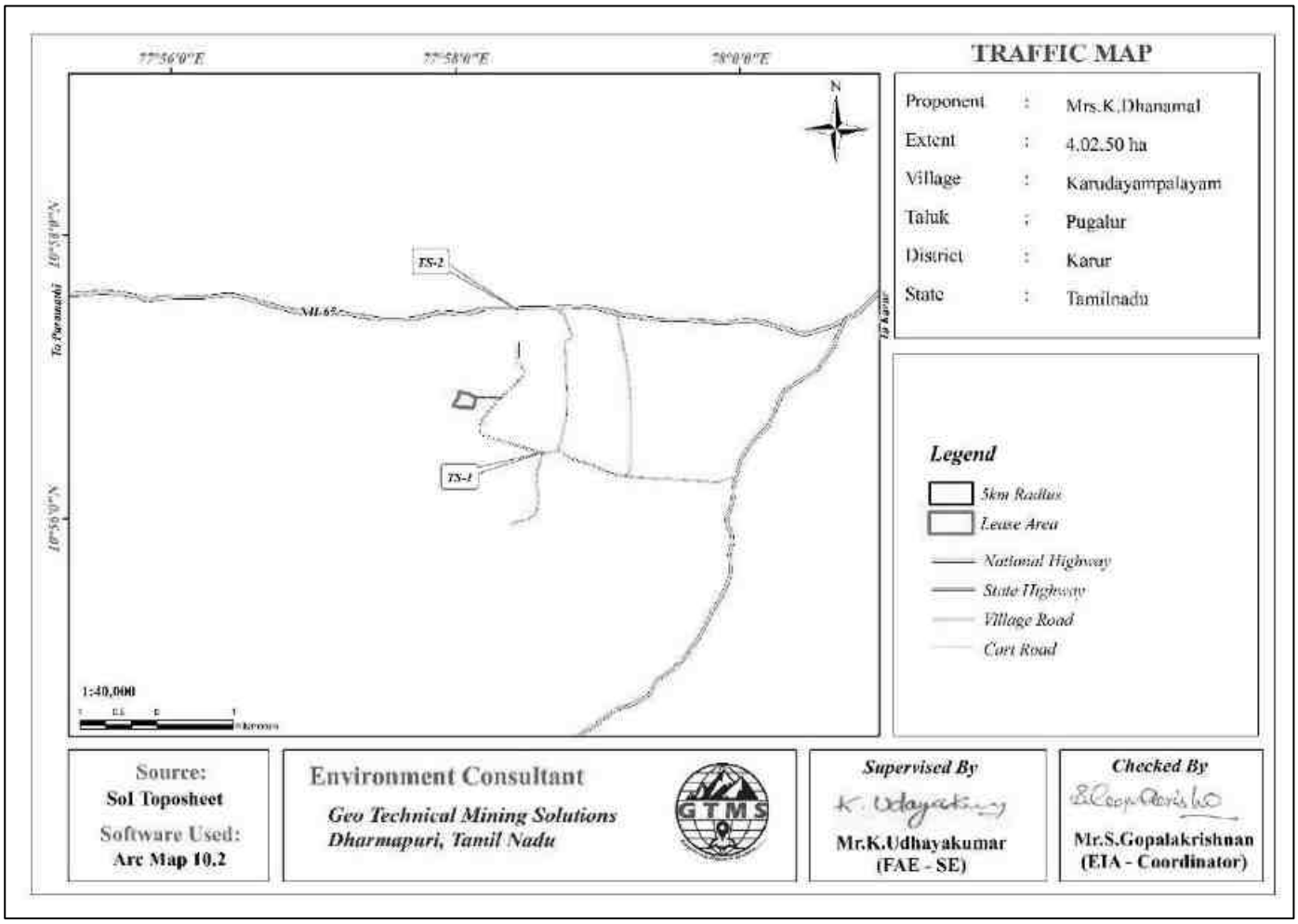


Figure 3.30 Traffic Density Maps

3.10 SITE SPECIFIC FEATURES

There are no Wildlife Sanctuaries and National Park within 10km radius. Therefore, there will be no need of acquisition/ diversion of forest land. The details related to the environmentally sensitive areas around the proposed mine lease area i.e., 10km radius and the nearby water bodies are given in the Table 3.42.

Table 3.42 Details of Environmentally Sensitive Ecological Features in the Study Area

S. No.	Sensitive Ecological Features	Name	Areal Distance in km
1	National Park / Wild life Sanctuaries	Vellode Bird Sanctuary	48.08km-NW
		None	Nil within 10 km radius
2	Reserve Forest & River	Thathampalayam R. F	2.51km-SE
		Vangal R.F	19.64km-NE
		Amaravathi River	4.61km-SE
		Kocheeswaran dam	6.38km-SE
		Amaravathi Check dam	7.62km E
		TNWRD- Aathupallayam Dam	18.54km NW
4	Tiger Reserve/Elephant Reserve/ Biosphere Reserve	None	Nil within 10 km radius
5	Densely Polluted Areas	None	Nil within 10 km radius
6	Mangroves	None	Nil within 10 km radius
7	Mountains/ Hills	None	Nil within 10 km radius
8	Centrally Protected Archaeological Sites	None	Nil within 10 km radius
9	Industries/ Thermal Power Plants	None	Nil within 10 km radius
Schools & Colleges			
10	Schools	1. PUES- Palamarthupatti-1.96km-E 2. Govt Higher Sec School- K. Paramathi-7.03km-W 3. P.U.M.School - Malayampudur -1.20km-SW	
11	Colleges	1. Cheran College of Engineering- K. Paramathi-8.11km-W 2. VSB Engineering College-Karudayampalayam -1.78km-NW 3. NSN college of Engineering-8.78km-SE 4. Karur Velalar College of Arts and Science for Women 5. Uppupalayam-4.48km-N 6. Cheran College of Education-5.95km-NE	
12	Defense Installation	None	Nil within 10 km radius

Source: Survey of India Toposheet



Figure 3.31 Field Study Photographs

CHAPTER IV

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 GENERAL

The identification of potential environmental impacts is indeed the crucial first step in the Environmental Impact Assessment (EIA) process utilizing various techniques such as checklists, matrices and network diagrams to understand a project's effects. The matrix method used in this study provides a structured way to identify and assess the impacts ensuring the project can be implemented in an eco- friendly manner. This chapter discusses the anticipated impacts on land, soil, water, air, noise, biological and socioeconomic environments.

The proposed stone mining project involves blasting, drilling and screening operations which contribute to environmental impacts is given in Table 4.1. The project is designed to minimize these impacts by implementing mitigation measures and ensuring a marginal environmental footprint with a detailed analysis to follow in subsequent tables.

Table 4.1 Impact identification matrix.

Activities	Environmental Attributes								
	Land	**Soil**	**Water**	**Air**	**Noise**	**Ecology**	**Socio Economics**	**Aesthetics**	**OHS**
Site clearing & Site services	√	√		√		√			
Development of Greenbelt						√		√	
Operation Phase (Drilling, Blasting Loading and unloading, Transportation)	√	√		√	√	√			√
	√	√		√	√	√			√
	√	√		√	√	√			√
Employment and the material usage							√		
Mine closure (Removal of machineries, structures and Danger due to inadvertent entry)				√	√		√		√

√ Indicates Impact

4.1 LAND ENVIRONMENT

Anticipated Impacts

- Converting barren land of 4.02.50hectares to rough stone and gravel mining creates a significant and usually irreversible change in land use and land cover involving the physical alteration of the land's surface, potential deforestation, loss of biodiversity, altered topography from pits and spoil dumps.
- Heavy vehicle movement causes significant problems to nearby agriculture and human habitation. These pollutants can degrade soil quality and introduce heavy metals into the environment.
- During transportation the tippers damage the bituminous roads. The primary damage is caused by the fourth power law (*The law posits that if you double an axle's load, the damage caused to the pavement increases by a factor of 2x4 or 16 times*) where pavement damage increases with the fourth power of the axle load. The immense weight of heavy payloads on an axle exerts a concentrated and repetitive stress on the road surface leading to permanent strain, premature failure and a cumulative damage.
- Rain drops hitting stone crushing waste can break apart the particles and flowing water detaches them from the surface transports and redeposits these particles especially from sloped surfaces. This a form of splash erosion followed by sheet erosion which can lead to environmental issues.

Mitigation measures

- After mining there is a huge void of 3.03.16hectares upto a depth of 20m is useful for rain water storage structure has an advantage for local farmers. The artificial pond boundary shall be fences to avoid any mishaps.
- Union ministry of road transport and highways on July 16th 2018 increased the maximum cap of axle load limit by 20 to 25 percent cross various categories to keep the limit “at par with international standards”.

Maximum Safe Axle Weight		
Sl. No	**Axle Tupe**	**Maximum safe Axle Weight**
1	Single Axle	-
1.1	Single Axle with single tyre	3.0 tonnes
1.2	Single Axle with two tyres	7.5 tonnes
1.3	Single Axle with four tyres	11.5 tonnes*
2.	**Tandem Axles (Two axles) (where the distance between two axles is less than 1.8 Mtr.)**	-
2.1	Tandem axles for rigid vehiles, trailers and semi-trailers	21 tonnes*

2.2	Tandem axles for puller tractors for hydraulic and pneumatic trailers	28.5tonnes
3.	**Tri-axles (Three axles) (where the distance between outer axles is less than 3 Mtr.)**	-
3.1	Tri-axles for rigid vehicles, trailers and semi- trailers	27 tonnes*
4	Axle Row (two axles with four tyres each) in Modular Hydraulic trailers (9 tonnes load shall be permissible for single axles)	18 tonnes
***Note:** If the vehicle is fitted with pneumatic suspension, I tonne extra Load is permitted for each axle.		

MoRTH knows that previously built Indian roads are made keeping standard axle loads. The new national and state highways along with expressways can be built by using new norms but for the existing roads the life will be reduced on average by one year.

- 6- wheel tipper generally has a maximum legal speed limit which can be up to 60 km/h and speeds should be reduced for loaded conditions. The mine management should take care of the speed of vehicles i.e up to 40km/h in village roads constructed under Pradhan Mantri Gram Sadak Yojana and other district roads developed by Highways and Minor Ports Department, Government of Tamil Nadu as each time a truck passes the concentrated stress causes a small amount of permanent strain on the pavement. Over time these small strains accumulate and lead to significant fatigue and eventual failure.
- 6- wheel tippers of not more than 9tons payload capacity covered with tarpaulin to stop the spillage and dust should use.
- Protective measures such as establish plants like grasses, cover crops and trees to form a dense layer over the dump absorbing raindrop energy and holding particles in place.

4.2 SOIL ENVIRONMENT

Anticipated Impacts

- The fertility status of the soil near by the lease area may affect due to extra dust deposition on the soil. Dust deposition from a lease area can harm soil fertility by physically blocking soil pores, reducing aeration and water infiltration, and potentially altering the soil's chemical properties. This damage to the topsoil negatively impacts plant growth by interfering with photosynthesis and nutrient uptake ultimately decreasing crop production.
- Topsoil will be scraped from the area of 4.02.50hectares in the project site will store in safety area left for 7.5meters in the western side as shown in mining plan.

Mitigation measures

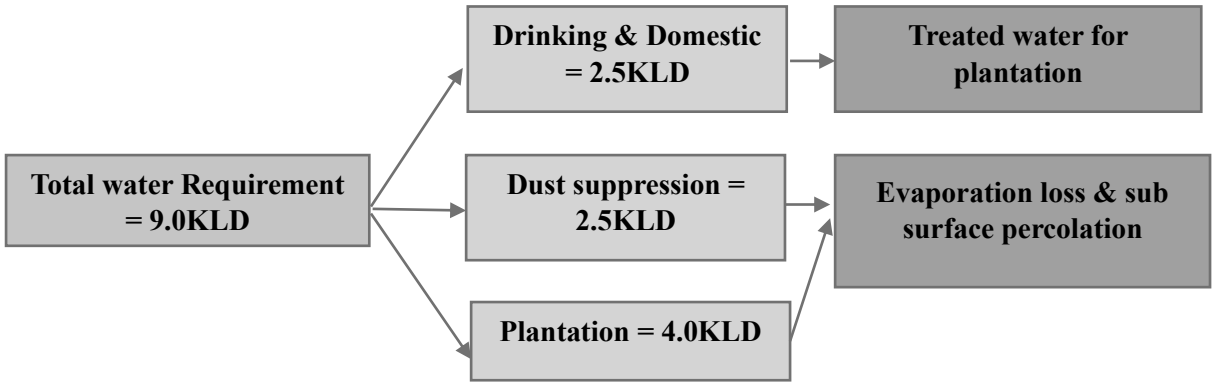
- When stock piling of top soil is done the mound should not be higher than 1.2m and 3.0m.
- To minimize surface runoff and erosion the topography of a graded surface should be designed to create terraces or benches that follow land contours which intercept sheet flow. Additionally, a bulldozer's tracks can be used to create a fine-scale roughened surface perpendicular to the slope and stockpiles should be constructed with a rough surface to improve drainage, reduce erosion and encourage revegetation.
- Efforts will be made to minimize the storage time to prevent nutrient loss.
- To protect the quality of stockpiled topsoil immediate re-vegetation is crucial. Temporary seeding should be done within 30 days of stockpile formation to control erosion, prevent weed growth and maintain healthy soil microbes.
- If the stockpile will not be reused within 12 months it must be stabilized with permanent vegetation to ensure long-term erosion and weed control.
- The stored topsoil will be utilized for plantations in later phases during the progressive and final closure of the mine.

4.3 WATER ENVIRONMENT

Anticipated Impacts

- 9KLD (9,000 liters per day) water requirement for drinking, domestic, dust suppression and plantation.

Water Balance Chart of the Mine



- The domestic effluents being generated during mine operation.
- Major impact of opencast mining on groundwater regime is quality deterioration. The proposed mining activities shall be carried out upto a depth of 20m from average ground level. The specific water table depth in the core and buffer zone is between 60m and 65 meters below ground level.

- The volume of rain water entering to the mine and accumulating in the quarry has been estimated on the basis of direct catchment area, maximum daily precipitation and the run-off coefficient. $(\boldsymbol{Q = A\ x\ Hx}$ đ $)\boldsymbol{cubic\ meters/day}$.

  Where A- catchment area in m^2

  H- Max daily precipitation in mm

  đ- Run-off Co-efficient.

The run off co-efficient for mined out area is 0.80. The all-time record for maximum daily precipitation in Karur district was 359.1mm on September 30, 2024 as reported by Indian Meteorological Department (IMD). More recent rainfall records are 158.000mm on May 18, 2025 and 26.80 mm on May 19, 2025. The maximum broken area is 3.80.31hectares in the sixth year and estimation for make of water done on the quarry parameters for sixth year onwards. Q = 3.80.31hecatres x 10000 x 0.380 x 0.80m^3.

Q = 30424m^3. Q = 3040m^3.

Total accumulated water in the pit is **30424m^3**.

Additionally, 20% of water from seepage is **608m^3**.

Total water estimated for pumping requirement = **31032m^3.**

If we take the all-time record then the total water estimated for pumping = **31032m^3.**

To manage rain water runoff into quarry a 5 HP diesel operated pump will be placed at the site during the monsoon.

Mitigation Measures

- The hard rock itself has very few interconnected pore spaces, limiting the amount of water it can store or transmit. Groundwater flow and storage occur primarily in secondary openings such as joints, cracks and fissures. The thickness of the weathered layer, where more significant porosity can develop, is typically limited to 1-3 meters, particularly in low- lying topographic areas. The groundwater in these shallow zones is under unconfined (or water table) conditions, meaning it is directly connected to the surface and not confined by impermeable layers.
- The storm water discharge coming out of quarries and dump through a network of garland drains is expected to contain solid particles. These solid particles shall be removed by settling in the settling pond before being used for dust suppression and plantation. Hence, there shall be no change in drainage system due to this mining project in buffer zone.

- Domestic sewage from site office will be discharged in MAK Anaerobic bacteria digestion bio-septic tank. The treated water will be utilized for watering and maintaining the green belt.
- Groundwater development efforts would need to focus on the weathered and fractured zones near the surface in the buffer zone.
- Periodic (every 6 month once) analysis of ground water level and quality from the open well DW7 and bore well BW3 as shown in Figure 3.8 & 3.10 to find the change due to quarrying.
- The average annual rainfall of the project area is 850mm and the runoff coefficient factors have been taken as per guidelines of Manual on Norms and Standards for Environmental Clearances by MoEF& CC, Govt. of India.

The total annual runoff can be calculated as:

Runoff = Rainfall × Catchment Area × Runoff Coefficient

Annual Rainfall = 992mm
Total Project Area = 54340sq.m
Coefficient of Run off for Rooftop (Inclined) = 0.90
Coefficient of Run off for Rooftop (Flat) = 0.80
Coefficient of Run off for Road/Paved Area = 0.70
Coefficient of Run off for Open Area = 0.25
Coefficient of Run off for Greenbelt Area = 0.15 Rain water can effectively be collected from Maximum size of void in 6th year of mining = 43100sq. m.
Top soil dump area = 8240sq.m
Road & Infrastructure = 700sq.m
Runoff from Void pit area = 43100sq.m x 0.805 m x 0.25 = 8673m^3
Runoff from Top soil dump area = 0.805m x 8240sq. m x 0.25 = 1658.3m^3
Runoff from Road & Infrastructure = 0.805m x 700sq. m x 0.70 = 394.45m^3
Total Runoff from Project Area = 10725.75m^3

The annual runoff generated in the project site is 8673m^3. By considering the loss of 20% due to evaporation, spillage and wastage the effective runoff that can be harvested inside the project area is **6938.4m^3.**

Daily water requirement (except drinking purpose) is 8m^3. So, with 300 working days the water requirement will be = 8m^3 X 300 = **2400m^3**

The surface runoff being generated from the project area will be channelized to rain water harvesting pond of 2m x 2m x 2m through network of drainage system 1m x 1m. The bottom of the ponds is naked and natural seepage from the bottom will recharge the ground water regime. Hence the storage pond will act as recharging structure. Even though rain water will be sufficient to fulfil the daily requirement of water but in the initial years of mining when the mining pit is smaller in size or in the year with deficit rainfall surface water will be collected with due permission.

4.4 AIR ENVIRONMENT

Anticipated Impact

The main cause of air pollution in open-cast mining is the generation of airborne particulate matter (dust) from various mining activities including drilling, blasting, excavation, loading/unloading, vehicle movement on haul roads and the dumps. These activities release large quantities of fugitive dust which are then carried by the wind and can contribute to respiratory health problems for nearby communities and miners. The source of pollution is given in table below.

Activities	Air pollutants
Drilling	PM_{10}, $PM_{2.5}$
Blasting	PM10, $PM_{2.5}$, SOx, NOx
Loading & unloading	PM10, $PM_{2.5}$
Haul road	PM_{10}, $PM_{2.5}$
Transportation	PM_{10}, $PM_{2.5}$, SOx, NOx, CO
Waste/Top soil handling	PM_{10}, $PM_{2.5}$

The air dispersion modelling study was conducted using the AERMOD Cloud remote version for assessment of incremental Ground level concentration (GLC) for the proposed production. Area source model taken into consideration taking into consideration of the conceptual quarry area and dump area. Further line source model was taken into consideration for transportation of material through haul road.

Model Setup is given in Table below

Parameter	Details
Model Name	Aermod
Model Type	Steady state Gaussian plume air dispersion model
Topography	Elevated Topography
Average Time	24 hours
Source Type	Area source

Boundary limit	5km X 5km
Surface Meteorological Data	Site specific data processed by AERMET
Receptor Height	0
Anemometer height	10m

The air pollution modelling correctly focuses on particulate matter as the key pollutant for a mining project given that dust from mining operations and transportation is the primary source of air pollution in such industries rather than SO_2 or NOx which are typically associated with vehicular emissions. The incremental Ground Level Concentrations (GLCs) predicted are specifically for particulate matter reflecting the anticipated contribution of the proposed mining project to local air quality.

Emission Estimation

Emission resulting from different mining activities is estimated using relevant empirical formula developed by Chaulya et al.,2001 and Jyothi Prabha, Gurdeep Singh and I.N. Sinha, 2003 "Emission Factor Equations for Haul roads: The Indian Perspective", Indian Journal of Air Pollution Control Vol. VI No. I March pp 37- 43. The equations used for fugitive emission estimation have been given in Table 4.2.

Table 4.2 Empirical Formula for Emission Rate from Overall Mine

	Pollutant	Source Type	Empirical Equation	Parameters
Overall Mine	SPM	Area	$E = [u0.4a0.2\{9.7+ 0.01p+ b/(4+0.3b)\}]$	u = Wind speed(m/s). p = Mineral production (Mt/yr). b = Overburden handling (Mm^3/yr). a = Lease area(km^2). E = Emission rate(g/s).
Transportation through roads	Fugitive dust	line	$E = [\{(100-m)/m\}^{0.8} \{s/ (100-s)\}^{0.1} u^{0.3} \{2663 + 0.1 (v+fc)\} 10^{-6}]$	E = Emission Rate (g/sec/m) m = Moisture Content of the road = 10% s = Silt Content of the Road = 10% u = Wind Speed v = Average Vehicle Speed f = frequency of Vehicle movement in number per hour c = Capacity of the dumper in tons = 12 ton

The emission rate thus calculated using the empirical formula is used as one of the inputs in the AERMOD modelling. It is important to note that PM_{10} emission rate is derived

from the SPM estimation in the background that PM_{10} constitutes 52% of SPM emission. The $PM_{2.5}$, PM_{10} emission results have been given in Table 4.3.

Table 4.3 Estimated Emission Rate

Activity	Pollutant	Calculated Value (g/s)	Lease Area in m^2	Calculated Value ($g/s/m^2$)
Overall Mine	$PM_{2.5}$	0.2245	40900	5.39106
Overall Mine	PM_{10}	0.4489	40900	1.08005

4.4.1 Modelling of Incremental Concentration

The post project resultant concentrations of PM_{10}, $PM_{2.5}$ is given in Tables 4.4 - 4.5.

Table 4.4 Incremental & Resultant GLC of $PM_{2.5}$

Station ID	Distance to core area (km)	PM 2.5 concentrations(µg/m³)				Comparison against air quality standard (60 µg/m3)	Magnitude of change (%)	Limit
		Direction	Baseline	Predicted	Total			
AAQ1	-- --	--	17.48	9.96	27.44	Below standard	57.0	60
AAQ2	0.37	NW	16.82	3	19.82		17.8	60
AAQ3	2.11	SE	17.65	0.12	17.77		0.7	60
AAQ4	0.93	SW	16.29	1	17.29		6.1	60
AAQ5	2.00	NE	16.97	1	17.97		5.9	60
AAQ6	2.35	NW	16.99	1	17.99		5.9	60

Table 4.5 Incremental & Resultant GLC of PM_{10}

Station ID	Distance to core area	PM_{10} concentrations(µg/m³)				Comparison against air quality standard (100 µg/m³)	Magnitude of change (%)	Limit
		Direction	Baseline	Predicted	Total			
AAQ1	-- --	--	45.33	18.1	63.43	Below standard	39.9	100
AAQ2	0.37	NW	43.96	8	51.96		18.2	100
AAQ3	2.11	SE	45.79	0.8	46.59		1.7	100
AAQ4	0.93	SW	43.08	1	44.08		2.3	100
AAQ5	2.00	NE	44.07	1	45.07		2.3	100
AAQ6	2.35	NW	44.13	1	45.13		2.3	100

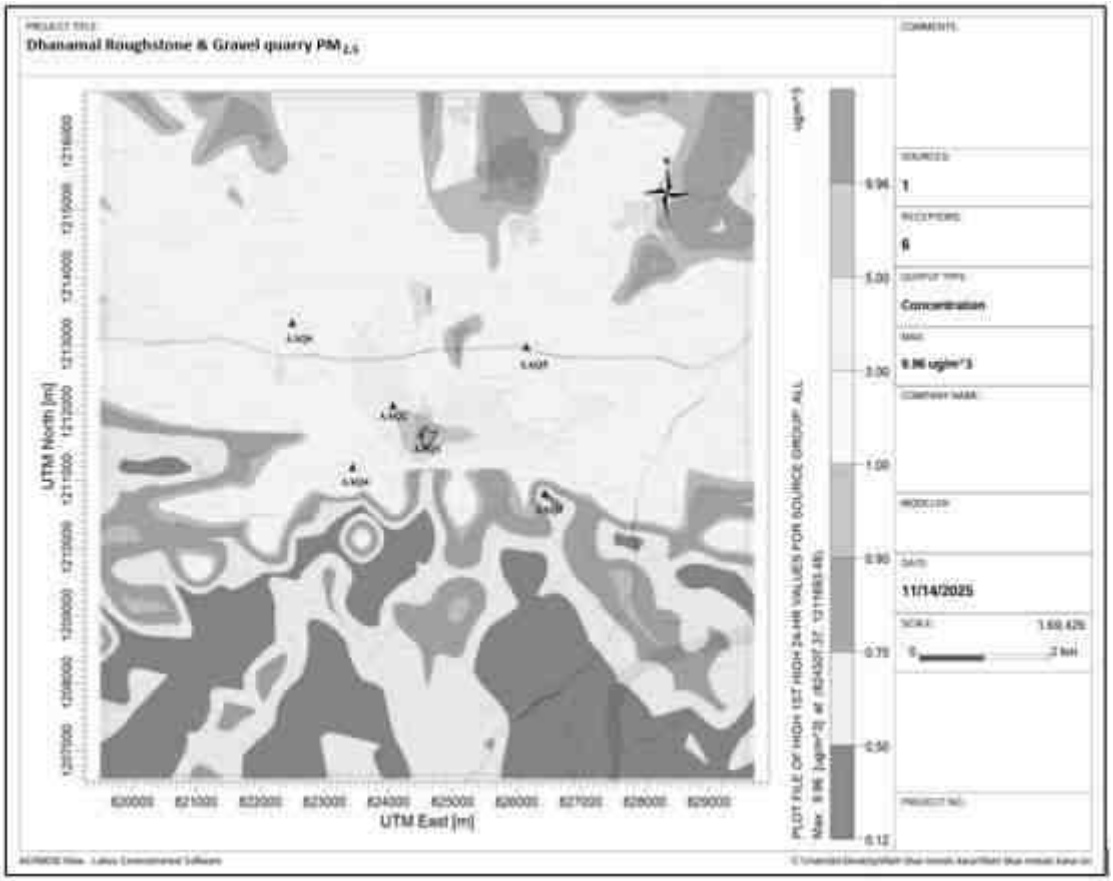


Figure 4.1 Predicted Incremental Concentration of $PM_{2.5}$

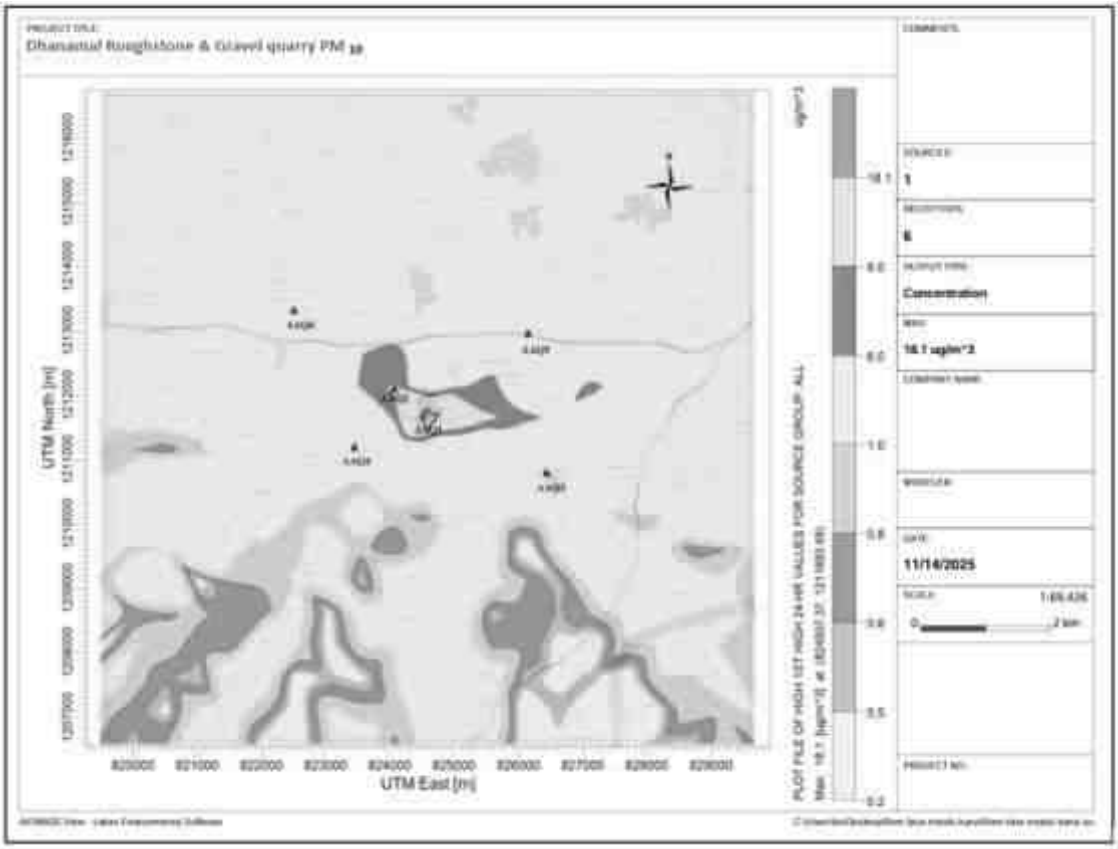
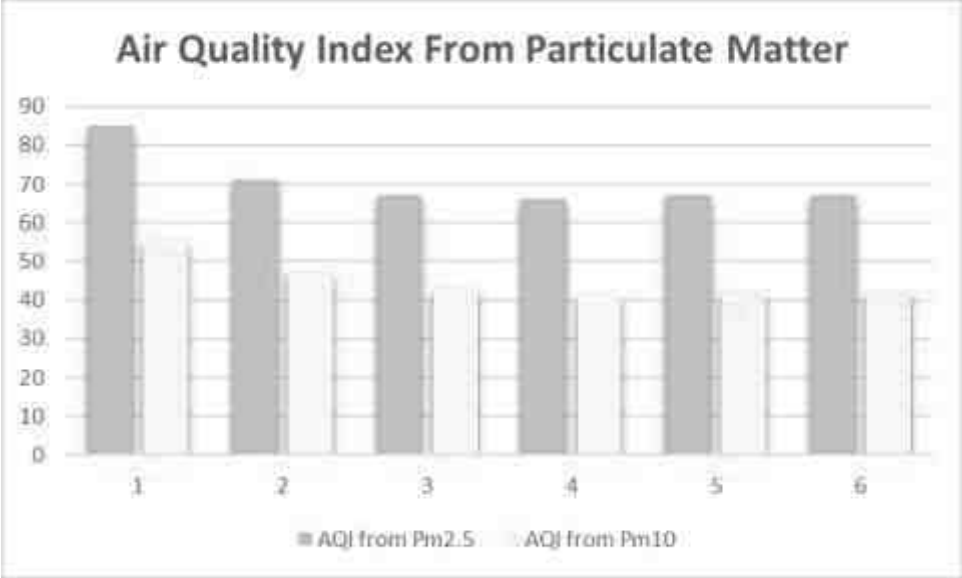


Figure 4.2 Predicted Incremental Concentration of PM_{10}

The Air Quality index for the baseline and predicted values of $PM_{2.5}$ and PM_{10} are given in table below.

Station ID	Distance to core area (km)	Direction	$PM_{2.5}$ (µg/m^3)		AQI for PM2.5	PM_{10} (µg/m^3)		AQI for PM10
			Baseline Conc.	Total (Baseline + Predicted GLC)		Baseline Conc.	Total (Baseline + Predicted GLC)	
AAQ1	-- --	--	17.48	27.44	85	45.33	63.43	55
AAQ2	0.37	NW	16.82	19.82	71	43.96	51.96	47
AAQ3	2.11	SE	17.65	17.77	67	45.79	46.59	43
AAQ4	0.93	SW	16.29	17.29	66	43.08	44.08	41
AAQ5	2.00	NE	16.97	17.97	67	44.07	45.07	42
AAQ6	2.35	NW	16.99	17.99	67	44.13	45.13	42

https://www.airnow.gov/aqi/aqi-calculator-concentration/



In the present study American Meteorological Society and the United States Environmental Protection Agency Dispersion Model (AERMOD) air quality model was run for premonsoon season under maximum atmospheric temperature conditions. The AERMOD has been run for PM_{10} and $PM_{2.5}$ distribution with 24-Hr maximum concentration and concentration contours were obtained as given in Figure 4.1 and 4.2. From these Isopleths plots it is observed that the highest pollutants concentrations predicted by AERMOD was near the major source in the core area and a maximum of 63µg/m^3 of PM_{10} and 27µg/m^3 of $PM_{2.5}$ were found to be below the prescribed NAAQS near the source. The AQI vales of PM_{10} shows

moderate and PM2.5 shows good in all the locations. By adopting suitable mitigation measures the pollutant levels in the atmosphere can be controlled further.

Mitigation Measures

There will be transportation of rough stone from the area to the crusher which is located at a distance of about 278m within the cluster boundary. Considering average annual production of 313225 tons per annum i.e. 870 tons per day of stone there will be movement of around 29 trucks per day for transportation of the stone. This will create additional traffic load to the road and also additional emission due to vehicular movement. The mitigation measures to minimize the air pollution are given in Table 4.6 below.

Table 4.6 Proposed Mitigation Measures for Air pollution

Potential Sources of air pollution	Magnitude of air pollution	Proposed Pollution Control Measure
Excavation	Emission of Particulate Matter	Provide Personal Protective Equipment's for workers
Drilling and Blasting	Emission of Particulate Matter and emission gaseous	Wet drilling and controlled blasting will adopt. Optimized blast parameters and design were given in chapter 2 should follow for blasting. Safety shelter will construct within the lease area. Provide PPEs for workers.
Loading of material on dumper	Air emission	Water sprinkler with wide angle nozzle of angle 150˚ will be selected for water sprinkling in the dust prone area.
Transportation	High Dust generation	Regular grading of haul roads will be practiced. Planting of trees all along mine haul roads outside the lease. Water sprinklers will install along the haul road. Vehicle without PUC certificate will not be allowed. Cover tarpaulin to the tipper during transportation.
Storage of Topsoil	High Dust generation	High dust generation due to wind from the topsoil storage area. This are will be installed with permanent water sprinkler. Plantation will be provided in the dump slope.

4.5 NOISE ENVIRONMENT

According to DGMS Technical Circular No. 18 of 1975 and No.5 of 1990 on "Protection of Workers against noise" it is brought to the knowledge of all concerned that Noise is emerging as an important and challenging health hazard for mine workers. Source data has been computed taking into account of all the machinery and activities used in the open cast mining process had listed in Table 4.7.

Table 4.7 Activity and Noise Produced by Machinery in open cast mines

S. No.	Machinery / activity	Distance of measurement	Noise level dB(A)	
			Idling	Fully accelerated
1.	Jack hammer	1	80	97
2.	Compressor	1	-	96
3.	Bulldozer	2	84	100
4.	Tipper	2	75	92
5.	Drill	1	85	90

The permissible noise exposure levels in Indian mines are based on OSHA standards adapted and enforced by the Indian government through the Factories Act and CPCB norms are given in Table 4.8 below.

Table 4.8 Permissible noise levels adopted by CPCB, 2000 and OSHA

Maximum Exposure Noise level Time per Working Day in hours	Noise level	
	CPCB, 2000 in dB (International Standard Organization)	OSHA code in dB (Occupational Safety and Health Act)
8	90	90
4	93	95
2	96	100
1	99	105
0.5	102	110
0.25	105	115

A noise level of 90 dB causes disruption, leading to annoyance, cognitive errors, and temporary hearing loss, while 85 dB is considered an upper comfort level with potential for cognitive decrements in tasks requiring decision-making with hearing loss possible at 300-1200 Hz frequencies in that range. Prolonged exposure to sounds at or above 85 dB can damage hearing over time. The mitigation measures to minimize the noise pollution are given in Table below.

Impact	Mitigation Measures
Noise impact due to mining activities. Noise impact due to vehicular	❖ Diesel powered machineries which are major source of noise in open cast environment will be properly maintained as per maintenance schedule to prevent undesirable noise.

movement. Auditory impact (hearing impairment resulting from excessive noise exposure)	❖ Attention shall be paid towards rigorous maintenance of silencers of diesel engines. ❖ Static diesel engines shall be housed as far as possible (not made of sheet metals or surrounded by baffles). If possible, they will be placed on vibration isolators. ❖ Drill machine operators, blasters and dumper drivers will be issued earplugs and earmuffs. Duty hours of operators of noisy machinery will be regulated to keep their noise exposure levels within limits. ❖ Provision of sound proof cabins for the workers deployed on machines producing higher level of sound like dumpers, shovels etc. ❖ Proper maintenance, oiling and greasing of machines will be done every week to reduce generation of noise. ❖ Provision of sound insulated chambers for the workers working on machines (HEMM) producing higher levels of noise. ❖ Silencers / mufflers will be installed in all machineries. ❖ Greenbelt/Plantation will be developed around the project area and along the haul roads. The plantation minimizes propagation of noise. ❖ Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM and their use will be ensured though training and awareness. ❖ Regular medical check–up and proper training to personnel to create awareness about adverse noise level effects.

4.5.1 Ground Vibrations due to blasting

The major source of ground vibration from the quarry is blasting. The ground vibrations due to the blasting in the quarry are calculated using the empirical equation for assessment of peak particle velocity (PPV) is given below

$$\boldsymbol{V = K[R/Q^{0.5}]^{-B}}$$

where,

V = peak particle velocity (mm/s), K = site and rock factor constant (500)
Q = maximum instantaneous charge (kg)
B = constant related to the rock and site (usually 1.6),
R = distance from charge (m)

Table 4.9 Predicted PPV values due to Blasting

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in mm/s	Fly rock distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	29.23	360	0.605	19	0.16	138

Table 4.10 Predicted PPV values due to Blasting at 100- 500m radius

Location ID	Maximum Charge in kgs	Radial Distance in m	PPV in mm/s	Fly rock distance in m	Air Blast	
					Pressure (kPa)	Sound Level (dB)
P1	29.23	100	4.695	19	0.75	152
		200	1.549		0.33	144
		300	0.810		0.20	140
		400	0.511		0.14	137
		500	0.358		0.11	135

The PPV results shows that the ground vibration is well below the permissible limits set by DGMS in the circular 7, 1997.

Mitigation Measures

- The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations
- Proper quantity of explosives, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting
- Adequate safe distance from blasting will be maintained as per DGMS guidelines
- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts.
- During blasting other activities in the immediate vicinity will be temporarily stopped. Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast.
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed.
- Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire.
- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used

- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.
- Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders
- Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained
- The blasting will be carried out during favourable atmospheric condition and less human activity timings by using nonelectrical initiation system.

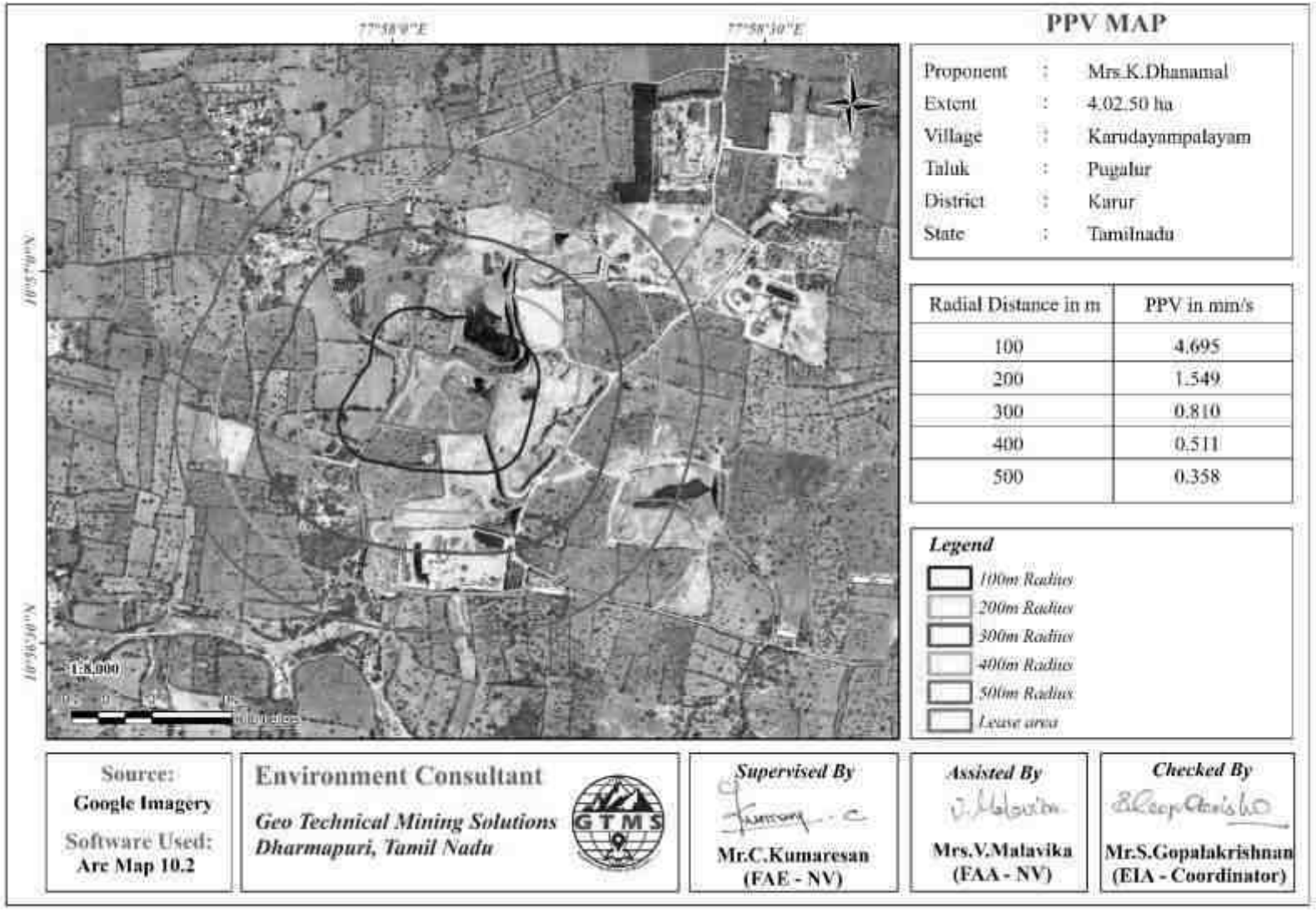


Figure 4.3 100- 500m PPV Map

4.6 ECOLOGY AND BIODIVERSITY

4.6.1 *Impact on Ecology and Biodiversity*

- During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly
- The Number of plants in the mining lease area is given in Chapter III Table 3.21 which vegetation in the lease area may be affected during mining.
- Carbon released from quarrying machineries and tippers during quarrying would be 752kg per day, 203070kg per year and 1015352kg over five years, as provided in Table 4.11.

Table 4.11 Carbon Released During five Years of Rough Stone and Gravel Production

	Per day	**Per year**	**Per five years**
Fuel consumption of excavator	34	9065	45326
Fuel consumption of tipper	718	194005	970026
Total fuel consumption in Liters	752	203070	1015352
CO_2 emission in kg	2014	544228	2721143
Fuel consumption of compressor	51	65618	328092.8

4.6.2 *Mitigation Measures on Flora*

- During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.
- None of the plants in the lease area will be cut during operational phase of the mine. we recommend uprooting and planting of the 10 trees along the 7.5 m safety zone to prevent environmental pollution during quarrying. As the survival rate due to uprooting was only 30%, 100 seedlings will be procured at the rate of 10 seedlings per tree and planted in 7.5 m safety zone.
- Existing roads will be used and new roads will not be constructed to reduce impact on flora.
- Green belt of adequate width will develop around the project site. Dust catching species like *Alstonia scholaris, Bombax ceiba, Terminalia arjuna, Cassia fistula, Bombax ceiba, Azadirchta indica, Nyctanthes arbor-tristis, Psidium guajava, Tectona grandis* etc will be planted in green belt.
- To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester

495976kg of carbon per year. Therefore, we recommend 500 planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.

- As per the greenbelt development plan as recommended by SEAC (Table 4.14) about 2012 trees (Table 4.15) will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 2479885kg of the total carbon as provided in Table 4.12.

Table 4.12 CO_2 Sequestration

CO_2 sequestration in kg	179	48252	241259
Remaining CO_2 not sequestered in kg	1836	495976	2479885
Trees required for environmental compensation	20649		
Area required for environmental compensation in hectares	41		

Table 4.13 Recommended Species for Greenbelt Development Plan

S. No	Botanical Name of the Plant	Family Name	Common Name	Category	Dust Capturing Efficiency Features
1	*Azadirachta indica*	Meliaceae	Neem,Vembu	Tree	Well distinct thick at both the layer Well distinct in Palisade & Spongy parenchyma. Spongy parenchyma is present at lower epidermis Many vascular bundles arranged almost parallel series.
2	*Techtona grandis*	Lamiaceae	Teak	Tree	
3	*Polyalthia longifolia*	Annonaceae	Nettilingam	Tree	
4	*Albizia lebbeck*	Fabaceae	Vagai	Tree	
5	*Delonix regia*	Fabaceae	Cemmayir-konrai	Tree	
6	*Bauhinia racemose*	Fabaceae	Aathi	Tree	
7	*Cassia fistula*	Fabaceae	Sarakondrai	Tree	
8	*Aegle marmelos*	Fabaceae	Vilvam	Tree	
9	*Pongamia pinnata*	Fabaceae	Pungam	Tree	
10	*Thespesia populnea*	Malvaceae	Puvarasu	Tree	

Table 4.14 Greenbelt Development Plan

	No. of trees proposed for plantation	No. of trees expected to survive @ 80%	Area to be covered (m^2)
Plantation in the construction phase (3 months)	Number of plants inside the mine lease area		
	412	390	802
	Number of plants outside the mine lease area		
	1600	1250	2850
Total	**2012**	**1640**	**3652**

4.6.3. *Anticipated Impact on Fauna*

- Direct impact is anticipated on fauna of core zone
- Insignificant impact is anticipated on fauna in the buffer area due to air emissions, noise, vibration, transportation, waste water discharges, and changes in land use
- Thathampalayam R.F located on 2.72km south-east of the mine lease area. There is a possibility that birds will be affected by mining activities and migrate.

Mitigation Measures on Fauna

- Fencing will be constructed around the proposed mine lease area to restrict the entry of stray animals
- The workers shall be trained not to harm any wildlife near the project site
- The quarry operation using in NONAL blasting Method Technic so controlled in sound and vibration.

4.6.4 *Impact on agriculture and horticulture crops in 1km Radius*

- Problems to agricultural and horticulture land due to dust caused by movement of heavy vehicles.
- Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season.
- The fugitive dust released from the mining operations may cause effect on the agricultural and horticulture land who are directly exposed to the fugitive dust.
- Dust from the quarries is likely to affect reproductive systems in nearby agricultural and horticulture lands.
- Dust from quarries can affect plant growth and reduce vegetable yields.

4.6.5 *Mitigation Measures on agriculture and horticulture crops.*

- The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. In order to compensate the loss of vegetation cover, it is suggested to carry out afforestation program mainly inside and outside of the lease area in different phases.
- A green belt will be created in 7.5m & 10m safety zone around the quarry to contain the dust from the quarry and prevent the dust from spreading to the adjacent agricultural land.
- Transportation of material will be carried out during day time and material will be covered with tarpaulin

4.7 SOCIO ECONOMIC ENVIRONMENT

Anticipated Impact from Proposed and Existing Projects

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area.
- Approach roads can be damaged by the movement of tippers
- Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region.

Common Mitigation Measures for Proposed Project

- Good maintenance practices will be adopted for all machinery and equipment, which will help to avert potential noise problems.
- Green belt will be developed in and around the project site as per Central Pollution Control Board (CPCB) guidelines.
- Air pollution control measure will be taken to minimize the environmental impact within the core zone.
- For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules.
- Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc.., from this project directly and indirectly.
- From above details, the quarry operations will have highly beneficial positive impact in the area

4.8 OCCUPATIONAL HEALTH AND SAFETY

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

- Respiratory hazards
- Noise
- Physical hazards
- Explosive storage and handling

4.8.1 *Respiratory Hazards*

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

- Cabins of excavators and tippers will be enclosed with AC and sound proof
- Use of personal dust masks will be made compulsory

4.8.2 *Noise*

Workers are likely to get exposed to excessive noise levels during mining activities. The following measures are proposed for implementation

- No employee will be exposed to a noise level greater than 85dB(A) for a duration of more than 8 hours per day without hearing protection
- The use of hearing protection will be enforced actively when the equivalent sound level over 8 hours reaches 85dB(A) the peak sound levels reach 140dB(C) or the average maximum sound level reaches 110dB(A)
- Ear muffs provided will be capable of reducing sound levels at the ear to at least 85dB(A)
- Periodic medical hearing checks will be performed on workers exposed to high noise levels.

4.8.3 *Physical Hazards*

The following measures are proposed for control of physical hazards

- Specific personnel training on work-site safety management will be taken up;
- Natural barriers, temporary railing, or specific danger signals will be provided along rock benches or other pit areas where work is performed at heights more than 2m from ground level;
- Maintenance of yards, roads and footpaths, providing sufficient water drainage and preventing slippery surfaces with an all-weather surface, such as coarse gravel will be taken up.

4.8.4 *Occupational Health Survey*

All the persons will undergo pre-employment and periodic medical examination. Employees will be monitored for occupational diseases by conducting the following tests: general physical tests, audiometric tests, full chest, X-ray, Lung function tests, spirometry tests, periodic medical examination- yearly, lung function test- yearly, those who are exposed to dust, and eye test Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

4.9 *Mine Waste Management*

No waste is anticipated from any of the proposed quarries.

4.10 *Mine Closure*

Mine closure plan is the most important environmental requirement in mining project. The mine closure plan should cover technical, environmental, social, legal and financial aspects dealing with progressive and post closure activities. The closure operation is a continuous series of activities starting from the decommissioning of the project. Therefore, progressive mine closure plan should be specifically dealt with in the mining plan and is to be reviewed along with mining plan. As progressive mine closure is a continuous series of activities, it is obvious that the proposals of scientific mining have included most of the activities to be included in the closure plan. While formulating the closure objectives for the site, it is important to consider the existing or the pre mining land use of the site and how the operation will affect this activity.

The primary aim is to ensure that the following broad objectives along with the abandonment of the mine can be successfully achieved:

- To create a productive and sustainable after-use for the site, acceptable to mine owners, regulatory agencies, and the public
- To protect public health and safety of the surrounding habitation
- To minimize environmental damage to conserve valuable attributes and aesthetics
- To overcome adverse socio-economic impacts.

4.10.1 *Mine Closure Criteria*

The criteria involved in mine closure are discussed below:

Physical Stability

All anthropogenic structures, which include mine workings, buildings, rest shelters etc., remaining after mine decommissioning should be physically stable. They should present no hazard to public health and safety as a result of failure or physical deterioration and they should continue to perform the functions for which they were designed. The design periods and factors of safety proposed should take full account of extreme events such as floods, hurricane, winds or earthquakes, etc. and other natural perpetual forces like erosion, etc.,

Chemical Stability

The solid wastes on the mine site should be chemically stable. This means that the consequences of chemical changes or conditions leading to leaching of metals, salts or organic compounds should not endanger public health and safety nor result in the deterioration of environmental attributes. If the pollutant discharges likely to cause adverse impacts is predicted in advance, appropriate mitigation measures like settling of suspended solids or passive treatment to improve water quality as well as quantity, etc., could be planned. Monitoring

should demonstrate that there is no adverse effect of pollutant concentrations exceeding the statutory limits for the water, soil and air qualities in the area around the closed mine.

Biological Stability

The stability of the surrounding environment is primarily dependent upon the physical and chemical characteristics of the site, whereas the biological stability of the mine site itself is closely related to rehabilitation and final land use. Nevertheless, biological stability can significantly influence physical or chemical stability by stabilizing soil cover, prevention of erosion/ wash off, leaching, etc., A vegetation cover over the disturbed site is usually one of the main objectives of the rehabilitation programme, as vegetation cover is the best long-term method of stabilizing the site. When the major earthwork components of the rehabilitation programme have been completed, the process of establishing a stable vegetation community begins. For re-vegetation, management of soil nutrient levels is an important consideration. Additions of nutrients are useful under three situations.

- Where the nutrient level of spread topsoil is lower than material in-situ e.g., for development of social forestry
- Where it is intended to grow plants with a higher nutrient requirement than those occurring naturally.
- Where it is desirable to get a quick growth response from the native flora during those times.

When moisture is not a limiting factor. For example, development of green barriers the Mine closure plan should be as per the approved mining plan. The mine closure is a part of approved mine plan and activities of closure shall be carried out as per the process described in mine closure plan.

CHAPTER V
ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.0 General

Consideration of alternatives to a proposed project is a requirement of EIA process. During the scoping process, alternatives to a proposed project can be considered or refined, either directly or by reference to the key issues identified. A comparison of alternatives helps to determine the best method of achieving the project objectives with minimum environmental impacts or indicates the most environmentally friendly and cost-effective options.

The quarrying operation like drilling, blasting, excavation, loading & transportation are being carried out. The site has been selected based on geological investigation and exploration as below:

- Transportation facility for materials & manpower.
- Overall impact on environment and mitigation feasibility.
- Socio- economic background.

5.1 ANALYSIS OF ALTERNATIVE SITE

No alternatives are suggested as the mine site is mineral specific.

5.2 FACTORS BEHIND SELECTION OF PROPOSED TECHNOLOGY

Manual open cast mining method with secondary blasting will be applied to extract rough stone and gravel in the area. The proposed mining lease areas have following advantages:

- As the mineral deposition is homogeneous and batholith formation, opencast method of working is preferred over underground method.
- The material will be loaded with the help of excavators into tractors/ tippers and transported to the need by customers.
- Semi- Skilled labours fit for quarrying operations are easily available around the nearby villages.

5.3 ALTERNATIVE TECHNOLOGY

Open cast mechanized method has been selected for this project. This technology is having least gestation period, economically viable, safest and less labour intensive. The method has inbuilt flexibility for increasing or decreasing the production as per market condition.

CHAPTER VI
ENVIRONMENTAL MONITORING PROGRAMME

6.0 GENERAL

The monitoring and evaluation of environmental parameters indicates potential changes occurring in the environment, which paves way for implementation of rectifying measures wherever required to maintain the status of the natural environment. Evaluation is also a very effective tool to judge the effectiveness or deficiency of the measures adopted and provides insight for future corrections.

The main objective of environmental monitoring is to ensure that the obtained results in respect of environmental attributes and prevailing conditions during operation stage are in conformity with the prediction during the planning stage. In case of substantial deviation from the earlier prediction of results, this forms as base data to identify the cause and suggest remedial measures. Environmental monitoring is mandatory to meet compliance of statutory provisions under the Environment (Protection) Act, 1986, relevant conditions regarding monitoring covered under EC orders issued by the SEIAA-TN as well as the conditions set forth under the order issued by Tamil Nadu Pollution Control Board while granting CTE/ CTO.

6.1 METHODOLOGY OF MONITORING MECHANISM

Implementation of EMP and periodic monitoring will be carried out by respective project proponents. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Environmental protection measures like dust suppression, control of noise and blast vibrations, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of Environmental Management Plan and environmental clearance conditions will be monitored by the respective mine management. On the other hand, implementation of area level protection measures like green belt development, environmental quality monitoring etc., are taken up by a senior executive who reports to their Mine Management.

An Environment monitoring cell (EMC) will be constituted to monitor the implementation of EMP and other environmental protection measures in the proposed quarry. The responsibilities of this cell will be:

- Implementation of pollution control measures
- Monitoring programme implementation
- Post-plantation care
- To check the efficiency of pollution control measures taken
- Any other activity as may be related to environment

❖ Seeking expert's advice when needed.

The environmental monitoring cell will co-ordinate all monitoring programs at site and data thus generated will be regularly furnished to the State regulatory agencies as compliance status reports.

The sampling and analysis report of the monitored environmental attributes will be submitted to the Tamil Nadu Pollution Control Board (TNPCB) at a frequency of half-yearly and yearly by the proposed project proponent. The half-yearly reports are submitted to Ministry of Environment and Forest, Regional Office and SEIAA- TN as well.

The sampling and analysis of the environmental attributes will be as per the guidelines of Central Pollution Control Board (CPCB)/ Ministry of Environment, Forest and Climate Change (MoEF & CC).

The Environmental Monitoring Cell will be formed for the proposed project. The structure of the cell will be as shown in Figure 6.1.

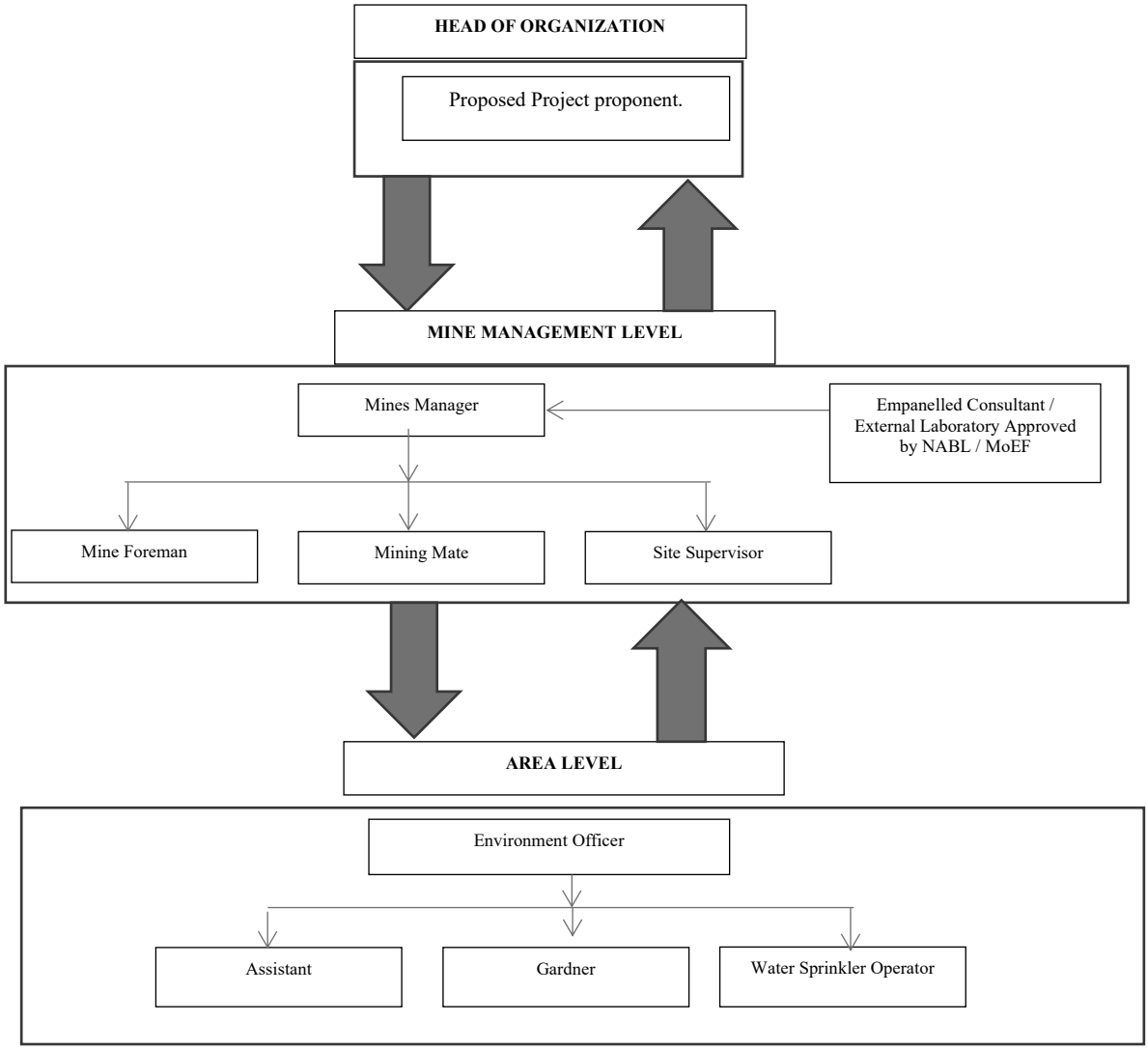


Figure 6.1 Proposed Environmental Monitoring Chart

6.2 IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

The mitigation measures proposed in chapter IV will be implemented so as to reduce the impact on the environment due to the operations of the proposed project. Implementation schedule of mitigation measures is given in Table 6.1.

Table 6.1 Implementation Schedule for Proposed Project

S. No.	Recommendations	Time Period	Schedule
1	Land Environment Control Measures	Before commissioning of the project	Immediate
2	Soil Quality Control Measures	Before commissioning of the project	Immediate
3	Water Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
4	Air Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
5	Noise Pollution Control measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
6	Ecological Environment	Phase wise implementation every year along with mine operations	Immediately and as project progress

6.3 MONITORING SCHEDULE AND FREQUENCY

Monitoring shall confirm that commitments are being met. This may take the form of direct measurement and recording of quantitative information, such as amounts and concentrations of discharges, emissions and wastes, for measurement against statutory standards. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints.

The environmental monitoring will be conducted in the mine operations as follows:

- ❖ Air quality
- ❖ Water and wastewater quality
- ❖ Noise levels
- ❖ Soil quality and
- ❖ Greenbelt development

The details of proposed monitoring schedule have been provided in Table 6.2.

Table 6.2 Proposed Monitoring Schedule Post EC for the Proposed Quarry

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, $PM_{2.5}$, PM_{10}, SO_2 and NO_x.
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in m BGL
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Peak particle velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and chemical characteristics
8	Greenbelt	Within the project area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

6.4 BUDGETARY PROVISION FOR ENVIRONMENT MONITORING PROGRAM

The cost in respect of monitoring of environmental attributes, parameter to be monitored, sampling/monitoring locations with frequency and cost provision against each

proposal is shown in Table 6.3. Monitoring work will be outsourced to external laboratory approved by NABL / MoEF.

The proposed capital cost for Environmental Monitoring Programme for **Mrs. K. Dhanamal Rough Stone Quarry** is Rs. 2,95,000 for conducting Air Quality, Meteorology, Water Quality, Hydrology, Soil Quality, Noise Quality Vibration Study, Greenbelt.

Table 6.3 Environment Monitoring Budget

S. No.	Parameter	Capital Cost	Recurring Cost per annum
1	Air Quality	-	Rs 60,000/-
2	Meteorology	-	Rs 15,000/-
3	Water Quality	-	Rs 20,000/-
4	Water Level Monitoring	-	Rs 10,000/-
5	Soil Quality	-	Rs 20,000/-
6	Noise Quality	-	Rs 10,000/-
7	Vibration Study	-	Rs 1,40,000/-
8	Greenbelt	-	Rs 10,000/-
Total		**-**	**Rs 2,95,000 /-**

Source: Field Data

6.5 REPORTING SCHEDULES OF MONITORED DATA

The monitored data on air quality, water quality, noise levels and other environmental attributes will be periodically examined by the Cluster Mine Management Coordinator and Respective Head of Organization for taking necessary corrective measures. The monitoring data will be submitted to Tamil Nadu State Pollution Control Board in the Compliance to CTO Conditions & environmental audit statements every year to MoEF & CC and Half-Yearly Compliance Monitoring Reports to MoEF & CC Regional Office and SEIAA.

Periodical reports to be submitted to:

- ❖ MoEF & CC – Half yearly status report
- ❖ TNPCB - Half yearly status report
- ❖ Department of Geology and Mining: quarterly, half yearly annual reports

Besides the Mines Manager/Agent of respective project will submit the periodical reports to:

- ❖ Director of mines safety
- ❖ Labour enforcement officer
- ❖ Controller of explosives as per the norms stipulated by the department.

CHAPTER VII
ADDITIONAL STUDIES

7.0 GENERAL

Additional studies deal with:

- Public Consultation for Proposed Project
- Risk Assessment
- Disaster Management Plan
- Cumulative Impact Study
- Plastic Waste Management

7.1 PUBLIC CONSULTATION FOR PROPOSED PROJECT

Application to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site or in its close proximity in the district was made and the public opinions on the proposed project will be updated in the final EIA/ EMP report.

7.2 RISK ASSESSMENT FOR PROPOSED PROJECT

Risk Assessment is all about prevention of accidents and to take necessary steps to prevent it from happening. The methodology for the risk assessment is based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad, vide circular No.13 of 2002, dated 31st December, 2002. The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. Further, mechanisms responsible for these hazards are identified and their control measures, set to timetable are recorded along with pinpointed responsibilities. The whole quarry operation will be carried out under the direction of a Qualified Competent Mine Manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad for proposed project. Factors of risks involved due to human induced activities in connection with these proposed mining & allied activities with detailed analysis of causes and control measures for the mine is given in Table 7.1.

Table 7.1 Risk Assessment & Control Measures for Proposed Project

S. No.	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and	Improper handling and	✓ All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955

	heavy mining machineries.	unsafe working practice	will be strictly followed during all mining operations. ✓ Workers will be sent to the Training in the nearby Group Vocational Training Centre Entry of unauthorized persons will be prohibited. ✓ Fire-fighting and first-aid provisions in the mine office complex and mining area. ✓ Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use. ✓ Working of quarry, as per approved plans and regularly updating the mine plans. ✓ Cleaning of mine faces on daily basis shall be daily done in order to avoid any overhang or undercut. ✓ Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of a Mine Manager. ✓ Maintenance and testing of all mining equipment as per manufacturer's guidelines.
2	Drilling	Improper and unsafe practices; Due to high pressure of compressed air, hoses may burst; Drill Rod may break;	✓ Safe operating procedure established for drilling (SOP) will be strictly followed. ✓ Only trained operators will be deployed. ✓ No drilling shall be commenced in an area where shots have been fired until the blaster/blasting foreman has made a thorough Examination of all places, ✓ Drilling shall not be carried on simultaneously on the benches at places directly one above the other. ✓ Periodical preventive maintenance and replacement of worn-out accessories in the compressor and drill equipment as per operator manual. ✓ All drills unit shall be provided with wet drilling shall be maintained in efficient working in condition. ✓ Operator shall regularly use all the personal protective equipment.

3	Blasting	Fly rock, ground vibration, Noise and dust. Improper charging, stemming & Blasting/ fining of blast holes Vibration due to movement of vehicles	✓ The maximum charge per delay and by optimum blast hole pattern, vibrations will be controlled within the permissible limit and blast can be conducted safely. ✓ SOP for Charging, Stemming & Blasting/Firing of Blast Holes will be followed by blasting crew during initial stage of operation ✓ Shots are fired during daytime only. ✓ All holes charged on any one day shall be fired on the same day. ✓ The danger zone is and will be distinctly demarcated (by means of red flags)
4	Transportation	Potential hazards and unsafe workings contributing to accident and injuries Overloading of material While reversal & overtaking of vehicle Operator of truck leaving his cabin when it is loaded.	✓ Before commencing work, drivers personally check the truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio-visual reversing alarm, rear view mirrors, side indicator lights etc., are in good condition. ✓ Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle. ✓ Concave mirrors should be kept at all corners ✓ All vehicles should be fitted with reverse horn with one spotter at every tipping point ✓ Loading according to the vehicle capacity ✓ Periodical maintenance of vehicles as per operator manual
5	Natural calamities	Unexpected happenings	✓ Escape Routes will be provided to prevent inundation of storm water ✓ Fire Extinguishers & Sand buckets
6	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	✓ Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m.

Source: Analysed and proposed by FAE & EC

7.3 DISASTER MANAGEMENT PLAN FOR PROPOSED PROJECT

Natural disasters like Earthquake, Landslides have not been recorded in the past history as the terrain is categorized under seismic zone II. The area is far away from the sea. Hence,

the disaster due to heavy floods and tsunamis are not anticipated. The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- Rescue and medical treatment of casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In case a disaster takes place, despite preventive actions, disaster management will have to be done in line with the descriptions below. There is an organization proposed for dealing with the emergency situations. Structure of the team has been shown in Figure 7.1.

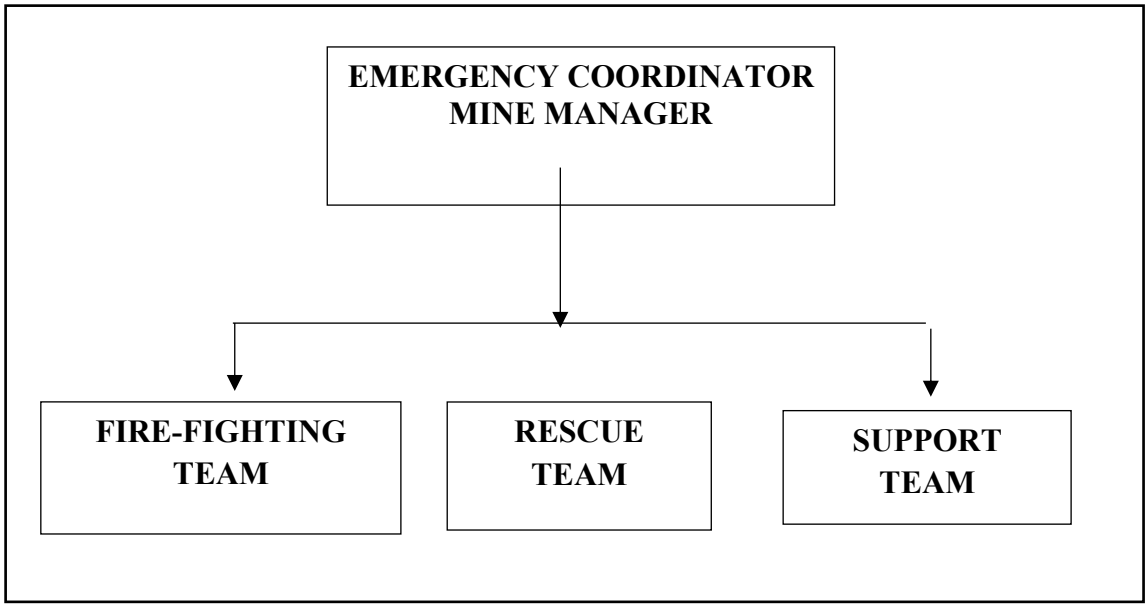


Figure 7.1 Disaster management team layout for proposed project

The emergency organization shall be headed by emergency coordinator who will be qualified competent mines manager. In his absence senior most people available at the mine shall be emergency coordinator till arrival of mines manager. There would be three teams for taking care of emergency situations – Fire-Fighting Team, Rescue Team and Support Team.

7.3.1 Emergency Control Procedure

The onset of emergency, will in all probability, commence with a major fire or explosion or collapse of wall along excavation and shall be detected by various safety devices and also by members of operational staff on duty. If located by a staff member on duty, he (as

per site emergency procedure of which he is adequately briefed) will go to nearest alarm call point, break glass and trigger off the alarms. He will also try his best to inform about location and nature of accident to the emergency control room. In accordance with work emergency procedure the following key activities will immediately take place to interpret and take control of emergency.

- On site fire crew led by a fireman will arrive at the site of incident with fire foam tenders and necessary equipment.
- Emergency security controller will commence his role from main gate office
- Incident controller shall rush to the site of emergency and with the help of rescue team and will start handling the emergency.
- Site main controller will arrive at MECR with members of his advisory and communication team and will assume absolute control of the site.
- He will receive information continuously from incident controller and give decisions and directions to:
- Incident controller
- Mine control rooms
- Emergency security controller

7.4 CUMULATIVE IMPACT STUDY

The Cumulative Impact is mainly anticipated due to drilling & blasting and excavation and transportation activities in all the projects within the cluster and major impact anticipated is on Air & Noise Environment and Ground Vibrations due to blasting. For this cumulative study, there is only one proposed project known as P1 is taken into consideration. The details of P1 & P2 have been given in Table 7.2 – 7.3 and E1, E2, E3 are given in the Table 7.4 - 7.6.

Table 7.2 Salient Features of the cluster Project 'P1'

Name of the Quarry	Mrs. K. Dhanamal Rough Stone & Gravel quarry	
Type of Land	Patta Land	
Extent	4.02.5 Ha	
S.F. No	288	
Toposheet No	58-F/13	
Location of Project Site	10°56'46.96"N to 10°56'53.78"N 77°57'58.93"E to 77°58'8.51"E	
Highest Elevation	178 m AMSL	
Ultimate Depth of Mining	20m BGL	
Proposed reserves for five years	Rough Stone in (m^3 & Ts)	Gravel (m^3 & Ts)
	410116 & 1127819	42834 & 85668
Method of Mining	Open-Cast Semi Mechanized mining	

Topography	Flat Topography	
Machinery proposed	Jack Hammer	2
	Compressor	2
	Tipper	8
	Excavator	1
Blasting Method	The quarrying operation is proposed to carried out by open cast mining in conjunction with conventional method using jack hammer drilling and blasting for shattering effect and loosen the rough stone.	
Proposed Manpower Deployment	23 Nos	
Project Cost	Rs. 84,62,000/-	
CER Cost	Rs. 5,00,000/-	
Proposed Water Requirement	3.5 KLD	

Table 7.3 Salient Features of the cluster Project 'P2'

Name of the Quarry	M/s. Ram Blue Metals, Rough Stone and gravel quarry			
Type of Land	Patta Land			
Extent	4.09.0Ha			
S.F.No	289/2			
Toposheet No	58- F/13			
Location of Project Site	10°56'41.46"N to 10°56'51.72"N 77°58'7.38"E to 77°58'15.85"E			
Highest Elevation	181m AMSL			
Proposed depth of Mining	50m BGL			
Description	Rough Stone in m^3		Gravel in m^3	
	m^3	Tons (m^3 * 2.75)	m^3	Tons (m^3 * 2)
Geological Resources	2255853	6203596MT	4561	9122
Mineable Reserves	604600	1662650	3393	6786
Proposed production for 10 years	254375	699531	3393	6786
Method of Mining	Open- Cast Mechanized mining			
Topography	Flat Terrain			
Machinery proposed	Jack Hammer		2	
	Compressor		2	
	Tipper		8	
	Hydraulic Excavator		1	
	Rock Breaker		1	
Blasting Method	The quarrying operation is proposed to carried out by open cast mining in conjunction with conventional method using jack hammer drilling and blasting for shattering effect and loosen the rough stone.			
Proposed Manpower Deployment	23Nos			
Project Cost	Rs. 73,95,000/-			
CER Cost	Rs. 5,00,000/-			
Proposed Water Requirement	3.5 KLD			

Table 7.4 Salient Features of the cluster Project 'E1'

Name of the quarry	M/s. Ram Blue Metals Rough stone quarry	
Type of land	Patta Land	
Extent	1.23.0 Ha	
S.F. No	289/1, 290/1B & 290/2	
Toposheet no.	58-F/13	
Location of project site	10° 58'46.65"N to 10°58'53.45"N 77°56'06.93"E to 77°56'14.02"E	
Highest elevation	160m AMSL	
Ultimate depth of mining	23 m BGL	
Proposed depth of reserves for five years as per ToR	Rough stone in (m^3 & Ts)	
	104248 & 286679	
Method of mining	Opencast semi mechanized mining	
Topography	Flat	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Tipper	8
	Excavator	1
Blasting method	The quarrying operation is proposed to carried out by open cost, using jack hammer drilling followed by manual breaking will be adopted to release the rough stone and NONEL blasting is proposed in this lease area.	
Proposed manpower deployment	24 Nos	
Project cost	Rs.43,00,000/-	
CER cost	Rs. 5.00,000/-	
Proposed water requirement	3.0 KLD	

Table 7.5 Salient Features of the cluster Project 'E2'

Name of the quarry	Tvl. Sri Ganesh Murugan Blue Metals rough stone and gravel quarry
Type of land	Patta Land
Extent	2.51.0 Ha
S.F. No	881/1, 882 (P) & 893/4
Toposheet No	58-F/13
Location of project site	10°56'37.00"N to 10°56'43.08"N

	77°58'16.76"E to 77°58'25.38"E		
Highest elevation	179 m AMSL		
Ultimate pit dimensions	Length (m)	Width (m)	Depth (m)
	209	88	40
Depth of mining	40m (2m Gravel + 38m Rough stone)		
Geological resources	Rough Stone in (m^3 & Ts)	Gravel in (m^3 & Ts)	
	944034 & 2596094	49686 & 99372	
Mineable reserves	Rough Stone in (m^3 & Ts)	Gravel in (m^3 & Ts)	
	299638 & 824005	36448 & 72896	
Proposed reserves for five years	Rough Stone in (m^3 & Ts)	Gravel in (m^3 & Ts)	
	152342 & 418941	36448 & 72896	
Method of mining	Open-Cast Semi mechanized mining		
Topography	Flat Topography		
Machinery proposed	Jack Hammer	3	
	Compressor	1	
	Tipper	2	
	Excavator	1	
Blasting method	The quarrying operation is proposed to carried out by open cost, using jack hammer drilling followed by manual breaking will be adopted to release the rough stone and Nonel blasting is proposed in this lease area.		
Proposed manpower deployment	18 Nos		
Project Cost	Rs.38,57,000/-		
CER Cost	Rs. 5,00,000/-		
Proposed Water Requirement	2.0 KLD		

Table 7.6 Salient Features of the cluster Project 'E3'

Name of the quarry	M/s. Sri Ganeshmurugan Blue Metals Rough stone quarry	
Type of land	Patta Land	
Extent	4.36.5 Ha	
S.F. No	293/1(Part), 293/3(Part), 293/4(Part), 294/2B & 295/1(Part)	
Toposheet no.	58-F/13	
Location of project site	10° 56'38.60"N to 10°56'47.10"N 77°57'59.49"E to 77°58'9.97"E	
Highest elevation	156m AMSL	
Ultimate depth of mining	54 m BGL	
Proposed depth of reserves for five years as per ToR	Rough stone in (m^3 & Ts)	Gravel in (m^3 & Ts)
	569584 & 1566356	4118 & 8236

Method of mining	Opencast semi mechanized mining	
Topography	Flat	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Tipper	8
	Excavator	1
Blasting method	The quarrying operation is proposed to carried out by open cost, using jack hammer drilling followed by manual breaking will be adopted to release the rough stone and NONEL blasting is proposed in this lease area.	
Proposed manpower deployment	14 Nos	
Project cost	Rs.74,72,375/-	
CER cost	Rs. 5.00,000/-	
Proposed water requirement	4.0 KLD	

7.4.1 Air Environment

As the production of rough stone and gravel plays a vital role in affecting the air environment. The data on the cumulative production resulting from cluster project have been given in Tables 7.7.

Table 7.7 Cumulative Production Load of Rough Stone

Quarry	5 Years in (m^3)	5 Years in Ts	Per Year in (m^3)	Per Year in Ts	Per Day in (m^3)	Per Day in Ts	Number of Lorry Load Per Day
P1	410116	1127819	82023	164046	304	1670	56
P2	127230	349883	25446	69977	94	259	16
E1	104248	286682	20850	57336	77	212	13
E2	152342	418941	30468	83788	113	310	19
E3	569584	1566356	113917	313271	422	1160	70
Total	**1363520**	**3749681**	**272704**	**688418**	**1010**	**3611**	**174**

Table 7.8 Cumulative Production Load of Gravel

Quarry	Production Year m^3	Production Year Ts	Yearly Production m^3	Yearly Production Ts	Daily Production m^3	Daily Production Ts	Number of Lorry Loads Per Day
P1	42834	85668	14278	28556	105	210	51
P2	3393	6786	3393	6786	13	25	2
E1	--	--	--	--	--	--	--
E2	36448	72896	36448	72896	135	270	22
E3	4118	8236	4118	8236	15	31	3
Grand Total	**86793**	**173586**	**58237**	**116474**	**268**	**536**	**78**

The cumulative study shows that the overall production of rough stone from the proposed quarry is 304m^3 & 1670Ts per day with a capacity of 56 trips of rough stone per day and that

production of gravel from the proposed quarry is 105m^3 & 210Ts per day accounting for 51trip/day.

7.4.1.1 Cumulative Impact of Air Pollutants

The results on the cumulative impact of the cluster projects on air environment of the cluster have been provided in Table 7.9 The cumulative values resulting from the three projects for each pollutant do not exceed the permissible limits set by CPCB.

Table 7.9 Cumulative impact results from the cluster projects

Pollutants	Baseline Data (µg/m^3)	Incremental Values (µg/m^3)	Cumulative Value (µg/m^3)
		P1	
$PM_{2.5}$	17.48	9.31	**27.05**
PM_{10}	45.33	19.2	**64.98**

7.4.2 Noise Environment

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities. Predictions have been carried out to compute the noise level at various distances around the different projects within the 500m radius.

Table.7.10 Cumulative impact of noise from cluster projects

Location ID	Distance (m)	Direction	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	355	NW	43.2	33.0	43.6	**55**
Habitation Near P2	575	NW	48.1	28.8	48.2	
Habitation Near E1	582	NW	45.6	28.7	45.7	
Habitation Near E2	909	NW	45.8	24.8	45.8	
Habitation Near E3	485	NW	45.4	30.2	45.5	
Cumulative Noise (dB (A))					**51.80**	

Source: Lab Monitoring Data

The cumulative analysis of noise due to cluster proposed projects shows that habitation will receive about 51.80dB (A) respectively. The cumulative results for all the villages in consideration do not exceed the limit set by CPCB for residential areas for day time.

Ground Vibrations

Cumulative results of ground vibrations due to mining activities in the all the cluster projects have been shown in Table 7.11.

Table 7.11 Cumulative effect of ground vibrations resulting from cluster projects

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in mm/s
P1	9.07	575	0.07
P2	14.16	355	0.35
E1	3.38	582	0.05
E2	7.02	909	0.04
E3	18.07	485	0.25
Total			**0.76**

Results from the above tables 7.9 indicate that the cumulative PPV value of each habitation is well below the peak particle velocity of 8mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

7.4.3 Socio Economic Environment

Socio Economic benefits of the three proposed projects were calculated and the results have been shown in Table 7.12. The cluster project will contribute Rs. 25,00,000/-towards CER fund.

Table 7.12 Socio Economic benefits from the cluster project

Location ID	Project Cost	CER Cost
P1	Rs.84,62,000/-	Rs. 5,00,000/-
P2	Rs. 73,95,000/-	Rs. 5,00,000/-
E1	Rs.43,00,000/-	Rs. 5,00,000/-
E2	Rs.38,57,000/-	Rs. 5,00,000/-
E3	Rs.74,72,375/-	Rs. 5,00,000/-
Grand Total	**Rs. 1,70,14,000/-**	**Rs. 25,00,000/-**

Table 7.13 Employment benefits from the cluster projects

Location ID	Employment
P1	23
P2	25
E1	24
E2	18
E3	14
Grand Total	**104**

A total of 104 people will get employment due to the cluster project in cluster

7.4.4 Ecological Environment

Table 7.14 Greenbelt Development Benefits from cluster Projects

Code	Number of Trees proposed	Area to be covered (m^2)	No. of Trees expected to be grown @ 80% survival rate	Species recommended
P1	2012	18090	1608	*Azadirachta indica, Albizia lebbeck, Delonix regia, Techtona grandis,* etc.,
P2	2045	18405	1636	
E1	615	5535	492	
E2	1258	11318	1006	
E3	2183	19643	1746	
Total	**8113**	**72991**	**6488**	

Cumulative studies show that the three proposed Projects will plant about 8113 native tree species like *Azadirachta indica*, *Albizia lebbeck*, *Delonix regia*, *Techtona grandis,* etc inside and outside the lease area. It is expected that 80% of trees, i.e., 2012 trees will survive in this green belt development program.

7.5 PLASTIC WASTE MANAGEMENT PLAN FOR PROPOSED PROJECT

All the Project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (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.

7.5.1 Objective

- To investigate the actual supply chain network of plastic waste.
- To identify and propose a sustainable plastic waste management by installing bins for collection of recyclables with all the plastic waste
- Preparation of a system design layout, and necessary modalities for implementation and monitoring.

A detailed action plan to manage plastic waste has been provided in Table 7.15.

Table 7.15 Action Plan to Manage Plastic Waste

S. No.	Activity	Responsibility
1	Framing of Layout Design by incorporating provision of the Rules, user fee to be charged from waste generators for plastic waste management, penalties/fines for littering, burning plastic waste or committing any other acts of public nuisance.	Mines Manager
2	Enforcing waste generators to practice segregation of bio-degradable, recyclable and domestic hazardous waste.	Mines Manager
3	Collection of plastic waste.	Mines Foreman
4	Setting up of Material Recovery Facilities.	Mines Manager
5	Segregation of Recyclable and Non- Recyclable plastic waste at Material Recovery Facilities.	Mines Foreman
6	Channelization of Recyclable Plastic Waste to registered recyclers.	Mines Foreman
7	Channelization of Non- Recyclable Plastic Waste for use either in Cement kilns, in Road Construction.	Mines Foreman
8	Creating awareness among all the stakeholders about their responsibility.	Mines Manager
9	Surprise checking's of littering, open burning of plastic waste or committing any other acts of public nuisance.	Mine Owner

Source: Proposed by FAEs and EC

CHAPTER VIII
PROJECT BENEFITS

8.0 GENERAL

The proposed project at Karudayampalayam Village aims to produce **410116m^3** & **1127819Ts** of rough stone and **42834m^3 & 85668Ts** of gravel over a period of 5 years. This will enhance the socio-economic activities in the adjoining areas and will result in the following benefits:

- ❖ Increase in Employment Potential
- ❖ Improvement in Socio- Economic Welfare
- ❖ Improvement in Physical Infrastructure
- ❖ Improvement in Social infrastructure

8.1 EMPLOYMENT POTENTIAL

It is proposed to provide employment to about 23 persons for carrying out mining operations and give preference to the local people in providing employment in this cluster. In addition, there will be an opportunity for indirect employment to the form of contractual jobs, business opportunities, and service facilities etc. Because of this, the economic status of the local people will improve.

8.2 SOCIO-ECONOMIC WELFARE MEASURES PROPOSED

The impact of mining activity in the area will be more positive on the socio- economic environment in the immediate project impact area. The employment opportunities both direct and indirect will contribute to enhanced money incomes to job seekers with minimal skill sets especially among the local communities.

8.3 IMPROVEMENT IN PHYSICAL INFRASTRUCTURE

The proposed quarry project is located in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu. The area has already well-established communications roads and other facilities. The following physical infrastructure facilities will further improve due to proposed project.

- ❖ Road transport facilities
- ❖ Communications
- ❖ Medical, Educational and social benefits will be made available to the nearby civilian population in addition to the workmen employed in the mine.

8.4 IMPROVEMENT IN SOCIAL INFRASTRUCTURE

Employment is expected during civil construction period, in trade, garbage lifting, sanitation and other ancillary services, Employment in these sectors will be primarily temporary or contractual and involvement of unskilled labour will be more. A major part of the labour force will be mainly from local villagers who are expected to engage themselves both in agriculture and mining activities. This will enhance their income and lead to overall economic growth of the area.

8.5 OTHER TANGIBLE BENEFITS

The proposed mine is likely to have other tangible benefits as given below

- Indirect employment opportunities to local people in contractual works like construction of infrastructural facilities, transportation, sanitation for supply of goods and services to the mine and other community services
- Additional housing demand for rental accommodation will increase
- Cultural, recreation and aesthetic facilities will also improve
- Improvement in communication, transport, education, community development and medical facilities and overall change in employment and income opportunity
- The State Government will also benefit directly from the proposed mine, through increased revenue from royalties, cess, DMF, GST etc.,

8.6 CORPORATE SOCIAL RESPONSIBILITY

Individual project proponents will take responsibility to develop awareness among all levels of their staff about CSR activities and the integration of social processes with business processes. Those involved with the undertaking of CSR activities will be provided with adequate training and re-orientation.

Under this programme, the project proponents will take-up following programmes for social and economic development of villages within 5km of the project site. For this purpose, separate budget will be provided every year. For finalization of these schemes, proponent will interact with LSG. The schemes will be selected from the following broad areas

- Health Services
- Social Development
- Infrastructure Development
- Education & Sports
- Self-Employment
- CSR Cost Estimation

- ❖ CSR activities mainly contributing to education, health, training of women self-help groups and infrastructure etc., will be taken up in the Karudayampalayam Village. CSR budget is allocated.

8.7 CORPORATE ENVIRONMENT RESPONSIBILITY

Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III dated 01.05.2018. As per para 6 (II) of the office memorandum, being a green field project & capital investment is ≤ 100 crores, the proposed project shall contribute 5% of capital investment towards CER as per directions of EAC/ SEAC. However, the SEAC has suggested to allocate CER fund on the basis of the extent of the project. Therefore, Rs. 5,00,000 is allocated for CER. The proposed utilization of the budget of CER activities is given in Table 8.1.

Table 8.1 CER Action Plan

S. No.	Activity	Budget (Rs.in Lakh)
1	The applicant Indents to involve in corporate environment responsibilities (CER) activities such as renovation of existing toilet, plantation within the school premises, donating environment related books to the nearby school library, etc.	Rs. 5,00,000
	Total	**Rs. 5,00,000**

Source: Field survey conducted by FAE in consultation with project proponent

8.8 SUMMARY OF PROJECT BENEFITS

The project would pay about **Rs.84,62,000** to the state government through various ways, as provided in Table 8.2.

Table 8.2 Project Benefits to the State Government

Particulars	Budget for Rough Stone (Rs.)	Budget for Gravel (Rs.)
CER	5,00,000	
Seigniorage @ Rs.90/m^3 of rough stone Rs.56/m^3 of gravel	36910440	23,98,704
District Mineral Foundation Tax @ 10% of Seigniorage	36,91,044	2,39,870
Green Tax @ 10% of Seigniorage	36,91,044	2,39,870
Total	**4,47,92,528**	**28,78,444**

CHAPTER IX

ENVIRONMENTAL COST BENEFIT ANALYSIS

Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

CHAPTER X
ENVIRONMENTAL MANAGEMENT PLAN

10.0 GENERAL

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in- built pollution abatement facilities at the proposed site. Good practices of environmental management plan will ensure to keep all the environmental parameters of the project in respect of ambient air quality, water quality, socio economic improvement standards. Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

10.1 ENVIRONMENTAL POLICY

The project proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance. The Proponent will- **Mrs. K. Dhanamal Rough Stone & Gravel Quarry**

- Meet the requirements of all laws, acts, regulations, and standards relevant to its operations and activities.
- Implement a program to train employees in general environmental issues and individual workplace environmental responsibilities.
- Allocate necessary resources to ensure the implementation of the environmental policy.
- Ensure that an effective closure strategy is in place at all stages of project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts.
- Implement monitoring programs to provide early warning of any deficiency or unanticipated performance in environmental safeguards.
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement.

10.1.1 Description of the Administration and Technical Setup

The environment monitoring cell discussed under Chapter VI will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through mine management level of each proposed existing quarry.

The said team will be responsible for:

- 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 program.
- 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.

10.2 Budgetary Provision for Environmental Management

Adequate budgetary provision has been made by the company for execution of Environmental Management Plan. The Table 10.1 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

Table 10.1 EMP Budget for Proposed Project

Activities	Mitigation Measure	Provision for Implementation	Capital Cost	Recurring Cost
Air Environment	Compaction, gradation and drainage on both sides	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hect and yearly maintenance @ Rs. 10,000/- per hect	40,000	40,000
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed sprinkler installation and new water tanker cost for capital; and water sprinkling (thrice a day) cost for recurring	8,00,000	50,000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5,000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	50,000	5,000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	8,43,000
	Stone carrying trucks will be covered	Monitoring if trucks will be covered by tarpaulin	0	10,000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per tipper/dumper deployed- 7 Unit	40,000	4,000
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5,000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) / hectare	0	80,000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50,000	20,000
Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0

	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person (Provision made in Operating Cost)	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50,000	2,000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Bulk density of rock = 2.6 for Rough Stone/Granite; = 2.5 for Limestone; 6 tons of production requires 1 kg pf explosives; Cost of NONEL = Rs. 30 per kg.	0	14,80,000
Water Management	Waste management (Spent Oil, Grease etc.,)	Provision for garland drain @ Rs. 10,000/- per hect with maintenance of Rs. 5,000/- per annum	25,000	20,000
		Installation of dust bins	5,000	2,000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Mine Closure	Progressive Closure Activity - Surface Runoff management	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	40,000	20,000
	Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	8,00,000	40,000
	Progressive Closure Activity Green belt development - 500 trees per one hectare - 200 trees inside lease area & 300 trees outside the lease area	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	3,40,000	51,000

		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	90,000	9,000
	Implementation of Final Mine Closure Activity as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	1,27,000	0
	Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budget and not necessarily implemented in the Project Site	0	0
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10,000	1,000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50,000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 18 Employees	92,000	23,000
	Health checkup for workers will be provisioned	IME & PME Health checkup @ Rs. 1000/- per employee	0	23,000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/- for 2 kits	0	8,000
	Slope stability action plan	Slope stability action plan when depth beyond 30m BGL	0	0
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10,000	2,000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs.	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	2,00,000	40,000

	Flaggers will be deployed for traffic management			
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30,000	5,000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1st Class / 2nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	7,80,000
Conservation Measures	-	-	-	-
		Total	**Rs. 27.99L**	**Rs. 36.18L**

Table 10.2 Estimation of Overall EMP Budget after Adjusting 5% Annual Inflation

Recurring cost in Year 1	**Recurring cost @ 5% inflation Rs (in Lakhs)**				**Total Recurring cost for 5 years in Lakhs**	**Total Cost In Lakhs (Capital + Recurring)**
	Year 2	**Year 3**	**Year 4**	**Year 5**		
36.18	37.98	39.87	41.86	43.95	**Rs. 199.84 Lakhs**	**(Rs. 27.99 L + Rs. 199.84 L) = Rs. 227.83 Lakhs**

In order to implement the environmental protection measures, an amount of **Rs. 27.99** as capital cost and recurring cost as **Rs. 36.18** as recurring cost/ annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be **Rs. 227.83** as shown in Table 10.2.

10.3 CONCLUSION

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 fund has been allocated for the same. 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. Senior Management responsible for the project will conduct a review of EMP and its implementation to ensure that the EMP remains effective and appropriate. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

CHAPTER XI
SUMMARY AND CONCLUSION

11.1 INTRODUCTION

As the proposed rough stone and gravel mining project (B1) falls within the quarry cluster of 500m radius with the total extent of 16.22.0Hect, it requires submission of EIA report for grant of Environmental Clearance (EC) after conducting public hearing. The proposed project falling in S.F. No. 288 over the extent of 4.02.50Hect is situated in the cluster falling in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu. The projects involved in the calculation of cluster extent are of Two proposed quarry and three existing quarries.

11.2 PROJECT DESCRIPTION

The proposed project area is located between Latitudes 10°56'46.96"N to 10°56'53.78"N Longitudes from 77°57'58.93"E to 77°58'8.51"E in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu. According to the approved mining plan, about **410116 m^3 & 1127819Ts of rough stone** and **42834m^3 & 85668Ts of gravel** will be mined up to the depth of **20m BGL** in the five years. The quarrying operation is proposed to be carried out by open cast semi-mechanized mining method involving drilling and formation of benches of the prescribed dimensions.

11.3 DESCRIPTION OF THE ENVIRONMENT

Baseline data were collected to evaluate the existing environmental condition in the core and buffer areas during **March through May 2025** as per CPCB guidelines. The data were collected by both the FAEs and NABL accredited and MoEF notified **Interstellar Testing Centre Private Limited** for the environmental attributes including soil, water, noise, air and by FAEs for ecology and biodiversity, traffic, and socio-economy.

11.3.1 Land Environment

Land Use and Land Cover (LULC) map, as shown in Figure 3.4 & 3.4a was prepared using Sentinel II image for the study area of 5 km radius to provide a baseline status of the study area covering 5 km radius around the proposed mine site. Totally, 6 LULCs were mapped using ArcGIS software version-10.2. The areal extent of each LULC is provided in Table 3.5. of the total cluster area, mining area covers only 309.50 ha accounting for 3.72 %, of which lease area of 4.02.50ha contributes only about 0.049%. Hence very least percentage of mining activities shall not have any significant impact on the land environment.

Comparative study of Land Use Land Cover (LULC) Changes within 5km Radius (2020 vs 2025) was done and significant changes in land use and land cover were observed (Table 3.5a). Crop land has decreased from 5598.72ha (67.30%) to 4151.44ha (49.91%),

indicating the decrease in agricultural activities, this change is due to the land are not suitable for agriculture and source of irrigation is uncertain. But that cultivation land is included in the fallow land whose extent have been increased. Mining activity has been increased to a little extent from 302.12 ha (3.63%) to 309.50 ha (3.72%), suggesting increased demand of building materials for various infrastructure developments. The increase in common vegetation has noticed of 2.12 ha (0.03%) in last five years due to the afforestation activities carried out by the past quarry proponents. Built-up areas also rise from 1027.48 ha (12.35%) to 1289.69 ha (15.50%), pointing out the urban development due to increase in economic activity. In fact, the agricultural land has been reduced but that too included in fallow land which can be reversible during availability of irrigation factors.

11.3.2 Soil Environment

The soil is nutrient-rich, well-balanced, and structurally suitable for agriculture. No corrective measures are immediately necessary, but continued monitoring and sustainable land management practices are recommended to maintain soil health.

Physical Characteristics & Chemical Characteristics

1. Soil pH and Electrical Conductivity (EC):

- **pH ranged from** 7.89 to 8.64 indicating that the soil is **neutral to slightly alkaline**, which is favourable for most crops.
- **EC** value ranged from 0.19 to 0.45 ms/m, suggesting low salt concentration and non-saline soil across the sampling area.

2. Physical Properties

- **Bulk Density** values ranged from 1.12 to 1.38 g/cc, which are within the typical range for loamy soils and support good root penetration and aeration.

3. Soil Fertility Status:

- **Organic matter** levels ranged from 0.16 to 0.28% by weight, classifying soils as low to moderately fertile in terms of organic matter.
- **Nitrogen (N)** content varied from 0.04 to 0.08% by mass indicating moderate nitrogen availability.
- **Potassium (K)**ranged from 0.0018 to 0.0042% by mass moderate fertility potential in terms of potassium.

4. **Base Elements and Cation Ratios:**

- **Calcium (Ca)** levels were highest with 1086 mg/kg and lowest with 2248 mg/kg.
- **Magnesium (Mg)** ranged from 288 to 768 mg/kg.

Conclusion:

The soils in the study area are generally non-saline, neutral to slightly alkaline, and moderately fertile with low contamination levels. They exhibit good permeability, porosity, and suitable textural classes for agriculture and greenbelt development. The absence of heavy metals confirms that baseline soil conditions are unpolluted and safe for reclamation and vegetation growth.

11.3.3 Water Environment

1. Ammonia, Phenolphthalein Alkalinity, Potassium, RFC, BOD, COD, Chromium, Zinc – All " Below the Limit of Quantification (BLQ)"

- These are toxic heavy metals. Their presence in groundwater is usually due to industrial effluents or natural geogenic sources (minerals in rocks).
- Since all are below detection limits, there is no sign of industrial or geogenic contamination from these toxic metals.
- This is positive from an environmental and health risk perspective.
- Interpretation: No heavy metal pollution.

2. Calcium (56.2 – 107.1 mg/l)

- Calcium contributes to hardness of water. High calcium makes water hard but is not harmful.
- Acceptable limit is 75 mg/l, permissible up to 200 mg/l.
- Slightly above acceptable but within limits.
- Interpretation: Slightly hard water, no major concern.

3. Magnesium (3.6 – 6.9 mg/l)

- Also contributes to water hardness.
- BIS acceptable limit: 30 mg/l (permissible up to 100 mg/l).
- Some samples exceed acceptable but are still under permissible limits.
- Interpretation: Water is moderately hard, but usable.

4. Chloride (107.2 – 204.2 mg/l)

- High chloride affects taste and can cause corrosion in pipelines.
- Acceptable limit: 250 mg/l; permissible up to 1000 mg/l.
- Your values are slightly above the acceptable limit but safe.
- Interpretation: Mild salinity – may affect taste but not health.

5. Fluoride (0.18 – 0.44 mg/l)

- Fluoride is beneficial in small quantities but harmful in excess (>1.5 mg/l causes fluorosis).

- All values are below the 1.0 mg/l limit.
- Interpretation: No risk of dental or skeletal fluorosis.

6. Nitrate (7.63– 14.53 mg/l)

- Nitrates come from agricultural runoff or sewage.
- Safe limit is 45 mg/l (to avoid blue baby syndrome in infants).
- Your values are below the limit.
- Interpretation: No significant nitrate pollution.

7. Iron (0.19 – 0.56 mg/l)

- Iron causes staining, bad taste, and bacterial growth when >0.3 mg/l.
- Your samples are well below the limit.
- Interpretation: No iron-related issues.

8. pH (6.98 – 8.01)

- pH is 6.5–8.5 for drinking water.
- All values within this range.
- Interpretation: Neutral pH, no corrosion or scaling tendency.

9. Total Dissolved Solids (TDS) (401 – 765 mg/l)

- TDS represents total minerals and salts in water.
- Acceptable limit is 500 mg/l; permissible up to 2000 mg/l.
- BW01, BW03, and BW05 exceed the acceptable but are within permissible.
- Interpretation: Slightly mineral-rich water; taste may be affected but safe to use.

10. Electrical Conductivity (EC) (692 – 1342 µS/cm)

- Indicates overall ionic concentration in water.
- Higher EC = higher salinity.
- EC > 1000 µS/cm (in BW01 and BW05) suggests moderately saline water.
- Interpretation: Suitable for irrigation, but may need softening for drinking.

11. Total Alkalinity (116 – 242 mg/l)

- Indicates the buffering capacity (resistance to pH change).
- Acceptable: 200 mg/l; Permissible: 600 mg/l.
- High alkalinity may indicate presence of bicarbonates/carbonates.
- Interpretation: Alkaline nature is common in groundwater. No health issue but may affect taste.

12. Total Hardness (TH) (157 – 352 mg/l)

- Acceptable: 200 mg/l; Permissible: 600 mg/l.
- TH > 200 (BW03, OW01) means moderately hard water.

- Interpretation: May require softening for household use.

13. Turbidity (0.4 – 1.8)

- Very clear water, no suspended solids.
- Interpretation: Visually and physically very good water quality.

14. Silica (6.02 – 11.47 mg/l)

- No BIS standard, but useful for understanding scaling potential in boilers and pipes.
- Normal in groundwater.

Conclusion:

The groundwater quality assessment reveals that the water is generally safe and suitable for drinking, domestic, and irrigation purposes. All tested heavy metals such as barium, boron, copper, lead, mercury, arsenic, chromium, and zinc were found to be below detection limits, indicating no industrial or geogenic contamination. Key health-related parameters including fluoride, nitrate, iron, and pH levels are well within the acceptable standards, posing no health risk. Some Physico- Chemical parameters like Calcium, Magnesium, Total Hardness, Total Dissolved Solids (TDS), Electrical Conductivity (EC), and Chloride showed slightly elevated levels in a few samples, but they remain within permissible limits prescribed by BIS standards.

11.3.4 Air Environment

As per the monitoring data, PM2.5 ranges from 15.87 µg/m3 to 19.52 µg/m3; PM10 from 41.50 µg/m3 to 50.74 µg/m3; SO2 from 5.08 µg/m3 to 5.80 µg/m3; NOx from 10.15µg/m3 to 11.95g/m3. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index

The AQI shows that the air quality of the study area falls within good category 44 causing minimal impact to human health.

11.3.5 Noise Environment

Noise level in core zone was 48.1dB (A) Leq during day time and 39.8 dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 41.1 to 46.7dB (A) Leq and during night time from 36.8 to 40.6dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB.

11.3.6 Biological Environment

Biological study of the ecosystem is essential to understand the impact of rough stone quarry on existing flora and fauna of the study area. Studies on various aspects of ecosystem play an important role in identifying sensitive issues for undertaking appropriate action to mitigate the impact, if any. A survey was conducted to study the flora and fauna in 10km

radius by direct and indirect sightings/ data. Some of the information was gathered from the local habitants. All the collected data were classified to interpret the impact of pollution on the flora and fauna of that region. Survey of the wild plants as well as cultivated crop plants was made, and all the available information was recorded.

Flora Composition in Core Zone

The core zone presents in tree, shrubs, herbs and grasses. Taxonomically total of 13 species belonging to 6 families have been recorded from the core mining lease area. Based on habitat classification of the enumerated plants the majority of species were Herbs 3 followed by Trees 3, Shrubs 3 and Climbers 2. The result of core zone of flora studies shows that Fabaceae and Solanaceae are the main dominating species in the study area it mentioned in Table 3.24 & 3. 25. No species found as threatened category.

Flora Composition in buffer Zone

There are 144 different species identified in the buffer zone. Among the identified, floral (144) species were 50 trees, 39 herbs, 31 shrubs, 11 climbers, 5 Creepers, and 8 grasses. According to the findings of the buffer zone flora studies, the dominant species in the study area are Fabaceae, Asteraceae, and Euphorbiaceae, as shown in Table 3.26. Apart from the proposed project area, there is agricultural land. Horticulture and agricultural land are untouched. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. Details of flora with the scientific name were mentioned in Table 3.26. A list of floral species has been prepared based on a primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.26.

Fauna in Core Zone

A total of 14 varieties of species were observed in the Core zone (Table.3.28). Among them are 7 Insects, 2 Reptiles, 2 Mammals and 3 Avian. A total of 14 species belonging to 12 families were recorded from the core area. The study shows that number of species decreases towards the mining area. This might be due the lack of vegetation. None of these species in the core zone are threatened or endemic. The survey was conducted to identify species listed in IUCN Red List. According to the field data, any species are not of Schedule I and nine species are of schedule IV. There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of fauna in core zone with the scientific name were mentioned in Table 3.28.

Fauna in Buffer Zone

A total of 49 species belonging to 36 families have been recorded from the buffer zone area (Table.3.29). Based on habitat classification the majority of species were Birds 15, followed by Insects 13, Reptiles 13, Mammals 5 and Amphibians 3. There are 7 Schedule II species and 27 species are under schedule IV according to Indian wild life Act 1972. A total fifteen species of bird were sighted in the study area. There are no critically endangered, endangered, vulnerable and endemic species were observed.

11.3.7 Socio Economic Environment

The proposed project will provide direct and indirect employment and improve the infrastructural facilities in that area, thus leading to the improvement of people's standard of living.

11.4 Anticipated Environmental Impacts and Mitigation Measures

11.4.1 Land Environment

Anticipated Impact

- Change in land use and land cover and topography of the mine lease area
- Problems to human habitations due to dust and noise caused by movement of heavy vehicles
- Soil erosion and sediment deposition in the nearby water bodies during the rainy season
- Siltation of water course due to wash off from the exposed working area
- Deterioration of soil quality in the surrounding area due to runoff from the project area
- Decrease in the agricultural productivity of the surrounding land due to soil quality degradation.

Mitigation Measures

- Construction of garland drains, settling pits, and check dams to prevent runoff and siltation.
- Runoff water will be discharged into the settling tanks to reduce suspended sediment loads before runoff is discharged from the quarry site.
- The vegetation will be retained at the site wherever possible.
- Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season.

11.4.2 Soil Environment

Anticipated Impact

- Removal of protective vegetation cover
- Exposure of subsurface materials which are unsuitable for vegetation establishment

Mitigation Measures

- Run-off diversion– Garland drains will be constructed around the project boundary to prevent surface flows from entering the quarry works areas and will be discharged into vegetated natural drainage lines, or as distributed flow across an area stabilised against erosion.
- Sedimentation ponds - Run-off from working areas will be routed towards sedimentation ponds. These trap sediment and reduce suspended sediment loads before runoff is discharged from the quarry site. Sedimentation ponds should be designed based on runoff, retention times, and soil characteristics. There may be a need to provide a series of sedimentation ponds to achieve the desired outcome.
- Retain vegetation– Retain existing or re-plant the vegetation at the site wherever possible.
- Monitoring and maintenance Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season.

11.4.3 Water Environment

Anticipated Impact

- Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- As the proposed project acquires 3.5KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

Mitigation Measures

- Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes
- Domestic sewage from site office will be discharged in septic tank and then directed to soak pits.
- Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse
- The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage
- Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted

- Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program.

11.4.4 Air Environment

Anticipated Impact

Anticipated increase of the air pollutants due to quarrying activities have been predicted using AERMOD software. The values of cumulative concentration i.e., background + incremental concentration of pollutant in all the receptor locations are still within the prescribed NAAQ limits without effective mitigation measures. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be controlled further.

Mitigation Measures

Haul Road and Transportation

- Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation
- Transportation of material will be carried out during day time and material will be covered with tarpaulin
- The speed of tippers plying on the haul road will be limited to < 20 km/hr to avoid generation of dust
- Water sprinkling on haul roads and loading points will be carried out twice a day
- Main source of gaseous pollution will be from vehicle used for transportation of mineral. Therefore, weekly maintenance of machines improves combustion process and reduces pollution.
- The un-metaled haul roads will be compacted weekly before being put into use.
- Overloading of tippers will be avoided to prevent spillage.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- Haul roads and service roads will be graded to clear accumulation of loose materials.

Green Belt

- Planting of trees all along mine haul roads outside the lease and regular grading of haul roads will be practiced to prevent the generation of dust due to movement of tractors/ tippers.
- Green belt of adequate width will be developed around the project site.

Occupational Health

- Dust mask will be provided to the workers and their use will be strictly monitored

- Annual medical checkups, trainings and campaigns will be arranged to ensure awareness about importance of wearing dust masks among all mine workers and tipper drivers.
- Ambient air quality monitoring will be conducted every six months to assess effectiveness of mitigation measures proposed

11.4.5 Noise Environment

Anticipated Impact

- Mining operations generate significant noise impacting both worker health and nearby communities.
- These impacts can range from annoyance and sleep disturbance to structural damage and hearing loss. Effective management of noise is crucial to mitigate these adverse effects.

Sources of Noise in Mining:

- ***Drilling and Blasting:*** Prolonged exposure to high-intensity noise from drilling and blasting can lead to hearing loss and other auditory problems
- ***Heavy Machinery:*** Excavators, haul trucks, and other equipment used in mining operations generate substantial noise.
- ***Loading and Transportation:*** The movement and handling of materials within the mine site contribute to noise pollution.

Common Mitigation Measures

The following noise mitigation measures are proposed for control of noise:

- Optimizing blast design to minimize ground noise.
- Constructing noise barriers or enclosing noisy equipment can help reduce noise propagation.
- Proper maintenance and operation of mining equipment can help minimize noise generation.
- Usage of sharp drill bits while drilling which will help in reducing noise
- Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders
- Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained
- The blasting will be carried out during favourable atmospheric condition and less human activity timings by using nonelectrical initiation system
- Proper maintenance, oiling and greasing of machines will be done every week to reduce generation of noise

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

Ground Vibrations

Noise and Vibration:

- Mining operations generate significant noise and vibration impacting both worker health and nearby communities.
- These impacts can range from annoyance and sleep disturbance to structural damage and hearing loss. Effective management of noise and vibration is crucial to mitigate these adverse effects.

Sources of Noise and Vibration in Mining:

- ***Drilling and Blasting:*** A primary source of both noise and ground vibrations, with the intensity dependent on the amount of explosives, atmospheric conditions and proximity to the blast.
- Heavy Machinery: Excavators, haul trucks, and other equipment used in mining operations generate substantial noise.
- Loading and Transportation: The movement and handling of materials within the mine site contribute to noise pollution.

Common Mitigation Measures

- The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations
- Proper quantity of explosives, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting
- Adequate safe distance from blasting will be maintained as per DGMS guidelines
- Blasting shelter will be provided as per DGMS guidelines
- Blasting operations will be carried out only during day time

- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts
- During blasting, other activities in the immediate vicinity will be temporarily stopped
- Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed
- A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating procedures that will be followed to ensure that shot firing operations on site take place without endangering the workforce or public
- Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire
- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used
- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.
- Appropriate blasting techniques shall be adopted in such a way that the predicted peak particle velocity shall not exceed 0.251mm/s.
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

11.4.6 Biological Environment

Anticipated Impact

- During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.
- Most of the land in the buffer area is undulating terrain with crop lands, grass patches and small shrubs. Hence, there will be no effect on flora of the region. There are no trees in mine lease area.
- Carbon released from quarrying machineries and tippers during quarrying would be 752kg per day, 203070kg per year and 1015352kg over five years.

Mitigation Measures

- During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following

completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.

- ❖ None of the plants in the lease area will be cut during operational phase of the mine. we recommend uprooting and planting of the 10 trees along the 7.5 m safety zone to prevent environmental pollution during quarrying. As the survival rate due to uprooting was only 30%, 100 seedlings will be procured at the rate of 10 seedlings per tree and planted in 7.5 m safety zone.
- ❖ Existing roads will be used and new roads will not be constructed to reduce impact on flora.
- ❖ Green belt of adequate width will develop around the project site. Dust catching species like *Alstonia scholaris, Bombax ceiba, Terminalia arjuna, Cassia fistula, Bombax ceiba, Azadirchta indica, Nyctanthes arbor-tristis, Psidium guajava, Tectona grandis* etc will be planted in green belt.
- ❖ To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 495976kg of carbon per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.
- ❖ As per the greenbelt development plan as recommended by SEAC (Table 4.11), about 2012 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 2479885kg of the total carbon.

11.4.7 Socio Economic Environment

Anticipated Impact

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area
- Approach roads can be damaged by the movement of tippers
- Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region

Mitigation Measures

- Good maintenance practices will be adopted for all machinery and equipment, which will help to avert potential noise problems
- Green belt will be developed in and around the project site as per Central Pollution Control Board (CPCB) guidelines
- Air pollution control measure will be taken to minimize the environmental impact within the core zone

- For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules
- Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc.., from this project directly and indirectly

11.4.8 Occupational Health

- All the persons will undergo pre-employment and periodic medical examination
- Employees will be monitored for occupational diseases by conducting medical tests: General physical tests, Audiometric tests, Full chest, X-ray, Lung function tests, Spiro metric tests, Periodic medical examination – yearly, Lung function test – yearly, those who are exposed to dust and Eye test
- Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost.
- The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

11.5 Environment Monitoring Program

Table 11.2 Environment Monitoring Program

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	6 Locations (1 Core & 5 Buffer)	24 hours	Once in 6 months	Fugitive Dust, $PM_{2.5}$, PM_{10}, SO_2 and NO_x.
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	7 Locations (2 SW & 5 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in m BGL
5	Noise	6 Locations (1 Core & 5 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night

6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Peak particle velocity
7	Soil	7 Locations (1 Core & 6 Buffer)	–	Once in six months	Physical and chemical characteristics
8	Greenbelt	Within the project area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

11.6 ADDITIONAL STUDIES

11.6.1 Risk Assessment

The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. The whole quarry operation will be carried out under the direction of a Qualified Competent Mine Manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad for proposed project.

11.6.2 Disaster Management Plan

The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to:

- Rescue and treat casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

11.6.3 Cumulative Impact Study

- The results on the cumulative impact of the three proposed projects on air environment of the cluster do not exceed the permissible limits set by CPCB for air pollutants.
- The cumulative results of noise for the habitation in consideration do not exceed the limit set by CPCB for residential areas for day time.
- PPV resulting from three proposed project is well below the permissible limit of Peak Particle Velocity of 5 mm/s.
- The cluster projects will allocate Rs. 25,00,000/- towards CER as recommended by SEAC

- The cluster projects will directly provide jobs to 104 local people, in addition to indirect jobs
- The cluster projects will plant 8113 about trees in and around the lease area.
- The cluster projects will add 575PCU per day to the nearby roads.

11.7 Project Benefits

Various benefits are envisaged due to the three proposed mine and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole are:

- Direct employment to 23 local people
- Creation of community assets (infrastructure) like school buildings, village roads/ linked roads, dispensary & health Centre, community Centre, market place etc.,
- Strengthening of existing community facilities through the Community Development Program
- Skill development & capacity building like vocational training.
- Rs. 5,00,000 will be allocated for CER

11.8 ENVIRONMENT MANAGEMENT PLAN

In order to implement the environmental protection measures, an amount of **Rs. 27.99** as capital cost and recurring cost as **Rs. 36.18** as recurring cost/ annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be **Rs. 227.83.**

11.9 OVERALL STUDY AREA CONCLUSION

The Environmental Impact Assessment (EIA) for the proposed rough stone and gravel quarry project in Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu, has comprehensively evaluated the baseline environmental conditions and projected impacts associated with quarry operations. The study concludes that the project is environmentally sustainable with appropriate mitigation and management practices in place.

The land use analysis using Sentinel- II imagery reveals that agricultural land dominates the study area, with limited urbanization and industrial activity. While minor land use changes are expected due to quarrying, these are localized and reversible.

The soil environment is assessed to be healthy and agriculturally productive, with good moisture retention, neutral to slightly alkaline pH, and moderate nutrient levels.

Surface and groundwater quality are generally good. Surface water meets all drinking and irrigation standards with minimal treatment, and groundwater is safe for consumption after

mild treatment for hardness and taste. No microbial contamination was detected, and key parameters fall within permissible limits.

Air quality and noise levels are within Central Pollution Control Board (CPCB) norms, and the Air Quality Index remains causing minimal impact to human health. Quarrying impacts on air and noise can be effectively controlled through dust suppression, green belt development, and controlled blasting techniques.

The biological environment in the core zone shows limited flora and fauna due to existing quarry activity, but the buffer zone hosts a healthy diversity of species with no presence of endangered or migratory species. Green belt development and post-mining reclamation plans are proposed to enhance biodiversity and carbon sequestration.

The socio-economic environment will benefit from direct and indirect employment, infrastructure development, and improved livelihoods. The project also contributes to the local economy through taxes, royalty payments, and community development initiatives under Corporate Environmental Responsibility (CER).

Potential environmental impacts such as dust, noise, and runoff are anticipated but can be managed with the proposed Environment Management Plan (EMP). Adequate provisions have been made for water management, air pollution control, soil conservation, occupational health, and post-mining restoration. Risk assessment and a disaster management plan have been integrated to ensure safety and emergency preparedness.

Overall, the study concludes that the proposed quarry project is technically feasible, environmentally sound, and socio-economically beneficial. With strict implementation of the mitigation measures and monitoring programs, the project can proceed without causing significant adverse impacts on the environment or local communities.

CHAPTER XII

DISCLOSURES OF CONSULTANT

The Project Proponent, **Mrs. K. Dhanamal** has engaged **Geo Technical Mining Solutions**, a NABET accredited consultancy for carrying out the EIA study as per the ToR issued.

Address of the consultancy:

No: 1/213B Natesan Complex,
Oddapatti, Dharmapuri- 636705,
Tamil Nadu, India.
Email:info.gtmsdpi@gmail.com
Web: www.gtmsind.com
Phone: 04342 232777.

The accredited experts and associated members who were engaged in this EIA study are given below:

S. No	Name of the expert	In house/ Empanelled	Sector	Functional Area	Category
Approved Functional Area Experts & EC					
1.	S. Gopalakrishnan	EIA Coordinator (EC) In-house	1(a)(i)	HG, GEO	B
2.	G. Umamaheswaran	In-house, FAE	1(a)(i)	LU, LC	B
3.	Dr. R. Arun Balaji	In-house, FAE	1(a)(i)	AQ	B
4.	Dr. D. Kalaimurugan	In-house, FAE	1(a)(i)	SC, EB	B
5.	Dr. K. Udayakumar	Empanelled FAE	1(a)(i)	SE	B
6.	J.N. Manikandan	Empanelled FAE	1(a)(i)	RH, SHW,	B
7.	R. Revathy	In-house, FAE	1(a)(i)	WP	B
8.	P. Venkatesh	In-house, FAE	1(a)(i)	AP	B
9.	C. Kumaresan	In-house, FAE	1(a)(i)	NV	B
Approved Functional Area Associates					
13	C. Ragul	FAA	1(a)(i)	Geo	B
14	K. Ravichandiran	FAA	1(a)(i)	LU, LC	B
15	K. Pirithivi	FAA	1(a)(i)	HG	B
16	A. Jothibasu	TM	1(a)(i)	AQ	B
17	M. Muralidharan	TM	1(a)(i)	NV	B

Abbreviations			
EC	EIA Coordinator	NV	Noise and Vibration
FAE	Functional Area Expert	SE	Socio Economics
FAA	Functional Area Associates	HG	Hydrology, ground water and water conservation
TM	Team Member	SC	Soil conservation
GEO	Geology	RH	Risk assessment and hazard management
WP	Water pollution monitoring, prevention and control	SHW	Solid and hazardous wastes
AP	Air pollution monitoring, prevention and control	MSW	Municipal Solid Wastes
LU	Land Use	ISW	Industrial Solid Wastes
AQ	Meteorology, air quality modelling, and prediction	HW	Hazardous Wastes
EB	Ecology and bio-diversity	GIS	Geographical Information System

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA & EMP

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

Signature : 

Date :

Name : S. Gopalakrishnan

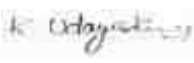
Designation : EIA Coordinator

Name of the EIA Consultant Organization : Geo Technical Mining Solutions

Period of Involvement : Till date

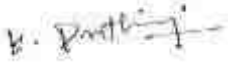
We, the FAEs and FAAs hereby declare that information furnished in this EIA/EMP report for **Mrs. K. Dhanamal** rough stone and gravel quarry project with the extent of 4.02.50ha situated in the cluster with the extent of 16.22.0ha in Karudayampalayam Village, Pugalur Taluk, Karur District of Tamil Nadu is true and correct to the best of our knowledge.

List of Functional Area Experts Engaged in this Project

S. No.	Functional Area	Involvement	Name of the Experts	Signature
1	AP	o Identification of different sources of air pollution due to the proposed mine activity o Prediction of air pollution and propose mitigation measures / control measures	P. Venkatesh	
2	WP	o Suggesting water treatment systems, drainage facilities o Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.	R. Revathy	
3	HG	o Interpretation of ground water table and predict impact and propose mitigation measures. o Analysis and description of aquifer Characteristics	S. Gopalakrishnan	
4	GEO	o Field Survey for assessing the regional and local geology of the area. o Preparation of mineral and geological maps. o Geology and Geo morphological analysis/description and Stratigraphy/Lithology.	S. Gopalakrishnan	
5	SE	o Revision in secondary data as per Census of India, 2011. o Impact Assessment & Preventive Management Plan o Corporate Environment Responsibility.	Dr. K. Udayakumar	
6	EB	o Collection of Baseline data of Flora and Fauna. o Identification of species labelled as Rare, Endangered and threatened as	Dr. D. Kalaimurugan	

		per IUCN list. o Impact of the project on flora and fauna. o Suggesting species for greenbelt development.		
7	RH	o Identification of hazards and hazardous substances o Risks and consequences analysis o Vulnerability assessment o Preparation of Emergency Preparedness Plan o Management plan for safety.	J.N. Manikandan	
8	LU	o Construction of Land use Map o Impact of project on surrounding land use o Suggesting post closure sustainable land use and mitigative measures.	G. Umamaheswaran	
9	NV	o Identify impacts due to noise and vibrations o Suggesting appropriate mitigation measures for EMP.	C. Kumaresan	
10	AQ	o Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. o Recommending mitigations measures for EMP	Dr.R. Arun Balaji	
11	SC	o Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. D.Kalaimurugan	
12	SHW	o Identify source of generation of non-hazardous solid waste and hazardous waste. o Suggesting measures for minimization of generation of waste and how it can be reused or recycled.	J.N. Manikandan	

List of Functional Area Associate Engaged in this Project

S.No.	Name	Functional Area	Involvement	Signature
1.	K. Pirithivi	HG	○ Site visit with FAE ○ Provide inputs & Assisting FAE for HG	
2.	C. Raghul	GEO	○ Field visits along with FAE ○ Assistance to FAE in both primary and secondary data collection	
3.	K. Ravichandiran	LU & LC	○ Field visits along with FAE Assistance to FAE in both primary and secondary data collection	
4.	M. Muralidharan	NV	○ Site visit along with FAE Assistance in report preparation. ○ Assistance to FAE in both primary and secondary data collection ○ Assistance in noise prediction modelling	
5.	A. Jothibasu	AQ	○ Site visit with FAE ○ Assistance to FAE in collection of both primary and secondary data	

DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION

I, **Dr. S. KARUPPANNAN,** Managing Partner, **Geo Technical Mining Solutions**, hereby, confirm that the above-mentioned functional area experts and team members prepared the EIA/EMP report for **Mrs. D. Dhanamal** rough stone and gravel quarry project with the extent of 4.02.50ha situated in the cluster with the extent of 16.22.0ha in Karudayampalayam Village, Pugalur Taluk, Karur District of Tamil Nadu is true and correct to the best of my knowledge.

Signature	:	
Date	:	
Name	:	**Dr. S. Karuppannan**
Designation	:	Managing Partner
Name of the EIA Consultant Organization	:	Geo Technical Mining Solutions
NABET Certificate No & Issue Date	:	NABET/EIA/23-26/RA 0319
Validity	:	Till 31.12.2026

File No: 12920
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), TAMIL NADU)
***

Dated: **01/12/2025**

To,

Tmt. K. Dhanamal
W/o. Kandasamy, No. 2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District - 639111. TAMIL NADU.
info.dhanamal@gmail.com

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

Sir/Madam,

Sub: SEIAA, Tamil Nadu – Existing Rough Stone & Gravel Quarry over an extent of 4.02.50Hect in S.F.Nos. 288, Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu by K. Dhanamal - under project category – "B1" and Schedule S.No. 1(a) – "Mining of Minerals"– **ToR issued along with Public Hearing**- preparation of EIA report – Regarding.
Ref: 1. Online proposal No. SIA/TN/MIN/556106/2025, Dated 27/10/2025.
2. Minutes of the 642nd meeting of SEAC held on 13.11.2025.
3. Minutes of the 924th meeting of SEIAA held on 27.11.2025.

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO25B0108TN5285596N
(ii) File No.	12920
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Karudayamplayam Village Rough Stone & Gravel Quarry
(viii) Name of Company/Organization	K Dhanamal
(ix) Location of Project (District, State)	KARUR, TAMIL NADU
(x) Issuing Authority	SEIAA
(xi) Applicability of General Conditions	no
(xii) Applicability of Specific Conditions	no

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

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

2.The above-mentioned proposal has been considered by SEIAA in the meeting held on 27.11.2025. The minutes of the meeting and all the Application and documents submitted [viz. Form-1 Part A, Part B] are available on PARIVESH portal which can be accessed by scanning the QR Code above.

3.The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).

4.The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of **Tmt. K. Dhanamal** under the provisions of EIA Notification, 2006 and as amended thereof.

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

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

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

8.The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Additional Chief Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Additional Chief Secretary to Government, Natural Resources Department, Tamil Nadu.
4. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
5. The Chairperson, TNPC Board,76, Mount Salai, Guindy, Chennai-32
6. The District Collector, Karur District
7. The Commissioner of Geology and Mines, Guindy, Chennai-32
8. The Assistant Director, Department of Geology & Mining, Karur District
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Integrated Regional Office of MoEF&CC, Sasthri Bhawan, Nungambakkam, Chennai
11. File Copy

Annexure 1

Specific Terms of Reference s for (Mining Of Minerals)

1. Seac Conditions - Site Specific

S. No	Terms of Reference
1.1	Major Condition:The PP shall furnish the existing pit letter including the details of quantity mined, period of mining, details of lessees and details of violations, if any from the competent authority. **Other site-specific condition:** 1. **A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation**

S. No	Terms of Reference
	in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: **a. Copy of the agreement forming CMC.** **b. The Organisation chart of the Committee with defining the role of the members** c. **The 'Standard Operating Procedures' (SoP) executing the planned activities**. 2. The Geo referenced Boundary pillars to be erected on the field as per the mine rules and the evidence should be submitted along with the EIA report. 3. The details of enumeration of structures including schools, colleges, primary health centres should be submitted along with the EIA report. 4. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300m & upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc. and spell out the mitigation measures to be proposed for the protection of the above structures, if any during the quarrying operations. 5. The proponent shall furnish photographs of adequate fencing, garland drainage built with siltation tank & green belt along the periphery including replantation of existing trees; maintaining the safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 6. The Proponent shall carry out Bio diversity study as a part of EIA study and the same shall be included in the Report. 7. 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. 8. The PP shall carry out the comprehensive studies on the cumulative environmental impacts of the existing & proposed quarries which included drilling & blasting, loading & hauling on the surrounding village and structures. 9. The PP shall prepare a conceptual working plan accommodating the inclusion of haul road accessibility keeping the benches intact, by ensuring the slope stability of the working benches to be constructed and existing quarry wall. 10. The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/videographic evidence along with the EIA report.

2. Seac Standard Conditions

S. No	Terms of Reference
2.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity

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

S. No	Terms of Reference
	· If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind. 23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted. 24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. 25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided. 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered. 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. 28. Impact on local transport infrastructure due to the Project should be indicated.

S. No	Terms of Reference
	29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible. 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner. 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner 34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. 41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB. 42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine. 43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

3. Seiaa Specific Conditions :

S. No	Terms of Reference
3.1	After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing for the quantity of 4,10,116m^3 of Rough Stone & 42,834m^3 of Gravel and annual peak production shall not exceed 1,13,900m^3 of Rough Stone & 14,400m^3 of Gravel, for a depth of mining 20m BGL** as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & the SEIAA Standard conditions.

4. Seiaa Standard Conditions:

S. No	Terms of Reference
4.1	**Cluster Management Committee** 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. **Agriculture & Agro-Biodiversity** 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. **Forests** 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic,

S. No	Terms of Reference
	vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. **Water Environment** 19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 20. Erosion Control measures. 21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress. c) Sediment geochemistry in the surface streams. **Energy** 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. **Climate Change** 29. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. **Mine Closure Plan** 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. **EMP** 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan. **Risk Assessment**

S. No	Terms of Reference
	35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. **Disaster Management Plan** 36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. **Others** 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics
1.6	Details about the land proposed for mining activities should be givenwith information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority

S. No	Terms of Reference
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large,may also be detailed in the EIA Report
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study rea will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period
1.10	Land use of the study rea delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given
1.11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State level Expert Appraisal Committee
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden.

S. No	Terms of Reference
	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 Wildlifeand copy furnished
1.18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given
1.23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed

S. No	Terms of Reference
	water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect 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
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given.The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report
1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health

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

S. No	Terms of Reference
	and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area

STANDARD TERMS OF REFERENCE

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

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

authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on

ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

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

modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted cle arly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

37) Measures of socio economic significance and influence to the local community

proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

44) Besides the above, the below mentioned general points are also to be followed:-

    a) Executive Summary of the EIA/EMP Report

    b) All documents to be properly referenced with index and continuous page numbering.

    c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

    d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

    e) Where the documents provided are in a language other than English, an English translation should be provided.

    f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

    g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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

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

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

10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of is acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest , eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.

31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

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

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
b. All documents may be properly referenced with index, page numbers and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -l1013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.
    - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent willtake further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
    - The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.

- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

e-KYC
CAF
DSS
e-Processing
e-Payments
e-Compliance
KYA
PARIVESH
CPC GREEN
Nature Protects if She is Protected

Annexure - II

From
Dr.P.Jayapal M.Sc., Ph.D.,,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.K.Dhanamal,
W/o.Kandasamy,
No.2/110, Kariyampatti,
Karudayampalayam Village,
Pugalur Taluk,
Karur District.

Rc.No.827/Mines/2025, Dated:06.10.2025

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Karudaiyampalayam Village - Patta land in S.F.No. 288 Over an extent of 4.02.50 hectares - Quarry lease application preferred by Tmt.K.Dhanamal for quarrying Rough Stone and Gravel – Mining Plan approved - requested for the details of Existing/ Proposed/Expired and Abandoned quarries situated within 500 mts radial distance - furnished – Regarding.

Ref:

1. Quarry lease Online application for quarrying Rough stone and Gravel preferred by Tmt.K.Dhanamal, W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District dated: 04.08.2025.
2. Deputy Director, Geology and Mining, Karur Notice Rc.No.827/Mines/2025, Dated:12.09.2025
3. Mining Plan submitted by Tmt.K.Dhanamal, letter Dated:25.09.2025.
4. The Deputy Director, Geology and Mining, Karur Mining Plan approved letter Rc.No.827/Mines/2025, Dated:04.10.2025
5. Tmt.K.Dhanamal, letter Dated:04.10.2025.

In the reference 1st cited Tmt.K.Dhanamal, W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District has preferred an online application for the grant of Five years lease to quarry

Rough Stone and Gravel over an extent of 4.02.50 hectares of patta land in S.F.No. 288 of Karudayampalayam Village, Pugalur Taluk, Karur District. The Deputy Director of Geology and Mining, Karur had issued precise area memorandum to the proposed lease area vide reference 2nd cited.

Accordingly, the applicant has submitted the 3 copies of draft Mining Plan and the same was approved by the Deputy Director, Geology and Mining, Karur vide reference 4th cited.

In the reference 5th cited, the applicant has requested to the Deputy Director of Geology and Mining, Karur to provide the details of existing, proposed, expired and abandoned quarries situated within 500 meter radial distance from the subject area and the same has been furnished as follows:-

I. Existing Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1.	Tvl.Ram Blue Metals, S.F.Nos.505 A1,B1,B2, Pavithram, Pavithram Post,Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Karudaiyampalaya m village	289/1 290/1B 290/2	1.23.0	10.11.2023 to 09.11.2028
2.	Tvl.Sri Ganesh Murgan Blue Metals SF.No.268 Puthukkanalli Karudaiyampalayam Post Pugalur Taluk Karur District.	Rough Stone & Gravel	Pugalur Taluk, Pavithram Village	881/1 882(Part) 893/4	2.51.0	15.06.2023 to 14.06.2033
3.	Tvl.Sri Ganesh Murgan Blue Metals SF.No.268 Puthukkanalli Karudaiyampalayam Post Pugalur Taluk Karur District.	Rough Stone & Gravel	Pugalur Taluk Punnam Village	293/1(P) 293/3(P) 293/4(P) 294/2B 295/1(P)	4.36.5	13.11.2024 to 12.11.2029

II. Proposed Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1.	Tvl.Ram Blue Metals, S.F.Nos.505 A1,B1,B2, Pavithram, Pavithram Post, Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Karudayampalayam Village	289/2	4.09.0	Proposed Area
2.	Tmt.K.Dhanamal, W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District.	Rough Stone	Pugalur Taluk Karudayampalayam Village	288	4.02.50	Proposed Area

III. Lease Expired Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1.	Sri.Ganesh Murugan Blue metals, Karurdayampalayam Karur.	Rough Stone	Pugalur (ErstWhile Aravakurichi) Karudayampalayam Village	274/4 274/6 278/3 278/4 286/1 286/2 279/A1 274/3 278/2	5.18.0	29.07.2010 to 28.07.2015
2.	Ganesh Murugan Blue Metals, 268 Karudayampalayam AravakurichiTaluk Karur District.	Rough Stone	Pugalur (ErstWhile Aravakurichi) Karudayampalayam Village	264/12 264/13 274/1 274/5	3.94.5	08.08.2013 to 07.08.2018
3.	Sri Ganesh Murgan Blue Metals Karudaiyampalayam Post Aravakurichi Taluk Karur District.	Rough Stone	Pugalur (ErstWhile Aravakurichi) Taluk Pavithram Village	892	3.03.5	14.10.2016 to 13.10.2021

4.	Tvl.GaneshMurugan Blue Metals, S.F.No.268, Pudhukanalli, Karudaiyampalayam Post, Aravakurichi Taluk, Karur District.	Rough Stone	Pugalur Taluk Karudaiyampalayam village,	273/A3 273/A4 273/A5 273/A2 273/A6 274/1 274/5	4.98.0	26.11.2018 to 25.11. 2023

IV. Abandoned Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1.	Nil					

06/11/25

Deputy Director,
Geology and Mining,
Karur.

06/11/25

Annexure - III

From
Dr.P.Jayapal M.Sc., Ph.D.,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.K.Dhanamal,
W/o.Kandasamy,
No.2/110, Kariyampatti,
Karudayampalayam Village,
Pugalur Taluk,
Karur District.

Rc.No.827/Mines/2025, Dated:04.10.2025

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Karudaiyampalayam Village - Patta land in S.F.No. 288 Over an extent of 4.02.50 hectares - Quarry lease application preferred by Tmt.K.Dhanamal for quarrying Rough Stone and Gravel – Precise area communicated - mining plan submitted for approval – Mining Plan Approved – Regarding.

Ref:
1. Quarry lease Online application for quarrying Rough stone and Gravel preferred by Tmt.K.Dhanamal, W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District dated: 04.08.2025.
2. Order of the Hon'ble Supreme Court of India in I.A.Nos.12-13/2011 in SLP (C) No.19628-19629/2009, dt: 27.02.2012.
3. Government of India, Ministry of Environment and Forest Office Memorandum, Dated:18.05.2012.
4. The Chairman, State Level Environment Impact Assessment Authority, Tamil Nadu D.O.Lr.No.SEIAA-TN/Minor Minerals/2012, Dated: 17.09.2012.
5. The Commissioner of Geology and Mining, Chennai letter Rc.No.3868/LC/2012, dt: 19.11.2012.
6. The Revenue Divisional Officer, Karur, Land availability Report vide Rc.No.A1/6266/2025, dt: 29.08.2025.
7. Deputy Director, Geology and Mining, Karur Notice Rc.No.827/Mines/2025, Dated:12.09.2025

8. Mining Plan submitted by Tmt.K.Dhanamal, letter Dated:25.09.2025.

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In the reference 1st cited Tmt.K.Dhanamal, W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District has preferred an online application for the grant of Five years lease to quarry Rough Stone and Gravel over an extent of 4.02.50 hectares of patta land in S.F.No. 288 of Karudayampalayam Village, Pugalur Taluk, Karur District under Rule 19(1) of Tamil Nadu Minor Mineral Concession Rule 1959.

The Precise area has been communicated by the Deputy Director, Geology and Mining, Karur to the applicant for the period of Five years based on the recommendation of the Revenue Divisional Officer, Karur and Assistant Geologist, Geology and Mining, Karur in the reference 7th cited. In perusal to that the draft mining plan submitted by the applicant as per the Rule 41 in the reference 8th cited.

The above submitted mining plan for the grant of Rough stone and Gravel quarry lease patta land in S.F.No. 288 Over an extent of 4.02.50 hectares of Karudayampalayam Village, Pugalur Taluk, Karur District has been examined in detail.

Scrutiny remarks on the draft Mining Plan are furnished below.

a. The Rough Stone & Gravel quarry has been planned to be operated for a period of 05 years.
b. The Geological reserve in the subject area is assessed as 6,27,244m^3/17,24,921MT of Rough Stone and 54,144 m^3/1,08,288 MT of Gravel upto a depth of 20m below ground level only.
c. The Mineable reserve is estimated as 4,10,116 m^3/11,27,819 MT of Rough Stone and 42,834 m^3/85,668 MT of Gravel upto a depth of 20m below ground level only.
d. The total quantity proposed to quarry 4,10,116 m^3/11,27,819 MT of Rough Stone for 5 years and 42,834 m^3/85,668 MT of Gravel first three years only upto a depth of 20m below ground level only.

e. Machineries like tractor mounted compressor, jack hammers, Hydraulic excavator attachment are proposed for quarrying operation.

f. Water table level in the area applied is between 80m to 85m during the year.

g. As per the Rule 111 of Metalliferrous Mining Regulations 1961, the boundary barrier zone of 7.5 meters is ear-marked as neutral zone.

h. The draft Mining plan is submitted within the prescribed time limit of 90 days from the date of receipt of the precise area communication and stipulations made in the rule 36 of the TNMMCR, 1959 are adhered.

i. The plates including Topo sketch of quarry lease applied area for 10Km Radius (1:1,00,000), Quarry lease and Surface plan (1:1,000), Topography and Geological plan & sections (1:1,000), Conceptual plan and sections (1:1000), Geological, Mineable & Year wise development & Production plan & Sections (1: 1000) and Environmental plan (1:5,000) were verified with reference to the field evidences.

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

(I) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.

(II) This approval of the mining plan does not in any way imply the approval of the Government in terms or any other provisions of the Mines and Minerals (Development and Regulation) Act, 1957, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and

Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

(III) The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.

(IV) The approval is valid up to five years from the date of execution of lease deed and the applicant should submit scheme of mining at lease 180 days before the expiry of the mining plan period.

(V) As per the Deputy Director, Geology and Mining, Karur notice in Rc.No.827/Mines/2025, Dated.12.09.2025 the following conditions are incorporated in the Mining Plan plates.

சிறப்பு நிபந்தனைகள்:-

1) விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் புல எண்.184/பி-இல் அமைந்துள்ள மயானத்திற்கும் மற்றும் விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப் பணி செய்ய வேண்டும்.
2) விண்ணப்ப புலத்திற்கு மேற்கு மற்றும் வடக்கு பகுதியில் புல எண்169/பி2, 287, 285 ஆகியவற்றில் அமைந்துள்ள வண்டிப்பாதைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு நிலத்திற்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

2. குத்தகைக்காலத்தில் கைத்துளைப்பான் கருவி கொண்டு பாறைகளை துளையிட்டும், மிதமான வெடிபொருள் பயன்படுத்தியும், பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ சேதம் ஏற்படாத வண்ணம் குவாரிப்பணி செய்ய வேண்டும்.

3. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettaliferrous Mines, விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்றுவரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.

4. குவாரி குத்தகை வழங்க ஏதுவாக துணை இயக்குநர் (சுரங்கம்) அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினையும், மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (SEIAA) அனுமதி பெற்று மாவட்ட நிர்வாகத்திற்கு விண்ணப்பதாரரால் சமர்ப்பிக்கப்பட வேண்டும்.

(VI) Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.

(VII) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

Encl: Two copies of Approved Mining Plan.

04/10/25

Deputy Director,
Geology and Mining,
Karur.

04/10/25

MINING PLAN

FOR

KARUDAYAMPALAYAM VILLAGE ROUGH STONE AND GRAVEL MINING LEASE

WITH PROGRESSIVE QUARRY CLOSURE PLAN

Patta land /Open Cast-Semi-Mechanized Mining/Non- Forest/Non-Captive Use

Lease period 5 Years from the date of lease execution

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

LOCATION OF THE LEASE AREA

STATE	:	TAMILNADU
DISTRICT	:	KARUR
TALUK	:	PUGALUR
VILLAGE	:	KARUDAYAMPALAYAM
S.F. No's	:	288
EXTENT	:	4.02.50Hectares

ADDRESS OF THE APPLICANT

Mrs.K.DHANAMAL,
W/o.Kandasamy,
No.2/110, Kariyampatti,
Karudayampalayam Village,
Pugalur Taluk,
Karur District – 639114.

The Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 827/Mines/2025 Dated: 04.10.2025

PREPARED BY

G.UMAMAHESWARAN, M.Sc.,
Qualified Person
No.4-101, Sengattur, Muthampatti Post,
Thulasampatti Via, Mettur Taluk,
Salem District - 636 503

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1.	Copy of precise area communication letter	I
2.	Copy of Environmental Clearance	II
3.	Copy of Proceedings letter	III
4.	Copy of Lease Deed document	IV
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6.	Copy of **FMB** (Field Measurement book)	VI
7.	Copy of "A" register,	VII
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9.	Photo copy of the applied lease area	IX
10.	Copy of ID Proof of the authorized signatory	X
11.	Copy of Qualified Person Certificate	XI

LIST OF PLATES

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1	Key Map	I	Not to scale
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4	Satellite Imagery Map	I-C	1: 5,000
5	Environmental Plan	I-D	1: 5,000
6	Mine Lease Plan	II	1:1000
7	Surface & Geological Plan	III	Plan 1:1000
8	Geological Sections	IIIA	**Sections** Hor 1:1000 Ver 1:500
9	Conceptual Plan	IV	Plan 1:1000
10	Conceptual Sections	IVA	**Sections** Hor 1:1000 Ver 1:500
11	Mine Layout Plan and Land Use Pattern	V	Plan 1:1000
12	Year wise Development and Production Plan	VI	Plan 1:1000
13	Year wise Development & Production Sections	VIA	**Sections** Hor 1:1000 Ver 1:500

Mrs.K.Dhanamal,
W/o.Kandasamy,
No.2/110, Kariyampatti,
Karudayampalayam Village,
Pugalur Taluk,
Karur District – 639111

CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of rough stone and gravel quarry lease in patta land at S.F.No: 288, over an extent of 4.02.50 hectares of Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu State has been prepared by

G.Umamaheswaran, M.Sc., Qualified Person

I request **"The Deputy Director"**, Department of Geology and Mining, Karur District to make further correspondence regarding modifications of the Mining Plan with the said Qualified Person on this following address,

G.UMAMAHESWARAN, M.Sc.,
Qualified Person
No.4-101, Sengattur, Muthampatti Post,
Thulasampatti Via, Mettur Taluk,
Salem District - 636 503
Ph: +91 9790462882
E-mail: maheswaran.gk@gmail.com

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 binding on me in all respects.

Place: Karur, TN.
Date:

Signature of the applicant
(K.Dhanamal)

Mrs.K.Dhanamal,
W/o.Kandasamy,
No.2/110, Kariyampatti,
Karudayampalayam Village,
Pugalur Taluk,
Karur District – 639111

DECLARATION

The Mining Plan in respect of rough stone and gravel quarry lease in Patta land at S.F.No: 288, over an extent of 4.02.50 hectares of Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu State have been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

Place: Karur, TN.
Date:

Signature of the applicant
(K.Dhanamal)

G.UMAMAHESWARAN, M.Sc.,
Qualified Person
No.4-101, Sengattur, Muthampatti Post,
Thulasampatti Via, Mettur Taluk,
Salem District - 636 503
Ph: +91 9790462882
E-mail: maheswaran.gk@gmail.com

CERTIFICATE

This is to certify that, the provisions of 19(1), 20 & 22 Tamil Nadu Minor Minerals Concession Rules, 1959 have been observed in the Mining Plan for the grant of rough stone quarry lease in S.F.No: 288, over an extent of 4.02.50hectares of Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu State granted to **Mrs.K.Dhanamal,** Karur District.

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.

Place: Salem, TN
Date: 24/09/2025.

Signature of the Qualified Person

G.UMAMAHESWARAN,M.Sc.,
Qualified Person
No. 4-101, Sengattur, Muthampatti (Po),
Tholasampatti (Via), Mettur (Tk),
Salem (Dt.) - 636 503

G.UMAMAHESWARAN, M.Sc.,
Qualified Person
No.4-101, Sengattur, Muthampatti Post,
Thulasampatti Via, Mettur Taluk,
Salem District - 636 503
Ph: +91 9790462882
E-mail: maheswaran.gk@gmail.com

CERTIFICATE

I certify that, in preparation of Mining Plan for rough stone and gravel quarry lease in S.F.No: 288 over an extent of 4.02.50 hectares of Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu State prepared to **Mrs.K.Dhanamal,** Karur District, 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.

Place: Salem, TN
Date: 24/09/2025.

Signature of the Qualified Person
G.UMAMAHESWARAN,M.Sc.,
Qualified Person
No. 4-101, Sengattur, Muthampatti (Po),
Tholasampatti (Via), Mettur (Tk),
Salem (Dt.) - 636 503

MINING PLAN

FOR KARUDAYAMPALAYAM VILLAGE ROUGH STONE AND GRAVEL MINING LEASE WITH PROGRESSIVE QUARRY CLOSURE PLAN

Patta land / Open cast-Semi-Mechanized mining/Non-forest/Non-Captive Use

Lease period 5 Years from the date of lease execution

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

INTRODUCTORY NOTES:

a) **Introduction:** The Mining plan with progressive quarry closure plan is prepared for **Mrs.K.Dhanamal,** W/o.Kandasamy residing at No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk, Karur District, Tamilnadu State and filed with online application for new proposals has submitted to the Deputy Director, Department of Geology and Mining (DDG & M), Karur dated 04.08.2025 had requested to grant the quarry lease for rough stone & gravel in S.F.No. 288, over an extent of 4.02.50hectares of Karudayampalayam Village, Pugalur Taluk, Karur District, Tamil Nadu State.

b) **The Precise area communication letter:** The Deputy Director, Department of Geology and mining, Karur has directed to the applicant **Mrs.K.Dhanamal,** through his precise area communication letter vide **Roc.No.827/Mines/2025 Dated 12.09.2025,** for quarrying lease rough stone at Tamil Nadu State, Karur District, Pugalur Taluk, Karudayampalayam Village in S.F.No: 288 over an extent of 4.02.50 hectares has recommended as following conditions for a period of five (5) years under Rule 19(1), 20 & 22 Tamil Nadu Minor Mineral concession rules, 1959.

1) Quarrying shall be carried out with a safety distance of 50 meters from the cemetery located in S.F.No.184/B to the west of the applied lease area and the low voltage power line running south-west of the application area.
2) Quarrying shall be carried out with a safety distance of 10 meters from the cart road located in S.F.No.169/B2, 287 and 285 to the west and north of the application area.
3) The non-operational low voltage power line running east-west direction to the southern part of the application area shall be removed before the quarry lease license is executed.

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 827/mines/2025 Dated: 04.10.2025

4) Quarrying should be carried out properly without any damage, leaving a safety distance of 7.5 meters for the leased lands adjacent to the application field and 10 meters for the poramboke land.

5) During the lease period, quarrying work must be carried out in a manner that does not cause damage to the public or public property, using a hand-held drill and moderate explosives.

6) To ensure the safety of quarry workers, Mettaliferous Mines must set up wide and safe benches in accordance with the rules to allow vehicles to enter and exit the quarry safely and to carry out quarry work while ensuring the safety of quarry workers

7) The applicant must submit a mining plan approved by the Deputy Director (Mining) to the District Administration for granting quarry lease, along with the approval of the State Environmental Impact Assessment Authority (SEIAA).

c) **The Previous lease particulars:**The proposed lease area was previously granted to quarrying of rough stone in favour of Mr.**P.Kandasamy** by the District Collector, Karur Rc.No.29/2001 Dated 14.05.2001 in S.F.No:288, Aravakurichi Taluk, Karudayampalayam village, over an extent of 4.02.5Hects for a period of 5 years. The lease was executed from 12.02.2001 to 11.02.2007.

The proposed lease area was previously granted to quarrying of rough stone in favour of **Mr.P.Kandasamy** by the District Collector, Karur Rc.No.B/247/G&M/2007 Dated 14.08.2007 in S.F.No:288, Aravakurichi Taluk, Karudayampalayam village, over an extent of 4.02.5Hects for a period of 5 years. The lease was executed from 31.08.2007 to 30.08.2012.

The proposed lease area was applied to quarrying of rough stone in favour of **Mr.P.Kandasamy** in S.F.No: 288, Aravakurichi Taluk, Karudayampalayam village, over an extent of 4.02.5Hects for a period of 5 years. Mining plan was approved and the applicant was not obtained Environmental Clearance certificate due to personal reasons.

Now, new online proposals has submitted to the Deputy Director, Department of Geology and Mining & Gravel (DDG & M), Karur dated 04.08.2025 and the Deputy Director, recommended to his precise area communication letter **Roc.No.827/Mines/2025 Dated 12.09.2025** for a period of five years recommended to favor of **Mrs.K.Dhanamal** for quarrying lease rough stone and gravel at

Tamilnadu state, Karur District, Pugalur Taluk, Karudayampalayam village in S.F.No: 288 over an extent of 4.02.5Hectares.

There is an existing pit was noticed with an average pit dimensions a given under the table and the existing pit marked in the surface and geological plan (Ref Plate No's: III)

Avg.Existing Pit Dimensions			
Pit	**Length in (m)**	**Width in (m)**	**Depth in (m)**
I	96	52	6
II	25	96	1

c) **Preparation and Submission of Mining Plan:** The Mining Plan with progressive quarry closure plan has been prepared under rule 41 and submitted under rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 for mining lease as per conditions mentioned in the precise area communication letter **Roc.No.827/Mines/2025 Dated 12.09.2025.**

d) **Geological resources and Mineable reserves:** Geological resource of estimated as **681388m^3 / 1833209MT** including the resources of safety zone, gravel etc. Of which, rough stone resources of about **627244m^3 / 1724921MT** and gravel is **54144m^3 / 108288MT**. The total mineable reserve is estimated to be **452950m^3 / 1213487MT** by deducting the reserve safety zone, block in benches from the total Geological resources. of which, rough stone is about **410116m^3 / 1127819MT** and gravel is **42834m^3 / 85668MT** up to a depth of 20m below ground level (Refer Plate No. IIIA & IVA).

e) **Proposed Production Schedule:** Total proposed production of rough stone is **410116m^3 / 1127819** and gravel is **42834m^3 / 85668MT** up to a depth of 20m below ground level for five years plan period (Refer Plate No.VI & VIA).

f) **Environmental Sensitivity of the proposed lease area: -**

i). **Interstate boundary:** There is no interstate boundary around 10Km radius periphery of proposed lease area.

ii). **Wildlife Sanctuaries any:** There are no notified wildlife sanctuaries within the radius of 10km from the project site under the wildlife (Protection) Act, 1972.

iii). **Forest (conservation) Act, 1980:** No forest land granted for quarrying and there is no reserve forest around 60m radius.

iv). **CRZ Notification, 2019:** There is no Sea coastal zone found within radius of 10km and this project site doesn't attract CRZ Notification, 2019.

h) **Environmental measures to be adopted during the ongoing activity period,**

a. Usage of sharp drill bits while drilling which will help in reducing noise.
b. Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders.
c. Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained.
d. Green Belt/Plantation will be developed around the project area and along the haul roads. The plantation minimizes propagation of noise.
e. Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation.
f. Transportation of material will be carried out during day time and material will be covered with tarpaulin.
g. The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.
h. And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.

1.0 GENERAL:

a.	Name of the Applicant	:	**Mrs.K.Dhanamal,**
	Applicant address	:	W/o.Kandasamy, No.2/110, Kariyampatti, Karudayampalayam Village, Pugalur Taluk,
	District	:	Karur
	State	:	Tamilnadu
	Pin code	:	639111
	Phone	:	Nil
	Fax	:	Nil
	Gram	:	Nil
	Telex	:	Nil
	E-mail	:	.....
b.	Status of the Applicant		
	Private individual	:	Private individual
	Cooperative Association	:	---
	Private company	:	---
	Public Company	:	---
	Public Sector Undertaking	:	---
	Joint Sector Undertaking	:	---
	Other (pl. specify)	:	---
c.	Mineral(s) Which are occurring in the area and which the applicant intends to mine	:	Rough Stone and Gravel Quarry Lease

d.	Period for which the mining lease granted /renewed/ proposed to be applied	:	The precise area has been communicated to the applicant for quarrying period of five (5) years.
	Name of the QP preparing the Mining Plan	:	**G.Umamaheswaran.M.Sc.,**
	Address	:	No.4-101, Sengattur, Muthampatti Post, Thulasampatti Via, Mettur Taluk, Salem District - 636 503.
	Phone	:	+91 9790462882
	Fax	:	Nil
	e-mail	:	maheswaran.gk@gmail.com
	Telex	:	Nil
f.	Reference No. and date of consent letter from the state government	:	The precise area communication letter issued by the Assistant Director, Department Geology and Mining, Karur vide **Roc.No.827/Mines/2025 Dated 12.09.2025.**

2.0 LOCATION AND ACCESSIBILITY:

a.	Details of the Area:	:	Refer plate no: IA & IB
	District & State	:	Karur, Tamil Nadu
	Taluk	:	Pugalur
	Village	:	Karudayampalayam

Khasra No./ Plot No./ Block Range/ Felling Series etc.:

Survey No	Sub Division	Total Extent in Hect	Patta No.	Village and Name of the Land Owner	Mine lease Applied S.F.No.	Mine lease Applied area out of total area in hect.
288	-	4.02.5	2880	Mrs. K.Dhanamal W/o.Kandasamy	288	4.02.5
Total Extent		**4.02.5**	Applied lease area extent			**4.02.5**

Lease area (hectares)	:	**4.02.5 Hectares**
Whether the area is recorded to be in forest (please specify whether protected, reserved, etc)	:	The proposed lease area is recorded as patta land. Copy of land documents are enclosed. (Ref.Annex.No's: VI).

Ownership / Occupancy	:	This is a patta land S.F.No. 288 is registered in the name of Mrs.K.Dhanamal W/o.Kandasamy as vide patta no.2880.
Existence of Public Road / Railway line if any nearby and approximate distance	:	✓ Exploited quarry materials will be transported through the cart road is situated on the south side. ✓ There is an NH-81 is situated about 1.0km radius away on the north side of the lease area which is connecting Coimbatore - Trichy Road. ✓ There is SH-21 road is situated about 3.5km radius away on the east side of the lease area. ✓ There is no railway line is situated around 5km radius from the lease area.
Toposheet No. with latitude and longitude	:	Toposheet No. **58 F/13** Latitude: From 10°56'46.96"N to 10°56'53.78"N Longitude: From 77°57'58.93"E to 77°58'8.51"E

Geo-Coordinates of the lease boundary:

ID	LATITUDE	LONGITUDE
1	10°56'51.52"N	77°58'8.51"E
2	10°56'48.70"N	77°58'7.91"E
3	10°56'46.98"N	77°58'7.38"E
4	10°56'46.96"N	77°58'6.29"E
5	10°56'47.19"N	77°58'2.12"E
6	10°56'47.85"N	77°57'58.93"E
7	10°56'50.11"N	77°58'0.34"E
8	10°56'50.37"N	77°58'0.72"E
9	10°56'51.74"N	77°58'1.34"E
10	10°56'53.72"N	77°58'1.62"E
11	10°56'53.78"N	77°58'2.22"E
12	10°56'53.32"N	77°58'2.97"E
13	10°56'53.01"N	77°58'3.66"E
14	10°56'53.02"N	77°58'5.48"E
15	10°56'51.77"N	77°58'7.30"E

Land use pattern (Forest, Agricultural, Grazing, Barren etc.)	:	It is an barren and Ryotwari land.

b.	***Attach a general location and vicinity map showing area boundaries and existing and proposed access routs. It is preferred that the area to be marked on a survey of India topographical map or a cadastral map or forest map as the case may be. However if none of these are available, the area should be shown on an accurate sketch map on scale of 1 : 5000.***	:	Refer plate no-IA & IB

i) INFRASTRUCTURE AND COMMUNICATION:

S.No	Description	Place	Distance	Direction
a.	Nearest post office	Karudaiyampalayam	2.6Km	Northwest
b.	Nearest police station	K.Paramathi	6.4km	West
c.	Nearest fire station	Karur	11.5km	East
d.	Nearest medical facility	Thumbivadi	4.7km	South
e.	Nearest school	Pudukkanali	0.6km	Northwest
f.	Nearest railway station	Murthipalayam	10.0km	Northeast
g.	Nearest port facility	Thoothukudi	242.0km	South
h.	Nearest airport	Tiruchirappalli	84.0km	East
i.	Nearest DSP office	Karur	9.6km	East
j.	Nearest villages	Pudukkanali	0.50km	Northwest
		Pavithiram	1.8km	Northeast
		Pallamaruthapatti	2.1km	Southeast
		Malapalayampudur	0.9km	West

PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

(a) Briefly describe the topography and general geology and local/mine geology of the mineral deposit including drainage pattern:

(i)	Topography	:	The proposed lease area is flat topography. The maximum elevation (178m) was observed southeast of the site and the minimum elevation (177m) was observed northeast of the site. The slope is towards southeast side and falls in Toposheet no. **58 F/13**

(ii) **General Geology of the District:**

The Karur district forms part of the Archean complex of peninsular gneiss. The general rock types of this area are Biotite gneiss. Karur District is blessed with good reserves of crystalline limestone known as "Palayam belt" in Varavanai, Thennilai, Gudalur etc., villages in Kulithalai Taluk and the occurrences of good quality of pegmatite veins constituting with glassy quartz and potash feldspar in lensoid patches in Nagampalli and Pungambadi areas in Pugalur Taluk. The major mineral such as limestone, quartz and feldspar are exploited in Karur district and utilized in the mineral-based industries.

The Granite gneiss rocks are found to occur in K.Paramathi, Athur, Thennilai, Punnam, Godanthur South, Munnur, Punnam, Anjur villages in Karur and Pugalur Taluk are exploited to produce building materials and road metal (Jelly) and over burden soil appear as gray to reddish in colour called as gravel. The commercially known "Coloumbo Zubrana" the unique type in the Multi coloured granite / Granite gneiss category is occurring in Thogamalai, Naganur and Kazhugur Villages in Kulithalai Taluk. These rock type belong to minor mineral category. The arrangement of alternate layers of felsic and mafic minerals in linear pattern and exhibits wavy pattern in the rock and giving very good structure for the rock type. The well-developed gneissic pattern with linear arrangement, the rock type have attracted the granite market and found to be suitable for the exploitation of granite blocks. But in this area the banded gneissic rock has many fractures and foliation in it. So, this is not viable for dimensional stone.

Order of superposition of the proposed lease area,

Age	Group	Rock Formation

Recent to Sub recent	----	Top Soil (1-2m Thick)
Proterozoic	Acid Intrusive	Pink medium grained granite/ Granite gneiss.
Archean	Charnockite Group	Pyroxene Granulite, Charnockite (acid to intermediate)/ Crystalline limestone / Quartzite

(iii) Local / Mine Geology of The Mineral Deposit:

Topography of the proposed lease area:

The applied lease area exhibits an flat topography and the maximum elevation 178m was observed southeast of the site and the minimum elevation (177m) was observed northwest of the site. The rocks exhibits layered, medium to coarse grained hornblende biotite, orthopyroxene charnockite gneiss.

The Gravel is obtained the average of 0-3.0m and a rough stone starts from 3.0m to 20m (R.L.178-158m) from the surface level. The Surface plan showing elevation, contour, accessibility road and Geological map was prepared the proposed lease area.

Mode of origin:

The Charnockite series originally was assumed to have developed by the fractional crystallization of silicate magma. Subsequent studies have shown, however, that many, if not all, of the rocks are metamorphic, formed by recrystallization at high pressures and moderately high temperatures.

Physiography of the rocks:

General characteristics of the rocks of this series has recorded that the rocks are in general bluish gray or darkish in colour and extremely fresh in appearance with an even grained granular structure.

Chemical composition of rocks:

The compositional characteristics of coexisting orthopyroxene, garnet and biotite have established several petrographic varieties within the Charnockites–Enderbites such as the granulite's and gneisses. Plagioclase feldspars, alkali feldspars and quartz are the salic minerals present in this series of rocks.

Order of superposition of the proposed lease area,

Age	Group	Rock Formation
Recent to Sub recent	----	Gravel
Archaean	Charnockite Group	Charnockites.

(iv)	Drainage Pattern	:	There is no major river found within 50m radius. The drainage in the area is sub-dendritic in nature.

(b)	***The topographic plan of the lease area prepared on a scale of 1 :1000 or 1 : 2000 with contour interval of 3 to 10m depending upon the topography of the area should be taken as the base plan for preparation of geological plan. The details of exploration already carried out including evidences of mineral existence should be shown on the geological plan:***		
	a. Present status:	:	The QP examined the surface features during survey. It is a fresh quarry lease.
	b. Surface Plan	:	Surface plan showing elevation contour and accessibility road was prepared at the scale of 1: 1000, as shown in Plate No. III.
(c)	Geological sections should be prepared at suitable intervals on a scale of 1: 1000 / 1: 2000:	:	Longitudinal and transverse geological cross sections were prepared at the horizontal scale of 1: 1000 and at the vertical scale of 1:500, as shown in Plate No. IIIA
(d)	***Broadly indicate the Yearwise future programme of exploration, taking into consideration the future production programme planned in next five years as in table below:-*** No future programmed proposed in this area. Its massive homogeneous parent rock. Hence exploration proposal is not required to this mining project.		

(e) Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations along with required sections (giving split up of various categories i.e. proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.

The geological resources were computed by cross section method with respect to the boundaries of the lease area. In this method, the lease area was divided into one longitudinal and one transverse section to calculate the volume of material up to the depth of 20m below ground level for five years plan period. (Refer Plate No. III & IIIA). The one longitudinal and one transverse cross section were assigned XY-AB as respectively. Using the cross-sectional method, total reserve is estimated to be **681388m^3** or **1833209MT** including the resources of safety zone, and gravel, etc. Of which, rough stone resources of about **627244m^3** or **1724921MT** and gravel is **54144m^3** or **108288MT.**

GEOLOGICAL RESOURCES										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	116	103	1	11948	.....	11948	2	.....	23896
	I	137	154	2	42196	.....	42196	2	.....	84392
	I	137	155	2	42470	42470	.....	2.75	116792.5	.....
	II	138	157	1	21666	21666	.....	2.75	59581.5	.....
	II	221	182	4	160888	160888	.....	2.75	442442.0	.....
	III	221	182	5	201110	201110	.....	2.75	553052.5	.....
	IV	221	182	5	201110	201110	.....	2.75	553052.5	.....
TOTAL					**681388**	**627244**	**54144**	.....	**1724921**	**108288**

(f) Indicate mineable reserves by slice plan / level plan method, as applicable, as per the proposed mining parameters: -

The total mineable reserve is estimated to be **452950m³** or **1213487MT** by deducting the reserve safety zone, block in benches from the total Geological resources up to a depth of 20m below ground level. Of which, rough stone is about **410116m³** or **1127819MT** and gravel is **42834m³** or **85668MT**. The commercially viable rough stone has been prepared on 1: 1000 scale and sections are prepared in a scale of 1:1000 in horizontal axis and 1:500 as vertical axis (Refer plate no's. IVA & IVB).

MINEABLE RESERVES										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	103	86	1	8858	.....	8858	2	.....	17716
	I	124	137	2	33976	.....	33976	2	.....	67952
	I	124	137	2	33976	33976	.....	2.75	93434	.....
	II	120	130	1	15600	15600	.....	2.75	42900	.....
	II	190	154	4	117040	117040	.....	2.75	321860	.....
	III	180	144	5	129600	129600	.....	2.75	356400	.....
	IV	170	134	5	113900	113900	.....	2.75	313225	.....
TOTAL					**452950**	**410116**	**42834**	.....	**1127819**	**85668**

4.0 MINING:

a)	Briefly describe the existing / proposed method for developing / working the deposit with all design parameters. (Note: In case of pocket	:	The mining operation is open-cast, semi-mechanized method are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations,

	deposits, sequence of development/working may be indicated on the same plan)		1961 in all open cast workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 6m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal.

b) ***Indicate quantum of development and tonnage and grade of production expected pit wise as in table below.***

Total proposed production for first five yeras period of rough stone is about **410116m³** or **1127819MT** and gravel is **42834m³** or **85668MT** up to a depth of 20m below ground level for five years plan period (Refer Plate No.VI & VIA).

Year	Pit No.(s)	Topsoil/ Overburden (m^3)	ROM (m^3)	Saleable rough stone (m^3) @ 100%	Saleable rough stone (MT) @ 100%	Saleable Gravel (m^3)	Saleable Gravel (MT)
I	I	...	87660	73266	201482	14394	28788
II	I	...	88226	74186	204011	14040	28080
III	I	...	86932	72532	199463	14400	28800
IV	I	...	76232	76232	209638	...	...
V	I	...	113900	113900	313225	...	...
Total		...	**452950**	**410116**	**1127819**	**42834**	**85668**

c) ***Composite plans and Year wise sections (In case of 'A' class mines):*** : Not applicable. It is a "B" class quarry lease

YEARWISE PRODUCTION RESERVES

Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
I	XY-AB	I	24	86	1	2064	.....	2064	2	.....	4128
		I	45	137	2	12330	.....	12330	2	.....	24660
		I	45	137	2	12330	12330	.....	2.75	33908	.....
		II	51	154	4	31416	31416	.....	2.75	86394	.....
		III	41	144	5	29520	29520	.....	2.75	81180	.....
TOTAL						**87660**	**73266**	**14394**	.....	**201482**	**28788**

II	XY-AB	I	39	86	1	3354	.....	3354	2	.....	6708
		I	39	137	2	10686	.....	10686	2	.....	21372
		I	39	137	2	10686	10686	.....	2.75	29386	.....
		II	26	130	1	3380	3380	.....	2.75	9295	.....
		II	45	154	4	27720	27720	.....	2.75	76230	.....
		III	45	144	5	32400	32400	.....	2.75	89100	.....
TOTAL						**88226**	**74186**	**14040**	.....	**204011**	**28080**
III	XY-AB	I	40	86	1	3440	.....	3440	2	.....	6880
		I	40	137	2	10960	.....	10960	2	.....	21920
		I	40	137	2	10960	10960	.....	2.75	30140	.....
		II	42	130	1	5460	5460	.....	2.75	15015	.....
		II	42	154	4	25872	25872	.....	2.75	71148	.....
		III	42	144	5	30240	30240	.....	2.75	83160	.....
TOTAL						**86932**	**72532**	**14400**	.....	**199463**	**28800**
IV	XY-AB	II	52	130	1	6760	6760	.....	2.75	18590	.....
		II	52	154	4	32032	32032	.....	2.75	88088	.....
		III	52	144	5	37440	37440	.....	2.75	102960	.....
TOTAL						**76232**	**76232**	**0**	.....	**209638**	**0**
V	XY-AB	IV	170	134	5	113900	113900	.....	2.75	313225	.....
TOTAL						**113900**	**113900**	**0**	.....	**313225**	**0**
GRAND TOTAL						**452950**	**410116**	**42834**	.....	**1127819**	**85668**

d)	Attach supporting composite plan and section showing pit layouts, dumps, stacks of sub-grade mineral, if any, etc.	:	Composite plan not prepared in this proposed lease area

e) ***Indicate proposed rate of production when the mine is fully developed and the expected life of the mine and the year from which effected:***

At this rate of production, the expected life of quarry is calculated as given below:

Rough stone:

Production reserves of rough stone = **410116m³** or **1127819MT**

Gravel:

Mineable reserves of gravel = **42834m³** or **85668MT**

f) ***Attach a note furnishing a conceptual mining plan for the entire lease period (for "B" category mines) and upto the life of the mine (for "A" category mines) based on the geological, mining and environments considerations:***

i)	Time frame of completion of mineral exploration program in leasehold area: Give broad	:	Considering the indefinite depth persistence of the rough stone deposit is proved beyond the workable limits about up to a depth of

	description identified potential areas to be covered in the given time frame:		20m below ground level (R.L.178m to 158m) from the petrogenetic character of the charnockite rock as well as from the actual mining practice in the area and with the current trend of rough stone production the quarry may sustain for 5 years.

ii) Whether ultimate pit limit has been determined and demarcated on surface and geological plan :-

The ultimate pit limit has been determined and demarcated in the conceptual plan

SECTION XY-AB					
Bench	**Period**	**Overburden/ Mineral**	**L (m)**	**W (m)**	**D (m)**
I	Five Years Period	Gravel	103	86	1
III		Rough stone	124	137	2
IV			124	137	2
IV			120	130	1
V			190	154	4
VI			180	144	5
VII			170	134	5
Total Depth					**20**

iii)	Whether the site for disposal of waste rock or an un-saleable material have/ has been examined for adequacy of land and suitability of long term use in the event of continuation of mining activity: -	:	The recovery of rough stone in this quarry is 100%. There is no waste rock will be proposed in this lease area.
iv)	Whether back filling of pits after recovery of mineral up to techno -economically feasible depth envisaged. If so, describe the broad features of the proposal: -	:	As the depth of persistence of the deposit may likely to continue for further depth, it is proposed not to backfilled the quarry pit.
v)	Whether post mining land use envisaged: -	:	At the end of mining activities over the quarry pit may be utilized for storage of rain water and may be converted in to dumping yards for solid waste by adopting suitable technologies.

g)	Open cast mining		
i)	Describe briefly giving salient features of the mode of working (Mechanized, Semi-Mechanized, manual)	:	It is a fresh quarry lease. The mining operation is opencast, semi-mechanized methods are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all opencast workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 6m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal.
ii)	Describe briefly the layout of mine workings, the layout of faces and sites for disposal of overburden/waste. A reference to the plans enclosed under 4(b) and 4(d) will suffice		The rough stone is proposed to quarry at 5m bench height & width conventional opencast semi mechanized quarrying operation using shot hole drilling with the help of tractor mounted compressor attached with jack hammers, smooth blasting and waste and are removal using Hydraulic excavator and loaded directly to the tippers and transported to the needy customer. Bench height = 5mts. Bench width = 5mts.
	a. Details of Topsoil/ Overburden		There is no topsoil will be removed.
	b. Rough Stone waste and side burden waste:-		The recovery of rough stone in this quarry is 100%. There is no rough stone waste or side burden will be removed.
H	Underground Mining		Not applicable
i)	***Extent of mechanization:*** Describe briefly including the calculation for adequacy and type of machinery and equipment proposed to be used in different mining operations.		
	(1) Drilling Machines: Drilling of shot holes will be carried out using tractor mounted compressor and jack hammer. Details of drilling equipment's are given below.		

Type	Nos	Dia of hole (mm)	Size / Capacity	Make	Motive power	H.P.
Jack Hammer	2	32 mm	Hand held	--	Diesel	--

	Compressor	2	---	Air	--	Diesel	--

(2) Loading Equipment:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Hydraulic Excavator	1	2.9-4.5m^3	--	Diesel	--

(3) Haulage and Transport Equipment

(a) Haulage within the mining leasehold:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Tipper	8	--	--	Diesel	--

Whether the dumpers are fitted with exhaust conditioner should be indicated:
The dumpers not used in this quarry area, hence it's a small "B" category mine.

b)	Transport from mine head to the destination		Tipper will be used for transport rough stone from the mine head to needy customer.
c)	Describe briefly the transport system (please specify)		Hydraulic excavator and tippers utilized for internal transport sizeable rough stone lumps and deliver to the customer's area.
	i) Ore transported by: own trucks / hired trucks		Hired trucks for initially production purposes
	ii) Main destination to which ore is transported (giving to and from distance)		The excavated stone materials road metal will be supplied to the consumers like road laying, earth filling, building construction, etc

a) Details of hauling / transport equipment:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
--	--	--	--	--	--

4) **(4). Miscellaneous:**

Describe briefly any allied operations and machineries related to the mining of the deposit not covered earlier.

	(A) Operations		The mining operation is open-cast, semi-mechanized methods are adopted and on single shift basis only.
	(B) Machineries deployed		Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling and blasting. Hydraulic Excavators and tipper combination are adapted.

5. **BLASTING:**

a) Broad blasting parameters like charge per hole, blasting pattern, charge per

delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.

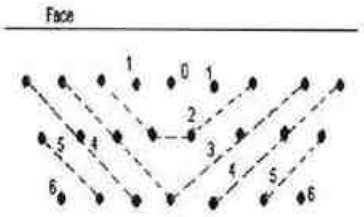
Blasting pattern:

The quarrying operation is proposed to carried by open cast mining in conjunction with conventional method using jack hammer drilling and blasting for shattering effect and loosen the rough stone.

Rough stone production for 5 years = **410116m^3 / 1127819MT**

BLAST DESIGN	
Blasthole Diameter (D) in mm	32
Burden (B) in m	1.2
Spacing (S) in m	1.38
Subdrill in m	0.5
Charge length (C) in m	0.70
Stemming	0.5
Hole Length (L) in m	1.2
Bench Height (BH) in m	2.5
Mass of explosive/hole in g	437.5
Stemming material size in mm	3.2
Burden stiffness ratio	2.08
Blast volume/hole in m^3	4.14
Production of rough stone/day in m^3	146
Number of blast holes/day	35
Number of blast round/day	1
Blasthole pattern	Staggered
Mass of explosive /day in kg	**15.48**
Powder factor in kg/m^3	0.11
Loading density	0.63
Type of explosives	Slurry
Diameter of packaging in mm	25
Initiation system	NONEL

Note: If>2kg of explosives per day use for blasting if proponent get the permission from the DGMS



Stagged method of mining

b) Type of explosives used / to be used:

Following explosives are recommended for efficient blasting with safe practice.

Small dia. 25mm slurry explosives 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.

c) Measures proposed to minimize ground vibration due to blasting:

The control blasting measures is being adopted for minimizing ground vibration and fly rock.

Shallow depths jack hammer drilling and blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in rough stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting permits to divide the shot to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals. The major advantages of delay blasting are:

- ❖ Reduction of ground vibration
- ❖ Reduction in air blast
- ❖ Reduction in over break
- ❖ Improved fragmentation
- ❖ Better control of fly rock

Blasting program for the production per day

No of holes	:	35holes
Yield	:	146m^3
Total explosive required	:	9.60kg-Slurry explosives
Charge per hole	:	0.5kg
Blasting at day time only	:	12.0p.m-1.0p.m

c)	Powder factor in ore and overburden / waste / development heading / stope	:	Powder factor is proposed as 0.11kg per hole of explosives
d)	Whether secondary blasting is needed, if so describe it briefly		There is no secondary blasting involved.
e)	Storage of explosives (like capacity and type of explosive magazine)		1. The applicant is advised to engage an authorized explosive agency to carry out blasting. 2. First Aid Box will be keeping ready at all the time. 3. Necessary precautionary announcement will be carried out before the blasting operation.
6.	***MINE DRAINAGE:***		
a)	Likely depth of water table	:	The ground water table is reported as of 85m

	based on observations from nearby wells and water bodies		in summer and 80m in rainy season from the general ground level observed in the adjacent bore well.
b)	Workings expected to be _____ m. above / reach below water table by the year _____ .	:	Proposed mining depth is 20m below ground level. Now, the present Mining lease shall be proposed above the water table and hence, quarrying may not affect the ground water.
c)	Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged	:	The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300 L pm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 H.P. Motor. The quality of water is potable and it is not contaminated with any hazardous things.
7.	***STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:***		
a).	Indicate briefly the nature and quantity of top soil, overburden / waste and mineral rejects likely to be generated during the years: No other wastes are removed during years.		
b).	Land chosen for disposal of waste with proposed justification	:	There is no topsoil will be removed.
c).	Attach a note indicating the manner of disposal and configuration, sequence of buildup of dumps along with the proposals for the stacking of sub-grade ore, to be indicated Year wise.	:	The recovery of rough stone in this quarry is 100%. If rough stone may be unsold will be keep within the lease boundary.
8.	***USE OF MINERAL:***		
a).	Describe briefly the end-use of the mineral (sale to intermediary parties, captive	:	The excavated stone materials will be supplied to the consumers like stone pillar, sized stone, etc. For instance, aggregates are

	consumption, export, industrial use)		mostly used for building, roads and footpaths., etc
b).	Indicate physical and chemical specifications stipulated by buyers	:	Basically, the materials produced at this quarry are rough stone (charnockite) and gravel the same are used for building materials and road metal. So, there is no chemical specifications are specified. Only physical specifications are involved.
c).	Give details in case blending of different grades of ores is being practiced or is to be practiced at the mine to meet specifications stipulated by buyers.	:	Not blending process is involved, after blasting the rough stone and gravel will be directly loaded to the needy customer.
9.	***OTHERS***		
	Describe briefly the following a) Site services	:	Infrastructure required for such mines like office, stores, canteen, first aid station, shelter latrine and bath rooms have been provided as per the Metalliferous Mines Regulations, 1961 as a welfare amenity for our quarry laborers.

b) Employment potential:

As per Mines safety under the provisions of Metalliferous Mines Rules, 1961 under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified Mining Mate to keep all the production workers directly under his control and supervision.

The following man power is proposed for quarrying stone material during the five years period the same manpower will be utilize for this mining plan period to achieve the proposed production and to comply the provisions of as per the MMR, 1961 norms.

1.	Highly Skilled	Mines Manager	1No.
		Mine Engineer	1No.
		Mine Geologist	1No
		Blaster	1No
2.	Unskilled	Musdoor / Labours	19 No's
		Total =	**23 No's**

10	**MINERAL PROCESSING/BENEFICIATIONS:**		
(a)	If processing / beneficiations of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing /beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product), recovery rate.	:	Excavated rough stone minerals directly will be used by the applicant for required size ½, ¾ and 1½ inches Jelly which are mainly used in road and building construction purpose. The recovery of rough stone in this quarry is 100%.
(b)	Explain the disposal method for tailings or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam).	:	No water shall be used for quarrying or any other processing except drinking water to be drawn from public sources. Some stagnation of rain water in the pit shall be used for drilling and spraying haul roads. Therefore, need for tailing dam doesn't arise. But tailing control of rain water flow during rainy season has to be done by decanting the SPM in a pit before passing the water in to natural system.
(c)	A flow sheet or schematic diagram of the processing procedure should be attached.	:	Not applicable.
(d)	Specify quantity and type of chemicals to be used in the processing plant.	:	Not applicable
(e)	Specify quantity and type of chemicals to be stored on site / plant.	:	Not applicable
(f)	Indicate quantity (cu.m. per day) of water required for mining and processing and sources of supply of water. Disposal of water and of recycling.	:	Drinking is 0.2KLD, utilized water is 0.8KLD, Dust suppression is 1.2KLD and Green Belt is 1.3KLD. Minimum quantity of water 3.5KLD per day. It is proposed to make an authorized water vendors for drinking water, dust suppression. The workers utilized water will be used for green belt development. The sewage water to a tune of 0.9KLD generated from the mine office toilet and mine labour toilet will be diverted to the septic tank followed by soak pit.

PART – B

11.0 ENVIRONMENTAL MANAGEMENT PLAN:

a) **Attach a note on the status of Baseline information with regard to the Following :**

11.1 Fresh lease land use pattern indicating the area already degraded due to quarrying /pitting, dumping, roads, processing plant, workshop, township etc in a tabular form. The present land use pattern is given as below.

Sl. No.	Land Use	Present area (Hect.)
1.	Area under Mining	0.82.6
2	Infrastructure	Nil
3	Roads	Nil
4	Unutilized	3.19.9
5	Dump	Nil
6	Settling Tank & Drainage	Nil
	Grand Total	**4.02.50**

11.2	Water Regime	:	Water table in this area is noticed at a depth of 85m in summer and 80m in rainy season from the general ground level and presently the quarrying of rough stone is ultimate up to a depth of 20m below ground level. Hence, it will not affect the ground water depletion of this area. It is proposed to make an authorized water vendors for drinking water, dust suppression. The workers utilized water will be used for green belt development.
11.3	Flora and Fauna	:	There is no major flora observed in this area and except bushes, shrubs, no other valuable trees are noticed in the lease area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.
11.4	Quality of air, ambient noise level and water	:	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. 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 every six months around the quarry site.
11.5	Climatic conditions: The district receives the rain under the influence of both southwest and northeast monsoons. The Northeast monsoon chiefly contributes to the rainfall in the district. Most of the precipitation occurs in the form of cyclonic storms caused due to the depressions in Bay of Bengal. The Southwest monsoon rainfall is highly erratic and summer rains are negligible. The average annual rainfall over the district varies from about 620mm to 745mm. Rainfall: The annual rainfall normal (1970-2000) of Karur district is 742mm. 4 Projections of rainfall over Karur for the periods 2010-2040 (2020s), 2040-2070 (2050s) and 2070-2100 (2080s) with reference to the baseline (1970-2000) indicate a general decrease of 4.0%, 3.0% and 11.0% respectively.		
11.6	Human Settlement: The nearest villages are found in the buffer zone with population as per 2011 census.		

S.No	Village	Direction	Distance in Km	Population
1	Pudukkanali	Northwest	0.50km	942
2	Pavithiram	Northeast	1.8km	3113
3	Pallamaruthapatti	Southeast	2.1km	765
4	Malapalayampudur	West	0.9km	931

11.7	Public buildings, places of worship and monuments	:	No infrastructure like residential building, are found within radius of 300m. The places of special interest like archeological monuments, Sanctuaries, etc., are found around 10km radius.
11.8	Attach plans showing the locations of sampling stations	:	The proposed Ambient air quality, Water quality Ambient noise level and vibration are periodically tested for every season (6 months once) around 5km radius as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.

11.9	Does area (partly or fully) fall under notified area under Water (Prevention & Control of Pollution), Act, 1974	:	The proposed area not fall under notified area under Water (Prevention & Control of Pollution), Act, 1974

b) Attach an Environmental Impact Assessment Statement describing the impact of Mining and beneficiation on environment on the following over the next five years (and upto conceptual plan period for 'A' category mines)

i) ***Land area indicating the area likely to be degraded due to quarrying / pitting, dumping, roads, workshop, processing plant, township etc:***

Due to quarrying and exploitation of the rough stone, there will impact in the form i.e. change in the ground profile, pits, and dumps. The details of the land use pattern, during the ensuing plan period and till lease period is shown in the tabular form:

Sl. No.	Land Use	Area in use during the quarrying period (Hect.)
1	Area under Mining	3.03.16
2	Infrastructure	0.02.0
3	Roads	0.05.0
4	Un-Utilized Area	0.03.70
5	Drainage & Settling Tank	0.15.64
6	Green Belt	0.73.0
	Grand Total	**4.02.50**

ii).	Air Quality		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.
iii).	Water quality		A water sample from the open/bore wells was tested to NABL approved lab to assess hardness, Salinity, colour, Specific gravity, etc.
iv).	Noise levels		Quarrying of rough stone and gravel 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 every six months around the quarry site.
v).	Vibration levels (due to blasting)		No deep hole blasting envisaged. Small dia shot holes are used for breaking boulders. The

			maximum peak particles velocity shall be recoded using mini seismograph devises as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.
vi).	Water regime		No major river or any odai track are found around 500m radius.
vii).	Socio-economics		1. To provide Employment opportunities of the nearby villagers. 2. For the cultural development of the nearby villagers.
viii).	Historical monuments etc.		There are no historical monuments, etc found around 300m radius.

c) Attach an Environmental Management Plan (supported by appropriate plans and sections) defining the time bound action proposed to be taken with sequence & timing in the following areas (or diagrams should be used):

i).	temporary storage and utilization of topsoil	:	No separate of topsoil will be removed.
ii).	Yearwise proposal for reclamation of land affected by abandoned quarries and other mining activities during five years (and upto conceptual plan period for 'A' category mines) clarifying the extent of back filling and re-contouring and / or alternative use of unfilled / partially filled excavations / road sides / slopes and mine. In case abandoned quarries/ pits are proposed to be used as reservoir, their size, water holding capacity and proposal for utilization of such water be given.	:	The present mining is proposed to an average depth of 20m below ground level from the below ground level has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of working bench with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.

iii). ***Programme of afforestation, Yearwise for the initial ten years (and upto conceptual plan period for 'A' category mines) indicating the number of plants with name of species to be afforested under different areas in hectares.***

Green Belt Development:

Safety barrier, nearby school area and Nearest Panchayat approach Roads has been identified to be utilized for Greenbelt appropriate native species of Neem, Pungan and other regional trees will be planted in a phased manner as described below

Year	Place	Area in Sq.m	No.of Plants	Rate of survival	Rate	Amount in Rs
First	Lease Boundary	7300	800	80%	@100 Rs Per sapling	80,000/-
Second	Approach road and Nearby Village Road	--	400	80%		40,000/-
Third	Schools	--	300	80%		30,000/-
					Total	**1,50,000/-**

iv).	Stabilization and vegetation of dumps along with waste dump management Year wise for the ten years (and upto conceptual plan period for 'A' category mines).	:	No waste or rejects shall be proposed.
v).	Measures to control erosion / sedimentation of water courses.	:	Not applicable. There is no major dumps are stabilize in this quarry area.
vi).	Treatment and disposal of water from mine.	:	It will not be harmful and it does not require any treatment before discharging into the natural courses.
vii).	Measures for minimizing adverse effects on water regime.	:	There is no water to be pumped out will be very pure and portable and therefore, it will not affect any water regime surrounding the quarry.
viii).	Protective measures for ground vibrations / air blast caused by blasting,	:	It is a small "B" category open cast, semi mechanized mining and no heavy machinery shall be used. The only smooth blasting is proposed, therefore no change for ground vibration or noise from the quarry.

ix).	Measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity.	:	No historical monuments and for rehabilitation of human settlements doesn't to be disturbed during mining activity.
x).	Socioeconomic benefits arising out of mining.	:	The nearest villages are will get employment benefits.

d). Monitoring schedules for different environmental components after the commencement of mining and other related activities. (for 'A' category mines only)

Not applicable. It is B category quarry

12.0 PROGRESSIVE QUARRY CLOSURE PLAN:

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	:	Present mining is proposed to depth of 20m below ground level. The mined-out area will be fenced on top of working bench with S1 fencing to arrest the entry of cattle's and public in to the quarry site.
12.2	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 Barbed wire fencing. Green belt development at the rate of 800 trees will be proposed in the quarry area. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	:	The quarry lease is a fresh mining lease, no mitigation measures observed.
12.4	Mine closure activity	:	The mining plan is proposed to depth of 20m below ground level has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of open cast working with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.5	Safety and security	:	Safety measures implement to the prevent access to surface opening excavations will be taken as Metalliferous mine regulations,

			1961, it is a small open cast mining method adopted. 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.
12.6	Disaster management and Risk Assessment	:	Open cast mining method is adopted in this quarry. If the benches are made with proposed height and with no risk will be there. Even then if any minor or major accident happens the quarry staffs having First aid facilities with first aid box with all necessary medicine and stretches etc., to give first aid treatment at the site and will arrange immediately the vehicle to reach nearest hospital, if any disaster happens the lessee is capable to meet such eventualities. At the time of any accident during mining activity, proposal of first aid facility at quarry and one vehicle always ready at quarry site.
12.7	Care and maintenance during temporary discontinuance	:	A board of discontinuance will be changed on the main entrance of the working place. One watch man will be kept on the quarry area for security purposes also look after the survival of the plants.
12.8	Economic repercussions of closure of quarry and man power entrenchments	:	During the five years mining period the employment potential will be generated, general financial status and socio-economic conditions of approx. 23 labors will be improved.

12.9 Proposed Financial Estimate / Budget for (EMP) Environment Management:

A	**Fixed Asset Cost:**		
	1. Land Cost (G-Value)	:	Rs. 20,12,000/-
	2. Labour Shed		Rs. 1,00,000/-
	3. Sanitary Facility	:	Rs. 1,00,000/-

	4. Fencing	:	Rs. 4,00,000/-
	5. Other expenses (Security guard, dust bin, etc)	:	Rs. 4,00,000/-
	Total	:	**Rs. 30,12,000/-**
B	**B. Machinery cost**	:	**Rs. 25,00,000/-** (Hire Basis)
C	**Total Expenditure of EMP cost** (for five years)		
	1. Drinking Water Facility	:	Rs. 1,50,000/-
	2. Sanitary facility & Maintenance	:	Rs. 2,00,000/-
	3. Permanent water sprinkler	:	Rs. 2,00,000/-
	4. Afforestation and its maintenance	:	Rs. 1,50,000/-
	5. Safety Kits	:	Rs. 1,00,000/-
	6. Provision of tyre washing facility	:	Rs. 1,50,000/-
	7. Blasting materials with blast mat cost	:	Rs. 15,00,000/-
	8. Environment monitoring	:	Rs. 5,00,000/-
	Total	:	**Rs. 29,50,000/-**
D	**Total Project Cost (A+B+C)**	:	**Rs. 84,62,000/-**

13.0 FINANCIAL ASSURANCE:

Not applicable, it is a small "B" rough stone and gravel quarry.

14.0 CERTIFICATES:

All required certificates are enclosed.

15.0 PLAN AND SECTIONS, ETC:

Plan and Sections are submitted along with mining plan.

16.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

(i) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.

(ii) The applicant will endeavor every attempt to quarry the rough stone economically without any wastage and to improve the environment and ecology.

(iii) The Mining Plan is prepared by incorporating the conditions stipulated in the precise area communication issued by the Deputy Director, Department of Geology and Mining, Karur vide letter **Roc.No.827/Mines/2025 Dated 12.09.2025.**

(iv) Total proposed production of rough stone is **410116m^3 / 1127819MT** and gravel is **42834m^3 / 85668MT** up to a depth of 20m below ground level for five years plan period (Refer Plate No.VI & VIA).

17.0 CSR Expenditure:

CSR (Corporate Social responsibility) shall provide by the applicant @ 2.0% of average net profit of the company for the last three financial years to the nearby village on the Ministry has notified the amendments in section 135 of the Act as well in the CSR Rules on 22nd January 2021 as circular no. CSR-05/01/2021-CSR-MCA dated 25th August 2021.

Place: Salem, TN
Date: 24/09/2025.

Signature of the Qualified Person

G.UMAMAHESWARAN,M.Sc.,
Qualified Person
No. 4-101, Sengattur, Muthampatti (Po),
Tholasampatti (Via), Mettur (Tk),
Salem (Dt.) - 636 503

This Mining Plan is approved basedon Incorporation of the particulars specified in clause 7 (iv) of the Commissioner of Geology and Mining Chennai Lr No 3868 / I C / 2012 dt 19-11-2012 and Draft Minor Mineral Conservation & Development Rules 2010

04/10/25

Deputy Director of Geology and Mining
Karur District

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 827/MM1/2025 Dated: 04.10.2025

4.10.25

ANNEXURE I

ந.க.எண். 827/கனிமம்/2025

மாவட்ட ஆட்சியர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
கரூர்

நாள்:12.09.2025.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் - சாதாரண கற்கள் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வேண்டி திருமதி.க.தனம்மாள் என்பவர் விண்ணப்பம் செய்தது - வருவாய் கோட்டாட்சியர் நிலயிருப்பு அறிக்கை வரப்பெற்றது - உதவி புவியியலாளர் புலத்தணிக்கை மேற்கொண்டு அறிக்கை சமர்ப்பித்தது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் மாநில சுற்றுச்சூழல் தாக்கல் மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

1. திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, எண்.2/110 கரியாம்பட்டி, காருடையாம்பாளையம், புகளூர் வட்டம், கரூர் மாவட்டம் என்பவர் குவாரி குத்தகை உரிமம் வழங்க கோரும் விண்ணப்ப நாள்: 04.08.2025
2. இதே எண்ணிட்ட இவ்வலுவலக கடிதம் எண் ந.க.எண் 827/கனிமம்/2025 நாள்: 07.08.2025
3. வருவாய் கோட்டாட்சியர், கரூர் அவர்களின் கடிதம் ந.க.எண். அ1/6266/2025, நாள்:29.08.2025.
4. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை கரூர் என்பவரது புலத்தணிக்கை அறிக்கை நாள்: 12.09.2025
5. அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).

கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பு நிலத்திலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க கதவு எண்.2/110 கரியாம்பட்டி, காருடையாம்பாளையம், புகளூர் வட்டம், கரூர் மாவட்டம் என்ற முகவரியை சேர்ந்த திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவர் பார்வை 1-இல் கண்டுள்ளவாறு விண்ணப்பம் செய்துள்ளனர்.

மேற்படி விண்ணப்பம் தொடர்பாக, வருவாய் கோட்டாட்சியர், கரூர் அவர்கள் புலத்தணிக்கை மேற்கொண்டு கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் மட்டும் தமிழ்நாடு சிறு

கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன் கீழ் திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்க நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் அவர்கள் புலத்தணிக்கை மேற்கொண்டு கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் மட்டும் தமிழ்நாடு சிறு கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன் கீழ் திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு 5 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

சிறப்பு நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் புல எண்.184/B-இல் அமைந்துள்ள மயானத்திற்கும் மற்றும் விண்ணப்ப புலத்திற்கு தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.
2. விண்ணப்ப புலத்திற்கு மேற்கு மற்றும் வடக்கு பகுதியில் புல எண்.169/B2, 287 மற்றும் 285 ஆகியவற்றில் அமைந்துள்ள வண்டிப்பாதைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.
3. விண்ணப்ப புலத்தின் தெற்கு பகுதியில் கீழமேலாக செல்லும் செயல்பாட்டில் இல்லாத தாழ்வழுத்த மின்பாதையினை குவாரி குத்தகை உரிமம் நிறைவேற்றும் முன் அப்புறப்படுத்திக்கொள்ள வேண்டும்.

வருவாய் கோட்டாட்சியர், கரூர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் ஆகியோரின் பரிந்துரைகள் மற்றும் நிபந்தனைகளின் அடிப்படையில் கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் 1959-ம் வருட தமிழ்நாடு சிறு கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன்படியும் மேலும் கீழ்கண்ட நிபந்தனைகளுக்கு உட்பட்டு ஐந்து வருட காலத்திற்கு திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

சிறப்பு நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் புல எண்.184/B-இல் அமைந்துள்ள மயானத்திற்கும் மற்றும் விண்ணப்ப புலத்திற்கு தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

2. விண்ணப்ப புலத்திற்கு மேற்கு மற்றும் வடக்கு பகுதியில் புல எண்.169/1A2, 287 மற்றும் 285 ஆகியவற்றில் அமைந்துள்ள வண்டிப்பாதைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

3. விண்ணப்ப புலத்தின் தெற்கு பகுதியில் கீழ்மேலாக செல்லும் செம்பல்பாட்டில் இல்லாத தாழ்வழுத்த மின்பாதையினை குவாரி குத்தகை உரிமம் நிறைவேற்றும் முன் அப்புறப்படுத்திக்கொள்ள வேண்டும்.

நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு நிலத்திற்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

2. குத்தகைக்காலத்தில் கைத்துளைப்பான் கருவி கொண்டு பாறைகளை துளையிட்டும், மிதமான வெடிபொருள் பயன்படுத்தியும், பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமுமின்றி விதிமுறைகளின்படி குவாரிப்பணி செய்ய வேண்டும்.

3. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettaliferrous Mines, விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்றுவரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.

4. குவாரி குத்தகை வழங்க ஏதுவாக உதவி இயக்குநர் (சுரங்கம்) அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினையும், மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (SEIAA) அனுமதி பெற்று மாவட்ட நிர்வாகத்திற்கு விண்ணப்பதாரரால் சமர்ப்பிக்கப்பட வேண்டும்

எனவே, தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண்.41-இன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறு திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவர் கேட்டுக்கொள்ளப்படுகிறார். மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-இன்படி சுற்றுச்சூழல் தாக்கல் மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

12/9/25

துணை இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
கரூர்.

பெறுநர்
திருமதி.க.தனம்மாள்,
க/பெ.கந்தசாமி,
எண்.2/110 கரியாம்பட்டி,
காருடையாம்பாளையம்,
புகளூர் வட்டம்,
கரூர் மாவட்டம்.

12/09/25

தனபாலன்

ANNEXURE II

DR. H.MALLESHAPPA.I.F.S
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU
3rd Floor, Panaga! Maaligai,
No.1 Jeenis Road, Saidapet,Chennai-15.
Phone No : 044-24359973

Lr. No. SEIAA-TN/F. 5578/2016 dated: 26.07.2017

To

Thiru. P. Kandasamy
Kariyampatti
Karudayampalayam
Aravakurichi
Karur

Sir,

Sub: SEIAA-TN – Proposal seeking Environmental Clearance for the quarrying of Rough Stone by Thiru. Thiru. P. Kandasamy over an extent of 4.02.5 Ha at S.F. No 288 (Patta Land), Karudayampalayam Village, Aravakurichi Taluk, Karur District - Details required – Regarding.

Ref: 1. Your Application dated: 27.07.2016.
2. 82nd SEAC Meeting held on 21.10.2016 & 22.10.2016.
3. 221th SEIAA Meeting held on 19.06.2017.

In the reference cited above, application seeking for Environmental Clearance for quarrying of Rough Stone located at S.F.No. 288(Patta Land) 4.02.5 Ha, Karudayampalayam Village, Aravakurichi Taluk, Karur District in an extent of 4.02.5 Ha for the quantity of 452310 cu.m of Rough stone.

Your Application was placed in the 221th SEIAA Meeting held on 19.06.2017, The Authority discussed in detail and decided to call for the details of **the active quarries within 500m radius** to ascertain whether the project comes under B1 or B2.

In view of the above, you are requested to submit the details obtain from competent Authority regarding details of quarries located within 500m radius from the boundary of the proposed site, after uploading the same through online at an early date so as to enable this office to take further action for the issue of Environmental Clearance.

for MEMBER SECRETARY
SEIAA-TN

ANNEXURE III

PROCEEDINGS OF THE DISTRICT COLLECTOR, KARUR.

PRESENT: THIRU T.N. VENKATESH, I.A.S.,

Rc.B/247/G&M/2007. Dated: 14.08.2007.

Sub Mines and Quarries – Karur District – Aravakurichi Taluk – Karudayampalayam Village–Over an extent of 4.02.5 hects in S.F.No.288-Quarry lease to quarry roughstone – application preferred by Thiru P. Kandasamy – Orders Issued – Regarding.

Ref 1. Quarry lease application preferred by Thiru P. Kandasamy, dt:Nil.

2. Report of the Special Revenue Inspector (Mines) Karur dt: 23.07.2007

3. Report of the Deputy Director (Geology and Mining) Karur, dt: 03.08.2007

4. Other connected records.

= = =

Order:

Thiru P.Kandasamy, S/o. Palaniappa Gounder, Kariyampatti, Karudayampalayam Post, Aravakurichi Taluk, Karur District has applied for the grant of quarry lease to quarry rough stone over an extent of 4.02.5 hects., of patta land in S.F.No.288 of Karudayampalayam Village, Aravakurichi Taluk, Karur District for a period of five years, vide reference 1st cited.

2) The Special Revenue Inspector (Mines) in his report 2nd cited has reported that the area applied for quarry lease i.e., over an extent of 4.02.5 hects., of patta land in S.F.No.288 of Karudayampalayam Village, Aravakurichi Taluk, Karur District is classified as ryotwari patta lands and stands registered in the name of the applicant Thiru P.Kandasamy vide patta No.1519 of Karudayampalayam Village, Aravakurichi Taluk and as such the applicant have surface rights over the area applied for the grant of quarry lease. There are no permanent buildings, temples. Monuments in and around the area applied for quarry lease. There is no pond, lake, river in the area applied for quarry lease. There is no habitation within the radius of 300 metres from the area applied for quarry lease. The above

land is not required for public purposes. The above land is not covered under Land Ceiling Act and Land Acquisition Act. The Village Administrative Officer in his statement has state that there is no objection raised by the public of the village for the grant of quarry lease. Finally, the Special Revenue Inspector (Mines) has recommended for the grant of quarry lease in favour of the applicant.

3) The Deputy Director (Geology and Mining) Karur in his report 3rd cited has reported that

1. Previously, the areas applied for quarry lease was granted on lease in favour of the applicants for a period of five years vide District Collector's Proceedings Rc.D.29/2001 dt: 14.05.2001 and the lease period was expired on 11.02.2007. Now the applicant has applied for the fresh grant of quarry lease. One old pit is found in the area applied for and the dimension of the pit is 60 M x 60 M x 6M.

2. The area applied for quarry lease is flat terrain. Charnockite is traversed with pegmatite veins. The rock formation is highly joined and fractured in nature. The formation is striking almost North -South and dips almost vertically.. The rock type found to occur in this area is suitable for exploitation of rough stones viz , Aralai & jelly.

After deleting 10 mts., safety distance to the cart track running on the Northern and Western sides of the area applied for quarry lease, effective area available for rough stone quarrying is 3.50.0 hects., only and the approximate quantity of the mineral that may be available in this area is calculated as 2,80,000 M^3 or 49,470 lorry loads.

3. Approach road is available for the area applied for quarry lease.

4. Cart track on the North and Western side of the area applied for quarry lease.

5. The area applied for quarry lease is a plain terrain surrounded by dry lands and there is no thick forest around the applied area. Hence, there is no chance for any destabilization, environmental degradation and ecological imbalance due to the proposed quarrying activities.

Finally, the Deputy Director (Geology and Mining) Karur has stated that the application preferred by Thiru P. Kandasamy, S/o. Palaniappa Gounder, Kariyampatti, Karudayampalayam Post, Aravakurichi Taluk for the grant of quarry lease to quarry Roughstone viz., Aralai , Jelly and Sholing over an extent of 4.02.5 hects., of patta land in S.F.No.288 of Karudayampalayam Village, Aravakurichi Taluk, Karur District for a period of 5 years as per Rule 19(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the following special

condition in addition to the usual terms and conditions prescribed in the Acts and Rules.

1) The applicant should leave a safety distance of 10 metres for the cart track running on the North and Western side of the area applied for quarry lease.

4) In view of the above, the quarry lease to quarry rough stone viz., aralai, jelly and sholing over an extent of 4.02.5 hects., of patta land in S.F.No.288 of Karudayampalayam Village, Aravakurichi Taluk, Karur District is granted in favour of Thiru P. Kandasamy, S/o. Palaniappa Gounder, Kariyampatti, Karudayampalayam Post, Aravakurichi Taluk for a period of 5 years as per Rule 19(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 with usual terms and conditions and also subject to the following special conditions that,

1) The applicant should leave a safety distance of 10 metres for the cart track running on the North and Western side of the area applied for quarry lease.

For Collector
Karur.

To:
Thiru P. Kandasamy,
S/o. Palaniappa Gounder,
Kariyampatti,
Karudayampalayam Post,
Aravakurichi Taluk,
Karur District

Copy to:
The Revenue Divisional Office, Karur.
The Tahsildar, Aravakurichi.
The Village Administrative Officer, Karudayampalayam.
The Village President, Karudayampalayam.



தமிழ்நாடு तमिलनाडु TAMIL NADU 38282 08AA 265968

620 20.8.07

S.RAMAMURTHY., S.V.,
5362/A1/82-S. KARUR.

TOTAL SEIGNIORAGE FEE (FOR FIVE YEARS) : Rs. 4,32,000/-
SECURITY DEPOSIT : RS. 5,000/-
AREA ASSESSMENT (FOR FIVE YEARS) : RS. 2,020/-

(Proceedings of the District Collector, Karur Rc.B/247/G&M/2007 dated 14.08.2007)

APPENDIX-IV
(See Rule 22)

FORM OF AGREEMENT FOR QUARRYING AND CARRYING AWAY MINOR MINERALS FROM RYOTWARI LANDS IN WHICH THE MINERALS BELONG TO GOVERNMENT

AGREEMENT made this 31th day of August 2007 between Thiru P.Kandasamy, S/o. Palaniappa Gounder, Kariyampatti, Karudayampalayam Post, Karur District (hereinafter referred to as the registered holder" which term shall include in these presents where the context so admits include also his heirs, executors, administrators, legal representatives and

P. Kandasamy
REGISTERED HOLDER
(LESSEE)

DISTRICT COLLECTOR
KARUR.

11/20

6459/2007 Duplicate.

DOCUMENT No. 6459 OF 2007
BY BOOK 1
10 SHEETS 1

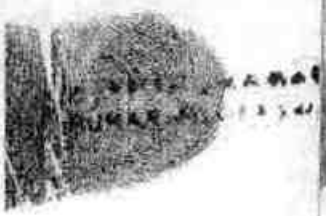
SUB REGISTRAR

5000/-

27.9.07

Presented in the office of the SUB REGISTRAR of Karur and fee of Rs. 4515 paid between the hours of 11.00 on 27th day of September 07.

Left Thumb





SUB REGISTRAR
KARUR WEST

P Kannudary
S/o Palaniappa Gounder
Kasiyampatti
Kandayampalayam Po
Karur Dt.
verified Drivinglicence
PLTN/47/003200/05

EXECUTION ADMITTED BY
Left Thumb



P Kannudary
S/o Palaniappa Gounder
above details.

Identified By
[illegible] S/o Arulayanlingam. Vengamedu Karur

卜日 00166 77

assigns) of the one part and the Governor of Tamil Nadu (hereinafter called the Government" which term shall where the context so admits, include also his successors in office and assigns) of the other part.

Whereas the registered holder holds (amongst others) the lands described in the Schedule hereunder written (hereinafter referred to as "the said lands").

AND WHEREAS the registered holder has made application to the Collector of the District of Karur (hereinafter referred to as " the Collector ") seeking grant of quarrying lease for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands and to deposit quarrying waste in the said lands and has lodged with the Collector an accurate map or sketch of the said lands.

AND WHEREAS the Collector, acting for and on behalf of the Government, has granted a quarrying lease to the registered holder and allowed him to commence quarrying operations for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands and to deposit quarrying waste thereon by the registered holder.

AND WHEREAS the registered holder has deposited with the Collector, the sum of Rs.5,000/- (Rupees five thousand only) as Security against any loss or damage which may be incurred by the Government by reason of any of the said lands being rendered unfit for cultivation by any quarrying operations therein of the registered holder of by the deposit of quarrying waste thereon by the registered holder.

NOW THESE PRESENTS WITNESS and the registered holder doth hereby agree with the government in the manner following, that is to say—

1. The registered holder shall be at liberty at all times during the period of the lease to carry on quarrying operations for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands in a proper and workmen like manner and to deposit quarrying waste on the said lands and shall at all times be answerable and accountable to the Government for all acts and defaults by any of his nominee, servants or agents in carrying on such operations or in making such deposit;

2. The registered holder shall and will on the 30th day of August ,2008 next and on the 30th day of August every succeeding year during so long as he shall have carried on any such quarrying operations as aforesaid pay area assessment Rs.100 /- per hectare per annum thereon or at the rates fixed by Government from time to time to the Collector for and on behalf of the Government in addition

REGISTERED HOLDER (LESSEE)

DISTRICT COLLECTOR
KARUR.

B. ಜಿ W S/o ಗಿ.ಎಸ್.ಶಿವಪ್ಪ, ವಯಸ್ಸು ೨೮ ವರ್ಷ.

I have satisfied my self
as to the execution of this
instrument by Third N. Bangladesh Jr.
Dist collectors bavanu.....who is exempted
from personal appearance
under sec 88 (1) of the regn
act 1908

27th day of September 2007

Sub Registrar

Registered as No. 6459
of 2007 of Book I
27th day of Sept 2007.

Sub Registrar.

Document No 6459/07
Page No 4 Total Pages 12

NOTE:- Difference between the original and Duplicate is nil. In this Interlineations blancalterations and erasures etc nil.

Compared by Reader. ಓದುಗರು

Examiner : ಪರೀಕ್ಷಕರು

Date:- 27.9.07

Sub Registrar
(ಉಪ ನೋಂದಣಾಧಿಕಾರಿ)

DOCUMENT No 6459 OF 07
OF BOOK I CONTENTS
10 SHEETS 2 SHEET
SUB REGISTRAR

to the land assessment for time being payable in respect of the said lands, seigniorage on the minor minerals at the rate specified in Appendix-II to the Tamil Nadu Minor Mineral Concession rules, 1959;

3. The registered holder shall and will keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and Other particulars of all minerals obtained by the registered holder from the said lands and also the number of persons employed in carrying on the said quarrying operations there in and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and working in the said lands and shall allow any officer hereunto authorised by the Director of Geology and Mining , Chennai from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish all such information and returns regarding all or any of the matter aforesaid as the Government shall, from time to time, require and direct ;

4. The registered holder shall and will at all times allow any officer authorised by the Director of Geology and Mining, Chennai in that behalf to enter upon any part of the said lands where any quarrying operations may be carried on for the purpose of inspecting the same.

5. The registered holder shall forthwith send to the Collector a report of any accident which may occur at or in the said lands and also of the discovery therein of any mineral other than ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING.

6. It shall be lawful for the registered holder at any time to cease quarrying operations under these presents provided he shall pay to the Collector for and on behalf of the Government, land assessment and seigniorage fee due to the Government and shall restore the said lands or fence or fill in abandoned pits and excavations therein if required by the Collector and upon his so doing these presents shall cease and determine.

7. In case the registered holder shall relinquish the whole or any part of the said lands or in case of the expiry of sooner determination of this agreement then and in any such case, he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation or shall securely and permanently fence or fill in all such abandoned pits and excavations therein as the Collector shall require to be so fenced or filled in and in case the registered holder shall fail or neglect to restore any such lands which he shall be required to restore to a state fit for cultivation or to so fence or fill in any such abandoned pit, or excavation which he shall be required to so fence, or fill in them and in any such case, it shall be lawful for the Collector

REGISTERED HOLDER
(LESSEE)

DISTRICT COLLECTOR
KARUR.

to so restore any such lands, or as the case may be, to so fence or fill in any such pits or excavation at the expense of the registered holder and to apply the said sum of Rs.5,000/- so deposited in or towards the cost of so doing and to deduct from the amount of the said deposit and retain on behalf of the Government a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation. If however, the amount of deposit is not sufficient to cover the cost of such restoration of fencing or filling in or meet thirty times the assessment on the area rendered uncultivable, it shall be lawful for the Government to recover the balance by resort to Civil Court.

8. The registered holder shall not be entitled to any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by the carrying on of any quarrying operations or by the deposit of quarrying waste, unless thirty times the assessment thereon has already been deducted under the preceeding clause.

9. The registered holder shall not assign lease part with the possession of the said lands or any part thereof for the whole or any part of the said term without previous intimation in writing to the Collector.

10. If the registered holder does not intend to carry on quarrying operations himself, but intends to lease out the right to do so to another person the registered holder and his lessee shall enter into an agreement with Government binding themselves jointly and severally to accept the conditions and stipulation herein contained which agreement shall be in the form set out in Appendix V to the Tamil Nadu Minor Mineral Concession Rules, 1959.

11. All land assessment, cess and seigniorage fee payable under these presents shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, as if they were arrears of land revenue.

12. In the event of any breach by the registered holder by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage or for the Collector to give notice in writing to the registered holder of his intention to cancel these presents whereupon the same shall stand cancelled but without prejudice to any right which the Government may have against the pattadar in respect of any antecedent claim or breach of covenant or condition.

13. Any notice to be given to the registered holder may be addressed to his last known place of abode and where a notice has been so addressed it shall be deemed to have been duly served for the purpose of these presents.

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(LESSEE)

DISTRICT COLLECTOR
KARUR.

14. Should any question or dispute arise regarding the agreement executed in pursuance of these rules or any matter or thing connected therewith or the powers of the registered holder thereunder, the amount or payment of the seigniorage fee or area assessment made payable thereby, the matter in issue shall be decided by the Director of Geology and Mining. In case the registered holder is not satisfied with the decision of the Director of Geology and Mining, the matter shall be referred to the State Government for decision.

15. The registered holder shall abide by the conditions laid down in the Payment of Wages Act, 1936 (Central Act IV of 1936), the Mines Act, 1952 (Central Act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884).

OTHER CONDITIONS

1) The permission granted to the registered holder to quarry ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said patta land is valid for FIVE YEARS from.....31th.....day of.....August.....2007 to.....30th.....day of .....August....., 2012.

2) The registered holder should register the agreement deed in the concerned Sub-Registrar Office, at the expense of the registered holder within 30 days from the date of execution of the agreement.

3) The registered holder shall remove or transport ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY from the lease area only after payment of area assessment, seigniorage fee or dead rent whichever is higher at the rates prescribed from time to time in Appendix II to the Tamil Nadu Minor Mineral Concession Rules, 1959 and after obtaining transport permit and despatch slips from the District Collector or the Officer authorised by him in this behalf.

4) The registered holder should keep correct accounts showing the quantities and other particulars of all minerals obtained from the leasehold area and maintain registers at the quarry site.

5) The registered holder should send monthly report to the Assistant Director of Geology and Mining, Karur furnishing the particulars of the quantities of Minerals quarried, transported etc., before 5th day of every month.

6) The registered holder shall not disturb nearby habitations buildings, water course, banks or water tanks, rivers, trees, roads, cart tracks, foot path and other public properties while quarrying in the leasehold area.

7) The registered holder shall not cause hindrance to the adjoining pattadars or public while quarrying in the leasehold area.

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8) A safety distance of 500 metres for habitations,50 metres for roads, railway lines, electric and Telephone lines and 10 metres to foot paths, village roads should be left while quarrying.

9) The registered holder should allow any officer authorised by the District Collector or any officer authorised by him in this behalf or any other officer authorised by the State Government in this behalf to inspect the area and verify records and accounts and furnish such information under the terms as may be required by them.

10) The registered holder shall carry out the quarrying operations in skilful, scientific and systematic manner keeping in view of the proper safety of the labour, conservation of minerals and preservation of environmental ecology.

11) The registered holder shall allow any officer authorised by the District Collector and Director of Geology and Mining to enter upon the area and inspect for the purpose mentioned to conditions (4) and (10) above and also carry out the directions issued to the satisfaction of the above said authorities.

12) No quarrying and activities connected there to shall be done before the execution of lease deed and its registration at the cost of the registered holder.

13) The registered holder should restrict his quarrying operation strictly within the permitted area as defined in the sketch.

14) The registered holder should maintain at his cost proper sign boards indicating the Survey numbers, Years of the lease, Name of the lessee and the lease period to the satisfaction of the District Collector/Director of Geology and Mining and maintain it at all time at the quarry site.

15) No working shall be made within a distance of 7.5 metres of the boundaries of the permitted area.

16) The registered holder should make his own arrangements to form the approach road from the public road to the place of his quarry.

17) The registered holder shall, at his own cost, erect boundary marks round the area shown in the plan annexed to the lease deed and in which he works minerals and at all times maintain and keep such boundary marks in good repair and condition.

18) The registered holder shall remove, or allow removal and transportation of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the area where quarrying is permitted only after obtaining bulk transport permit and fascimiled despatch slips in the forms prescribed in Appendices XII and XIII to Tamil Nadu Minor Mineral Concession Rules, 1959 from the officer authorised in this behalf by the District Collector. The registered holder or his men in turn

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shall issue the fascimiled despatch slips to the vehicles used for removal or transportation of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING furnishing the particulars in the despatch slips specifically indicating the vehicle number, the quantity of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING allowed to be transported by the vehicle by using that despatch slip and the time of issue of the despatch slips to the vehicle. All the vehicles used for transporting ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the said lands shall be in possession of the individual despatch slips for the quantity of the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING available in the vehicle at all the times of transportation of the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING by the vehicle. Proper accounts should be maintained for permit and despatch slips obtained, issued etc.

19) The registered holder shall use the said lands only for the purpose of quarrying ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING specified in the quarrying lease. If any error or wrong description of the mineral is found in the order granting the quarrying lease or in the lease deed, it is liable to be corrected at any time and the lessee shall not claim any right whatsoever based on any such error or wrong description of the minerals found in the order granting quarrying lease or in the lease deed.

20) The registered holder should not quarry stones in block which can be used for polishing and export purposes.

21) The registered holder should not quarry stones more than 30 Cubic Centimetre in size.

22) If any mineral not specified in the lease deed is discovered the registered holder shall not win or dispose of such mineral without obtaining the permission of the authority empowered to grant lease for quarrying of the discovered minerals and without payment of seigniorage fee. If the registered holder fails to intimate the Collector the discovery of such new minerals within a period of 30 days from the date of discovery of the mineral, the Collector may levy enhanced seigniorage fee upto 15 times of ordinary seigniorage fee.

23) The registered holder is not entitled to remove the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the said land after expiry of the period of the quarrying lease granted.

24) The registered holder shall not sublet the lease to anybody.

25) The registered holder shall not claim compensation from the Government for the losses if any incurred by him in quarrying.

REGISTERED HOLDER
(LESSEE)

DISTRICT COLLECTOR
KARUR.

26) The registered holder shall be held responsible for accidents if any happened to the labourers and others while quarrying and Government shall not be held responsible for this.

27) The registered holder shall be held responsible for all [illegible] due to improper working of the quarry during and after the period of lease and he should pay the penalty to be levied for this

28) Simple interest at the rate of 24% per annum or at the rates prescribed by the Government from time to time shall be levied, if the amount due to Government is not paid within the due date.

29) The arrears of any amount payable shall be recovered under the provisions of the Tamil Nadu Revenue Recovery Act, 1864.

30) In case of breach by the registered holder or their transferee or assignee of any of Tamil Nadu Minor Mineral Concession Rules, 1959 or of the conditions of the lease, the Government/the Director of Geology and Mining/the District Collector without prejudice to any other penalty which may be imposed in respect of such breach, may cancel the lease after granting an opportunity of hearing to the said person.

31) The terms and conditions are also subject to such further modifications, deletion and additions alterations as may be ordered by the Government from time to time.

32) The registered holder shall pay seigniorage fee or dead rent whichever is more in respect of the actual quantity of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING removed at the rates prescribed from time to time in Appendix-II of the Tamil Nadu Minor Mineral Concession Rules, 1959. Besides seigniorage fee or dead rent the registered holder has to pay area assessment, the registered holder has also to pay any other amount prescribed by the Government from time to time.

33) The registered holder shall comply with provisions of Labour Laws applicable to quarries/mines. Any contravention of the provisions shall attract legal proceedings of the appropriate Government.

34) Besides the above said conditions, the lessee shall abide by the conditions laid down in Tamil Nadu Minor Mineral Concession Rules, 1959 and Mines and Minerals (Development and Regulation) Act, 1957 and the orders of the Government, Director of Geology and Mining and Collector to be issued from time to time.

P/[illegible]

REGISTERED HOLDER
(LESSEE)

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DISTRICT COLLECTOR
KARUR.

TB-07667-07

THE SCHEDULE

Name of Taluk: Aravakurichi Name of Village: Karudaiyampalayam

S.F. NO.	Extent in Hectares	Assess-ment	BOUNDARIES			
			NORTH S.F. No.	SOUTH S.F. No.	EAST S.F. No.	WEST S.F. No.
288	4.02.5	Rs.100/- Per hectare per annum	285, 287	294	289	169, 184

IN WITNESS Whereof Thiru P.Kandasamy, the registered holder and Thiru. T.N.Venkatesh, I.A.S., District Collector, Karur acting for and on behalf of and by the order and direction of the Governor of Tamil Nadu have hereunto set their hands.

1992

DISTRICT COLLECTOR
KARUR.

Signed by the above named The lessor in the presence of

Witness

1. DEPUTY DIRECTOR, GEOLOGY AND MINING, KARUR.

2. (M. CHITRARASAN) ASSISTANT GEOLOGIST Office of the Deputy Director, GEOLOGY & MINING, KARUR.

P. Kandasamy
REGISTERED HOLDER
(LESSEE)

Signed by the above named The lessee in the presence of

Witness

1. K. ASHOK KUMAR, S/o P. Kandasamy
Mariyampatti, Karudaiyam Palayam (P.O)

2. (Akumar)
S/o S. Annadurai Hotel Owner
Karur-2

Attested by: V. Sanjeevi (V. Sanjeevi) Aikkaranpalayam
Lr.no.B1/3169/84

ANNEXURE V

தமிழ்நாடு மின் பகிர்மானக் கழகம் லிமிடெட்

(இணையதளவழி மின் கட்டணம் முறை)

மின் கட்டணம் ரசீது

பெயர் : K. DHANAMAL

மின். இ. எண்: 200060380925244 கட்டண முறை : TNPDCL PAYMENT PORTAL

இரசீது எண் : PGNIOB787536022 நாள் : 24/09/2025 12:27:15

வ.எண்	கட்டணம் விவரம்	தொகை (ரூ.)
1	61962-Registration cum Processing Charges**	2215.00
	மொத்தம்	2215.00

தொகை (எழுத்தால்) ரூ. Two thousand Two hundred Fifteen only

** Support services are taxable under GST

இதர விவரங்கள் :

1.TNPDCL CIN No. : U40109TN2009SGC073746

2.TNPDCL GST No. : 33AADCT4784E1ZC

3.HSN CODE : 27160000

4.SAC CODE : 996912

5.ELECTRICAL ENERGY & DISTRIBUTION SERVICES ARE EXEMPTED UNDER GST

- இது கணினியில் உருவாக்கப்பட்ட ஆவணம் கையொப்பம் தேவையில்லை
- இது மாலி ஒத்திசைவுக்கு உட்பட்டது

வாடிக்கையாளர் தொடர்பு கொள்ளவும்

24 மின்னகம்

94987 94987

தனபாலன்

மாவட்டம் திருச்சிராப்பள்ளி

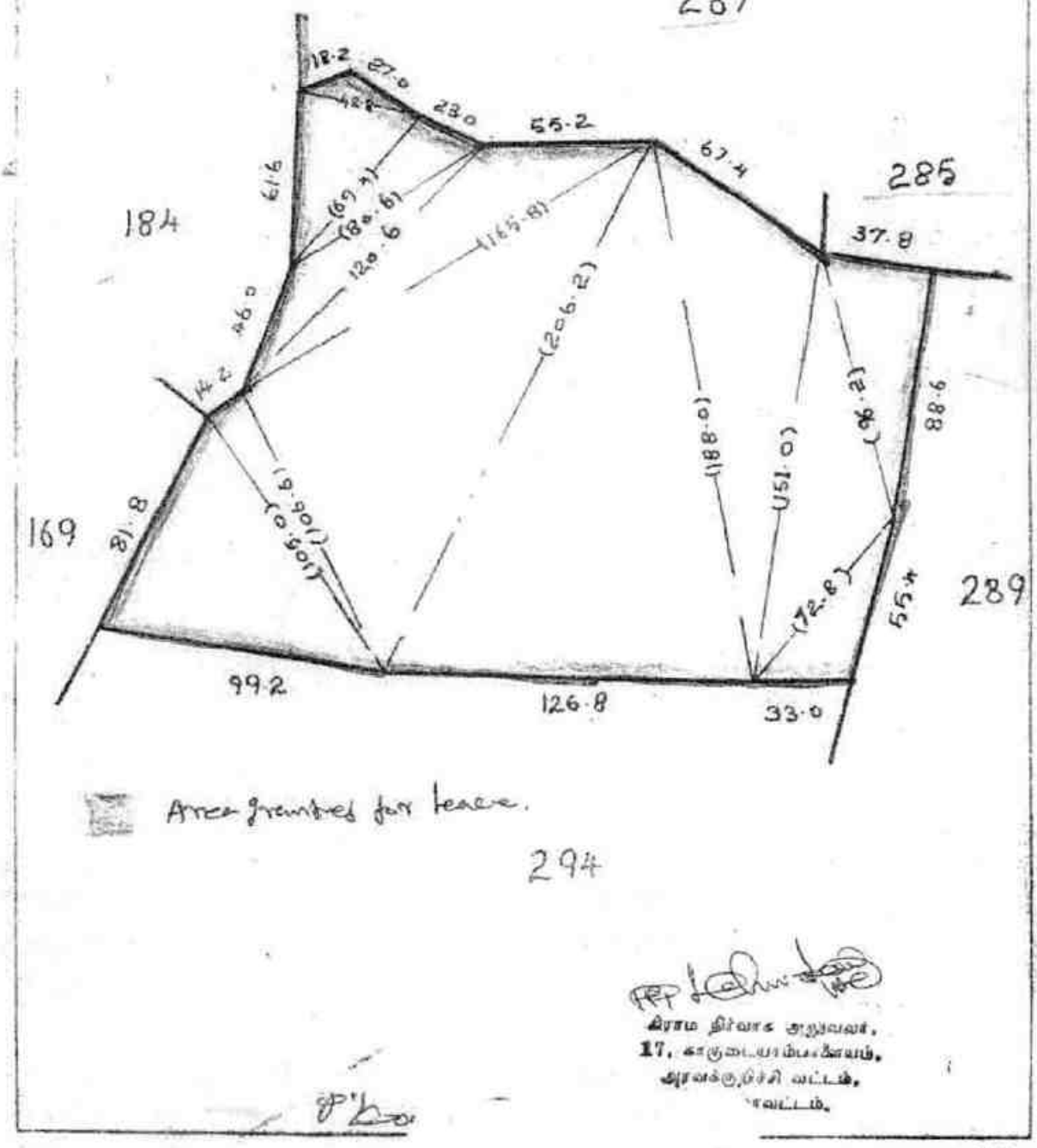
வட்டம் முசிறி

கிராமம் எண் 36

பெயர் [illegible]

புல எண். 288

பரப்பு ஹெக்டேர் A. 1 ஏ 02.5



Area granted for lease.

பிரம நிர்வாக அலுவலர்,
17, காருடையாம்பாளையம்,
அலகுமுச்சி வட்டம்,
வட்டம்.

Boundaries:

20-11-84

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ANNEXURE VI

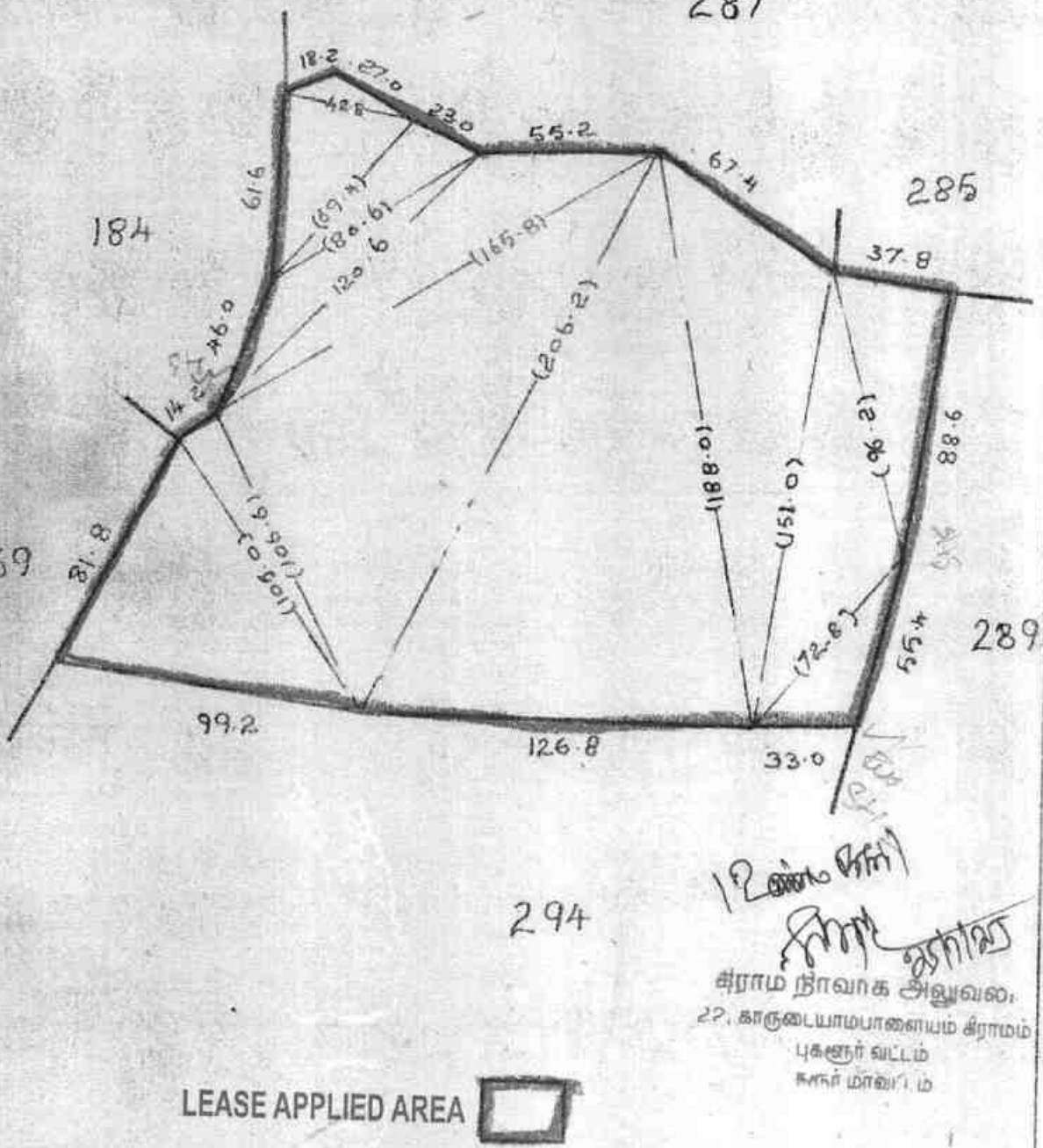
மாவட்டம் [illegible] தருமபுரி

வட்டம் [illegible] அரூர்

கிராமம் { எண். [illegible] 17
பெயர் [illegible]

புல எண். 288

பரப்பு : ஹெக்டேர் 4.02.5



LEASE APPLIED AREA

கிராம நிர்வாக அலுவலர்
27, காருடையாம்பாளையம் கிராமம்
புகளூர் வட்டம்
கரூர் மாவட்டம்

அளவு 1:2000

ANNEXURE VII

(10.) 17

கி. எண். (36) ஊருடையாம்பாளையம். 83

1	2	3	4	5	6	7	8	9	10	11	12
							ரூ. பை.	ஹெ. ஏர்ஸ்.	ரூ. பை.		
283 ...	283	ரி	பு	...	8-4	6	1 38	0 84.0	1 16	471 ச. முத்துச் சாமிகவுண்டர்.	
284 A	284-A	ரி	பு	...	8-4	6	1 38	0 22.5	0 31	961 முத்துக்கவுண்டரும்மற்றும் மூன்றுபோர்களும். *	
B	-B	அ	புற	...	...	...	...	0 34.0	...	...	வண்டிப் பாதை.
								0 56.5	0 31		
285 ...	285	அ	புற	...	...	...	...	0 17.0	...	...	வண்டிப் பாதை.
286 1	286-பா	ர	பு	...	8-4	6	1 38	0 37.5	0 52	471 ச. முத்துசாமி கவுண்டர்.	வீடு.
2	-பா	ர	பு	...	8-4	6	1 38	0 61.0	0 85	143 ச. சோளியப்ப கவுண்டர்.	வீடுகள்-2.
								0 98.5	1 37		
287 ...	287	அ	புற	...	...	...	...	0 16.0	...	...	வண்டிப் பாதை.
288 ...	288	ர	பு	...	8-4	6	1 38	4 02.5	5 57	788 மா. பெருமாள் கவுண்டர்(1), ம. கப்ர மணியன்(2), இளவர் க. கதிர்வேல்(3), காப்பாளர் நகப்பனார் பெருமாள் கவுண்டர்.	
289 ...	289	ர	பு	...	8-4	6	1 38	4 51.0	6 24	523 பா. ராமசாமி கவுண்டர்.	
290 ...	290	ர	பு	...	8-4	6	1 38	1 35.0	1 86	671 சோ. சபாபதி(1), க. கதிர்வேல்(2).	
291 ...	291	அ	புற	...	...	...	...	0 59.0	...	...	வண்டிப் பாதை.
292 ...	292	அ	புற	...	...	...	...	0 22.5	...	...	வண்டிப் பாதை.
293 1	293-பா	ர	பு	...	8-4	6	1 38	0 68.0	0 94	406 ச. பெரியசாமி.	
2	-பா	ர	பு	...	8-4	6	1 38	0 70.0	0 97	57 மொ. கந்தசாமி கவுண்டர்.	
3	-பா	ர	பு	...	8-4	6	1 38	0 70.0	0 97	463 ப. முத்துசாமி கவுண்டர்.	

* விவரப்பட்டியலைப் பார்க்கவும்.

கிராம நிர்வாக அலுவலர்,
ஊத்துப்பாளையம் கிராமம்
புகளூர் வட்டம்
கரூர் மாவட்டம்

தமிழ்நாடு அரசு

வருவாய் மற்றும் பேரிடர் மேலாண்மைத் துறை

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

மாவட்டம் : கரூர் வட்டம் : புகழூர்

வருவாய் கிராமம் : காருடையாம்பாளையம் பட்டா எண் : 2880

உரிமையாளர்கள் பெயர்

1. கந்தசாமி மனைவி தனம்மாள் -

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	
288	-	4 - 2.50	5.57	--	--	--	--	2025/0103/14/366541------ Digitally signed:approved through AutoMutation - 07/07/2025 01:29:23:PM
		4 - 2.50	5.57					

குறிப்பு :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **S/14/07/022/02880/20278** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 08-07-2025 அன்று 05:06:12 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

1837 – ஆம் பசலியில் சிவ மாவட்டம் புகழ் வட்டம் [illegible] கிராமக் கணக்கு

நில வரித் திட்டத்தின்படி புலன்களின் விபரம்.						சாகுபடியாளரின் பெயர்.	முதல் போகம்.				
நில அளவை எண்.	உட்பிரிவு எண்.	பரப்பு.	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.	பாகப்பற்று தாருடைய பெயரும் எண்ணும் அல்லது அனுபோக தாருடைய பெயர்.	நிலத்தின் எந்த பகுதி யாவது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதா.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அறுவடை யான பரப்பு.	உண்மையான பாய்ச்சல் ஆதாரம்.	விளைச்சல் தரவு விழுக்காடு.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1838		1.00.0	25	2380	சிவன்பிள்ளை	ஆம்		சோளம்			

[illegible]
25/7/25
கிராம நிர்வாக அலுவலர்
[illegible] கிராமம்
புகழூர் வட்டம்
[illegible]

BK-I-4929/2025 TP/225013780/2025



தமிழ்நாடு தமிழ்நாடு TAMILNADU ரூ. 5,000 AC 959119

5 JUL 2025

R.SHANTHI,S.V
L.No:25/2008
KARUR

P. கந்தசாமி
கரியாம்பட்டி

செட்டில்மெண்ட் பத்திரம்

2025-ம் ஆண்டு ஜூலை மாதம் 07-ம் தேதி, கரூர் மாவட்டம், புகளூர் வட்டம், கரூர்-639 111, காருடையாம்பாளையம் கிராமம், கரியாம்பட்டி, கதவு எண்.2/110-ல் வசிக்கும் P.கந்தசாமி அவர்கள் மனைவி K.தனம்மாள் (CELL NO.9751543346) ஆகிய உனக்கு,

கரூர் மாவட்டம், புகளூர் வட்டம், கரூர்-639 111, காருடையாம்பாளையம் கிராமம், கரியாம்பட்டி, கதவு எண்.2/110-ல் வசிக்கும் உனது கணவரும், லேட் பழனியப்பகவுண்டர் அவர்கள் குமாரருமான P.கந்தசாமி (AADHAAR NO.4776 2000 0625, CELL NO.9843036346) ஆகிய நான எழுதிக் கொடுத்த செட்டில்மெண்ட் பத்திரம் என்னவென்றால்,

THE SEAL OF THE REGISTRAR OF KARUR

நீ என்னுடைய மனைவி ஆனபடியாலும், உன்மீது எனக்குள்ள அன்பினாலும், பாசத்தாலும் (NATURE OF LOVE AND AFFECTION) நான் உனக்கு ஏதாவது ஒரு ஏற்பாடு செய்து வைக்க வேண்டும் என்று எண்ணம் கொண்டதாலும் எனக்கு சுயார்ஜிதமாக சென்ற 22.03.2000-ம் தேதியில் ஏற்பட்ட கிரையப் பத்திரப்படி (1-1178/2000, மேலக்கரூர் சார்பதிவகம், கரூர்) பாத்தியப்பட்டு நான் சர்வ சுதந்திரமாக ஆண்டு அனுபவித்து வருகிற கீழ்க்கண்ட சொத்தை நான் நாளது தேதியில் உனக்கு இந்த செட்டில்மெண்ட் பத்திரம் மூலம் எழுதிக் கொடுத்துள்ளேன்.

இனி நாளது தேதி முதல் கீழ்க்கண்ட சொத்தை நீயே அடைந்து புத்திர, பௌத்திர பாரம்பரியமாகவும், தானாதி, வினிமய விற்கிரையங்களுக்கு யோக்கியமாகவும் சர்வ சுதந்திரப் பாத்தியங்களுடன் ஆண்டனுபவித்துக் கொண்டு நலமாக வாழ்ந்து வரவும்.

கீழ்க்கண்ட சொத்தைப் பொருத்து இனி நாளது தேதி முதல் உன்னைத் தவிர வேறு யாருக்கும் எந்தவிதமான பாத்தியமும், சம்மந்தமும், பின்தொடர்ச்சியும் கிடையாது என உறுதி கூறுகிறேன்.

கீழ்க்கண்ட சொத்தை நான் எந்தவிதமான வில்லங்கங்களுக்கும் உட்படுத்தவில்லை.

P/a

THE SEAL OF THE REGISTRAR OF KARUR WEST

1 ..... 2025 ..... 1973 ரூபாய்

11 ..... ரூபாய்

2 ..... வது தாள்

277 திணைக்களம்

இந்த செட்டில்மெண்ட் பத்திரத்தை நான் எக்காரணம் கொண்டும் மாற்றவும், ரத்து செய்யவும் எனக்கு அதிகாரம் இல்லை. அப்படியே மாற்றினாலும், ரத்து செய்தாலும் அது கண்டிப்பாக செல்லத்தக்கதல்ல.

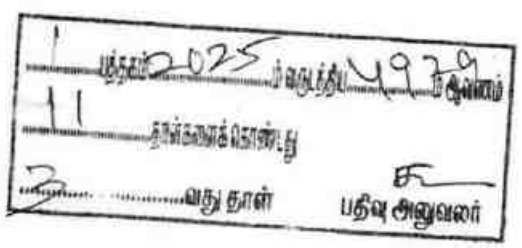
கீழ்க்கண்ட சொத்தை நான் நாளது தேதியில் உன்னுடைய சுவாதீனத்தில் விட்டுவிட்டேன்.

சொத்து விபரம்

கரூர் பதிவு மாவட்டம், மேலக்கரூர் சார்பதிவகம், அரவக்குறிச்சி வட்டமாக இருந்து தற்காலம் புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம், (பட்டா எண்.1519)

அ.பு.ச.288 நெ. ஹெக்.4.02.5-க்கு ஏக்.9.95 இந்தளவுள்ள புஞ்சை பூமி பூராவும் சகிதம். மேற்படி பூமிக்கு நான்கெல்லை விபரம்:-

கிழமேல் பாதைக்கும் தெற்கு, தென்வடல் பாதைக்கும் கிழக்கு, ராமசாமிகவுண்டர் பூமியாக இருந்து தற்சமயம் ராஜேந்திரன் பூமிக்கும் மேற்கு, முத்துசாமிகவுண்டர் வகையரா பூமியாக இருந்து தற்சமயம் ஏகாம்பரம், ராமசாமி வகையரா பூமிக்கும் வடக்கு, இதன்மத்தியில் மேற்படி ஏக்.9.95-க்கு ஹெக்.4.02.50 உள்ள பூமியும் சகிதம்.



மேற்படி சொத்துக்கு மேற்படி கிழமேல் & தென்வடல் பாதைகளின் வழியாக வண்டி, வாகனங்கள், கால்நடைகள் ஓட்டிக் கொள்ளும் பாத்தியமும், தடம் நடந்து கொள்ளும் தடப்பாத்தியமும் சகிதம். மாமூல் வழித்தடம் சகிதம். சகல ஈஸ்மெண்ட் பாத்தியங்கள் சகிதம்.

மேற்படி சொத்து மதிப்பு ரூ.49,75,000/-

சாட்சிகள்:-

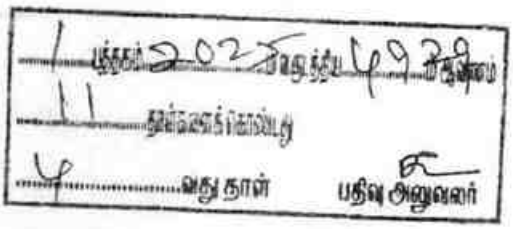
1) K.அசோக்குமார், த/பெ.P.கந்தசாமி, நெ.7/51-1, பவித்திரம், பவித்திரம் கிராமம், புகளூர் வட்டம், கரூர்-639 002.

2) P.சிவக்குமார், த/பெ.பெரியசாமி, நெ.5/884, கவுண்டாயூர், வெண்ணெய்மலை, காதப்பாறை கிராமம், மண்மங்கலம் வட்டம், கரூர்-639 006.

ஆவண அமைப்பு:-



A.Gopalakrishnan B.A., B.L.,
Advocate, Roll No.5035/2019,
No.619/2, S.Vellalapatti (South), Karur-4.
Cell No.9894054768





<u>சொத்தானது நீர்நிலை பகுதியில் அமையப் பெறவில்லை என்பதற்கான சான்று/உறுதிமொழி (Declaration) (நீதிபேராணை எண்.22163/2018-ல் வழங்கப்பட்ட தீர்ப்புரையை காண்க)</u>

இந்த ஆவணத்தில் கண்ட சொத்தானது நீர்நிலைகள், நீர்வழிப்பாதைகள், நீர்பிடிப்பு பகுதிகளில் கட்டுப்படவில்லை என சான்றளிக்கிறோம். மேலும் இதனில் தங்களுக்கு தவறான தகவல் அல்லது சான்று அளிக்கப்பட்டதாக பின்னாளில் கண்டுபிடிக்கப்பட்டால் அதனால் நான் சட்டபூர்வ நடவடிக்கைகளுக்கு உட்படுத்தப்படுவோம் என்பதையும் அறிவேன்.

ஆவணத்தை எழுதிப்பெறுபவர்களின் கையொப்பம்

ஆவணத்தை எழுதிக் கொடுப்பவர்களின் கையொப்பம்

1 ...2025 ...வருத்தில் ...சரிபார்க்கும்

11 ...தர்க்கொக்கொண்டது

...வது தாள் பதிவு அலுவலர்

THE SEAL OF THE REGISTRAR OF KARUR WEST



1 ஜூன் 2025 ரூபாய் 4928 மதிப்பு
11 தபால் வில்லை ஒட்டியது
6 மற்றவை பதிவு அலுவலர்

THE SEAL OF THE REGISTRAR OF KARUR WEST

R/மேலக்கரூர்/புத்தகம்-1/4929/2025

1899ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான சான்று

2025ம் ஆண்டு வரிசை எண் 3583

நெ.2/110, கரியாம்பட்டி, காருடையாம்பாளையம், புகழூர், கரூர், தமிழ்நாடு, இந்தியா, 639111-ல் வசிக்கும் திரு கந்தசாமி என்பவரிடமிருந்து ₹ 35,000/- (ரூபாய் முப்பத்தைந்தாயிரம் மட்டும்) இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 41வது பிரிவின் படி குறைவாயிருந்த முத்திரைக் கட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் சான்றளிக்கிறேன்.

THE SEAL OF THE REGISTRAR OF KARUR WEST

சார்பதிவாளர் மேலக்கரூர்
நாள் 07/07/2025

சார்பதிவாளர் மற்றும் இந்திய முத்திரைச் சட்டம் பிரிவு 41ன் படி ஆட்சியர்

2025 ஆம் ஆண்டு ஜூலை மாதம் 07ம் தேதி மு.ப. 11:18 மணியளவில் மேலக்கரூர் சார்பதிவாளர் அலுவலகத்தில் தாக்கல் செய்து கட்டணம் ₹ 10,710/- செலுத்தியவர்.

இடது பெருவிரல்





P/Kandasamy

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளபடி

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்





P/Kandasamy

"சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்" என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆணையத்துடன் சரிபார்க்கப்பட்டது. ஒப்பீட்டு எண் : UKC:0845112e95116f4a7464383a5f45509c6989f50
(Details from UIDAI : Kandasamy P S/O: Palaniyappan, 24-07-1957, xxxxxxxx0625)



2025 ஆம் ஆண்டு ஜூலை மாதம் 7ம் நாள்

1 மற்றும் 2025 ஆவணத்தில் 9 29 ஆவணம்
11 தாள்களைக் கொண்டது
8 வது தாள் பதிவு அலுவலர்

THE SEAL OF THE REGISTRAR OF KARUR WEST

மதுமதி சுப்ரமணி
சார்பதிவாளர்
மேலக்கரூர்

1/2

R/மேலக்கரூர்/புத்தகம்-1/4929/2025

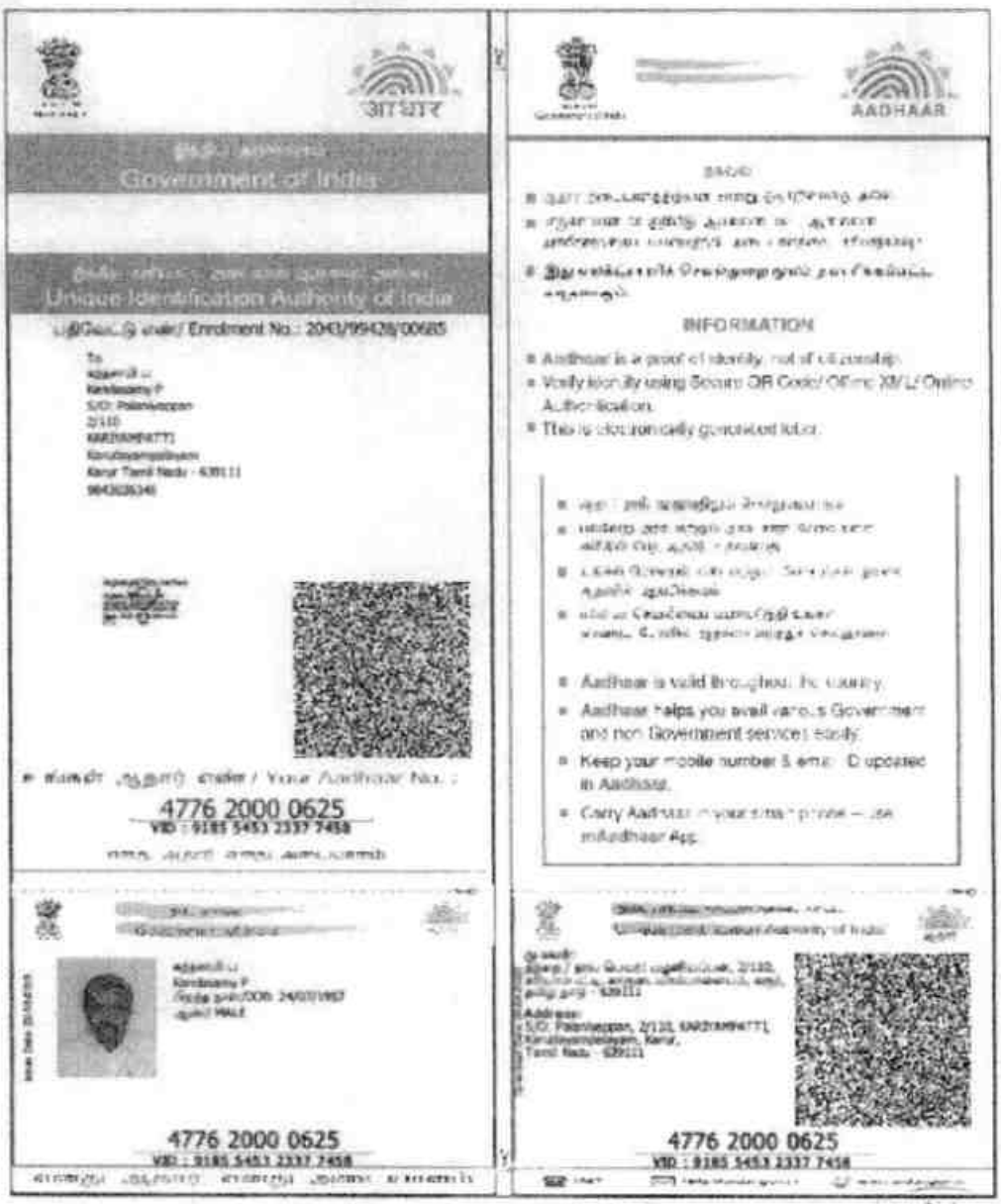
R/மேலக்கரூர்/புத்தகம்-1/4929/2025 எண்ணாகப் பதிவு செய்யப்பட்டது.

நாள் 07/07/2025
மேலக்கரூர்

மதுமதி சுபாமணி
சார்பதிவாளர்

THE SEAL OF THE REGISTRAR OF KARUR WEST

THE SEAL OF THE REGISTRAR OF KARUR WEST



1 ஆக்ஸ்ட் 2025 வது ஆண்டு 49 ஆம் எண்
11 ஆம் எண்ணைக் கொண்டது
10 வது தாள் பதிவு அலுவலர்
THE SEAL OF THE REGISTRAR OF KARUR WEST





1 ஆகஸ்ட் 2025 தேதி 4929 ஆவணம்

11 சார்ஆசை பெண்டிரு

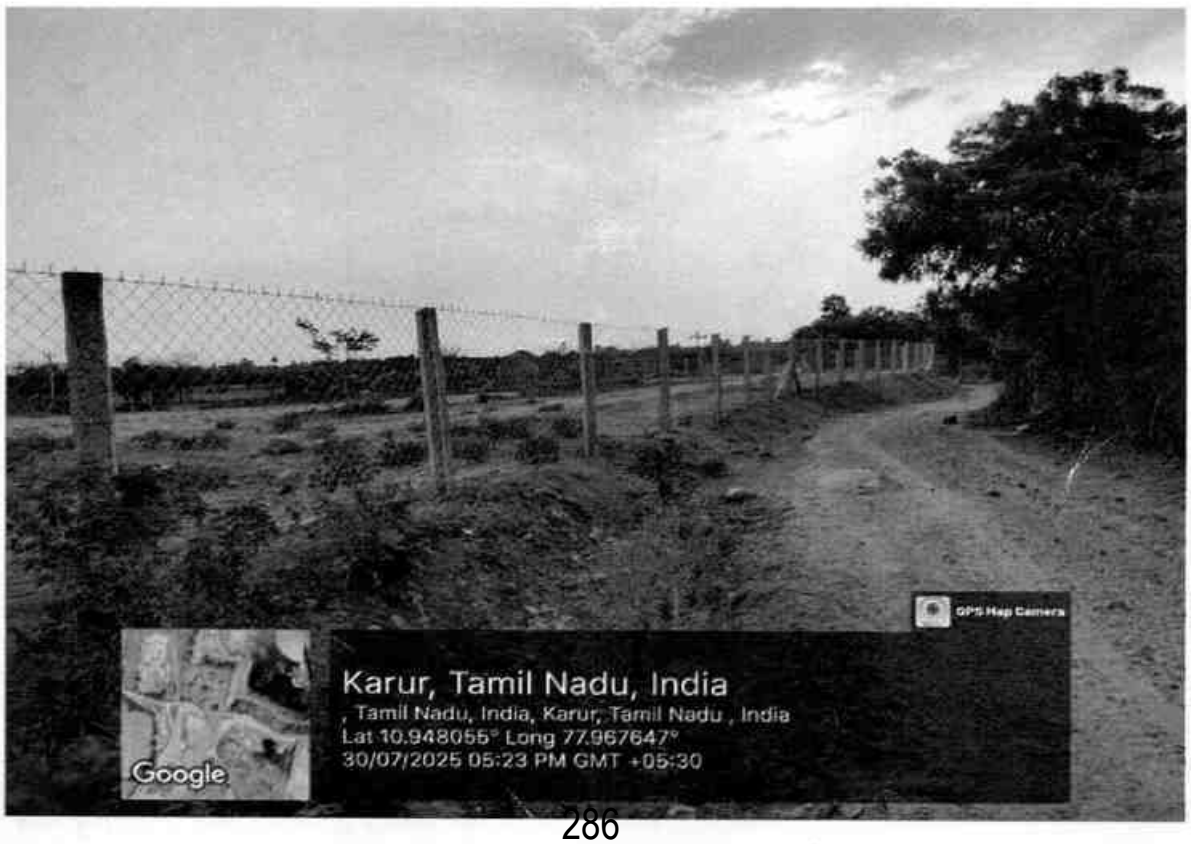
11 வது தாள் பதிவு அலுவலர்

ANNEXURE IX

PHOTOCOPY OF THE APPLIED LEASE AREA

Site photos in respect of rough stone and gravel quarry lease in S.F.No's: 288 Patta – Land – over an extent of 4.02.50 Hectares– Karudayampalayam village – Pugalur Taluk – Karur District, Tamil Nadu State in belongs to **K.Dhanamal.**





ANNEXURE X



தனபால்


आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
K DHANAMAL
KANDASAMY
03/02/1961
Permanent Account Number
CMIPD1091A
Signature
If this card is lost / someone's lost card is found, please inform / return to :
Income Tax PAN Services Unit, NSDL
5th Floor, Mantri Sterling,
Model Colony, Near Deep Bungalow Chowk,
Pune - 411 016.

ANNEXURE XI

Reg. No. 07PGL23011
Col Code 106

No. 2KI 000143

பெரியார் பல்கலைக்கழகம்
Periyar University

அறிவியல் புலம்
FACULTY OF SCIENCE

பெரியார் பல்கலைக்கழக ஆட்சிக்குழு **2009** ஆம் ஆண்டு **ஏப்ரல்** மாதம் நடந்த **பயன்பாட்டுப்புவியமைப்பியல்** தேர்வில் அரசு கலைக் கல்லூரி, சேலம் - 636 007 (தன்னாட்சி) பயின்ற **G உமாமகேஸ்வரன்** என்பவர் **தனிச்சிறப்புடன் முதல் வகுப்பில்** தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி **அறிவியல் நிறைஞர்** என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **Periyar University** *hereby makes known that* **UMAMAHESWARAN G** *has been admitted to the* **DEGREE OF MASTER OF SCIENCE in APPLIED GEOLOGY** *he/she having been certified by duly appointed Examiners to be qualified to receive the same and was placed in the* **FIRST CLASS WITH DISTINCTION** *at the Examination held in* **APR-2009** *through* GOVERNMENT ARTS COLLEGE, SALEM - 636 007 (AUTONOMOUS).

Given under the seal of this university

நாள்
Dated 16-04-2010
சேலம் 636011, தமிழ்நாடு, இந்தியா.
Salem 636011, Tamil Nadu, India.

பதிவாளர்
Registrar

துணைவேந்தர்
Vice-Chancellor

NOTARY PUBLIC
R.N.4127/07
NCT. DELHI
3062

ATTESTED
By
NOTARY PUBLIC
DELHI (India)

22 DEC 2011

S. K. NIGAM
SDM (Sadar Bazar)
Govt. of NCT of Delhi
Old Civil Supplies Building
Tis Hazari, Delhi -110054

Processed by	P. Rajusal
Read by	
Examined by	

The Ministry of External Affairs accepts no responsibility for the contents of the above documents.

दिनांक Date 23 DEC 2011

अतिरिक्त जिला मजिस्ट्रेट/सब डिवीजनल मजिस्ट्रेट/कार्यकारी मजिस्ट्रेट/विवाह रजिस्ट्रार/मामलतदार के हस्ताक्षर सत्यापित किए जाते हैं।
The Signature of ADM/SDM/(Executive) Megistrate/Registrar of Marriage/ Mamlatdar attested.

ससी लीचियस के.पी.
SASI LEACHIOUS K.P.
अनुभाग अधिकारी (ओ.आई.)
Section Officer (O.I.)
विदेश मंत्रालय, नई दिल्ली
Ministry of External Affairs
New Delhi

IAC. No. 142 / TNGST. No. 2702141
GST. No. 704829 / SLM / Dt. 7-4-99



BALAJI MINES

Proprietor : E. SANTHARAMAN,
PURITY LIME STONE SUPPLIERS,
5/88, CHINNAGOLLAPATTI, KANNANKURICHI P.O.,
SALEM-636 008. Tamil Nadu.

Mines : Dever Malai Village, Kulithalai Tk., KARUR Dt. (Via) Karur to Palayam.

Date_____

EXPERIENCE CERTIFICATE

I E.SANTHARAMAN being the Managing Director of BALAJI MINES do hereby certify that Thiru. G.UMAMAHESWARAN, son of P.GOPAL (Whose signature is appended) worked as a Geologist in the above mine from 01.08.2011 to 31.10.2016. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved his continuous attendance at the mine, and have been efficiently performed by him.

I believe him to be of good character and a fit and proper person to be examined for Certificate of Competency.

E. Santharaman

(Signature with date and official Seal)

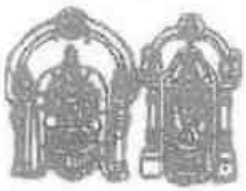
TIN No: 33852702141
CST No: 704829 / 7-4-99
BALAJI MINES
5/88, Chinnagollapatty,
Kannankurichi (P.O), SALEM-8.

G. Umamahesh

(Signature of Candidate)

291

IAC. No. 142 / TNGST. No. 2702141
CST. No. 704829 / SLM / Dt. 7-4-99



BALAJI MINES

Proprietor : E. SANTHARAMAN,
PURITY LIME STONE SUPPLIERS,
5/88, CHINNAGOLLAPATTI, KANNANKURICHI P.O.,
SALEM-636 008. Tamil Nadu.

Mines : Devar Malai Village, Kulithalai Tk., KARUR Dt. (Via) Karur to Palayam.

Date_____

Particular of Practical experience	Place of experience	Period of Practical Experience		Total experience		
(a)	(b)	(c)		(e)		
		From	To	Year	Months	Days
Worked as Geologist and it Include Mine Workings, Exploration, Surveying, Drilling & Sampling Quality Control	Open cast Workings	01.08.2011	31.10.2016	05	02	30
Grand Total				05	02	30

AVERAGE MONTHLY OUTPUT (D) / AVERAGE DAILY EMPLOYMENT (e) DURING THE ABOVE PERIOD IS GIVEN BELOW:

In below ground working	In open – cast working	In all
NIL	30	30

E. Santharaman

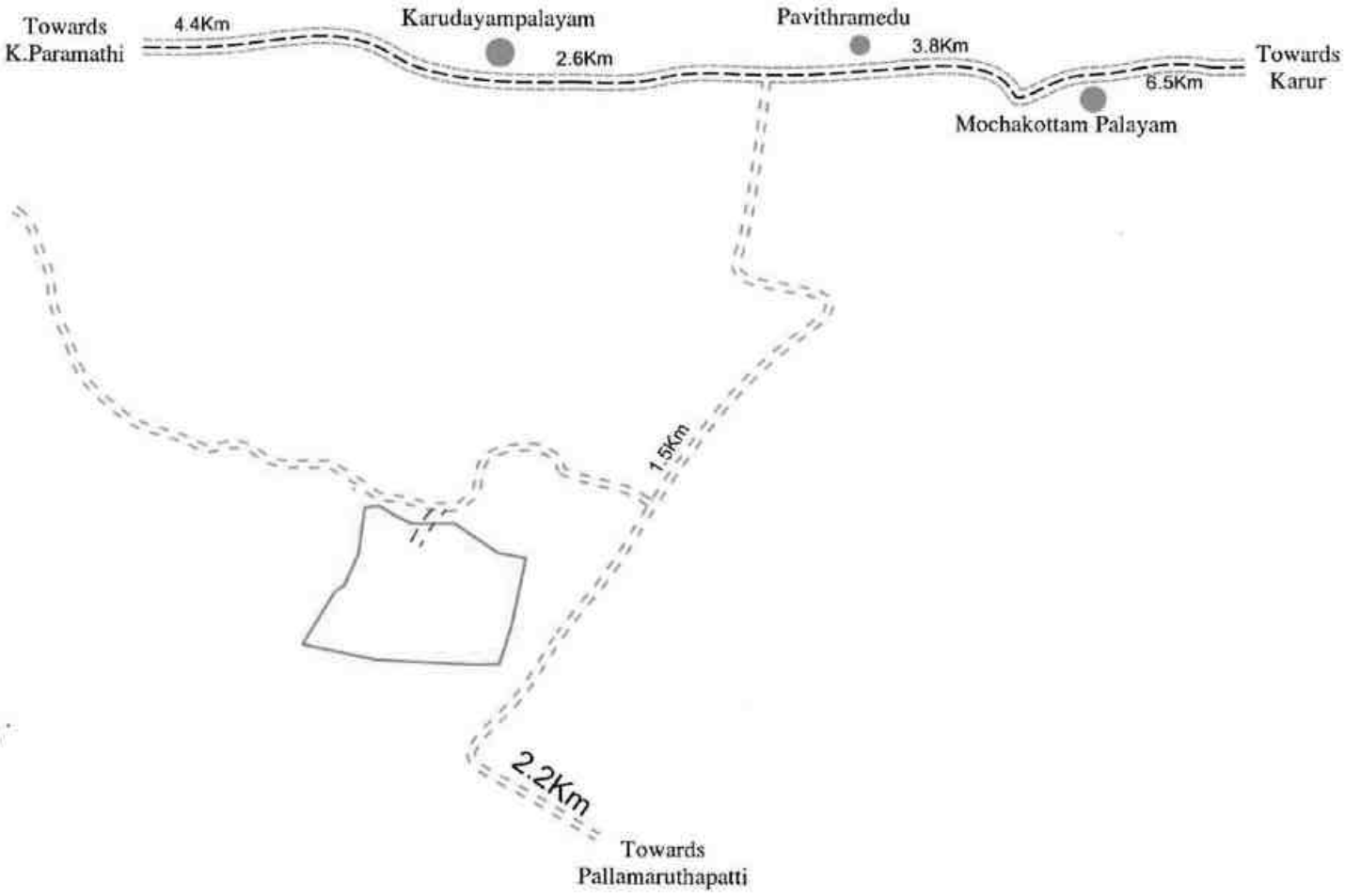
(Signature of Managing Director with date and official Seal)

TIN No: 33852702141
CST No: 704829/7-4-99 BALAJI MINES
Name of the Mine

BALAJI MINES
5/88, Chinnagollapatti,
Kannankurichi (P.O), SALEM-6

Gunanithy.

(Signature of Candidate)



293

N

PLATE No-I

APPLICANT:

Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

MINE LEASE AREA

APPROACH ROAD

CART ROAD

NH-81 ROAD

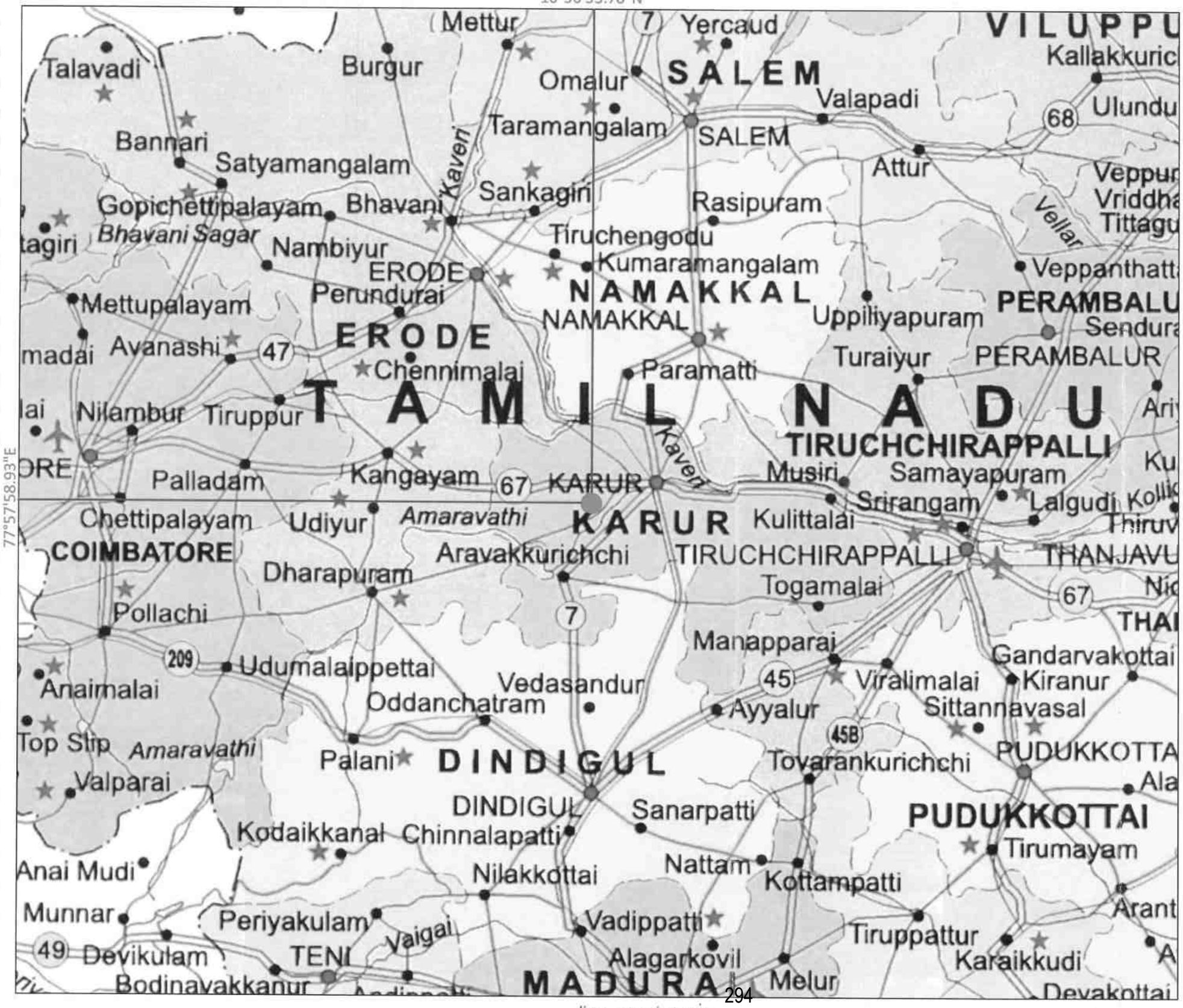
KEY MAP

Not to Scale

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON



N

PLATE No-IA

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

MINE LEASE AREA :

TOPO SHEET No : 58-F/13

LATITUDE : 10°56'46.96"N *to* 10°56'53.78"N

LONGITUDE : 77°57'58.93"E to 77°58'8.51"E

LOCATION PLAN
NOT TO SCALE

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON

10°56'53.78"N

77°57'58.93"E

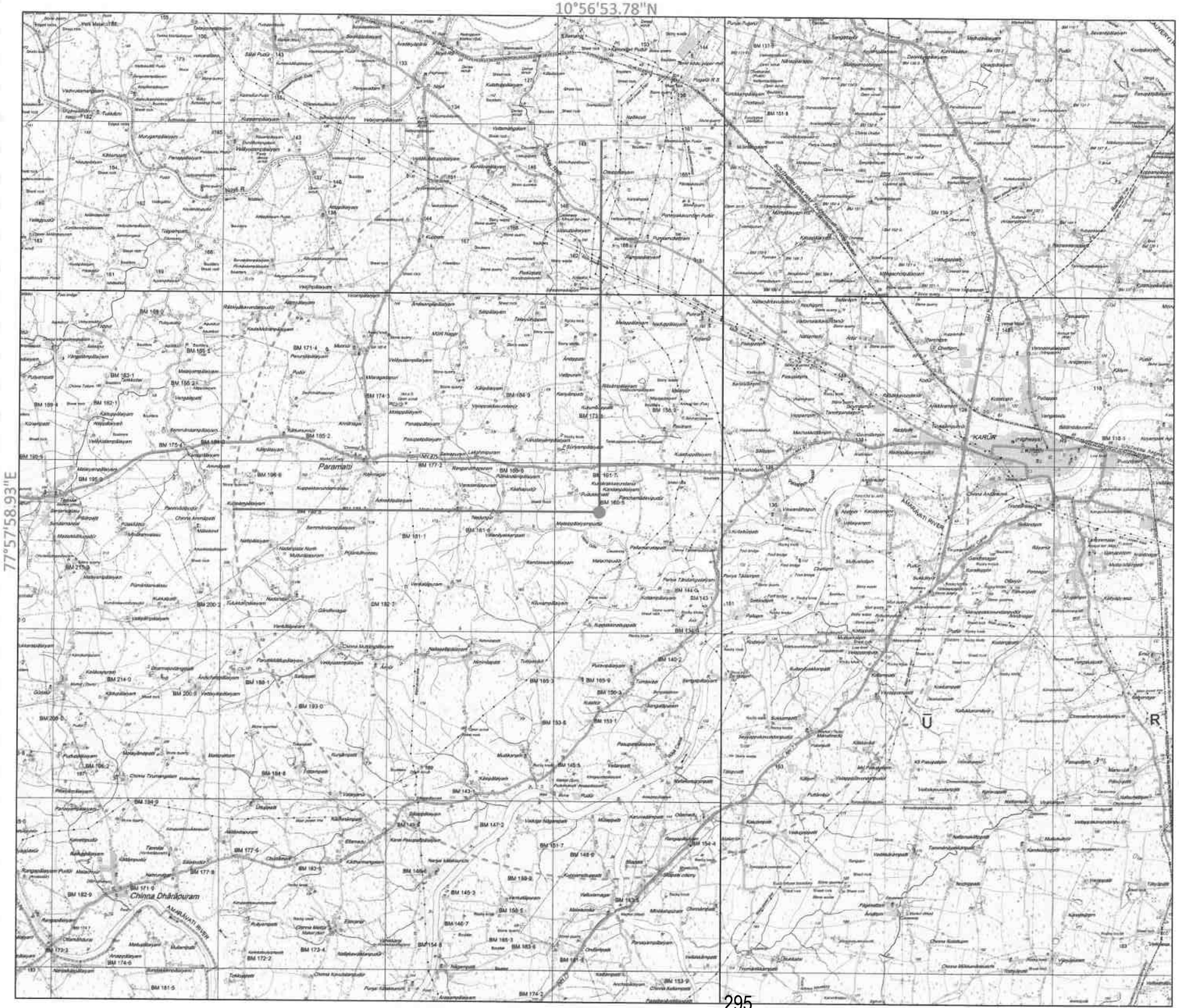


PLATE No-IB

APPLICANT:

Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

TOPO SHEET No : 58-F/13

LATITUDE : 10°56'46.96"N *to* 10°56'53.78"N

LONGITUDE : 77°57'58.93"E to 77°58'8.51"E

MINE LEASE AREA

10KM RADIUS

CONVENTIONAL SYMBOLS

TOPOSHEET MAP

SCALE– 1:1,00,000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON

Towards
Pudukkanai

10°56'53.78"N

77°57'58.93"E



N

PLATE No-IC

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

MINE LEASE BOUNDARY	
APPROACH ROAD	
CART ROAD	
VILLAGE ROAD	
100m RADIUS	
200m RADIUS	
300m RADIUS	
400m RADIUS	
500m RADIUS	
EXISTING PIT	

TOPO SHEET No : 58-F/13

LATITUDE : 10°56'46.96"N *to* 10°56'53.78"N

LONGITUDE : 77°57'58.93"E to 77°58'8.51"E

SATELLITE IMAGERY MAP
SCALE– 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,

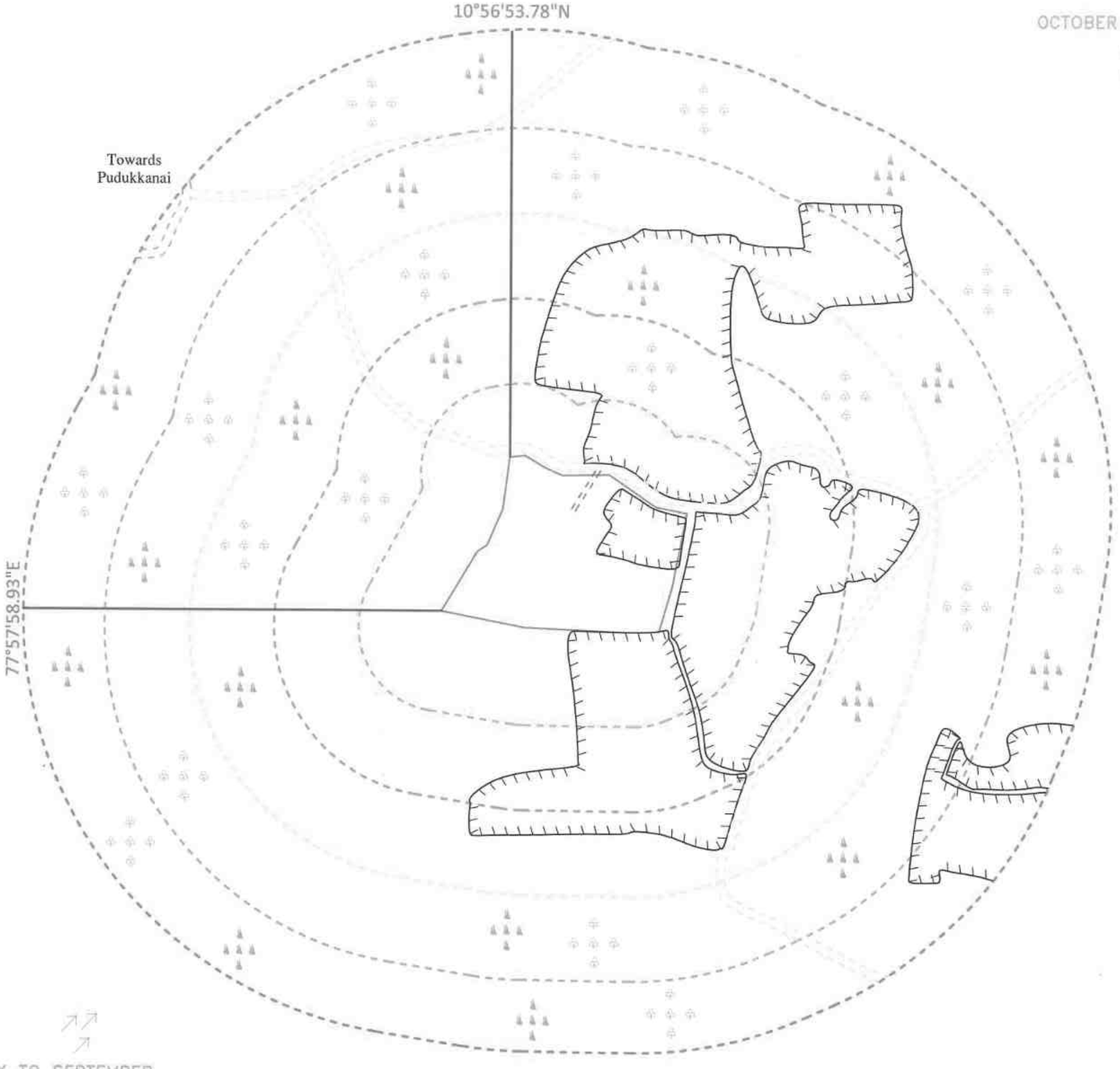


PLATE No-ID

APPLICANT:

Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

PROPOSED LEASE AREA	
APPROACH ROAD	
CART ROAD	
VILLAGE ROAD	
100m RADIUS	
200m RADIUS	
300m RADIUS	
400m RADIUS	
500m RADIUS	
EXISTING PIT	
SHRUBS & TREES	
HABITATION	

TOPO SHEET No : 58-F/13

LATITUDE : 10°56'46.96"N *to* 10°56'53.78"N

LONGITUDE : 77°57'58.93"E to 77°58'8.51"E

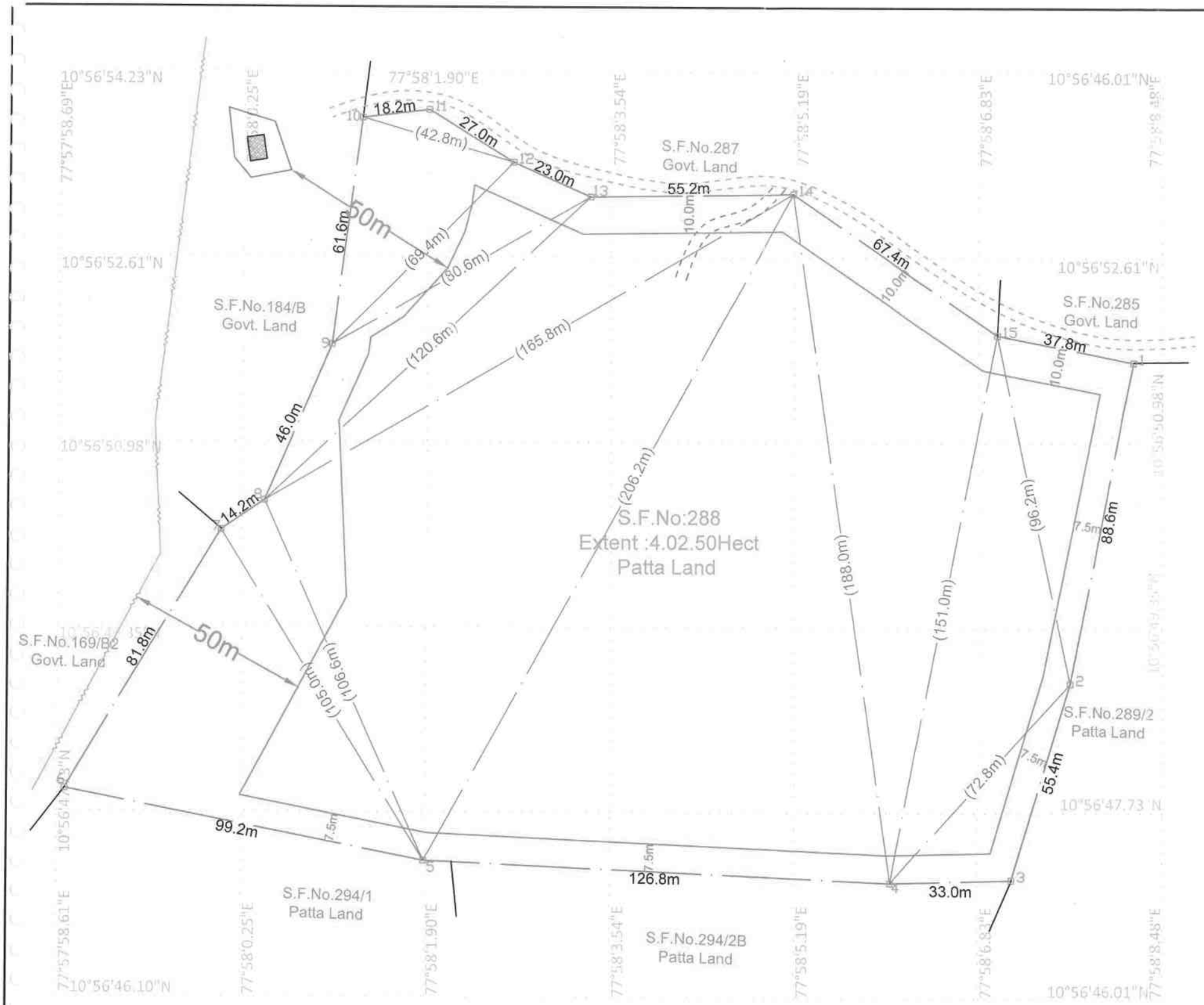
ENVIRONMETNAL PLAN

SCALE– 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON



N

PLATE No-II

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

- MINE LEASE BOUNDARY
- SAFETY DISTANCE
- APPROACH & CART ROAD
- BOUNDARY PILLAR STONES □1 □2
- EB LINE
- GRAVEYARD

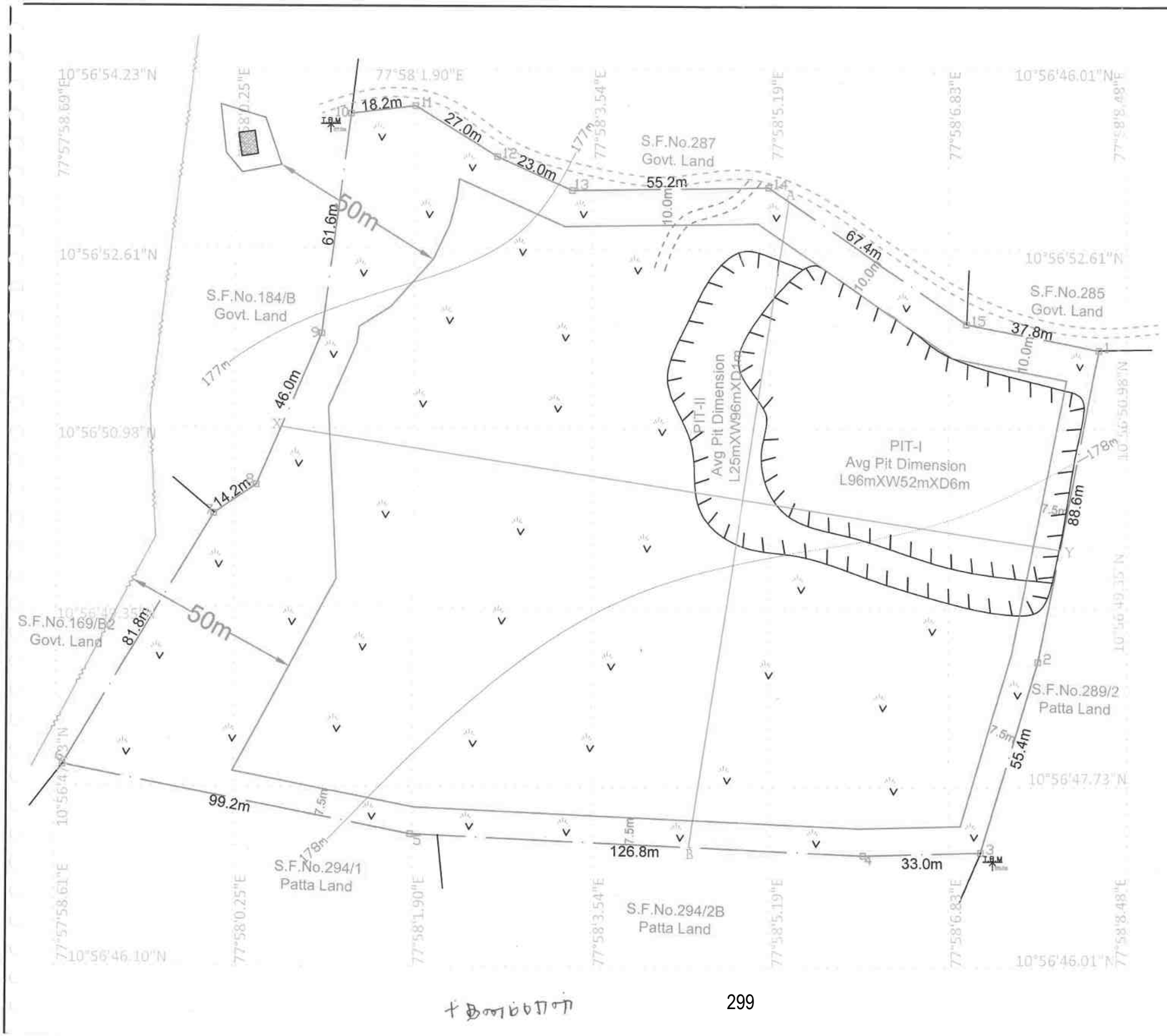
ID	LATITUDE	LONGITUDE
1	10°56'51.52"N	77°58'8.51"E
2	10°56'48.70"N	77°58'7.91"E
3	10°56'46.98"N	77°58'7.38"E
4	10°56'46.96"N	77°58'6.29"E
5	10°56'47.19"N	77°58'2.12"E
6	10°56'47.85"N	77°57'58.93"E
7	10°56'50.11"N	77°58'0.34"E
8	10°56'50.37"N	77°58'0.72"E
9	10°56'51.74"N	77°58'1.34"E
10	10°56'53.72"N	77°58'1.62"E
11	10°56'53.78"N	77°58'2.22"E
12	10°56'53.32"N	77°58'2.97"E
13	10°56'53.01"N	77°58'3.66"E
14	10°56'53.02"N	77°58'5.48"E
15	10°56'51.77"N	77°58'7.30"E

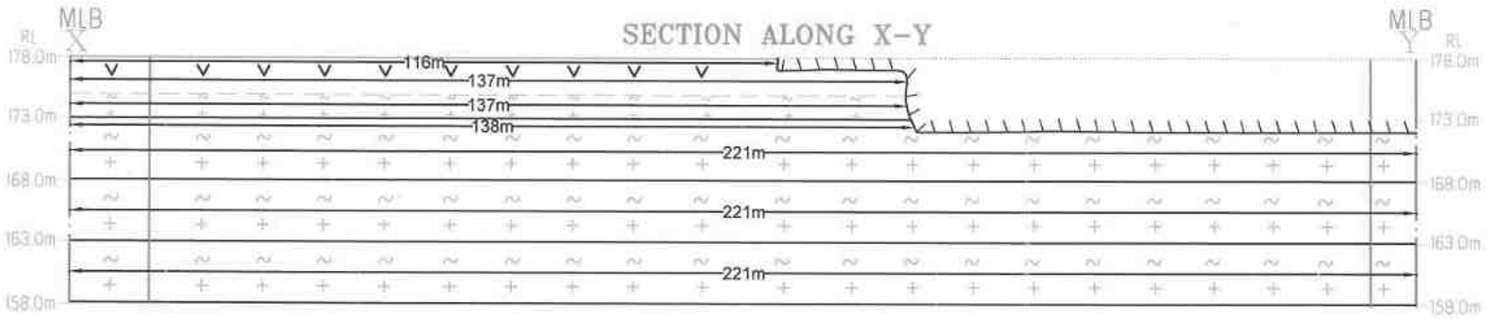
MINE LEASE PLAN
SCALE 1 : 1000

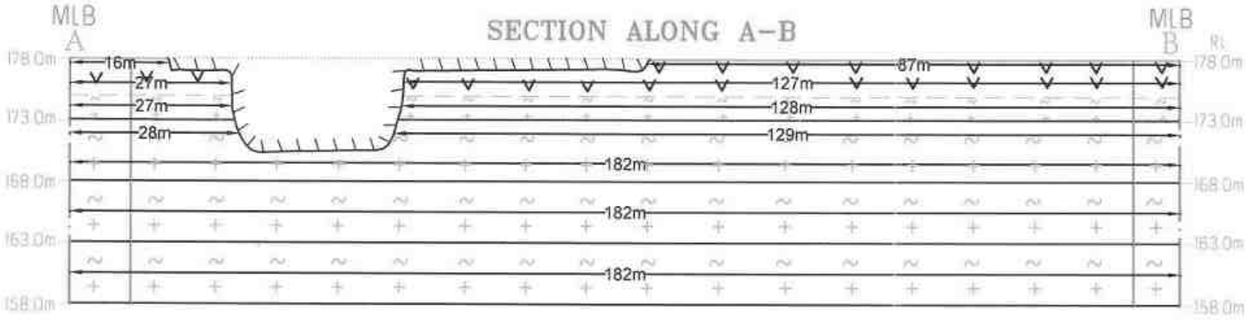
Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON


N
PLATE No-III
APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111
LEASE APPLIED AREA:
S.F.No : 288
EXTENT : 4.02.50 Hect
VILLAGE : KARUDAYAMPALAYAM
TALUK : PUGALUR
DISTRICT : KARUR
INDEX
MINE LEASE BOUNDARY
SAFETY BOUNDARY
APPROACH & CART ROAD
BOUNDARY PILLAR STONES
EB LINE
GRAVEL & SHRUBS
TEMPORARY BENCH MARK
CONTOURS LINES
EXISTING PIT
ROUGH STONE
GRAVEYARD
SURFACE & GEOLOGICAL PLAN
SCALE 1: 1000
Prepared By:
I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE
G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON
S.F.No.287
Govt. Land
S.F.No.184/B
Govt. Land
S.F.No.285
Govt. Land
S.F.No.169/B2
Govt. Land
S.F.No.289/2
Patta Land
S.F.No.294/1
Patta Land
S.F.No.294/2B
Patta Land
PIT-I
Avg Pit Dimension
L96mXW52mXD6m
PIT-II
Avg Pit Dimension
L25mXW96mXD6m
18.2m
27.0m
23.0m
55.2m
67.4m
37.8m
88.6m
55.4m
126.8m
33.0m
99.2m
81.8m
61.6m
46.0m
14.2m
50m
50m
10.0m
7.5m
177m
178m
10°56'54.23"N
10°56'52.61"N
10°56'50.98"N
10°56'47.73"N
10°56'46.01"N
10°56'46.10"N
77°57'58.69"E
77°58'0.25"E
77°58'1.90"E
77°58'3.54"E
77°58'5.19"E
77°58'6.83"E
77°58'8.48"E





GEOLOGICAL RESOURCES										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	116	103	1	11948	.....	11948	2	.....	23896
	I	137	154	2	42196	.....	42196	2	.....	84392
	I	137	155	2	42470	42470	.....	2.75	116792.5	.....
	II	138	157	1	21666	21666	.....	2.75	59581.5	.....
	II	221	182	4	160888	160888	.....	2.75	442442.0	.....
	III	221	182	5	201110	201110	.....	2.75	553052.5	.....
	IV	221	182	5	201110	201110	.....	2.75	553052.5	.....
TOTAL					**681388**	**627244**	**54144**	.....	**1724921**	**108288**

PLATE No- IIIA

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

MINE LEASE BOUNDARY

SAFETY DISTANCE

GRAVEL

ROUGH STONE

EXISTING PIT

GEOLOGICAL SECTIONS
SCALE - HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON

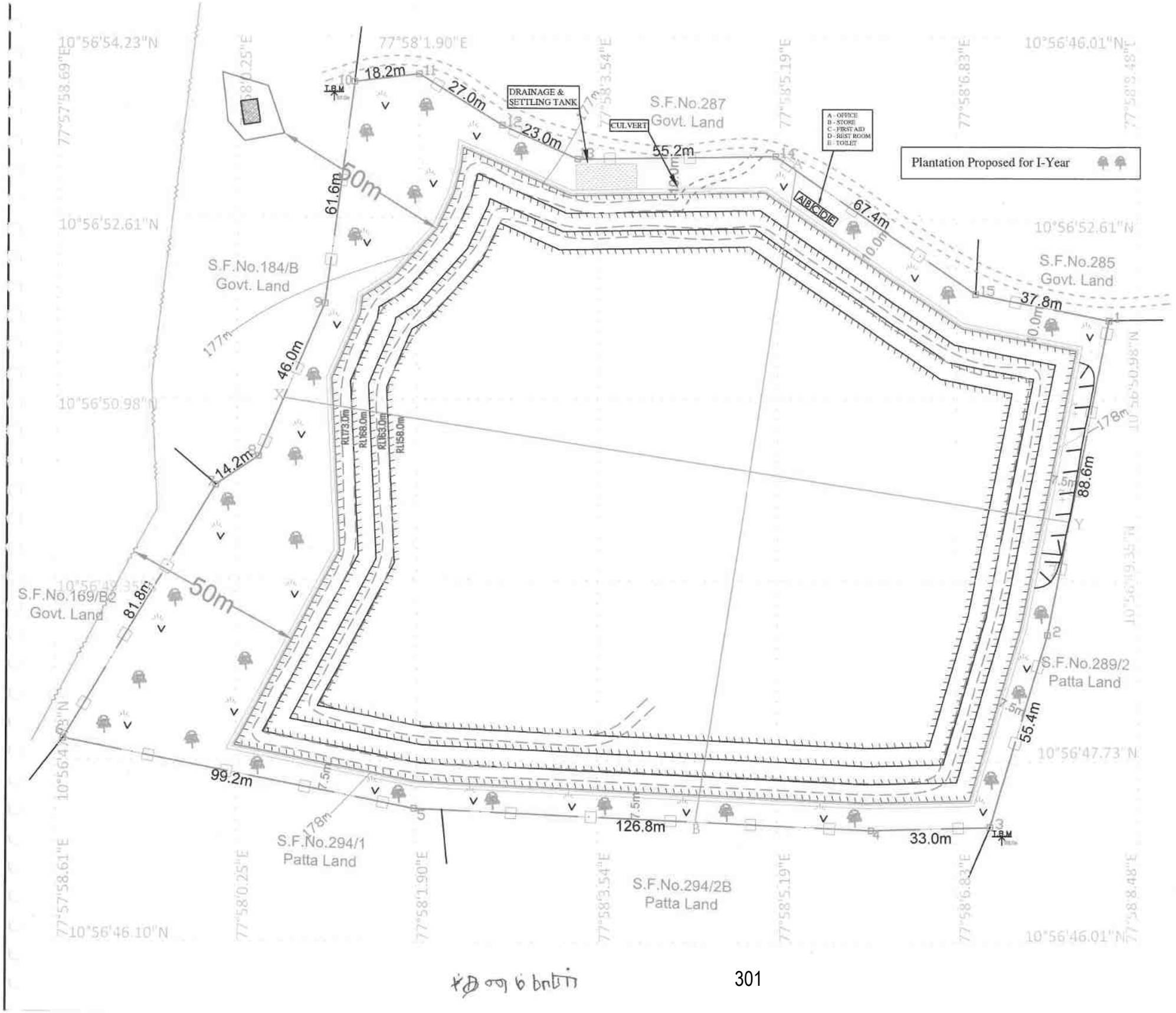


PLATE No-IV

APPLICANT:

Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

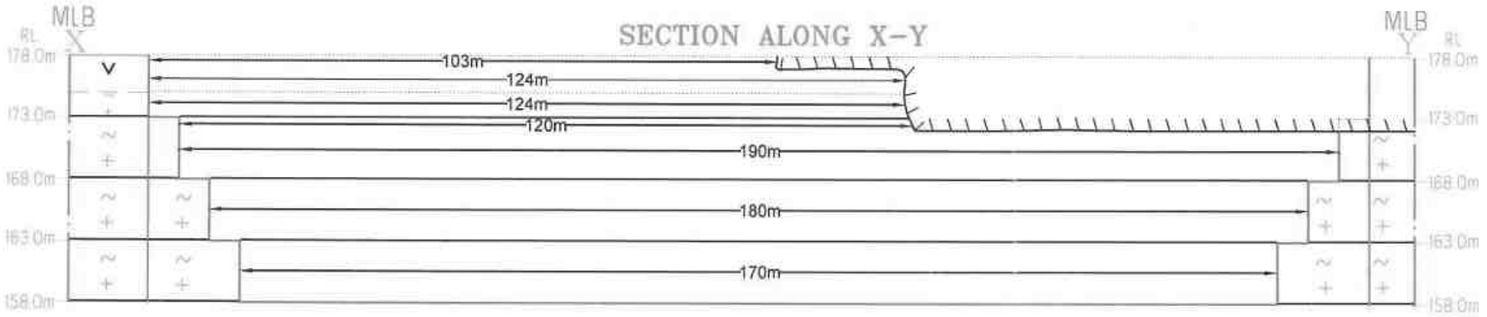
- MINE LEASE BOUNDARY
- SAFETY BOUNDARY
- APPROACH , CART & HAUL ROAD
- BOUNDARY PILLAR STONES
- EB LINE
- GRAVEL & SHRUBS
- TEMPORARY BENCH MARK
- CONTOURS LINES
- EXISTING PIT
- ROUGH STONE
- FENCING
- DRAINAGE & SETTLING TANK
- ULTIMATE BENCH
- GRAVEYARD

CONCEPTUAL PLAN
PLAN SCALE 1: 1000

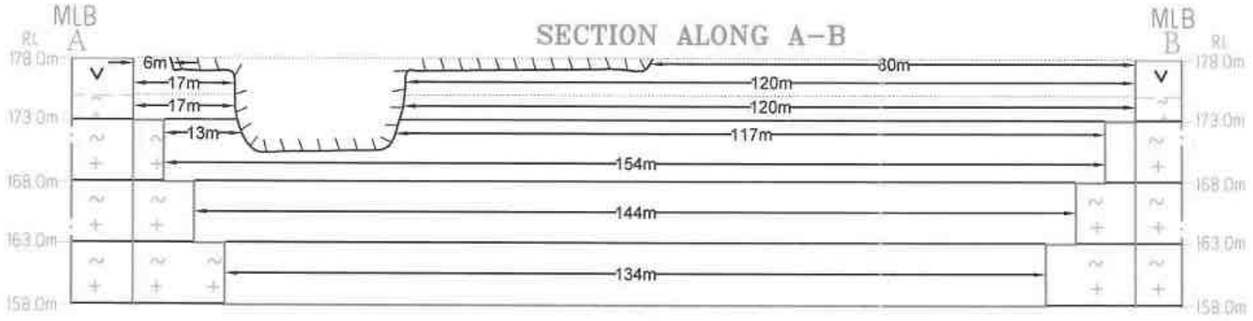
Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON



SECTION ALONG X-Y



SECTION ALONG A-B

MINEABLE RESERVES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	103	86	1	8858	.....	8858	2	.....	17716
	I	124	137	2	33976	.....	33976	2	.....	67952
	I	124	137	2	33976	33976	.....	2.75	93434	.....
	II	120	130	1	15600	15600	.....	2.75	42900	.....
	II	190	154	4	117040	117040	.....	2.75	321860	.....
	III	180	144	5	129600	129600	.....	2.75	356400	.....
	IV	170	134	5	113900	113900	.....	2.75	313225	.....
TOTAL					**452950**	**410116**	**42834**	.....	**1127819**	**85668**

302

PLATE No-IVA

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

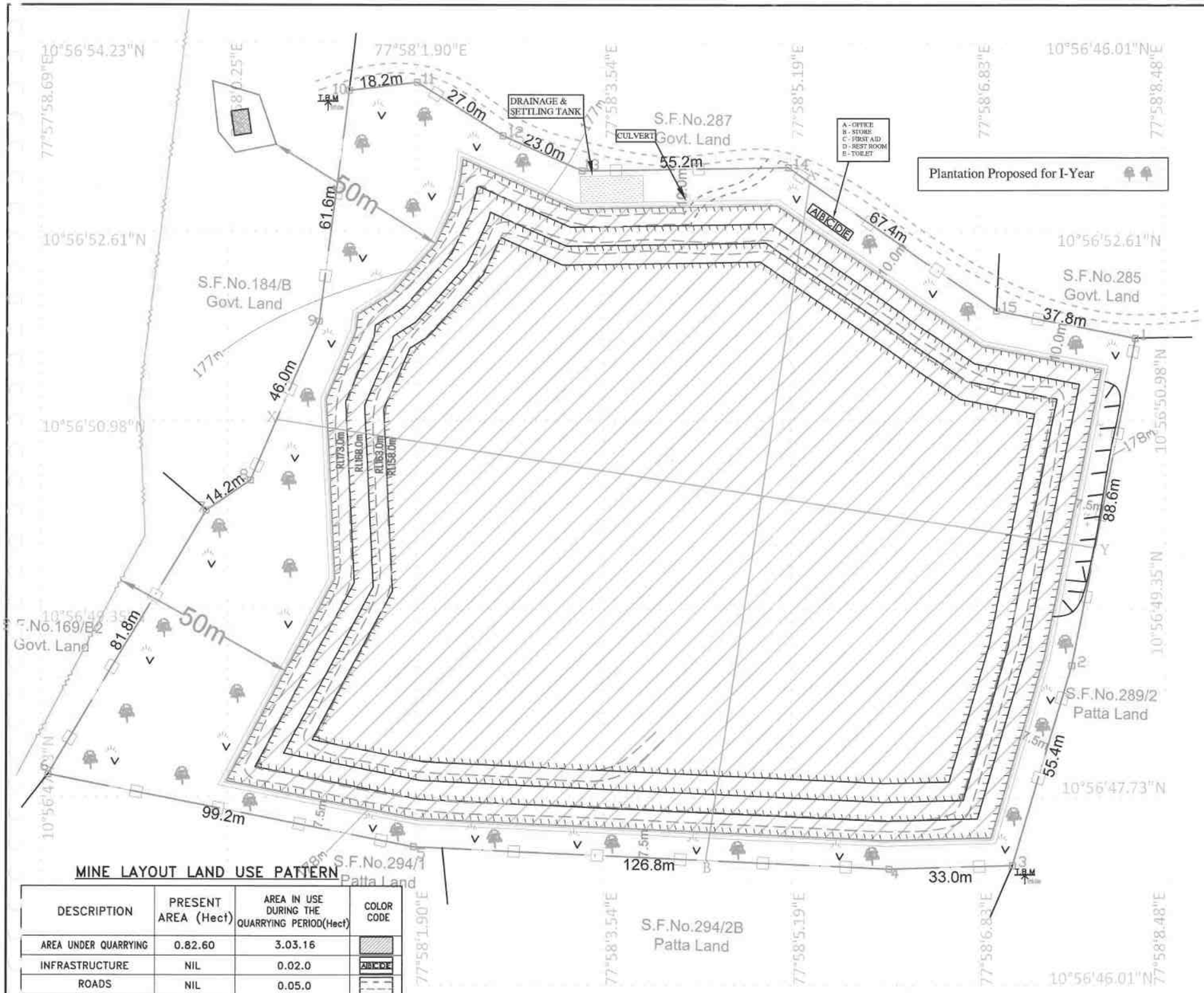
- MINE LEASE BOUNDARY
- SAFETY DISTANCE
- GRAVEL
- ROUGH STONE
- EXISTING PIT
- ULTIMATE BENCH

CONCEPTUAL SECTIONS
SCALE - HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON



MINE LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Hect)	AREA IN USE DURING THE QUARRYING PERIOD(Hect)	COLOR CODE
AREA UNDER QUARRYING	0.82.60	3.03.16	
INFRASTRUCTURE	NIL	0.02.0	ABCDE
ROADS	NIL	0.05.0	
UN-UTILIZED AREA	3.19.9	0.03.70	
GREEN BELT	NIL	0.73.0	
DRAINAGE & SETTLING TANK	NIL	0.15.64	
GRAND TOTAL	4.02.50	4.02.50	

PLATE No-V

APPLICANT:

Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

- MINE LEASE BOUNDARY
- SAFETY BOUNDARY
- APPROACH , CART & HAUL ROAD
- BOUNDARY PILLAR STONES □1 □2
- EB LINE
- GRAVEL & SHRUBS
- TEMPORARY BENCH MARK
- CONTOURS LINES
- EXISTING PIT
- ROUGH STONE
- FENCING
- DRAINAGE & SETTLING TANK
- PROPOSED BENCH
- GRAVEYARD

MINE LAYOUT PLAN & LAND USE PATTERN
PLAN SCALE 1 :1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON

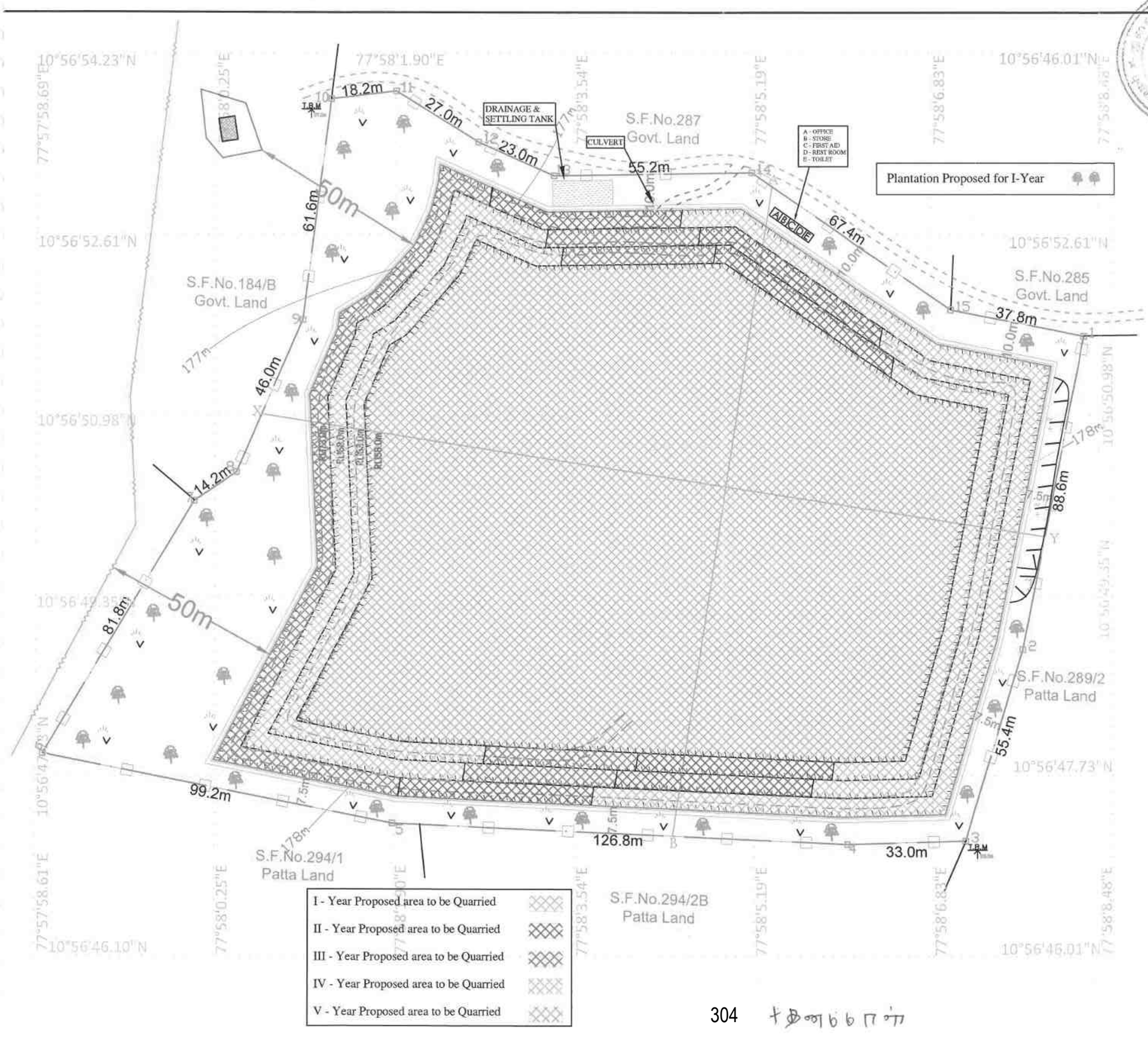


PLATE No-VI

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

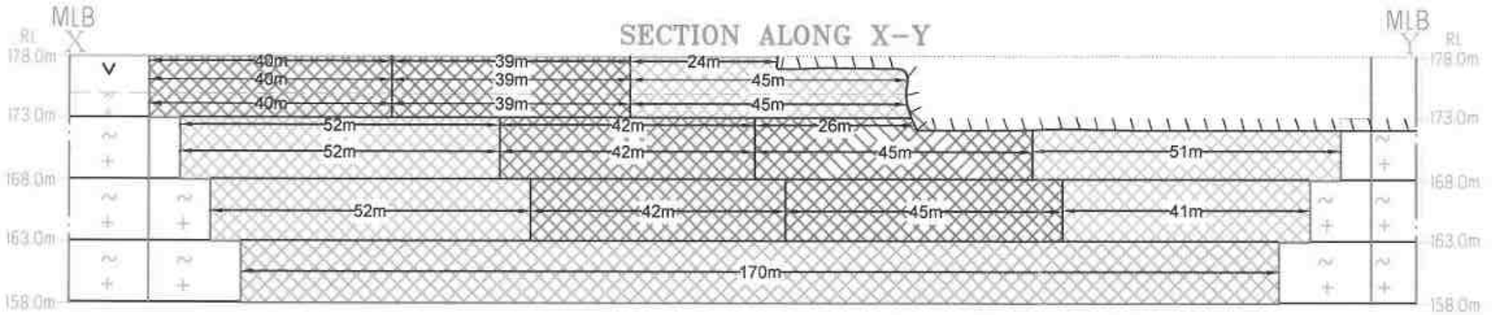
- MINE LEASE BOUNDARY
- SAFETY BOUNDARY
- APPROACH , CART & HAUL ROAD
- BOUNDARY PILLAR STONES
- EB LINE
- GRAVEL & SHRUBS
- TEMPORARY BENCH MARK
- CONTOURS LINES
- EXISTING PIT
- ROUGH STONE
- FENCING
- DRAINAGE & SETTLING TANK
- PROPOSED BENCH
- GRAVEYARD

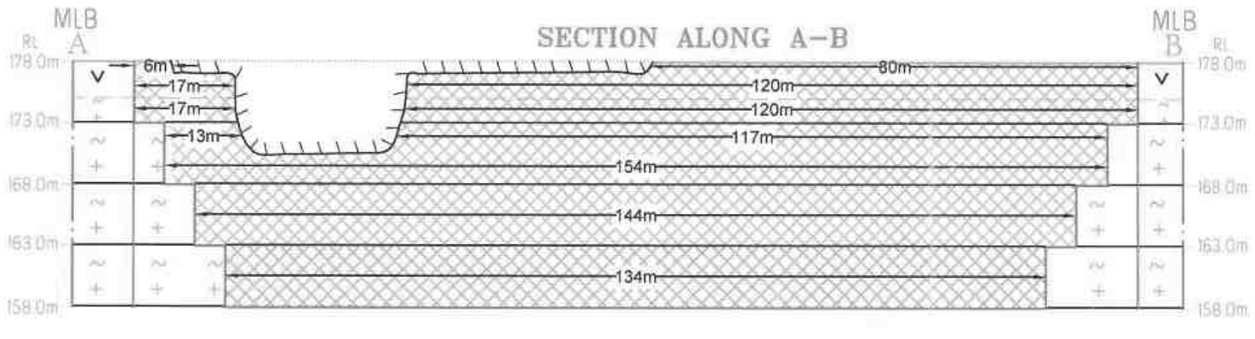
YEARWISE DEVELOPMENT & PRODUCTION PLAN
PLAN SCALE 1: 1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON





I - Year Proposed area to be Quarried
II - Year Proposed area to be Quarried
III - Year Proposed area to be Quarried
IV - Year Proposed area to be Quarried
V - Year Proposed area to be Quarried

YEARWISE PRODUCTION RESERVES

Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
I	XY-AB	I	24	86	1	2064	.....	2064	2	.....	4128
		I	45	137	2	12330	.....	12330	2	.....	24660
		I	45	137	2	12330	12330	.....	2.75	33908	.....
		II	51	154	4	31416	31416	.....	2.75	86394	.....
		III	41	144	5	29520	29520	.....	2.75	81180	.....
TOTAL						**87660**	**73266**	**14394**	.....	**201482**	**28788**
II	XY-AB	I	39	86	1	3354	.....	3354	2	.....	6708
		I	39	137	2	10686	.....	10686	2	.....	21372
		I	39	137	2	10686	10686	.....	2.75	29386	.....
		II	26	130	1	3380	3380	.....	2.75	9295	.....
		II	45	154	4	27720	27720	.....	2.75	76230	.....
		III	45	144	5	32400	32400	.....	2.75	89100	.....
TOTAL						**88226**	**74186**	**14040**	.....	**204011**	**28080**
III	XY-AB	I	40	86	1	3440	.....	3440	2	.....	6880
		I	40	137	2	10960	.....	10960	2	.....	21920
		I	40	137	2	10960	10960	.....	2.75	30140	.....
		II	42	130	1	5460	5460	.....	2.75	15015	.....
		II	42	154	4	25872	25872	.....	2.75	71148	.....
		III	42	144	5	30240	30240	.....	2.75	83160	.....
TOTAL						**86932**	**72532**	**14400**	.....	**199463**	**28800**
IV	XY-AB	II	52	130	1	6760	6760	.....	2.75	18590	.....
		II	52	154	4	32032	32032	.....	2.75	88088	.....
		III	52	144	5	37440	37440	.....	2.75	102960	.....
TOTAL						**76232**	**76232**	**0**	.....	**209638**	**0**
V	XY-AB	IV	170	134	5	113900	113900	.....	2.75	313225	.....
TOTAL						**113900**	**113900**	**0**	.....	**313225**	**0**
GRAND TOTAL						**452950**	**410116**	**42834**	.....	**1127819**	**85668**

ಕಡಿಮೆ ಆಗಿದೆ

PLATE No-VIA

APPLICANT:
Mrs.K.DHANAMAL,
W/o.KANDASAMY,
No.2/110, KARIYAMPATTI,
KARUDAYAMPALAYAM VILLAGE,
PUGALUR TALUK,
KARUR DISTRICT - 639111

LEASE APPLIED AREA:

S.F.No	: 288
EXTENT	: 4.02.50 Hect
VILLAGE	: KARUDAYAMPALAYAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

- MINE LEASE BOUNDARY
- SAFETY DISTANCE
- GRAVEL
- ROUGH STONE
- EXISTING PIT
- PROPOSED BENCH

YEARWISE DEVELOPMENT & PRODUCTION SECTIONS
SECTION HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

G.UMAMAHESWARAN,M.Sc.,
QUALIFIED PERSON

Annexure - V

சான்று

"திருச் மாவட்டம், புகழ் ஒட்டம், சாதொடபாடபாளையம் கிராமம், புல எண் 288 என்ற விஸ்தீரணம் சுமார் 4.00 ஏக்கர் நிலப்பரப்பில் சாந்தாடி மணல் எடுப்பதற்கு எங்கள் கல்லூரி அமைப்பதற்கு விண்ணப்பித்துள்ளார். இந்த கல்லூரி அமைய இடத்திலிருந்து 300 மீட்டர் சுற்றளவில் அரசு அங்கீகாரம் பெற்ற எந்த பள்ளிகளும், குடியிருப்பு கட்டிடங்களும், புராதன சின்னங்களும், கோவில், பள்ளிவாசல் போன்றவை ஏதும் இல்லை என்பதற்கு இந்த சான்று வழங்கப்படுகிறது."

கிராம நிர்வாக அலுவலர்
27. காருடையாம்பாளையம் கிராமம்
புகளூர் வட்டம்
கரூர் மாவட்டம்

306

Annexure - VI

நக.எண்.4481/2025 வ

மாவட்ட வன அலுவலகம்,
கரூர் வனக்கோட்டம்,
கரூர்.
நாள்.13.10.2025

பொருள் : கனிமம் – குவாரி – கரூர் மாவட்டம், புகளூர் தாலுகா, கரியாம்பட்டி , காருடையம்பாளையம் கிராமத்தில் அமையவுள்ள குவாரிக்கும் காப்புக்காடு பகுதிக்கும் இடைப்பட்ட தூர விபரங்களை தெரிவித்தல் – தொடர்பாக.

பார்வை : 1. திருமதி மு.தனம்மாள் க/பெ கந்தசாமி , 2/110 கரியம்பட்டி , காருடையம்பாளையம், புகலூர் தாலுகா , கரூர் மாவட்டம் நாள். 06.10.2025

2. வனச்சரக அலுவலர், கரூர் வனச்சரகம் கடித எண். :260/2025 நாள்.13.10.2025.

*****

பார்வை 1–ல் காணும் கடிதத்தில் புகளூர் தாலுகா, கரியாம்பட்டி , காருடையம்பாளையம் , கிராம புல எண். 288 ல் 4.02.50 எக்டேர் பரப்பளவில் திருமதி மு.தனம்மாள் க/பெ கந்தசாமி ,2/110 கரியம்பட்டி , காருடையம்பாளையம், புகலூர் தாலுகா , கரூர் மாவட்டம் என்பவரின் குவாரியை அமைக்க மாநில சுற்றுச்சூழல் ஆணையத்திற்கு விண்ணப்பித்துள்ளதால், மேற்படி குவாரியின் புலத்திலிருந்து 25 கி.மீ சுற்றளவுக்குள் உள்ள காப்புக்காடுகளின் விபரங்களை தெரிவிக்குமாறும் கோரப்பட்டது.

அதன்படி மேற்படி இடமானது கரூர் வனச்சரக அலுவலரால் களத்தணிக்கை செய்யப்பட்டு பார்வை 2–ல் கண்டவாறு சமர்ப்பித்த அறிக்கையின் படி கரூர் மாவட்டம், புகளூர் தாலுகா, கரியாம்பட்டி , காருடையம்பாளையம் , கிராம புல எண். 288 ல் 4.02.50 எக்டேர் பரப்பளவில் திருமதி K.தனம்மாள் க/பெ கந்தசாமி , 2/110 கரியம்பட்டி , காருடையம்பாளையம், புகலூர் தாலுகா , கரூர் மாவட்டம் என்பவரின் மூலம் அமைக்கப்படவுள்ள குவாரியிலிருந்து 25 கி.மீ சுற்றளவுக்குள் குவாரியிலிருந்து 2.72 கிலோமீட்டர் தூரத்தில் தாதம்பாளையம் காப்புக்காடு அமைந்துள்ளது. மேலும் குவாரியின் புலத்திலிருந்து 25 கி.மீ சுற்றளவுக்குள் பாதுகாக்கப்பட்ட வனப்பகுதி, புலிகள் காப்பகம் மற்றும் சரணாலயங்கள் ஏதுமில்லை என தெரிவிக்கப்படுகிறது.

ஒம்/–சு.சண்முகம்,
மாவட்ட வன அலுவலர்,
கரூர் வனக்கோட்டம்,
கரூர்.

பெறுநர்
K.தனம்மாள்
க/பெ கந்தசாமி ,
2/110 கரியம்பட்டி ,
காருடையம்பாளையம், புகலூர் தாலுகா , கரூர் மாவட்டம்

// உ.நா.உ.ப //

வரைதொழில் அலுவலர்.

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

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Geo Technical Mining Solutions, Dharmapuri

5/1485-3, Salem Main Road, Elakkiyampatty, Dharmapuri, Tamil Nadu

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

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

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated January 24, 2024, posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/24/3142 dated Feb 19, 2024. The accreditation needs to be renewed before the expiry date by Geo Technical Mining Solutions, Dharmapuri following due process of assessment.

Issue Date
Feb 19, 2024

Valid up to
Dec 31, 2026

Mr. Ajay Kumar Jha
Sr. Director, NABET

Certificate No.
NABET/EIA/23-26/RA 0319

Prof (Dr) Varinder S Kanwar
(CEO NABET)

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

Interstellar Testing Centre Private Limited

Since 1988

TEST REPORT

Annexure - VIII

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210613 (1)**

NABL ULR No. : **TC157302500003213 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100724
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°56'46.16"N, Longitude:77°58'13.57"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.192
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	1845
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	8.04
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.056
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0018
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0087
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	382

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511210613 (1)**

NABL ULR No. : **TC157302500003213 5F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 Cl- B	0.0017
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	6.7
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.11
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	30.42
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	15.10
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	74.30
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	10.6
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Caft. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.142
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.288

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **21/11/2025**

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511210613

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639114
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170724	Received On	: 10/03/2025
Sample Name	: Soil	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 15/03/2025
Sample Details (if any)		Date of Report	: 15/03/2025
Sample Quantity	: 1kg X 1 No		
Packaging Mode	: Poly Pack		
Batch No./QR Code	: Latitude:10°56'46.16"N, Longitude:77°58'13.57"E		
Sample Submission Type	: Sampled by Lab Rep		
Date of Sampling	: 07.03.2025		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/07/03/2025		
Test Report as per	: NA		

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0008

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*******End of Report*******

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 21/11/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210612 (1)**
NABL ULR No. : **TC157302500003213 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100725
Sample Name : Soil
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°57'39.16"N, Longitude:77°57'37.68"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.280
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	2104
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	7.89
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.072
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0022
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0124
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	402

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : **TR02EN-2511210612 (1)**

NABL ULR No. : **TC157302500003213 3F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 CI- B	0.0540
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	9.2
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.16
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	29.56
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	12.0
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	81.2
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	6.8
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Caft. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.345
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.425

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **15/03/2025**

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Interstellar Testing Centre Private Limited

TEST REPORT

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511210612

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-25031070725
Sample Name : Soil
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°57'39.16"N, Longitude:77°57'37.68"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0014

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210611 (1)**

NABL ULR No. : **TC1573025000032131F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village. Pugalur Taluk.
Karur. 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100726
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°56'32.32"N, Longitude:77°56'53.28"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Nedungur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.260
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	1645
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	8.64
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.0056
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0042
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0241
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	465

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511210611 (1)**

NABL ULR No. : **TC157302500003213lF**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 CI- B	0.0034
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	10.4
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.15
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	21.45
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	15.5
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	73.6
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	10.9
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Catt. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.384
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.196

NOTE : The above sample are analysed as received basis only.

REMARKS : NA

*****End of Report*****

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **15/03/2025**

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Interstellar Testing Centre Private Limited

TEST REPORT

TEST REPORT **ORIGINAL**

Test Report No. : TR02EN-2511210611

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2503100726	Received On	: 10/03/2025
Sample Name	: Soil	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 15/03/2025
Sample Details (if any)		Date of Report	: 15/03/2025
Sample Quantity	: 1kg X 1 No		
Packaging Mode	: Poly Pack		
Batch No./QR Code	: Latitude:10°56'32.32"N, Longitude:77°56'53.28"E		
Sample Submission Type	: Sampled by Lab Rep		
Date of Sampling	: 07.03.2025		
Sampling Location	: Nedungur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/07/03/2025		
Test Report as per	: NA		

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0024

NOTE : The above sample are analysed as received basis only.

REMARKS : NA

*****End of Report*****

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC 15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210610 (1)**

NABL ULR No. : **TC157302500003212 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100727
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°57'25.20"N, Longitude:77°59'29.09"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Pavithiram
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.160
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	2248
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	8.24
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.042
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0036
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0158
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	566

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511210610 (1)**

NABL ULR No. : **TC157302500003212 9F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 CI- B	0.0028
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	9.4
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.09
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	22.54
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	16.8
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	71.6
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	11.6
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Catt. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.161
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.245

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **15/03/2025**

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Interstellar Testing Centre Private Limited

TEST REPORT

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511210610

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2503100727	Received On	: 10/03/2025
Sample Name	: Soil	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 15/03/2025
Sample Details (if any)		Date of Report	: 15/03/2025
Sample Quantity	: 1kg X 1 No		
Packaging Mode	: Poly Pack		
Batch No./QR Code	: Latitude:10°57'25.20"N, Longitude:77°59'29.09"E		
Sample Submission Type	: Sampled by Lab Rep		
Date of Sampling	: 07.03.2025		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/07/03/2025		
Test Report as per	: NA		

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0011

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*******End of Report*******

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Website : www.itclabs.com

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Interstellar Testing Centre Private Limited

Since 1988

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210609**

NABL ULR No. : **TC157302500003212 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100728
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°58'56.01"N, Longitude:77°57'55.54"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Kuppam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.240
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	1086
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	8.08
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.084
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0024
6	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0024
7	Total Soluble Sulphate (as So4)	(% by mass)	UV-	IS: 2720 (Part 27)	0.0172

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210609**

NABL ULR No. : **TC157302500003212 7F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
			Spectrophotometer		
8	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	768
9	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 Cl- B	0.0044
10	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	7.2
11	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.14
12	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	32.22
13	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	8.0
14	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	84.4
15	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	7.6
16	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
17	Bulk Density	g/cc	Cylinder	Catt. on Advanvesion Agro - technologies for Improving Soil. Plant Atmosphere Systems From 11-31 Oct 2012	1.242
18	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.324

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **15/03/2025**

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210608 (1)**
NABL ULR No. : **TC1573025000032126F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100729
Sample Name : Soil
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°54'26.43"N, Longitude:77°58'49.23"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Thumbivadi
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.270
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	1345
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	7.89
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.066
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0018
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0290
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	288

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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TEST REPORT

Test Report No. : **TR02EN-2511210608 (1)**

NABL ULR No. : **TC157302500003212 6F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 CI- B	0.0072
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	8.8
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.16
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	35.45
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	8.8
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	82.6
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	8.6
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Catt. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.342
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.308

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*******End of Report*******

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Interstellar Testing Centre Private Limited

TEST REPORT

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511210608

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2503100729	Received On	: 10/03/2025
Sample Name	: Soil	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 15/03/2025
Sample Details (if any)		Date of Report	: 15/03/2025
Sample Quantity	: 1kg X 1 No		
Packaging Mode	: Poly Pack		
Batch No./QR Code	: Latitude:10°54'26.43"N, Longitude:77°58'49.23"E		
Sample Submission Type	: Sampled by Lab Rep		
Date of Sampling	: 07.03.2025		
Sampling Location	: Thumbivadi		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/07/03/2025		
Test Report as per	: NA		

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0032

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Interstellar Testing Centre Private Limited

Since 1988

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210607 (1)**

NABL ULR No. : **TC157302500003212 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100730
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°58'57.48"N, Longitude:77°59'50.11"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Punnam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Organic Matter	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.210
2	Calcium(as Ca)	mg/kg	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	1542
3	pH Value	NA	pH Meter	USEPA 9040 C (Rev 3): 2004	8.36
4	Total Nitrogen (as N)	(% by mass)	Titration	IS 10158: 1982 (RA 2003)	0.082
5	Potassium(as K)	(% by mass)	ICPOES	ITC/CHN/FD/STP/020; Issue No: 4.0; Issue Date: 13.09.2023	0.0021
6	Total Soluble Sulphate (as So4)	(% by mass)	UV-Spectrophotometer	IS: 2720 (Part 27)	0.0324
7	Magnesium(as Mg)	mg/kg	ICPOES	ITC/CHN/FD/STP/020;	408

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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TEST REPORT

Test Report No. : **TR02EN-2511210607 (1)**

NABL ULR No. : **TC157302500003212 5F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				Issue No: 4.0; Issue Date: 13.09.2023	
8	Chloride(as Cl)	(% by mass)	Titration	APHA-24th Edition 2023 - 4500 CI- B	0.0036
9	Moisture Content	(% by mass)	Balance, Oven	IS 2720 (Part-2): 1973	6.4
10	Total Organic Carbon	(% by mass)	Titration	IS: 2720 (Part-22): 2020	0.12
11	Cation Exchange Capacity	meq/100g	ICPMS	IS 2720 (Part 24) - 1976	29.58
12	Sand	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	19.2
13	Silt	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	71.6
14	Clay	(% by mass)	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	9.2
15	Textural Class	NA	Weighing Balance	ITC/CHN/ENV/STP/032; Issue No: 2.0; Issue date: 09.09.2023	Silt Loam
16	Bulk Density	g/cc	Cylinder	Caft. on Advanvesion Agro - technologies for Improving Soil, Plant Atmosphere Systems From 11-31 Oct 2012	1.128
17	Electrical Conductivity	mS/m	Conductivity Meter	IS 14767 - 2000	0.458

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*******End of Report*******

Authorised by
Name : **Vijay Anand**
Discipline : **Chemical**
Date : **15/03/2025**

Interstellar Testing Centre Private Limited
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TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511210607

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100730
Sample Name : Soil
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 1kg X 1 No
Packaging Mode : Poly Pack
Batch No./QR Code : Latitude:10°58'57.48"N, Longitude:77°59'50.11"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Punnam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Light Brown Coloured Soil Sample					
	Discipline : Chemical				
	Group : Pollution & Environment				
(I)	**General Parameters**				
1	Total Phosphate(as P)	(% by mass)	UV-Spectrophotometer	IS 10158: 1982	0.0018

NOTE : NA

REMARKS : The above sample are analysed as received basis only.

*****End of Report*****

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210606**

NABL ULR No. : **TC157302500003212 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100731
Sample Name : Bore Well Water
Sample Condition : Good

Sample Details (if any)

Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°55'58.35"N, Longitude:77°58'29.39"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Pavithiram
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : IS 10500:2012

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
Description: Clear liquid							
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	6.98	6.5-8.5	No Relaxation
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	5	5	15
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.4	1.0	5.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	713	500	2000
(II)	**Parameters Concerning Undesirable Substances in excess amount**						

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
Ph : 044 - 24962512
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TEST REPORT

Test Report No. : TR02EN-2511210606

NABL ULR No. : TC157302500003212 4F

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40): 1991	99.8	75	200
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.44	1	No Relaxation
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	6.4	30	100
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	190.3	250	1000
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	42.1	200	400
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)	0.2	1.0
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.29	1.0	1.5
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	13.54	45	No Relaxation
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	242	200	600
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	299	200	600
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)	0.5	No Relaxation
(III)	**General Parameters**						
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	242.0	Not Specified	Not Specified
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:5.0)	Not Specified	Not Specified
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	6.6	Not Specified	Not Specified
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	57	Not Specified	Not Specified
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	1208	Not Specified	Not Specified
8	Phosphate(as PO4)	mg/L	UV-	APHA 24th Edn.	BLQ(LOQ:0.05)	Not	Not

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Email : itclabs.chennai@itclabs.com
Website : www.itclabs.com

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TEST REPORT

Test Report No. : TR02EN-2511210606

NABL ULR No. : TC157302500003212 4F

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
			Spectrophotometer	4500 P B D (Spectrophotometry) : 2023		Specified	Specified
9	Appearance	-	Visual	Visual Examination	Clear liquid	Not Specified	Not Specified
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	10.69	Not Specified	Not Specified
	Discipline : Biological						
	Group : Water						
(IV)	**Microbiological Tests**						
1	*E.coli*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
2	*Total Coliform*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : The above sample conforms to IS 10500-2012 Amd.No4.Nov 2021 Specification limit with respect to the above tested Parameters.

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210605**
NABL ULR No. : **TC1573025000032123F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100732
Sample Name : Bore Well Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°57'17.64"N, Longitude:77°56'58.86"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : IS 10500:2012

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
Description: Clear liquid							
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	8.01	6.5-8.5	No Relaxation
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	5	5	15
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.2	1.0	5.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	697	500	2000
(II)	**Parameters Concerning Undesirable Substances in excess amount**						

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : TR02EN-2511210605

NABL ULR No. : TC157302500003212 3F

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40): 1991	97.6	75	200
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.32	1	No Relaxation
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	6.3	30	100
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	186.2	250	1000
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	41.1	200	400
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	blq(LOQ:0.1)	0.2	1.0
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.34	1.0	1.5
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	13.25	45	No Relaxation
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	216	200	600
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	314	200	600
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)	0.5	No Relaxation
(III)	**General Parameters**						
1	Biochemical Oxygen Demand for 3 days at 27 °C	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	216.0	Not Specified	Not Specified
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:5.0)	Not Specified	Not Specified
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	6.8	Not Specified	Not Specified
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	98	Not Specified	Not Specified
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	1245	Not Specified	Not Specified
8	Phosphate(as PO4)	mg/L	UV-	APHA 24th Edn.	BLQ(LOQ:0.05)	Not	Not

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511210605

NABL ULR No. : TC157302500003212 3F

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
			Spectrophotometer	4500 P B D (Spectrophotometry) : 2023		Specified	Specified
9	Appearance	-	Visual	Visual Examination	Clear liquid	Not Specified	Not Specified
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	10.46	Not Specified	Not Specified
	Discipline : Biological						
	Group : Water						
(IV)	**Microbiological Tests**						
1	*E.coli*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
2	*Total Coliform*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : The above sample conforms to IS 10500-2012 Amd.No4.Nov 2021 Specification limit with respect to the above tested Parameters.

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210604**

NABL ULR No. : **TC157302500003212 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639114
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100733
Sample Name : Bore Well Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude: 10°56'14.86"N Longitude:77°59'51.47"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Thathampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : IS 10500:2012

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
Description: Clear liquid							
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	7.55	6.5-8.5	No Relaxation
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	2	5	15
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.1	1.0	5.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	611	500	2000
(II)	**Parameters Concerning Undesirable Substances in excess amount**						

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511210604

NABL ULR No. : TC157302500003212 2F

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40): 1991	85.6	75	200
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.28	1	No Relaxation
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	5.5	30	100
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	163.2	250	1000
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	36.1	200	400
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)	0.2	1.0
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.18	1.0	1.5
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	11.62	45	No Relaxation
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	226	200	600
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	251	200	600
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)	0.5	No Relaxation
(III)	**General Parameters**						
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	226.0	Not Specified	Not Specified
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:5.0)	Not Specified	Not Specified
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	7.1	Not Specified	Not Specified
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	25	Not Specified	Not Specified
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	986	Not Specified	Not Specified
8	Phosphate(as PO4)	mg/L	UV-	APHA 24th Edn.	BLQ(LOQ:0.05)	Not	Not

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511210604**

NABL ULR No. : **TC157302500003212 2F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
			Spectrophotometer	4500 P B D (Spectrophotometry) : 2023		Specified	Specified
9	Appearance	-	Visual	Visual Examination	Clear liquid	Not Specified	Not Specified
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	9.17	Not Specified	Not Specified
	Discipline : Biological						
	Group : Water						
(IV)	**Microbiological Tests**						
1	*E.coli*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
2	*Total Coliform*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : The above sample conforms to IS 10500-2012 Amd.No4.Nov 2021 Specification limit with respect to the above tested Parameters.

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511210603**

NABL ULR No. : **TC157302500003212lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village. Pugalur Taluk,
Karur, 639111
Tamil Nadu. India

Sample Registration No. : SR02EN-2503100734
Sample Name : Bore Well Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°55'26.78"N, Longitude:77°56'38.12"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Nimindampatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : IS 10500:2012

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
Description: Clear liquid							
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	7.21	6.5-8.5	No Relaxation
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	5	5	15
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.4	1.0	5.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	765	500	2000
(II)	**Parameters Concerning Undesirable Substances in excess amount**						

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511210603

NABL ULR No. : TC157302500003212lF

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40): 1991	107.1	75	200
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.39	1	No Relaxation
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	6.9	30	100
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	204.2	250	1000
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	45.1	200	400
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)	0.2	1.0
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.42	1.0	1.5
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	14.53	45	No Relaxation
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	237	200	600
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	352	200	600
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)	0.5	No Relaxation
(III)	**General Parameters**						
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	237.0	Not Specified	Not Specified
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:5.0)	Not Specified	Not Specified
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	6.5	Not Specified	Not Specified
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	115	Not Specified	Not Specified
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	1342	Not Specified	Not Specified
8	Phosphate(as PO4)	mg/L	UV-	APHA 24th Edn.	BLQ(LOQ:0.05)	Not	Not

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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TEST REPORT

Test Report No. : TR02EN-2511210603

NABL ULR No. : TC157302500003212IF

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
			Spectrophotometer	4500 P B D (Spectrophotometry) : 2023		Specified	Specified
9	Appearance	-	Visual	Visual Examination	Clear liquid	Not Specified	Not Specified
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	11.47	Not Specified	Not Specified
	Discipline : Biological						
	Group : Water						
(IV)	**Microbiological Tests**						
1	*E.coli*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
2	*Total Coliform*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : The above sample conforms to IS 10500-2012 Amd.No4.Nov 2021 Specification limit with respect to the above tested Parameters.

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : **TR02EN-2511210602**
NABL ULR No. : **TC1573025000032120F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100735
Sample Name : Bore Well Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°58'52.44"N, Longitude:77°57'57.82"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Punnam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : IS 10500:2012

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
Description: Clear liquid							
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	7.88	6.5-8.5	No Relaxation
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	2	5	15
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.2	1.0	5.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	476	500	2000
(II)	**Parameters Concerning Undesirable Substances in excess amount**						

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511210602
NABL ULR No. : TC157302500003212OF

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40): 1991	66.7	75	200
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.19	1	No Relaxation
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	4.3	30	100
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	127.2	250	1000
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	28.1	200	400
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)	0.2	1.0
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.25	1.0	1.5
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	9.05	45	No Relaxation
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	176	200	600
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	200	200	600
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)	0.5	No Relaxation
(III)	**General Parameters**						
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	176	Not Specified	Not Specified
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:5.0)	Not Specified	Not Specified
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	6.7	Not Specified	Not Specified
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23): 2023	BLQ(LOQ:1.0)	Not Specified	Not Specified
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	24	Not Specified	Not Specified
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	756	Not Specified	Not Specified
8	Phosphate(as PO4)	mg/L	UV-	APHA 24th Edn.	BLQ(LOQ:0.05)	Not	Not

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511210602

NABL ULR No. : TC157302500003212OF

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
			Spectrophotometer	4500 P B D (Spectrophotometry) : 2023		Specified	Specified
9	Appearance	-	Visual	Visual Examination	Clear liquid	Not Specified	Not Specified
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	7.14	Not Specified	Not Specified
	Discipline : Biological						
	Group : Water						
(IV)	**Microbiological Tests**						
1	*E.coli*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Not Specified	Not Specified
2	*Total Coliform*	MPN/100ml	Microbiological	IS 1622: 1981	<2	Not Specified	Not Specified

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : The above sample conforms to IS 10500-2012 Amd.No4.Nov 2021 Specification limit with respect to the above tested Parameters.

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

Test Report No. : **TR02EN-2511210601**
NABL ULR No. : **TC1573025000032118F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100736
Sample Name : Surface Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°54'25.40"N, Longitude:77°58'42.08"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Thumbivadi
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Clear liquid					
	Discipline : Chemical				
	Group : Water				
(I)	**Organoleptic &Physical Parameter**				
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	7.12
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	2
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.1
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	401
(II)	**Parameters Concerning Undesirable Substances in excess amount**				
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40):	56.2

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Test Report No. : **TR02EN-2511210601**
NABL ULR No. : **TC157302500003211 8F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				1991	
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.48
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	3.6
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	107.2
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	23.7
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.36
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	7.63
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	116
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	157
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)
(III)	**General Parameters**				
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	2.2
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	116.0
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	36
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	5.4
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	41
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	692
8	Phosphate(as PO4)	mg/L	UV-Spectrophotometer	APHA 24th Edn. 4500 P B D (Spectrophotometry)	BLQ(LOQ:0.05)

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Test Report No. : **TR02EN-2511210601**

NABL ULR No. : **TC157302500003211 8F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				: 2023	
9	Appearance	-	Visual	Visual Examination	Clear liquid
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	6.02
	Discipline : Biological				
	Group : Water				
(IV)	**Microbiological Tests**				
1	E.coli	MPN/100ml	Microbiological	IS 1622: 1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622: 1981	<2

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

*****End of Report*****

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511210600**

NABL ULR No. : **TC1573025000032117F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2503100737
Sample Name : Surface Water
Sample Condition : Good
Sample Details (if any)
Sample Quantity : 2.5lit x 1 No
Packaging Mode : Canned
Batch No./QR Code : Latitude:10°54'54.61"N, Longitude:77°59'54.23"E
Sample Submission Type : Sampled by Lab Rep
Date of Sampling : 07.03.2025
Sampling Location : Amaravathi River
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/07/03/2025
Test Report as per : NA

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 15/03/2025
Date of Report : 15/03/2025

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Description: Clear liquid					
	Discipline : Chemical				
	Group : Water				
(I)	**Organoleptic &Physical Parameter**				
1	Odour	NA	Organoleptic	IS 3025 (Part 5) : 2018	Agreeable
2	pH Value @ 25°C	NA	pH Meter	IS 3025(Part-11): 2022	7.42
3	Colour	Hazen Unit	Visual	IS 3025 (Part 4) : 2021	2
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Agreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	0.2
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	534
(II)	**Parameters Concerning Undesirable Substances in excess amount**				
1	Calcium(as Ca)	mg/L	Titration	IS: 3025 (Part 40):	74.8

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Test Report No. : **TR02EN-2511210600**
NABL ULR No. : **TC157302500032117F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				1991	
2	Iron as Fe	mg/L	UV-Spectrophotometer	IS 3025 (Part 53): 2024	0.56
3	Magnesium(as Mg)	mg/L	By Calculation	IS 3025 (Part 46): 2023	4.8
4	Chloride(as Cl)	mg/L	Titration	IS:3025 (Part 32):1988	142.6
5	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS : 3025 (Part 24 Sec1): 2022	31.5
6	Free Residual Chlorine	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
7	Fluoride(as F)	mg/L	UV-Spectrophotometer	IS 3025 (Part - 60): 2019	0.44
8	Nitrate(as NO3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	10.15
9	Total Alkalinity(as CaCO3)	mg/L	Titration	IS 3025(Part-23): 2023	171
10	Total Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	192
11	Ammonia (as NH3)	mg/L	UV-Spectrophotometer	IS: 3025 (Part 34/Sec-1): 2023	BLQ(LOQ:0.1)
(III)	**General Parameters**				
1	Biochemical Oxygen Demand for 3 days at 27 ℃	mg/L	BOD Incubator	IS 3025 (Part 44): 2023	2.8
2	Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	171.0
3	Chemical Oxygen Demand	mg/L	COD Reflux Assembly	IS 3025 (Part: 58): 2023	52
4	Dissolved Oxygen	mg/L	Titration	IS 3025 (Part: 38) 1989	5.8
5	Phenolphthalein Alkalinity (as CaCO3)	mg/L	Titration	IS 3025 (Part 23) : 2023	BLQ(LOQ:1.0)
6	Non Carbonate Hardness(as CaCO3)	mg/L	Titration	IS 3025 (Part 21): 2009	21
7	Electrical Conductivity @ 25°C	µmhos/cm	Conductivity Meter	IS 3025 (Part 14): 2013	954
8	Phosphate(as PO4)	mg/L	UV-Spectrophotometer	APHA 24th Edn. 4500 P B D (Spectrophotometry)	BLQ(LOQ:0.05)

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Test Report No. : **TR02EN-2511210600**

NABL ULR No. : **TC157302500003211 7F**

S. No.	Parameter	Measuring Unit	Instrument	Method	Result
				: 2023	
9	Appearance	-	Visual	Visual Examination	Clear liquid
10	Silica as SiO2	mg/L	UV-Spectrophotometer	IS 3025 (Part - 35): 2023	8.01
	Discipline : Biological				
	Group : Water				
(IV)	**Microbiological Tests**				
1	E.coli	MPN/100ml	Microbiological	IS 1622: 1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622: 1981	<2

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

*******End of Report*******

Authorized Signatory
Name : Dr. Prabakaran Vadivel
Discipline : Biological
Date : 15/03/2025

Authorised by
Name : Vijay Anand
Discipline : Chemical
Date : 15/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221003**
NABL ULR No. : **TC1573025000032786F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170548
Sample Name : Ambient Air Quality
Sample Condition : Good
Sample Details (if any)
Batch No./QR Code : Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.52	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.05	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.29	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.24	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221003**

NABL ULR No. : **TC157302500003278 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.32	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221005**

NABL ULR No. : **TC1573025000032788F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170549	Received On	: 10/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 14/03/2025
Sample Details (if any)		Date of Report	: 14/03/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.28	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221005**

NABL ULR No. : **TC157302500003278 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.09	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **14/03/2025**

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221010**

NABL ULR No. : **TC1573025000032793F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170550
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.48	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.96	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.95	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.29	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.15	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221010

NABL ULR No. : TC157302500003279 3F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.28	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221004**

NABL ULR No. : **TC1573025000032787F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170551
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.58	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.99	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.24	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : TR02EN-2511221004

NABL ULR No. : TC157302500003278 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221009**

NABL ULR No. : **TC1573025000032792F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170552
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pavithiram
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.20	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.41	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.68	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.54	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511221009

NABL ULR No. : TC157302500003279 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.02	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221006**
NABL ULR No. : **TC1573025000032789F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170553
Sample Name : Ambient Air Quality
Sample Condition : Good
Sample Details (if any)
Batch No./QR Code : Latitude:10°57'42.49"N, Longitude:77°57'1.93"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.55	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.24	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.63	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.69	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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TEST REPORT

Test Report No. : TR02EN-2511221006
NABL ULR No. : TC157302500003278 9F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221001**

NABL ULR No. : **TC1573025000032784F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170555
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.13	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.27	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.16	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.25	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	0	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511221001

NABL ULR No. : TC157302500003278 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221011**

NABL ULR No. : **TC1573025000032794F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170556
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.17	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.2	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.44	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.4	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221011

NABL ULR No. : TC157302500003279 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221007**

NABL ULR No. : **TC1573025000032790F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170557
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.83	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.11	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.84	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : TR02EN-2511221007

NABL ULR No. : TC1573025000032790F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.38	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

Since 1988

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221000**

NABL ULR No. : **TC1573025000032783F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170558
Sample Name : Ambient Air Quality
Sample Condition : Good.
Sample Details (if any)
Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.04	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.08	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.54	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.75	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.96	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : **TR02EX-2511221000**

NABL ULR No. : **TC157302500003278 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **14/03/2025**

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221008**

NABL ULR No. : **TC1573025000032791F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170559	Received On	: 17/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 17/03/2025
Sample Condition	: Good	Completed On	: 21/03/2025
Sample Details (if any)		Date of Report	: 21/03/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No.	Sampling Information:	
(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.20	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.25	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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TEST REPORT

Test Report No. : TR02EN-2511221008
NABL ULR No. : TC157302500003279lF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Website : www.itclabs.com

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220999**

NABL ULR No. : **TC1573025000032782F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170560
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'42.49"N, Longitude:77°57'1.93"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.16	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.16	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.16	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.39	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
Ph : 044 - 24962512
Email : itclabs.chennai@itclabs.com
Website : www.itclabs.com

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TEST REPORT

Test Report No. : TR02EN-2511220999

NABL ULR No. : TC157302500003278 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221002**

NABL ULR No. : **TC157302500003278 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170561	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.31	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.62	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.16	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511221002**

NABL ULR No. : **TC157302500003278SF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220998**

NABL ULR No. : **TC157302500003278lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170562	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.15	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.63	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.4	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.52	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220998**

NABL ULR No. : **TC157302500003278lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.01	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220997**

NABL ULR No. : **TC157302500003278OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170563	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.54	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.28	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.03	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.97	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220997

NABL ULR No. : TC157302500003278OF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.2	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	-1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220996**

NABL ULR No. : **TC157302500003279F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170564	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	: 1440
(c)	Avg. Ambient Temperature , °C	: 30
(d)	Relative Humidity , %(Avg.)	: 49
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.03	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	5.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	5.03	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	5.03	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	5.03	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	5.03	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220996**

NABL ULR No. : **TC157302500003277 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	5.03	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.03	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	5.03	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	5.03	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	5.03	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	5.03	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220995**

NABL ULR No. : **TC1573025000032778F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170565
Sample Name : Ambient Air Quality
Sample Condition : Good
Sample Details (if any)
Batch No./QR Code : Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pavithiram
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 24/03/2025
Commenced On : 24/03/2025
Completed On : 28/03/2025
Date of Report : 28/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.04	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.36	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220995**

NABL ULR No. : **TC157302500003277 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220989**

NABL ULR No. : **TC157302500003277 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170566	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.15	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.59	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.38	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.51	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220989

NABL ULR No. : TC157302500003277 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.26	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220994**

NABL ULR No. : **TC157302500003277 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170567	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.38	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.77	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.22	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220994**

NABL ULR No. : **TC157302500003277 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9.	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220993**

NABL ULR No. : **TC157302500003276F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170568	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.29	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.21	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.62	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.68	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220993**

NABL ULR No. : **TC157302500003276F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220992**

NABL ULR No. : **TC157302500003277 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170569	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.34	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.88	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.26	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.13	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220992

NABL ULR No. : TC157302500003277SF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.27	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220987**

NABL ULR No. : **TC157302500003277OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170570	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.16	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.33	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.51	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.97	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220987**

NABL ULR No. : **TC157302500003277OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.1	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :
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044-24962512 itclabs.chennai@itclabs.com www.itclabs.com

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220984**

NABL ULR No. : **TC157302500003276 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170571	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.15	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.52	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220984**

NABL ULR No. : **TC157302500003276 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.05	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220988**

NABL ULR No. : **TC157302500003277 1F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170572	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.28	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.17	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.60	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.67	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220988**

NABL ULR No. : **TC157302500003277IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.12	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220985**

NABL ULR No. : **TC157302500003276 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170573	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.82	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.65	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.81	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220985**

NABL ULR No. : **TC157302500003276 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.75	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220991**

NABL ULR No. : **TC157302500003277 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170574	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.56	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.13	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.74	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.98	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.63	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

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TEST REPORT

Test Report No. : TR02EN-2511220991

NABL ULR No. : TC157302500003277 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.49	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220990**

NABL ULR No. : **TC157302500003277 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170575	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.5	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.55	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.67	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.12	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220990

NABL ULR No. : TC157302500003277 3F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.25	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220983**

NABL ULR No. : **TC1573025000032766F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170576	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.27	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.14	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220983**

NABL ULR No. : **TC157302500003276 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.52	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220986**

NABL ULR No. : **TC157302500003276 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170577	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.23	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.97	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.09	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.73	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.46	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220986**

NABL ULR No. : **TC157302500003276 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220982**

NABL ULR No. : **TC157302500003276 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village. Pugalur Taluk.
Karur. 639111
Tamil Nadu. India

Sample Registration No.	: SR02EN-2511170578	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good .	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.29	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.70	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.96	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.62	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220982

NABL ULR No. : TC157302500003276SF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220980**

NABL ULR No. : **TC157302500003276 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170579	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.23	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.45	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.89	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.88	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.86	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220980**

NABL ULR No. : **TC157302500003276 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

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TEST REPORT

Test Report No. : **TR02EN-2511220981**

NABL ULR No. : **TC157302500003276 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170580	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.05	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.94	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.13	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.34	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220981**

NABL ULR No. : **TC157302500003276 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220974**

NABL ULR No. : **TC157302500003275 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170581	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.25	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.5	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.56	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.76	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.77	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511220974

NABL ULR No. : TC157302500003275 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.35	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220976**

NABL ULR No. : **TC157302500003275 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170582	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.02	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.3	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.5	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.89	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220976**

NABL ULR No. : **TC157302500003275 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220979**

NABL ULR No. : **TC157302500003276 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170583	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.04	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.09	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.36	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.91	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.18	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220979**

NABL ULR No. : **TC157302500003276 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220975**

NABL ULR No. : **TC157302500003275 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170584	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E'		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring . minutes	1440
(c)	Avg. Ambient Temperature . °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.11	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.22	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.12	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.33	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220975**

NABL ULR No. : **TC157302500003275 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220978**

NABL ULR No. : **TC157302500003276lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170585	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.18	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.36	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.57	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.14	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.04	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220978**

NABL ULR No. : **TC157302500003276IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220973**

NABL ULR No. : **TC157302500003275 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170586
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/26/04/2025
Test Report as per : NAAQ Norms

Received On : 21/04/2025
Commenced On : 21/04/2025
Completed On : 25/04/2025
Date of Report : 25/04/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.59	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.38	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.51	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220973**

NABL ULR No. : **TC157302500003275 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.12	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220977**

NABL ULR No. : **TC1573025000032760F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170587	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring . minutes	1440
(c)	Avg. Ambient Temperature . °C	31
(d)	Relative Humidity . %(Avg.)	50
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.53	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.23	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.01	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.95	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220977**

NABL ULR No. : **TC157302500003276OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220967**

NABL ULR No. : **TC157302500003275OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170588
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 21/04/2025
Commenced On : 21/04/2025
Completed On : 25/04/2025
Date of Report : 25/04/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/26/04/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.18	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.74	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220967**

NABL ULR No. : **TC157302500003275OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.27	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max-
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220969**

NABL ULR No. : **TC157302500003275 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170589	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.06	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.00	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.15	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.35	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220969

NABL ULR No. : TC157302500003275 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.04	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220972**

NABL ULR No. : **TC157302500003275 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170590	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.13	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.25	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.55	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.36	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.50	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220972**

NABL ULR No. : **TC157302500003275 5F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220966**

NABL ULR No. : **TC157302500003274 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170591	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good .	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.22	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.44	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.84	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.86	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.85	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220966**

NABL ULR No. : **TC157302500003274 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220971**

NABL ULR No. : **TC157302500003275 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170592	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.06	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.9	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.11	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.32	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220971**

NABL ULR No. : **TC157302500003275 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220968**

NABL ULR No. : **TC157302500003275lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170593	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.26	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.51	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.51	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.74	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.76	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220968**

NABL ULR No. : **TC157302500003275IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.42	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220954**

NABL ULR No. : **TC157302500003273 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170594	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.25	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.48	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.88	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220954**

NABL ULR No. : **TC157302500003273 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220970**

NABL ULR No. : **TC157302500003275 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170595	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	9.98	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.31	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.89	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.17	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220970**

NABL ULR No. : **TC157302500003275 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220965**

NABL ULR No. : **TC157302500003274 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170596	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.32	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.86	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.10	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.31	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220965**

NABL ULR No. : **TC157302500003274 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220914**

NABL ULR No. : **TC157302500003269 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170646	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.29	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.58	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	52.83	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	20.32	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	14.28	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511220914

NABL ULR No. : TC157302500003269 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	6.21	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220913**

NABL ULR No. : **TC157302500003269 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170647	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.02	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	50.48	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.64	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220913**

NABL ULR No. : **TC157302500003269 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.93	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

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TEST REPORT

Test Report No. : **TR02EN-2511220912**

NABL ULR No. : **TC157302500003269 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170648	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.24	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.48	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	52.43	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	20.17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	14.17	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

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TEST REPORT

Test Report No. : **TR02EN-2511220912**

NABL ULR No. : **TC157302500003269 5F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	6.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TEST REPORT

Test Report No. : **TR02EN-2511220910**

NABL ULR No. : **TC157302500003269 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170649	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.78	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.5	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.44	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220910**

NABL ULR No. : **TC157302500003269 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220905**

NABL ULR No. : **TC157302500003268 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170650	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.85	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	49.78	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.15	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.45	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220905**

NABL ULR No. : **TC157302500003268 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.17	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220908**

NABL ULR No. : **TC157302500003269lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170651	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.46	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	50.44	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.40	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.63	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

Disclaimer :

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220908**

NABL ULR No. : **TC157302500003269IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220904**

NABL ULR No. : **TC157302500003268 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170652
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

S. No. Sampling Information:

(a) Date of Monitoring , - : 06.05.25- 07.05.25
(b) Duration of Monitoring , minutes : 1440
(c) Avg. Ambient Temperature , °C : 32.5
(d) Relative Humidity , %(Avg.) : 43
(e) Sky Appearance , - : Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.19	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.39	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.63	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.78	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.79	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220904**

NABL ULR No. : **TC157302500003268 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.13	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220906**

NABL ULR No. : **TC157302500003268 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170653
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.17	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.69	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.04	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.27	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220906**

NABL ULR No. : **TC157302500003268 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.17	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220911**

NABL ULR No. : **TC157302500003269 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170654
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.3	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220911**

NABL ULR No. : **TC157302500003269 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.37	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220907**

NABL ULR No. : **TC157302500003269OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170655
Sample Name : Ambient Air Quality
Sample Condition . : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.03	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.06	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.06	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.41	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.83	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

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Test Report No. : **TR02EN-2511220907**

NABL ULR No. : **TC157302500003269OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220909**

NABL ULR No. : **TC157302500003269 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170656	Received On	: 12/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 12/05/2025
Sample Condition	: Good	Completed On	: 16/05/2025
Sample Details (if any)		Date of Report	: 16/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.12	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.81	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.11	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220909**

NABL ULR No. : **TC157302500003269 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.10	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220903**

NABL ULR No. : **TC157302500003268 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170657	Received On	: 12/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 12/05/2025
Sample Condition	: Good	Completed On	: 16/05/2025
Sample Details (if any)		Date of Report	: 16/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.16	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.65	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.02	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.26	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220903**

NABL ULR No. : **TC157302500003268 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220902**

NABL ULR No. : **TC157302500003268 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170658	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.6	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.19	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.13	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.51	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.01	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220902**

NABL ULR No. : **TC157302500003268 5F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.66	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220891**

NABL ULR No. : **TC157302500003267 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170659	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.35	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.7	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.99	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.69	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.43	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220891

NABL ULR No. : TC157302500003267 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.4	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220897**

NABL ULR No. : **TC157302500003268OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170660	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.55	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	47.77	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.37	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.91	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220897

NABL ULR No. : TC157302500003268OF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.61	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220896**

NABL ULR No. : **TC157302500003267 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170661	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.28	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.19	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.94	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

Test Report No. : **TR02EN-2511220896**

NABL ULR No. : **TC157302500003267 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.69	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220890**

NABL ULR No. : **TC157302500003267 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170662	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.55	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.36	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.44	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.26	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220890**

NABL ULR No. : **TC157302500003267 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.33	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220889**

NABL ULR No. : **TC157302500003267 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170663	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.34	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.95	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.67	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.42	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220889**

NABL ULR No. : **TC157302500003267 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.40	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220888**

NABL ULR No. : **TC157302500003267 1F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170664	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.64	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.27	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	47.35	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.21	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.8	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220888**

NABL ULR No. : **TC157302500003267lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.56	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220899**

NABL ULR No. : **TC157302500003268 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170665	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.77	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.25	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.4	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.23	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220899**

NABL ULR No. : **TC157302500003268 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.32	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220901**

NABL ULR No. : **TC157302500003268 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170666	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.59	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.19	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.99	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.07	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220901**

NABL ULR No. : **TC157302500003268 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.52	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220900**

NABL ULR No. : **TC157302500003268 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170667	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.17	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.35	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.47	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.72	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.75	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220900

NABL ULR No. : TC157302500003268 3F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.59	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220898**

NABL ULR No. : **TC157302500003268lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170668	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition.	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.31	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.62	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.62	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.16	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220898**

NABL ULR No. : **TC157302500003268lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220895**

NABL ULR No. : **TC157302500003267 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170669	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.38	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.76	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.20	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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Plot No.2, Site No. 12/2A, Industrial Estate, Perungudi, Sholinganallur Taluk, Chennai- 600096 (Tamil Nadu)

044-24962512 itclabs.chennai@itclabs.com www.itclabs.com

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220895**

NABL ULR No. : **TC157302500003267 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

Disclaimer :

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- The test items shall not be retained more than 15 days from the date of issue of test report except in the case as required by the regulatory bodies and Customers.

Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221003**
NABL ULR No. : **TC1573025000032786F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170548	Received On	: 10/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 14/03/2025
Sample Details (if any)		Date of Report	: 14/03/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.52	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.05	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.29	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.24	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221003**

NABL ULR No. : **TC157302500003278 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.32	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221005**

NABL ULR No. : **TC1573025000032788F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170549	Received On	: 10/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 10/03/2025
Sample Condition	: Good	Completed On	: 14/03/2025
Sample Details (if any)		Date of Report	: 14/03/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.28	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

Test Report No. : **TR02EN-2511221005**

NABL ULR No. : **TC157302500003278 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.09	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221010**

NABL ULR No. : **TC1573025000032793F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170550
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.48	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.96	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.95	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.29	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.15	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221010

NABL ULR No. : TC157302500003279 3F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.28	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221004**

NABL ULR No. : **TC1573025000032787F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170551
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.58	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.99	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.24	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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TEST REPORT

Test Report No. : TR02EN-2511221004

NABL ULR No. : TC157302500003278 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221009**

NABL ULR No. : **TC1573025000032792F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170552
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pavithiram
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.20	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.41	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.68	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.54	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511221009

NABL ULR No. : TC157302500003279 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.02	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Website : www.itclabs.com

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221006**
NABL ULR No. : **TC1573025000032789F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170553
Sample Name : Ambient Air Quality
Sample Condition : Good
Sample Details (if any)
Batch No./QR Code : Latitude:10°57'42.49"N, Longitude:77°57'1.93"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 10/03/2025
Commenced On : 10/03/2025
Completed On : 14/03/2025
Date of Report : 14/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 04.03.25- 05.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	53
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.55	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.24	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.63	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.69	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221006

NABL ULR No. : TC157302500003278 9F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

Since 1988

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221001**

NABL ULR No. : **TC1573025000032784F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170555
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.13	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.27	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.16	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.25	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	0	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511221001

NABL ULR No. : TC157302500003278 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221011**

NABL ULR No. : **TC1573025000032794F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170556
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.17	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.2	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.44	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.4	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221011

NABL ULR No. : TC157302500003279 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221007**

NABL ULR No. : **TC1573025000032790F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170557
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.83	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.11	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.84	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : TR02EN-2511221007

NABL ULR No. : TC157302500003279OF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.38	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221000**

NABL ULR No. : **TC1573025000032783F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170558
Sample Name : Ambient Air Quality
Sample Condition : Good.

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.04	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.08	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.54	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.75	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.96	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

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TEST REPORT

Test Report No. : **TR02EN-2511221000**

NABL ULR No. : **TC157302500003278 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **14/03/2025**

Interstellar Testing Centre Private Limited
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221008**

NABL ULR No. : **TC1573025000032791F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170559	Received On	: 17/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 17/03/2025
Sample Condition	: Good	Completed On	: 21/03/2025
Sample Details (if any)		Date of Report	: 21/03/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No.	Sampling Information:	
(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.20	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.25	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
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TEST REPORT

Test Report No. : TR02EN-2511221008
NABL ULR No. : TC157302500003279lF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220999**

NABL ULR No. : **TC1573025000032782F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170560
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'42.49"N, Longitude:77°57'1.93"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/30/03/2025
Test Report as per : NAAQ Norms

Received On : 17/03/2025
Commenced On : 17/03/2025
Completed On : 21/03/2025
Date of Report : 21/03/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 11.03.25- 12.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	51
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.16	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.16	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.16	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.39	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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Perungudi, Sholinganallur Taluk, Chennai - 600 096.
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TEST REPORT

Test Report No. : TR02EN-2511220999

NABL ULR No. : TC157302500003278 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 14/03/2025

Interstellar Testing Centre Private Limited
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511221002**

NABL ULR No. : **TC157302500003278SF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170561	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.31	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.62	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.16	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511221002**

NABL ULR No. : **TC157302500003278SF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220998**

NABL ULR No. : **TC157302500003278lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170562	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.15	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.63	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.4	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.52	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220998**

NABL ULR No. : **TC157302500003278lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.01	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220997**

NABL ULR No. : **TC157302500003278OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170563	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.54	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.28	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.03	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.97	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220997**

NABL ULR No. : **TC157302500003278OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.2	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	-1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220996**

NABL ULR No. : **TC157302500003279F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170564	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	: 1440
(c)	Avg. Ambient Temperature , °C	: 30
(d)	Relative Humidity , %(Avg.)	: 49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.03	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	5.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	5.03	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	5.03	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	5.03	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	5.03	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220996**

NABL ULR No. : **TC157302500003277 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	5.03	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.03	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	5.03	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	5.03	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	5.03	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	5.03	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220995**

NABL ULR No. : **TC1573025000032778F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170565	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.04	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.36	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220995**

NABL ULR No. : **TC157302500003277 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220989**

NABL ULR No. : **TC157302500003277 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170566	Received On	: 24/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 24/03/2025
Sample Condition	: Good	Completed On	: 28/03/2025
Sample Details (if any)		Date of Report	: 28/03/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 18.03.25- 19.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	30
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.15	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.59	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.38	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.51	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220989

NABL ULR No. : TC157302500003277 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.26	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220994**

NABL ULR No. : **TC157302500003277 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170567	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.38	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.77	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.22	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220994**

NABL ULR No. : **TC157302500003277 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9.	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220993**

NABL ULR No. : **TC157302500003276F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170568	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.29	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.21	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.62	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.68	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220993**

NABL ULR No. : **TC157302500003276F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220992**

NABL ULR No. : **TC157302500003277 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170569	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.34	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.88	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.26	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.13	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220992**

NABL ULR No. : **TC157302500003277SF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.27	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220987**

NABL ULR No. : **TC157302500003277OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170570	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.16	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.33	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.51	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.97	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220987**

NABL ULR No. : **TC157302500003277OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.1	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220984**

NABL ULR No. : **TC157302500003276 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170571	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.15	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.52	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220984**

NABL ULR No. : **TC157302500003276 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.05	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220988**

NABL ULR No. : **TC1573025000032771F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170572	Received On	: 31/03/2025
Sample Name	: Ambient Air Quality	Commenced On	: 31/03/2025
Sample Condition	: Good	Completed On	: 04/04/2025
Sample Details (if any)		Date of Report	: 04/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/30/03/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 25.03.25- 26.03.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 30.5
(d)	Relative Humidity , %(Avg.)	48
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.28	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.17	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.60	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.67	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220988**

NABL ULR No. : **TC157302500003277IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.12	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220985**

NABL ULR No. : **TC157302500003276 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170573	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.82	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.65	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.81	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220985**

NABL ULR No. : **TC157302500003276 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.75	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220991**

NABL ULR No. : **TC157302500003277 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170574	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.56	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.13	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.74	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.98	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.63	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220991**

NABL ULR No. : **TC157302500003277 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.49	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **28/03/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220990**

NABL ULR No. : **TC157302500003277 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170575	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.5	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.55	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.67	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.12	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220990**

NABL ULR No. : **TC157302500003277 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.25	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 28/03/2025

Disclaimer :
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Interstellar Testing Centre Pvt. Ltd.

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Plot No.2, Site No. 12/2A, Industrial Estate, Perungudi, Sholinganallur Taluk, Chennai- 600096 (Tamil Nadu)

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220983**

NABL ULR No. : **TC1573025000032766F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170576	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.27	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.14	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220983**

NABL ULR No. : **TC157302500003276 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.52	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220986**

NABL ULR No. : **TC157302500003276 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170577	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.23	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.97	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.09	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.73	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.46	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220986**

NABL ULR No. : **TC157302500003276 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220982**

NABL ULR No. : **TC157302500003276 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village. Pugalur Taluk.
Karur. 639111
Tamil Nadu. India

Sample Registration No.	: SR02EN-2511170578	Received On	: 07/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 07/04/2025
Sample Condition	: Good .	Completed On	: 11/04/2025
Sample Details (if any)		Date of Report	: 11/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 02.04.25- 03.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	49
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.29	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.70	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.96	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.62	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511220982

NABL ULR No. : TC157302500003276SF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220980**

NABL ULR No. : **TC157302500003276 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170579	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.23	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.45	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.89	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.88	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.86	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220980**

NABL ULR No. : **TC157302500003276 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220981**

NABL ULR No. : **TC157302500003276 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170580	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.05	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.94	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.13	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.34	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220981**

NABL ULR No. : **TC157302500003276 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220974**

NABL ULR No. : **TC157302500003275 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170581	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.25	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.5	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.56	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.76	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.77	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511220974

NABL ULR No. : TC157302500003275 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.35	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220976**

NABL ULR No. : **TC157302500003275 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170582	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.02	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.3	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.5	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.89	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220976**

NABL ULR No. : **TC157302500003275 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220979**

NABL ULR No. : **TC157302500003276 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170583	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring . minutes	1440
(c)	Avg. Ambient Temperature . °C	: 31.5
(d)	Relative Humidity . %(Avg.)	47
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.04	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.09	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.36	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.91	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.18	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220979**

NABL ULR No. : **TC157302500003276 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.08	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220975**

NABL ULR No. : **TC157302500003275 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170584	Received On	: 15/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 15/04/2025
Sample Condition	: Good	Completed On	: 19/04/2025
Sample Details (if any)		Date of Report	: 19/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E'		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 08.04.25- 09.04.25
(b)	Duration of Monitoring . minutes	1440
(c)	Avg. Ambient Temperature . °C	: 31.5
(d)	Relative Humidity , %(Avg.)	47
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.11	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.22	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.12	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.33	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220975**

NABL ULR No. : **TC157302500003275 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220978**

NABL ULR No. : **TC157302500003276lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170585	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.18	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.36	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.57	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.14	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.04	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220978**

NABL ULR No. : **TC157302500003276IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220973**

NABL ULR No. : **TC157302500003275 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170586
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/26/04/2025
Test Report as per : NAAQ Norms

Received On : 21/04/2025
Commenced On : 21/04/2025
Completed On : 25/04/2025
Date of Report : 25/04/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.14	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.59	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.38	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.51	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

Disclaimer :

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220973**

NABL ULR No. : **TC157302500003275 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.12	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

Disclaimer :

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- The test items shall not be retained more than 15 days from the date of issue of test report except in the case as required by the regulatory bodies and Customers.

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220977**

NABL ULR No. : **TC1573025000032760F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170587	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.53	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.23	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.01	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.95	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

Disclaimer :

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220977**

NABL ULR No. : **TC157302500003276OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220967**

NABL ULR No. : **TC157302500003275OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170588
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 21/04/2025
Commenced On : 21/04/2025
Completed On : 25/04/2025
Date of Report : 25/04/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/26/04/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.09	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.18	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.91	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.74	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220967**

NABL ULR No. : **TC157302500003275OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.27	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max-
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220969**

NABL ULR No. : **TC157302500003275 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170589	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.06	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.00	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.15	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.35	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

Test Report No. : TR02EN-2511220969

NABL ULR No. : TC157302500003275 2F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.04	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220972**

NABL ULR No. : **TC157302500003275 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170590	Received On	: 21/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 21/04/2025
Sample Condition	: Good	Completed On	: 25/04/2025
Sample Details (if any)		Date of Report	: 25/04/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 15.04.25- 16.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	50
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.13	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.25	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	42.55	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.36	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.50	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 11/04/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220972**

NABL ULR No. : **TC157302500003275 5F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.11	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **11/04/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220966**

NABL ULR No. : **TC157302500003274 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170591	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good .	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.22	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.44	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.84	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.86	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.85	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220966**

NABL ULR No. : **TC157302500003274 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220971**

NABL ULR No. : **TC1573025000032754F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170592	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.06	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.12	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.9	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.11	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.32	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220971**

NABL ULR No. : **TC157302500003275 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.22	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220968**

NABL ULR No. : **TC157302500003275 1F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170593	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.26	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.51	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.51	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.74	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.76	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220968**

NABL ULR No. : **TC157302500003275IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.42	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220954**

NABL ULR No. : **TC157302500003273 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170594	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.25	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.48	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.88	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220954**

NABL ULR No. : **TC157302500003273 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220970**

NABL ULR No. : **TC157302500003275 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170595	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.07	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	9.98	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.31	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.89	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.17	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220970**

NABL ULR No. : **TC157302500003275 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.15	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220965**

NABL ULR No. : **TC157302500003274 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170596	Received On	: 28/04/2025
Sample Name	: Ambient Air Quality	Commenced On	: 28/04/2025
Sample Condition	: Good	Completed On	: 02/05/2025
Sample Details (if any)		Date of Report	: 02/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/26/04/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 22.04.25- 23.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	31
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.32	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.86	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.10	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.31	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220965**

NABL ULR No. : **TC157302500003274 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.19	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220914**

NABL ULR No. : **TC157302500003269 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170646	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.29	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.58	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	52.83	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	20.32	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	14.28	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : TR02EN-2511220914

NABL ULR No. : TC157302500003269 7F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	6.21	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220913**

NABL ULR No. : **TC157302500003269 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170647	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.02	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	50.48	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.42	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.64	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220913**

NABL ULR No. : **TC157302500003269 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.93	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220912**

NABL ULR No. : **TC157302500003269 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170648	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	6.24	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.48	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	52.43	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	20.17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	14.17	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220912**

NABL ULR No. : **TC157302500003269 5F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	6.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **02/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220910**

NABL ULR No. : **TC157302500003269 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170649	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.78	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.5	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.44	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220910**

NABL ULR No. : **TC157302500003269 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.18	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220905**

NABL ULR No. : **TC157302500003268 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170650	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.85	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	49.78	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.15	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.45	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220905**

NABL ULR No. : **TC157302500003268 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.17	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220908**

NABL ULR No. : **TC157302500003269lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170651	Received On	: 05/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 05/05/2025
Sample Condition	: Good	Completed On	: 09/05/2025
Sample Details (if any)		Date of Report	: 09/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 29.04.25- 30.04.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 31.5
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.46	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	12.01	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	50.44	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	19.40	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.63	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220908**

NABL ULR No. : **TC157302500003269IF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220904**

NABL ULR No. : **TC157302500003268 7F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170652
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Nearby Core
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.19	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.39	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.63	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.78	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.79	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220904**

NABL ULR No. : **TC157302500003268 7F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.13	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220906**

NABL ULR No. : **TC157302500003268 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170653
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'2.32"N, Longitude:77°57'53.08"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pudhukkanalli
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.17	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.69	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.04	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.27	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220906**

NABL ULR No. : **TC157302500003268 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.17	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220911**

NABL ULR No. : **TC157302500003269 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170654
Sample Name : Ambient Air Quality
Sample Condition : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'19.07"N, Longitude:77°59'10.68"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Pallamarudhapatti
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.28	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.56	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.3	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.65	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220911**

NABL ULR No. : **TC157302500003269 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.37	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 02/05/2025

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TC-15730

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TEST REPORT

Test Report No. : **TR02EN-2511220907**

NABL ULR No. : **TC157302500003269OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170655
Sample Name : Ambient Air Quality
Sample Condition . : Good

Received On : 12/05/2025
Commenced On : 12/05/2025
Completed On : 16/05/2025
Date of Report : 16/05/2025

Sample Details (if any)

Batch No./QR Code : Latitude:10°56'32.72"N, Longitude:77°57'32.25"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Malapalayampudur
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.03	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.06	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	40.06	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.41	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	10.83	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220907**

NABL ULR No. : **TC157302500003269OF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220909**

NABL ULR No. : **TC157302500003269 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170656	Received On	: 12/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 12/05/2025
Sample Condition	: Good	Completed On	: 16/05/2025
Sample Details (if any)		Date of Report	: 16/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.01	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.03	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.12	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	15.81	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.11	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220909**

NABL ULR No. : **TC157302500003269 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.10	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220903**

NABL ULR No. : **TC157302500003268 6F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170657	Received On	: 12/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 12/05/2025
Sample Condition	: Good	Completed On	: 16/05/2025
Sample Details (if any)		Date of Report	: 16/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 06.05.25- 07.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	: 32.5
(d)	Relative Humidity , %(Avg.)	43
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.08	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.16	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	41.65	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.02	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.26	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220903**

NABL ULR No. : **TC157302500003268 6F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.16	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220902**

NABL ULR No. : **TC157302500003268 5F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170658	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.6	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.19	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	48.13	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.51	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	13.01	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220902

NABL ULR No. : TC157302500003268 5F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.66	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220891**

NABL ULR No. : **TC157302500003267 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170659	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.35	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.7	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.99	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.69	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.43	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220891

NABL ULR No. : TC157302500003267 4F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.4	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220897**

NABL ULR No. : **TC157302500003268OF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170660	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.55	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.11	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	47.77	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.37	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.91	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220897

NABL ULR No. : TC157302500003268OF

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.61	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*******End of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220896**

NABL ULR No. : **TC157302500003267 9F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170661	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.14	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.28	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.19	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.94	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220896**

NABL ULR No. : **TC157302500003267 9F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.69	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220890**

NABL ULR No. : **TC157302500003267 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170662	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring . -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring . minutes	1440
(c)	Avg. Ambient Temperature . °C	32
(d)	Relative Humidity . %(Avg.)	44
(e)	Sky Appearance . -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.27	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.55	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.36	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.44	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.26	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

Disclaimer :

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220890**

NABL ULR No. : **TC157302500003267 3F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.33	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

Disclaimer :
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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220889**

NABL ULR No. : **TC157302500003267 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170663	Received On	: 19/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 19/05/2025
Sample Condition	: Good	Completed On	: 23/05/2025
Sample Details (if any)		Date of Report	: 23/05/2025
Batch No./QR Code	: Latitude:10°57'42.49"N, Longitude:77°57'1.93"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Karudayampalayam		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 13.05.25- 14.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	32
(d)	Relative Humidity , %(Avg.)	44
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.34	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.69	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.95	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.67	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.42	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220889**

NABL ULR No. : **TC157302500003267 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.40	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220888**

NABL ULR No. : **TC157302500003267 1F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170664	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude: 10°56'48.44"N, Longitude:77°58'7.37"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Nearby Core		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.64	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.27	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	47.35	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.21	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.8	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220888**

NABL ULR No. : **TC157302500003267lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.56	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS). Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220899**

NABL ULR No. : **TC157302500003268 2F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170665	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°57'2.32"N, Longitude:77°57'53.08"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pudhukkanalli		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.39	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.77	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.25	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.4	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.23	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

TEST REPORT

ORIGINAL

Test Report No. : **TR02EN-2511220899**

NABL ULR No. : **TC157302500003268 2F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.32	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit. DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220901**

NABL ULR No. : **TC157302500003268 4F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170666	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°56'19.07"N, Longitude:77°59'10.68"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pallamarudhapatti		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.59	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	11.19	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	46.99	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	18.07	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.7	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220901**

NABL ULR No. : **TC157302500003268 4F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.52	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TEST REPORT

Test Report No. : **TR02EN-2511220900**

NABL ULR No. : **TC157302500003268 3F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170667	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°56'32.72"N, Longitude:77°57'32.25"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Malapalayampudur		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.17	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.35	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	43.47	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	16.72	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	11.75	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : TR02EN-2511220900

NABL ULR No. : TC157302500003268 3F

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.59	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220898**

NABL ULR No. : **TC157302500003268lF**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170668	Received On	: 26/05/2025
Sample Name	: Ambient Air Quality	Commenced On	: 26/05/2025
Sample Condition.	: Good	Completed On	: 30/05/2025
Sample Details (if any)		Date of Report	: 30/05/2025
Batch No./QR Code	: Latitude:10°57'29.58"N, Longitude: 77°59'1.87"E		
Sample Submission Type	: Sampled by Lab Rep		
Sampling Location	: Pavithiram		
Environment Condition	: Good		
Sampling Procedure	: ITC/CHN/GSOP/001		
Customer Reference	: Test Request Form/24/05/2025		
Test Report as per	: NAAQ Norms		

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.31	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.62	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	44.62	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.16	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.06	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730
ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220898**

NABL ULR No. : **TC157302500003268lF**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.24	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : **Sakthivel**
Discipline : **Chemical**
Date : **16/05/2025**

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Plot No.2, Site No. 12/2A, Industrial Estate, Perungudi, Sholinganallur Taluk, Chennai– 600096 (Tamil Nadu)

044-24962512 itclabs.chennai@itclabs.com www.itclabs.com

TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220895**

NABL ULR No. : **TC157302500003267 8F**

Issued To :

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk,
Karur, 639111
Tamil Nadu, India

Sample Registration No. : SR02EN-2511170669
Sample Name : Ambient Air Quality
Sample Condition : Good

Sample Details (if any)

Batch No./QR Code : Latitude:10°57'42.49"N, Longitude:77°57'1.93"E
Sample Submission Type : Sampled by Lab Rep
Sampling Location : Karudayampalayam
Environment Condition : Good
Sampling Procedure : ITC/CHN/GSOP/001
Customer Reference : Test Request Form/24/05/2025
Test Report as per : NAAQ Norms

Received On : 26/05/2025
Commenced On : 26/05/2025
Completed On : 30/05/2025
Date of Report : 30/05/2025

S. No. Sampling Information:

(a)	Date of Monitoring , -	: 20.05.25- 21.05.25
(b)	Duration of Monitoring , minutes	1440
(c)	Avg. Ambient Temperature , °C	33
(d)	Relative Humidity , %(Avg.)	45
(e)	Sky Appearance , -	: Clear sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	**Ambient Air Quality Parameters**				
1	Sulphur Dioxide (SO2)	µg/m3	IS 5182(Part-2): 2001	5.38	80 Max
2	Nitrogen Dioxide (NO2)	µg/m3	IS 5182(Part -6): 2006	10.76	80 Max
3	Particulate Matter (PM 10)	µg/m3	IS 5182(Part-23): 2006	45.20	100 Max
4	Particulate Matter (PM 2.5)	µg/m3	IS 5182(Part-24): 2019	17.39	60 Max
5	Ozone (O3)	µg/m3	IS 5182(Part-9): 1974	12.22	180 Max
6	Lead (pb)	µg/m3	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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TC-15730

ORIGINAL

TEST REPORT

Test Report No. : **TR02EN-2511220895**

NABL ULR No. : **TC157302500003267 8F**

S. No.	Parameter	Measuring Unit	Method	Result	Specification
7	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max
8	Ammonia (NH3)	µg/m3	IS 5182(Part-25): 2018	5.31	400 Max
9	Benzene (C6H6)	µg/m3	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max
10	Benzo (a) Pyrene (Particulate Phase only)	ng/m3	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max
11	Arsenic (As)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max
12	Nickel (Ni)	ng/m3	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max

NOTE : NAAQ: National Ambient Air Quality. Instrument used: Respirable Dust Sampler(RDS). Fine Dust Sampler(FDS), Multigas Analyser.Low Flow Air Sampler. BDL: Below Detection Limit, DL: Detection Limit.

REMARKS : The above sample complies with NAAQ norms with respect to the above tested Parameters.

*****End of Report*****

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 16/05/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15738
ORIGINAL

Test Report No. : TR02EN-2511220842

NABL ULR No. : TC157302500003262 5F

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170718			
Sample Description	: Ambient Noise-Continuous Noise	Received On	: 11-03-2025	
Sample Location	: Nearby Core	Commenced On	: 11-03-2025	
Sample details (if any)	:-	Completed On	: 13-03-2025	
		Date of Report	: 13-03-2025	
Sample Submission Type	: Sampled by Lab Rep.			
Sampling Procedure	: ITC/CHN/GSOP/001			
Customer Reference	: Test Request Form/07.03.25			
Test Report as per	: CPCB Standards			

Sampling Information

Date of Monitoring	: 06.03.25-07.03.25
Time of Monitoring	: 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	45.4	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	45.1	
3	8.01 - 8.00	IS 9989	43.7	
4	9.01 - 10.00	IS 9989	46.9	
5	10.01 - 11.00	IS 9989	51.9	
6	11.01 - 12.00	IS 9989	50.4	
7	12.01 - 1.00	IS 9989	50.2	
8	1.01 - 2.00	IS 9989	50.9	
9	2.01 - 3.00	IS 9989	51.0	
10	3.01 - 4.00	IS 9989	52.5	
11	4.01 - 5.00	IS 9989	51.4	
12	5.01 - 6.00	IS 9989	51.2	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited
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Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Website : www.ltclabs.com

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Test Report No. : TR02EN-2511220842
NABL ULR No. : TC1573025000032625F

TC-15730
ORIGINAL

13	18.01 - 19.01	IS 9989	47.7	
14	19.01 – 20.00	IS 9989	44.5	
15	20.01 - 21.00	IS 9989	44.2	
16	21.01 - 22.00	IS 9989	42.4	
	Day Time Avg. Leq dB (A)		**48.1**	
17	10.01-11.00	IS 9989	42.3	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	40.9	
19	12.01-1.00	IS 9989	40.5	
20	1.01-2.00	IS 9989	40.0	
21	2.01-3.00	IS 9989	38.0	
22	3.01-4.00	IS 9989	37.3	
23	4.01-5.00	IS 9989	38.5	
24	5.01-6.00	IS 9989	40.6	
	Night Time Avg. Leq dB (A)		**39.8**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC 15738
ORIGINAL

Test Report No. : TR02EN-2511220841

NABL ULR No. : TC1573025000032624F

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	:	SR02EN-2511170719		
Sample Description*	:	Ambient Noise-Continuous Noise	Received On	: 11-03-2025
Sample Location	:	Pudhukkanalli	Commenced On	: 11-03-2025
Sample details (if any)	:-		Completed On	: 13-03-2025
			Date of Report	: 13-03-2025
Sample Submission Type	:	Sampled by Lab Rep.		
Sampling Procedure	:	ITC/CHN/GSOP/001		
Customer Reference*	:	Test Request Form/07.03.25		
Test Report as per	:	CPCB Standards		

Sampling Information

Date of Monitoring : 06.03.25-07.03.25

Time of Monitoring : 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	39.9	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	41.3	
3	8.01 - 8.00	IS 9989	40.5	
4	9.01 - 10.00	IS 9989	45.8	
5	10.01 - 11.00	IS 9989	46.5	
6	11.01 - 12.00	IS 9989	44.8	
7	12.01 - 1.00	IS 9989	45.5	
8	1.01 - 2.00	IS 9989	46.1	
9	2.01 - 3.00	IS 9989	45.4	
10	3.01 - 4.00	IS 9989	46.5	
11	4.01 - 5.00	IS 9989	47.3	
12	5.01 - 6.00	IS 9989	46.1	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

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Test Report No. : TR02EN-2511220841

NABL ULR No. : TC1573025000032624F

13	18.01 - 19.01	IS 9989	43.5	
14	19.01 – 20.00	IS 9989	42.1	
15	20.01 - 21.00	IS 9989	40.8	
16	21.01 - 22.00	IS 9989	40.7	
	Day Time Avg. Leq dB (A)		43.9	
17	10.01-11.00	IS 9989	40.8	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	40.4	
19	12.01-1.00	IS 9989	38.4	
20	1.01-2.00	IS 9989	39.3	
21	2.01-3.00	IS 9989	39.6	
22	3.01-4.00	IS 9989	39.7	
23	4.01-5.00	IS 9989	39.3	
24	5.01-6.00	IS 9989	41.7	
	Night Time Avg. Leq dB (A)		**39.9**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

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Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

Test Report No. : TR02EN-2511220840

NABL ULR No. : TC157302500003262 3F

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170720			
Sample Description*	: Ambient Noise-Continuous Noise	Received On	: 11-03-2025	
Sample Location	: Pallamaruthapatti	Commenced On	: 11-03-2025	
Sample details (if any)	:-	Completed On	: 13-03-2025	
		Date of Report	: 13-03-2025	
Sample Submission Type	: Sampled by Lab Rep.			
Sampling Procedure	: ITC/CHN/GSOP/001			
Customer Reference*	: Test Request Form/07.03.25			
Test Report as per	: CPCB Standards			

Sampling Information

Date of Monitoring : 06.03.25-07.03.25
Time of Monitoring : 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	43.4	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	43.1	
3	8.01 - 8.00	IS 9989	41.7	
4	9.01 - 10.00	IS 9989	45.1	
5	10.01 - 11.00	IS 9989	50.4	
6	11.01 - 12.00	IS 9989	47.8	
7	12.01 - 1.00	IS 9989	49.9	
8	1.01 - 2.00	IS 9989	48.7	
9	2.01 - 3.00	IS 9989	50.9	
10	3.01 - 4.00	IS 9989	50.7	
11	4.01 - 5.00	IS 9989	51.6	
12	5.01 - 6.00	IS 9989	50.9	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

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Test Report No. : TR02EN-2511220840

NABL ULR No. : TC1573025000032623F

13	18.01 - 19.01	IS 9989	46.9	
14	19.01 – 20.00	IS 9989	42.7	
15	20.01 - 21.00	IS 9989	42.2	
16	21.01 - 22.00	IS 9989	41.5	
	Day Time Avg. Leq dB (A)		**46.7**	
17	10.01-11.00	IS 9989	41.8	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	39.6	
19	12.01-1.00	IS 9989	38.6	
20	1.01-2.00	IS 9989	40.6	
21	2.01-3.00	IS 9989	41.0	
22	3.01-4.00	IS 9989	40.5	
23	4.01-5.00	IS 9989	41.0	
24	5.01-6.00	IS 9989	41.9	
	Night Time Avg. Leq dB (A)		**40.6**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,
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Interstellar Testing Centre Private Limited

TEST REPORT

TC 15730
ORIGINAL

Test Report No. : TR02EN-2511220839

NABL ULR No. : TC157302500003262 2F

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170721			
Sample Description*	: Ambient Noise-Continuous Noise	Received On	: 11-03-2025	
Sample Location	: Malapayampudur	Commenced On	: 11-03-2025	
Sample details (if any)	:-	Completed On	: 13-03-2025	
		Date of Report	: 13-03-2025	
Sample Submission Type	: Sampled by Lab Rep.			
Sampling Procedure	: ITC/CHN/GSOP/001			
Customer Reference*	: Test Request Form/07.03.25			
Test Report as per	: CPCB Standards			

Sampling Information

Date of Monitoring : 06.03.25-07.03.25
Time of Monitoring : 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	42.0	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	43.5	
3	8.01 - 8.00	IS 9989	42.8	
4	9.01 - 10.00	IS 9989	45.4	
5	10.01 - 11.00	IS 9989	46.6	
6	11.01 - 12.00	IS 9989	44.9	
7	12.01 - 1.00	IS 9989	47.6	
8	1.01 - 2.00	IS 9989	46.8	
9	2.01 - 3.00	IS 9989	47.1	
10	3.01 - 4.00	IS 9989	47.5	
11	4.01 - 5.00	IS 9989	48.3	
12	5.01 - 6.00	IS 9989	47.6	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Test Report No. : TR02EN-2511220839

NABL ULR No. : TC1573025000032622F

13	18.01 - 19.01	IS 9989	39.5	
14	19.01 – 20.00	IS 9989	41.2	
15	20.01 - 21.00	IS 9989	40.1	
16	21.01 - 22.00	IS 9989	40.3	
	Day Time Avg. Leq dB (A)		**44.5**	
17	10.01-11.00	IS 9989	41.1	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	41.1	
19	12.01-1.00	IS 9989	37.8	
20	1.01-2.00	IS 9989	38.3	
21	2.01-3.00	IS 9989	39.6	
22	3.01-4.00	IS 9989	38.9	
23	4.01-5.00	IS 9989	38.3	
24	5.01-6.00	IS 9989	40.6	
	Night Time Avg. Leq dB (A)		**39.5**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited

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Interstellar Testing Centre Private Limited

TEST REPORT

TC 15730
ORIGINAL

Test Report No. : TR02EN-2511220838

NABL ULR No. : TC157302500003262lF

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170722			
Sample Description#	: Ambient Noise-Continuous Noise	Received On	: 11-03-2025	
Sample Location	: Pavithiram	Commenced On	: 11-03-2025	
Sample details (if any)	:-	Completed On	: 13-03-2025	
		Date of Report	: 13-03-2025	
Sample Submission Type	: Sampled by Lab Rep.			
Sampling Procedure	: ITC/CHN/GSOP/001			
Customer Reference#	: Test Request Form/07.03.25			
Test Report as per	: CPCB Standards			

Sampling Information

Date of Monitoring	: 06.03.25-07.03.25
Time of Monitoring	: 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	38.8	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	40.2	
3	8.01 - 8.00	IS 9989	39.6	
4	9.01 - 10.00	IS 9989	41.9	
5	10.01 - 11.00	IS 9989	43.1	
6	11.01 - 12.00	IS 9989	41.5	
7	12.01 - 1.00	IS 9989	43.9	
8	1.01 - 2.00	IS 9989	43.3	
9	2.01 - 3.00	IS 9989	43.6	
10	3.01 - 4.00	IS 9989	43.8	
11	4.01 - 5.00	IS 9989	44.6	
12	5.01 - 6.00	IS 9989	43.9	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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- The test items shall not be retained more than 15 days from the date of issue of test report except in the case as required by the regulatory bodies and Customers

Test Report No. : **TR02EN-2511220838**

NABL ULR No. : **TC1573025000032621F**

13	18.01 - 19.01	IS 9989	36.5	
14	19.01 – 20.00	IS 9989	38.0	
15	20.01 - 21.00	IS 9989	37.1	
16	21.01 - 22.00	IS 9989	37.2	
	Day Time Avg. Leq dB (A)		**41.1**	
17	10.01-11.00	IS 9989	38.3	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	38.3	
19	12.01-1.00	IS 9989	35.3	
20	1.01-2.00	IS 9989	35.8	
21	2.01-3.00	IS 9989	36.9	
22	3.01-4.00	IS 9989	36.3	
23	4.01-5.00	IS 9989	35.8	
24	5.01-6.00	IS 9989	37.9	
	Night Time Avg. Leq dB (A)		**36.8**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
Ph : 044 - 24962512
Email : itclabs.chennai@itclabs.com
Website : www.itclabs.com

Disclaimer :

- The test result related only to the items tested
- The test report shall not be reproduced in full or part without the written approval of ITC Labs, Chennai.
- The test items shall not be retained more than 15 days from the date of issue of test report except in the case as required by the regulatory bodies and Customers

Interstellar Testing Centre Private Limited

TEST REPORT

TC-15730
ORIGINAL

Test Report No. : TR02EN-2511220837

NABL ULR No. : TC157302500003262OF

Issued To

Karudayampalayam Cluster Quarry Project
Karudayampalayam Village, Pugalur Taluk, Karur,
639111
Tamil Nadu, India

Sample Registration No.	: SR02EN-2511170723			
Sample Description*	: Ambient Noise-Continuous Noise	Received On	: 11-03-2025	
Sample Location	: Karudayampalayam	Commenced On	: 11-03-2025	
Sample details (if any)	:-	Completed On	: 13-03-2025	
		Date of Report	: 13-03-2025	
Sample Submission Type	: Sampled by Lab Rep.			
Sampling Procedure	: ITC/CHN/GSOP/001			
Customer Reference*	: Test Request Form/07.03.25			
Test Report as per	: CPCB Standards			

Sampling Information

Date of Monitoring : 06.03.25-07.03.25

Time of Monitoring : 10.10am -10.10am

S.No.	Time of Monitoring	Method	Result	Specification
	Discipline : Chemical			
	Group : Atmospheric Pollution			
1	6.01 - 7.00	IS 9989	42.8	75 Max (6.00 - 22.00)
2	7.01 - 8.00	IS 9989	44.3	
3	8.01 - 8.00	IS 9989	43.7	
4	9.01 - 10.00	IS 9989	46.2	
5	10.01 - 11.00	IS 9989	47.5	
6	11.01 - 12.00	IS 9989	45.8	
7	12.01 - 1.00	IS 9989	48.5	
8	1.01 - 2.00	IS 9989	47.7	
9	2.01 - 3.00	IS 9989	48.0	
10	3.01 - 4.00	IS 9989	48.4	
11	4.01 - 5.00	IS 9989	49.2	
12	5.01 - 6.00	IS 9989	48.5	

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited
Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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Test Report No. : TR02EN-2511220837

NABL ULR No. : TC1573025000032620F

13	18.01 - 19.01	IS 9989	40.2	
14	19.01 – 20.00	IS 9989	41.9	
15	20.01 - 21.00	IS 9989	40.9	
16	21.01 - 22.00	IS 9989	41.1	
	Day Time Avg. Leq dB (A)		**45.3**	
17	10.01-11.00	IS 9989	41.8	70 Max (22.00 - 6.00)
18	11.01-12.00	IS 9989	41.8	
19	12.01-1.00	IS 9989	38.5	
20	1.01-2.00	IS 9989	39.1	
21	2.01-3.00	IS 9989	40.3	
22	3.01-4.00	IS 9989	39.6	
23	4.01-5.00	IS 9989	39.1	
24	5.01-6.00	IS 9989	41.4	
	Night Time Avg. Leq dB (A)		**40.2**	

'#' represents Customer Defined Fields

NOTE : Instrument used: Sound Level Meter

REMARKS : The above sample complies with CPCB Standards with respect to the above tested Parameters

*******End Of Report*******

Authorised by
Name : Sakthivel
Discipline : Chemical
Date : 13/03/2025

Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,
Perungudi, Sholinganallur Taluk, Chennai- 600 096.
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வருவாய் மற்றும் பேரிடர் மேலாண்மைத்துறை

நக.அ1/6266 /2025

வருவாய் கோட்டாட்சியர் அலுவலகம்,
கரூர்.
நாள். 12.08.2025.

குறிப்பாணை

பொருள் : **கனிமங்களும் குவாரிகளும்** : - கரூர் மாவட்டம் - புகழூர் வட்டம் - காருடையாம்பாளையம் கிராமம் - பட்டா புல எண்.288 பரப்பு 4.02.50 ஹெக்டேர் நிலப்பரப்பில் சாதாரணக்கற்கள் மற்றும் கிராவல் 10 ஆண்டுகள் வெட்டி எடுக்க கோரி குத்தகை உரிமம் வேண்டி திருமதி.K.தனம்மாள் என்பவர் இணைய வழியில் விண்ணப்பம் அளித்துள்ளார் -நில இருப்பு அறிக்கை கோருதல் - தொடர்பாக.

பார்வை : திருமதி.K.தனம்மாள் என்பவர் இணைய வழியின் விண்ணப்பம் நாள்.12.08.2025.

.....

கரூர் மாவட்டம், புகழூர் வட்டம், காருடையாம்பாளையம் கிராமம், பட்டா புல எண்.288 பரப்பு 4.02.50 ஹெக்டேர் நிலப்பரப்பில் சாதாரணக்கற்கள் மற்றும் கிராவல் 10 ஆண்டுகள் வெட்டி எடுக்க கோரி குத்தகை உரிமம் வேண்டி திருமதி.K.தனம்மாள் என்பவர் பார்வையில் காணும் இணைய வழி மூலமாக அளிக்கப்பட்ட விண்ணப்பம் தொடர்பாக மேற்படி குத்தகை உரிமம் கோரும் விண்ணப்ப புலத்தினை புலத்தணிக்கை செய்து, மேற்படி புலத்தில் அரசால் நில ஆர்ஜிதம் செய்ய உத்தேசிக்கப்பட்டுள்ளதா? என்ற விவரத்தினையும் சம்மந்தப்பட்ட புலத்திற்கு 300 மீட்டர் சுற்றளவில் கிராம நத்தம், அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், குடியிருப்புகள், பள்ளிக்கூடம், கல்லூரி அல்லது நிரந்தர கட்டமைப்புகள் ஏதேனும் உள்ளனவா என்பது குறித்தும் மற்றும் 50 மீட்டர் சுற்றளவில் உயர் மற்றும் தாழ்வழுத்த மின்கம்பிகள், சாலைகள், நெடுஞ்சாலைகள், ஓடைகள், கோவில், 300 மீட்டர் சுற்றளவில் புராதன சின்னங்கள் மற்றும் 60 மீட்டர் சுற்றளவில் வனபகுதி ஏதேனும் உள்ளனவா? என்பதை புல வரைபடத்தில் குறிப்பிட்டும், புலத்தில் பதிவு செய்யப்பட்ட மற்றும் பதிவு செய்யப்படாத வில்லங்கங்களோ, ஈடு,ஒத்தி,தானம்,ஜப்தி, நீதிமன்ற நடவடிக்கைகள், உயில் பாத்தியம் மற்றும் அரசால் நில ஊர்ஜிதம் செய்ய உத்தேசிக்கப்பட்டுள்ளதா? கனிமக் குத்தகை உரிமம் வழங்க ஆட்சேபனை ஏதும் உள்ளதா? என்பது குறித்து அ1 விளம்பர நோட்டீஸை வினம்பரப்படுத்தியும், விண்ணப்பித்துள்ள புலத்திற்கு ஜக்குபந்தியுடன் கூடிய நில இருப்பு அறிக்கை, மேற்படி விண்ணப்ப புலங்கள் தொடர்பாக நீதிமன்ற வழக்கு ஏதேனும் உள்ளதா? என்பது குறித்த விசாரணை மேற்கொண்டு விரிவான அறிக்கையினை உரிய ஆவணங்கள் மற்றும் கிராம கணக்குகளுடன் இவ்வலுவலகத்திற்கு அனுப்பி வைக்குமாறு கேட்டுக்கொள்கிறேன்.

இணைப்பு

மேற்கண்டவாறு

(ஓம்)/- மு.முகமது பைசல்,
வருவாய் கோட்டாட்சியர்,
கரூர்.

/உண்மை நகல் உத்தரவுப்படி/

நேர்முக உதவியாளர்

பெறுநர்:

வட்டாட்சியர், புகழூர்.

நகல்

திருமதி.K.தனம்மாள்,
காருடையாம்பாளையம் கிராமம்,
புகழூர் வட்டம், கரூர் மாவட்டம்.

12/08/25

Annexure - X

வருவாய் மற்றும் பேரிடர் மேலாண்மைத்துறை

ந.க.அ1/ 2724 /2025 வட்டாட்சியர் அலுவலகம்,

நாள். 12.08.2025. புகழூர்.

குறிப்பாணை

பொருள்: கனிமம் மற்றும் சுரங்கம் – சிறு கனிமங்கள் – கரூர் மாவட்டம் – புகழூர் வட்டம் – காருடையாம்பாளையம் கிராமம் – புல எண்.288 ஹெக். 4.02.50 ஏர்ஸ் நிலப்பரப்பில் திருமதி.K.தனம்மாள் என்பவர் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குத்தகை உரிமம் கோரியது – அறிக்கை கோருதல் – தொடர்பாக.

பார்வை: கரூர் வருவாய் கோட்டாட்சியர் அவர்களின் கடிதம் ந.க.அ1/6266/2025, நாள்12.08.2025.

****

பார்வையில் காணும் கரூர் வருவாய் கோட்டாட்சியர் அவர்களின் கடிதத்தில், கரூர் மாவட்டம், புகழூர் வட்டம், காருடையாம்பாளையம் கிராமம், புல எண்.288 ஹெக். 4.02.50 ஏர்ஸ் நிலப்பரப்பில் திருமதி.K.தனம்மாள் என்பவர் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குத்தகை உரிமம் கோரியுள்ளதாக தெரிவிக்கப்பட்டுள்ளது.

மேற்படி திருமதி. K.தனம்மாள் என்பவர் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குத்தகை உரிமம் வழங்க பரிந்துரை செய்வது தொடர்பாக மேற்படி புலத்தில் அரசால் நில ஆர்ஜிதம் செய்ய உத்தேசிக்கப்பட்டுள்ளதா? என்ற விவரத்தினையும் சம்மந்தப்பட்ட புலத்திற்கு 300 மீட்டர் சுற்றளவில் கிராம நத்தம், அங்கிகரிக்கப்பட்ட வீட்டமனைகள், குடியிருப்புகள், பள்ளிக்கூடம், கல்லூரி அல்லது நிரந்தரக்கட்டமைப்புகள் ஏதேனும் உள்ளனவா என்பது குறித்தும் மற்றும் 50 மீட்டர் சுற்றளவில் உயர் மற்றும் தாழ்வழுத்த மின்கம்பிகள், சாலைகள், நெடுஞ்சாலைகள், ஓடைகள், கோவில், 300 மீட்டர் சுற்றளவில் புராதன சின்னங்கள் மற்றும் 60 மீட்டர் சுற்றளவில் வனபகுதி ஏதேனும் உள்ளனவா? என்பதை புல வரைபடத்தில் குறிப்பிட்டும், புலத்தில் பதிவு செய்யப்பட்ட மற்றும் பதிவு செய்யப்படாத வில்லங்கங்களோ, ஈடு, ஒத்தி, தானம், ஜப்தி, நீதிமன்ற நடவடிக்கைகள், உயில் பாத்தியம் மற்றும் அரசால் நில ஊர்ஜிதம் செய்ய உத்தேசிக்கப்பட்டுள்ளதா? என்பது குறித்து 'அ1' விளம்பர அறிவிப்பை விளம்பரப்படுத்தியும், விண்ணப்பித்துள்ள புலத்திற்கு ஜக்குபந்தியுடன் கூடிய நில இருப்பு அறிக்கை, மேற்படி விண்ணப்ப புலங்கள் தொடர்பாக நீதிமன்ற வழக்கு ஏதேனும் உள்ளதா? என்பது குறித்த அறிக்கையை அனுப்பி வைக்குமாறும், மேற்படி 'அ1' விளம்பர அறிவிப்பினை காருடையாம்பாளையம் கிராம நிர்வாக அலுவலர் மூலம் நன்கு பிரசித்தம் செய்து அதற்கான அறிக்கை மற்றும் மேற்படி நிறுவனத்தின் குத்தகை உரிமம் தொடர்பான

கருத்துருக்களை உரிய ஆவணங்களுடன் அனுப்பி வைக்கமாறு க.பரமத்தி குறுவட்ட வருவாய் ஆய்வாளர் கேட்டுக்கொள்ளப்படுகிறார்.

12/11/2021

வட்டாட்சியர்,

புகழூர்.

18.08.21

பெறுநர்:

குறுவட்ட வருவாய் ஆய்வாளர், க.பரமத்தி .

நகல் :-

கிராம நிர்வாக அலுவலர், காருடையாம்பாளையம் .

(அ1 விளம்பரம் பிரசித்தம் செய்து வருவாய் ஆய்வாளர் மூலம் அறிக்கை அளிக்க வேண்டியது)

வருவாய் மற்றும் பேரிடர் மேலாண்மைத் துறை

நக.எண்.ஆ1/2724/2025

நாள் : 12.08.2025.

வட்டாட்சியர் அலுவலகம்,
புகழூர்.

A1 விளம்பர அறிவிப்பு

கரூர் மாவட்டம், புகழூர் வட்டம், காருடையாம்பாளையம் கிராமம், புல எண்.288 ஹெக். 4.02.50 ஏர்ஸ் நிலப்பரப்பில் திருமதி.K.தனம்மாள் என்பவர் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குத்தகை உரிமம் கோரி கரூர் வருவாய் கோட்டாட்சியர் அவர்களிடம் விண்ணப்பித்துள்ளார். மேற்காணும் புலத்தில் பத்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க, குத்தகை உரிமம் வழங்க காருடையாம்பாளையம் கிராம பொதுமக்களுக்கு ஆட்சேபணைகள் ஏதுமிருப்பின் அத்தகைய ஆட்சேபணையை எழுத்து மூலமாகவோ, நேரிலோ அல்லது தபால் மூலமாகவோ இந்த அறிவிக்கை பிரசித்தம் செய்யப்பட்ட 7 நாட்களுக்குள் அடியிற்கையொப்பமிட்டவருக்குத் தெரிவித்துக் கொள்ள வேண்டியது. குறிப்பிட்ட காலத்திற்குள் எவ்வித ஆட்சேபணையும் வரப்பெறவில்லையென்றால், ஆட்சேபணைகள் ஏதுமில்லை எனக் கருதி மேல் நடவடிக்கை எடுக்கப்படும் என அறிவிக்கப்படுகிறது.

12/8/2025

வட்டாட்சியர்,
புகழூர்.

பெறுநர்:

12.8.25

கிராம நிர்வாக அலுவலர், காருடையாம்பாளையம் கிராமம் மேற்கண்ட விளம்பரத்தை நன்கு விளம்பரம் செய்து அதற்கான அத்தாட்சியை சமர்ப்பிக்க, அறிவுறுத்தப்படுகிறார்.

காருடையாம்பாளையம் கிராமக் குடிகளாகிய நாங்கள் இந்த விளம்பர அறிவிக்கையை கிராம நிர்வாக அலுவலகம் தகவல் பலகையில் அறிவிப்பு செய்ததன் மூலம் பிரசித்தம் செய்ததைத் தெரிந்து கொண்டோம்.

கிராமக் குடிகள் கையொப்பம்:-

1 P. Pandy.

2

3 K. Nagar

4 P. Natarajan

5.

6.

7.

8.

9.

10.



ந.க.எண். 827/கனிமம்/2025

மாவட்ட ஆட்சியர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
கரூர்

நாள்:12.09.2025.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் - சாதாரண கற்கள் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வேண்டி திருமதி.க.தனம்மாள் என்பவர் விண்ணப்பம் செய்தது - வருவாய் கோட்டாட்சியர் நிலயிருப்பு அறிக்கை வரப்பெற்றது - உதவி புவியியலாளர் புலத்தணிக்கை மேற்கொண்டு அறிக்கை சமர்ப்பித்தது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் மாநில சுற்றுச்சூழல் தாக்கல் மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

1. திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, எண்.2/110 கரியாம்பட்டி, காருடையாம்பாளையம், புகளூர் வட்டம், கரூர் மாவட்டம் என்பவர் குவாரி குத்தகை உரிமம் வழங்க கோரும் விண்ணப்ப நாள்: 04.08.2025
2. இதே எண்ணிட்ட இவ்வலுவலக கடிதம் எண் ந.க.எண் 827/கனிமம்/2025 நாள்: 07.08.2025
3. வருவாய் கோட்டாட்சியர், கரூர் அவர்களின் கடிதம் ந.க.எண். அ1/6266/2025, நாள்:29.08.2025.
4. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை கரூர் என்பவரது புலத்தணிக்கை அறிக்கை நாள்: 12.09.2025
5. அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).

கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பு நிலத்திலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க கதவு எண்.2/110 கரியாம்பட்டி, காருடையாம்பாளையம், புகளூர் வட்டம், கரூர் மாவட்டம் என்ற முகவரியை சேர்ந்த திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவர் பார்வை 1-இல் கண்டுள்ளவாறு விண்ணப்பம் செய்துள்ளனர்.

மேற்படி விண்ணப்பம் தொடர்பாக, வருவாய் கோட்டாட்சியர், கரூர் அவர்கள் புலத்தணிக்கை மேற்கொண்டு கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் மட்டும் தமிழ்நாடு சிறு

கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன் கீழ் திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்க நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

மேற்படி விண்ணப்பம் தொடர்பாக, உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் அவர்கள் புலத்தணிக்கை மேற்கொண்டு கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் மட்டும் தமிழ்நாடு சிறு கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன் கீழ் திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு 5 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

சிறப்பு நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் புல எண்.184/B-இல் அமைந்துள்ள மயானத்திற்கும் மற்றும் விண்ணப்ப புலத்திற்கு தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.
2. விண்ணப்ப புலத்திற்கு மேற்கு மற்றும் வடக்கு பகுதியில் புல எண்.169/B2, 287 மற்றும் 285 ஆகியவற்றில் அமைந்துள்ள வண்டிப்பாதைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.
3. விண்ணப்ப புலத்தின் தெற்கு பகுதியில் கீழமேலாக செல்லும் செயல்பாட்டில் இல்லாத தாழ்வழுத்த மின்பாதையினை குவாரி குத்தகை உரிமம் நிறைவேற்றும் முன் அப்புறப்படுத்திக்கொள்ள வேண்டும்.

வருவாய் கோட்டாட்சியர், கரூர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் ஆகியோரின் பரிந்துரைகள் மற்றும் நிபந்தனைகளின் அடிப்படையில் கரூர் மாவட்டம், புகளூர் வட்டம், காருடையாம்பாளையம் கிராமம் புல எண் 288-இல் 4.02.50 ஹெக்டேர் பரப்பில் 1959-ம் வருட தமிழ்நாடு சிறு கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1), 20 மற்றும் 22-இன்படியும் மேலும் கீழ்கண்ட நிபந்தனைகளுக்கு உட்பட்டு ஐந்து வருட காலத்திற்கு திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

சிறப்பு நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு மேற்கு பகுதியில் புல எண்.184/B-இல் அமைந்துள்ள மயானத்திற்கும் மற்றும் விண்ணப்ப புலத்திற்கு தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

2. விண்ணப்ப புலத்திற்கு மேற்கு மற்றும் வடக்கு பகுதியில் புல எண்.169/1A2, 287 மற்றும் 285 ஆகியவற்றில் அமைந்துள்ள வண்டிப்பாதைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

3. விண்ணப்ப புலத்தின் தெற்கு பகுதியில் கீழ்மேலாக செல்லும் செம்பல்பாட்டில் இல்லாத தாழ்வழுத்த மின்பாதையினை குவாரி குத்தகை உரிமம் நிறைவேற்றும் முன் அப்புறப்படுத்திக்கொள்ள வேண்டும்.

நிபந்தனைகள்:-

1. விண்ணப்ப புலத்திற்கு அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு நிலத்திற்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

2. குத்தகைக்காலத்தில் கைத்துளைப்பான் கருவி கொண்டு பாறைகளை துளையிட்டும், மிதமான வெடிபொருள் பயன்படுத்தியும், பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமுமின்றி விதிமுறைகளின்படி குவாரிப்பணி செய்ய வேண்டும்.

3. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettaliferrous Mines, விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்றுவரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.

4. குவாரி குத்தகை வழங்க ஏதுவாக உதவி இயக்குநர் (சுரங்கம்) அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினையும், மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (SEIAA) அனுமதி பெற்று மாவட்ட நிர்வாகத்திற்கு விண்ணப்பதாரரால் சமர்ப்பிக்கப்பட வேண்டும்

எனவே, தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண்.41-இன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறு திருமதி.க.தனம்மாள், க/பெ.கந்தசாமி, என்பவர் கேட்டுக்கொள்ளப்படுகிறார். மேலும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-இன்படி சுற்றுச்சூழல் தாக்கல் மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

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12/09/25

தனபாலன்