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# EXECUTIVE SUMMARY

Project Proponent

**Thiru.E.Dhanapal.**

**No. D/364, 1st Cross, Ukkirakaliamman Koil Street,  
Anna Nagar, Thennur,  
Trichy - 620 017**

**THIRU. E. DHANAPAL THENNILAI LIMESTONE MINE**

**“VIOLATION” CATEGORY – MAJOR MINERAL – NON-FOREST LAND – CAPTIVE MINE**

**EXTENT = 3.15.0 Ha**

At

Thennilai village, Kadavur Taluk, Karur district and Tamil Nadu

Complied as per TOR Awarded vide

Lr. No. SEIAA-TN/F.No.6122/TOR-319/2018 Dated 10.05.2018

Extension of ToR obtained vide

Letter No. SEIAA-TN/F.No.6122/TOR-319/2018/Extn Dated: 26.09.2022

As per 440th SEAC & 697th SEIAA (Minutes of Meeting)

(ToR Valid upto 11.01.2025)

EIA Consultant

**GEO EXPLORATION AND MINING SOLUTIONS**

Old No. 260-B, New No. 17,

Advaitha Ashram Road, Alagapuram,

Salem – 636 004, Tamil Nadu, India

Accredited for sector 1 Category ‘A’ & 38 Category ‘B’



QUALITY COUNCIL OF INDIA

NATIONAL ACCREDITATION BOARD FOR EDUCATION & TRAINING

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Baseline Data collected by

KGS Enviro Laboratory Pvt Ltd., Chennai

Baseline Monitoring Period - December 2021 to February 2022.

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## 1. INTRODUCTION –

The mining lease for limestone was granted to Thiru. E. Dhanapal, Karur District vide G.O. Ms.No. 88, Dated 17.06.1995 for a period of 20 years from 17.06.1995 to 16.06.2015 and the lease deed was executed on 17.06.1995.

As on the date of MoEF & CC Notification S.O. 804 (E) Dated: 14.03.2017, the project had no Environmental Clearance and it was clearly communicated by order to apply for environmental clearance under this notification. Therefore, the project proponent applied for environmental clearance vide online proposal no. IA/TN/MIN/63830/2017 Dated: 09.04.2017.

MoEF & CC vide notification S.O. 1030 (E) Dated: 08.03.2018, notified that violation projects of Category B –the appraisal and approval there of shall vest with the State or Union territory level Expert Appraisal Committees and State or Union territory Environment Impact Assessment Authorities in different States and Union territories, constituted under sub-section (3) of section 3 of the Environment (Protection) Act, 1986.

Therefore, the online proposal to SEIAA – TN vide online proposal number SIA/TN/MIN/23036/2018 Dated 02.04.2018.

ToR was issued vide Lr.No. SEIAA-TN/F.No.6122/TOR-319/2018 Dated: 10.05.2018.

Proponent applied for the extension for the existing ToR vide online proposal No SIA/TN/MIN/268226/2022 Dated 16.04.2022. The proposals were considered in 309<sup>th</sup> SEAC – TN Meeting held on 02.09.2022 and issued Terms of Reference (ToR) vide Lr.No.SEIAA-TN/F.No.6122/TOR-319/Ext/2018 Dated: 26.09.2022, The validity of the Terms of Reference is upto 09.05.2023.

Again, the proposal was placed in 369<sup>th</sup> SEAC meeting held on 20.04.2023 and SEAC decided to constitute a subcommittee to make an on-site inspection to assess the present Status of the project site and Environmental settings as the proposal falls under violation category and submit the report along with the recommendations to the committee.

Further the committee called for the following additional details:

- To assess ecological damage assessment whether it is being carried out in accordance with CPCB Guidelines, remediation plan, natural resource augmentation and community resource augmentation.

After the receipt of Additional details from the PP and the evaluation report by the subcommittee, SEAC will deliberate on the issue of environmental clearance under violation category. SEAC also decided to request SEIAA-TN to initiate action under sec-19 of the

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Environment (Protection) act, to be taken for violation cases, in accordance with law and the proposal was placed in 616<sup>th</sup> SEIAA meeting held on 10.05.2023.

The view of the above, the authority accepts the decision of SEAC and decided to request the member secretary SEIAA to communicate the SEAC minutes to the PP and to write to the state govt\TNPCB to take credible action under the provision of Sec – 19 of the Environment (Protection) act, 1986 against the Project Proponent as per the EIA notification.

The Proposal was placed in 416<sup>th</sup> SEAC meeting held on 13.10.2023 and as per the 416<sup>th</sup> SEAC &670<sup>th</sup> SEIAA Minutes of Meeting During the meeting, SEAC has decided to direct the PP to conduct the Public hearing for the above proposal.

Therefore, after the long deliberation and discussions in the 416<sup>th</sup> SEAC meeting, The SEAC has observed that the Public hearing is mandatory for all mining projects of Major Minerals category irrespective of the area for ensuring the scientific and systematic mining and the conservation minerals. The SEAC decided to direct the PP to conduct the Public hearing as per the procedure described in EIA notification 2006 and submit the minutes of the public hearing with action plan for considering the application\proposal towards the grant of EC.

After the receipt of the minutes of the Public Hearing along with updated Final EIA Report submitted by the PP along with a valid Mining Lease. and approved Mining Plan/Scheme of Mining including the PMCP/FMCP for the proposed mining operations, the SEAC may deliberate the future course of action.

Again, the Proposal was placed in 440<sup>th</sup> SEAC meeting held on 11.01.2024 and as per the 440<sup>th</sup> SEAC &697<sup>th</sup> SEIAA Minutes of Meeting. The proponent requested to extend the validity of ToR to conduct Public Hearing and to update the EIA Report accordingly. since the validity of ToR issued is about to expire on 09.05.2023. The Committee after detailed discussion,

SEIAA may write a letter to TNPCB to consider the above-mentioned cases as a special case and shall be requested to conduct public hearing as per the procedure laid down in EIA Notification, 2006 with the updated baseline data along with EIA report and shall be completed within 1 year from the date of issue of letter.

This proposal was placed in 697<sup>th</sup> SEIAA meeting and after detailed discussions, the Authority decided to grant extension of ToR for further period of 1 year i.e. up to 11.01.2025 as recommended by SEAC. All the other conditions stipulated in the ToR Letter No. SEIAA-TN/F.No.6122/ToR-319/Ext/2018/ dated 26.09.2022 issued under violation category

Now, as per MMDR Amendment Act 2015, the validity of lease period is extended upto 15.06.2045 and Review of Mining Plan & Progressive Mine Closure Plan was prepared

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by RQP and approved by Regional Controller of Mines, Indian Bureau of Mines, Chennai vide Lr.No TN/KRR/LST/RoMP/1567.MDS Dated 21.10.2019

As per Gazette Notification S.O. 1886 (E) of 20<sup>th</sup> April 2022, Mining Projects are classified under two categories i.e. A (> 250 Ha) and B (< 250 Ha), Category-A projects (including expansion and modernization of existing projects) require Environmental Clearance from Central Government (Ministry of Environment, Forests and Climate Change, Government of India, New Delhi) while Category-B projects are considered by State Level Environmental Impact Assessment Authority (SEIAA), constituted by MoEF&CC, New Delhi. If incase, any Category “B” project attracts the “General Condition” given in the EIA Notification, it shall be treated as Category “A” and will be considered at MoEF&CC, New Delhi.

This EIA report is prepared for Thiru E.Dhanapal Thennilai Limestone Mine– Extent 3.15.0 ha with proposed capacity of 3,63,698 tonnes (ROM-2020-21 to 2024-25) at S.F. No. 806/5,806/6 & 807/3 in Thennilai Village, Kadavoor Taluk, Karur District and Tamil Nadu State. The project falls under category “B” and requires Environmental Clearance from SEIAA Tamil Nadu.

## 2. PROJECT DESCRIPTION –

- The Mine Lease area over an extent of 3.15.0ha is located in 806/5 & 6, 807/3 Patta land & Government land) in Thennilai Village, Kadavur Taluk, Karur District and Tamil Nadu State.
  - The Topography of the area is almost flat terrain with general gradient towards south; the mine lease area is about 163m AMSL Latitude between 10<sup>o</sup>45’42.89”N to 10<sup>o</sup>45’51.68”N and Longitude between 78<sup>o</sup>16’36.13”E to 78<sup>o</sup>16’42.93”E and ground water table occurrence at 123m – 121m AMSL.
  - The Mining Plan (2015-16 to 2019-20) was got approval for a quantity of available Geological Resources of 5,56,931Ts (ROM), Mineable reserves is about 1,17,302 Ts of ROM and Limestone recovery @ 60% 70,381 Ts, The quantity was approved by Indian Bureau of Mines vide Letter No. TN/KRR/MP/LST-1933.MDS, Dated 16.09.2014.
  - The Review of Mining plan (2020-21 to 2024-25) was got approved by Indian Bureau of Mines vide Letter No TN/KRR/LST/RoMP/1567.MDS Dated 21.10.2019
    - Geological Resources – ROM = 6,84,148Ts, Limestone 2,53,317Ts & Total Waste 3,44,785Ts
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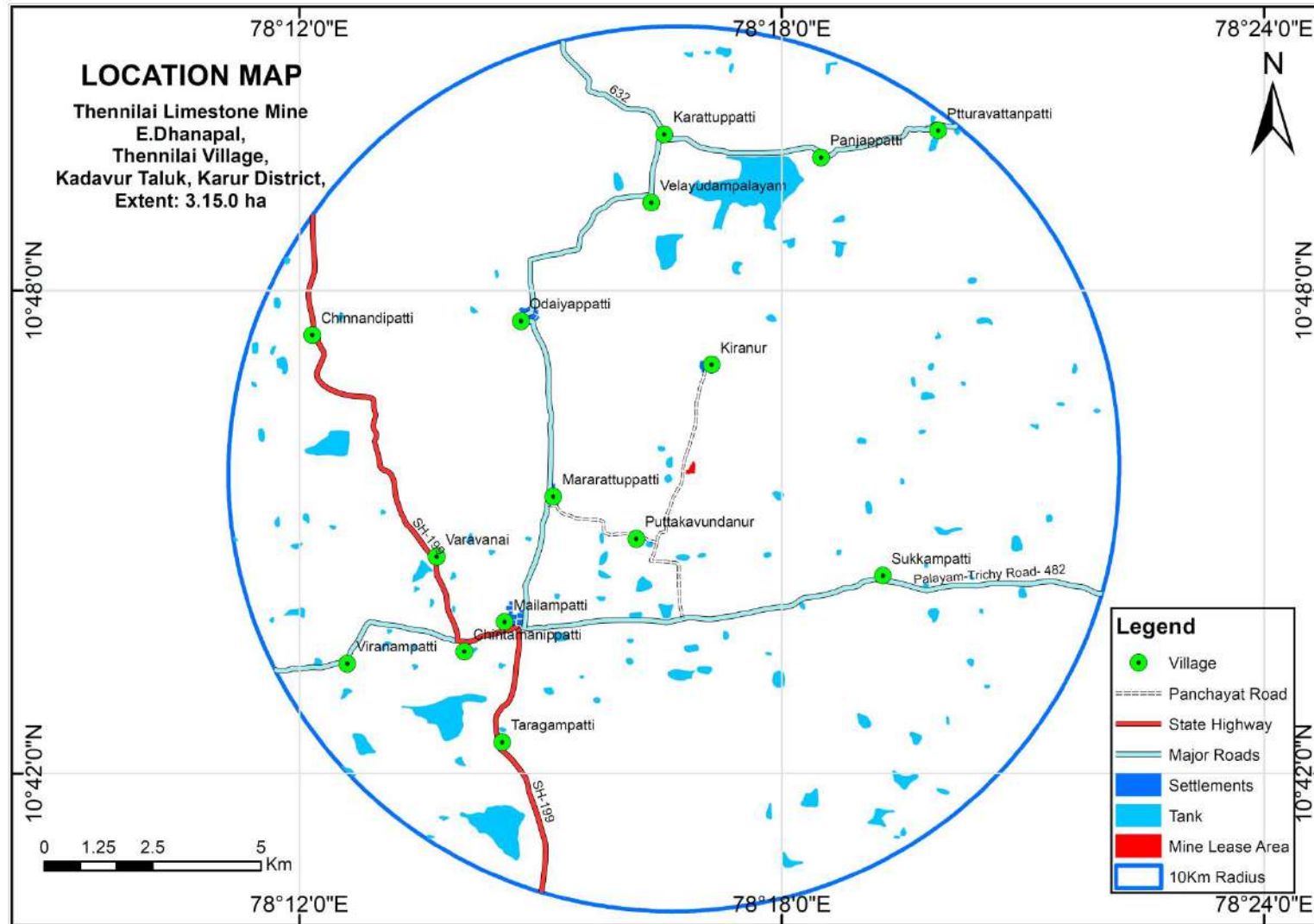
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- Mineable Reserves – ROM = 3,63,698 Ts, Limestone 1,45,125 Ts, total Waste 3,44,785Ts and Top soil 25,850Ts
  - Proposed Production for this five years plan period (2021-22 to 2024-25) – ROM = 3,63,698 Ts, Limestone 1,45,125 Ts, total Waste 3,44,785Ts and Top soil 25,850Ts

The recovery of Limestone in first four benches (Bench I – IV) 30% and the fifth to seventh Benches (Bench V - VII) 60%

- The waste is in the form of mineral rejects (40% to 67% from the ROM), Total Waste would be around 3,44,785Ts (Overburden + Waste + Side burden) is anticipated during this plan period. The waste will be dumped on the existing dump located on the north side, Dimension of the dump at the end of this plan period – 70m (L) X 48m (W) X 46.1m (H).
  - The mined out quantity of limestone will be transported to needy cement and lime based industries after manual segregation.
  - Opencast, Category “A” other than fully Mechanized Mining with:
    - Bench Height is about 4 Meters and Bench Width is 6 Meters with 60° Slope.
    - Short-hole drilling of 32-35 mm diameter by jackhammer drills with Air Compressor
    - Existing Pit dimension
      - Pit – I - 165 m (L) X 73 m (W) X 24 m (D)
      - Pit – II - 72 m (L) X 20 m (W) X 8 m (D)
      - Pit – III - 32 m (L) X 14 m (W) X 1 m (D)
    - Proposed Depth – 25m (161m AMSL – 136m AMSL)
    - Ultimate Pit Limit – 25 m below ground level
    - The Ultimate Pit Dimension – 157 m (L) X 140 m (W) X 25 m (D) and
  - Project has provided direct employment opportunities to 28 peoples and indirect employment opportunities for about 50 peoples in the field of Mineral transport, service sector, garages, shops/canteen, etc.,
  - Existing greenbelt area is 700 Sq.m; proposed area for greenbelt development is 1500Sq.m for this plan period; Total greenbelt area at the end of life of mine is 2200 Sq.m. It is proposed to plant predominant local species of Neem, anticipated survival rate is 80%.
  - The project does not require power supply for the mining operations, Electricity for use in office premises and other internal infrastructure will be obtained from TNEB. The Mining activity is proposed during day time only {General Shift 8 AM – 5 PM (Lunch Break 1 PM – 2 PM)}.
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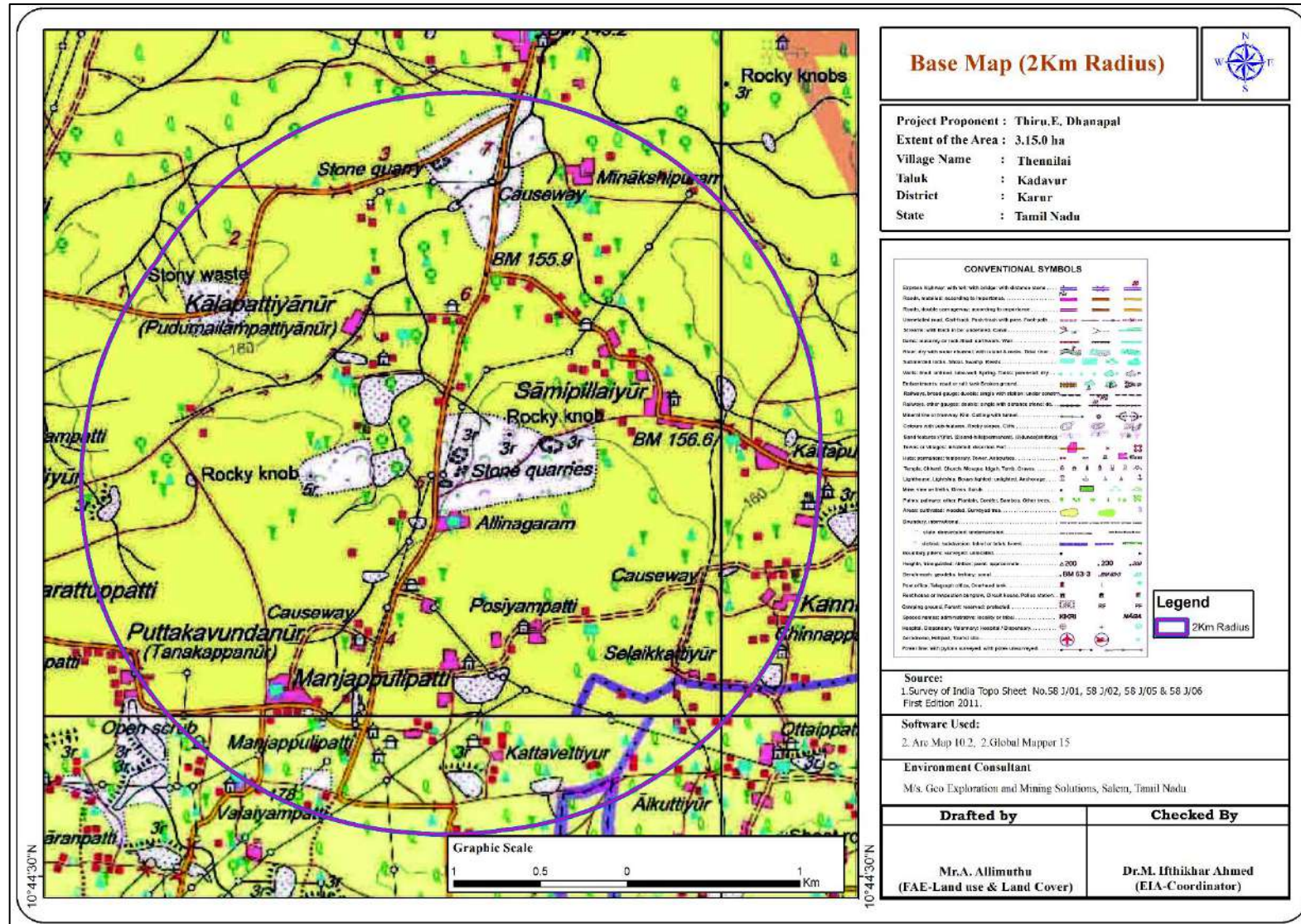
- The Project Site is well connected to
    - National Highway– (NH 67) Karur – Trichy – 20.0KM North.
    - State Highway (SH 199) Puliur – Uppidimangalam – 6KM South West
    - Railway Station – Palayam– 16 KM South West
    - Airport – Trichy Airport – 47 KM East.
    - Sea port – Tuticorin 217KM South
  - There is No Protected Areas Notified under The Wild Life (Protection) Act, 1972, Critically Polluted Areas as notified by the Central Pollution Control Board constituted, Notified Eco-Sensitive Areas, Interstate boundaries and International Boundaries, besides there are No National Parks, Reserve Forest, Biosphere Reserves, Elephant Corridors, Mangrove Forest, Archeological Monuments, Heritage Site etc. within 10 KM Radius from Project Site.
  - The Nearest water bodies are P. Udayapatti Kulam 3.5 KM – North West, Perumaan Kulam 3.5 KM.
  - The proponent has been carrying out CSR Activities in various fields for social welfare around the project site and will continue to do. The proponent has spent an amount of Rs 15 Lakhs till date.
  - The Seismic Sensitivity of the project area is categorized as Zone II, Low Damage Risk Zone as per BMTPC, Vulnerability Atlas of Seismic Zone of India IS: 1893 – 2002
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DIGITIZED LOCATION MAP ON THE GEO REFERENCED TOPOSHEET (10Km RADIUS)



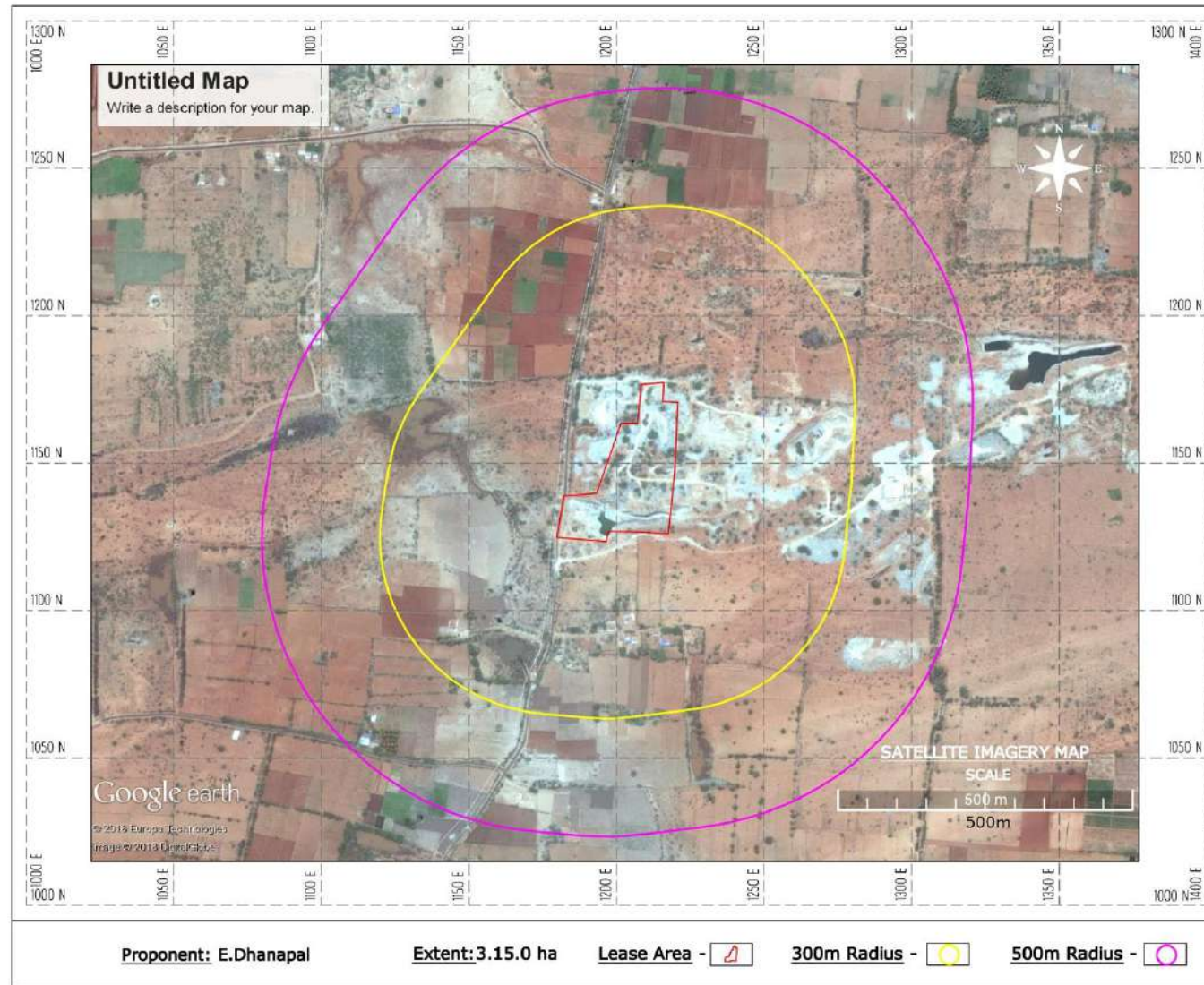


LOCATION MAP COVERING 2KM RADIUS

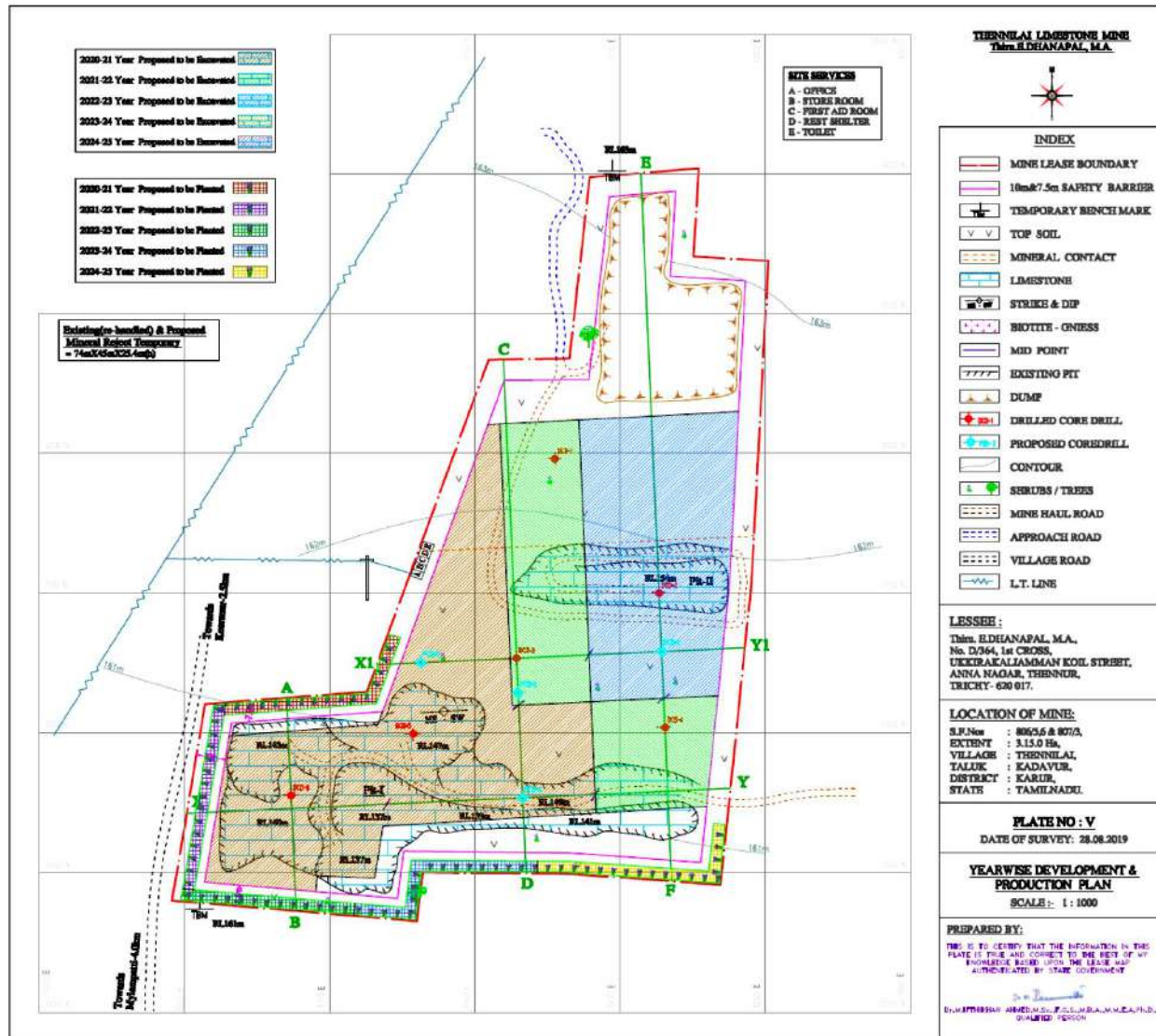




**MINE LEASE AREA COVERING WITH 300M AND 500M RADIUS**



YEAR WISE PLAN



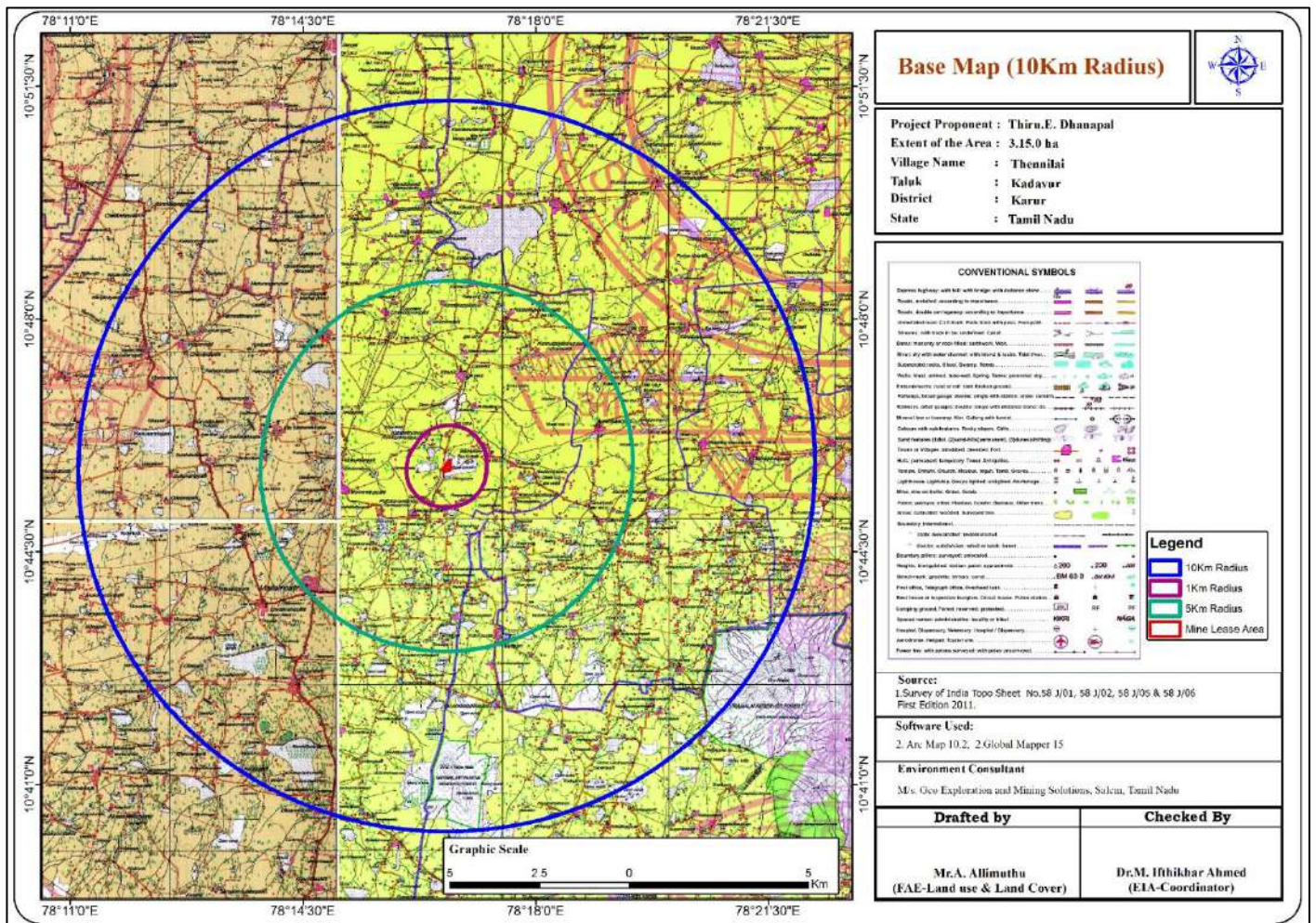


**3. DESCRIPTION OF THE ENVIRONMENT –**

Baseline data generation forms a part of the Environment Impact Assessment Study, which helps to evaluate the predicted impacts on the various environmental attributes and helps in preparing an Environmental Management Plan (EMP) outlining the measures for improving the environmental quality and scope of future expansions for environmentally sustainable development.

Baseline data was generated for various environmental parameters including air, water (surface and ground water), land and soil, ecology and socio-economic status to determine quality of the prevailing environmental settings. The Base Line Study was conducted during post-monsoon December 2021 to February 2022.

**BASE MAP OF THE STUDY AREA**

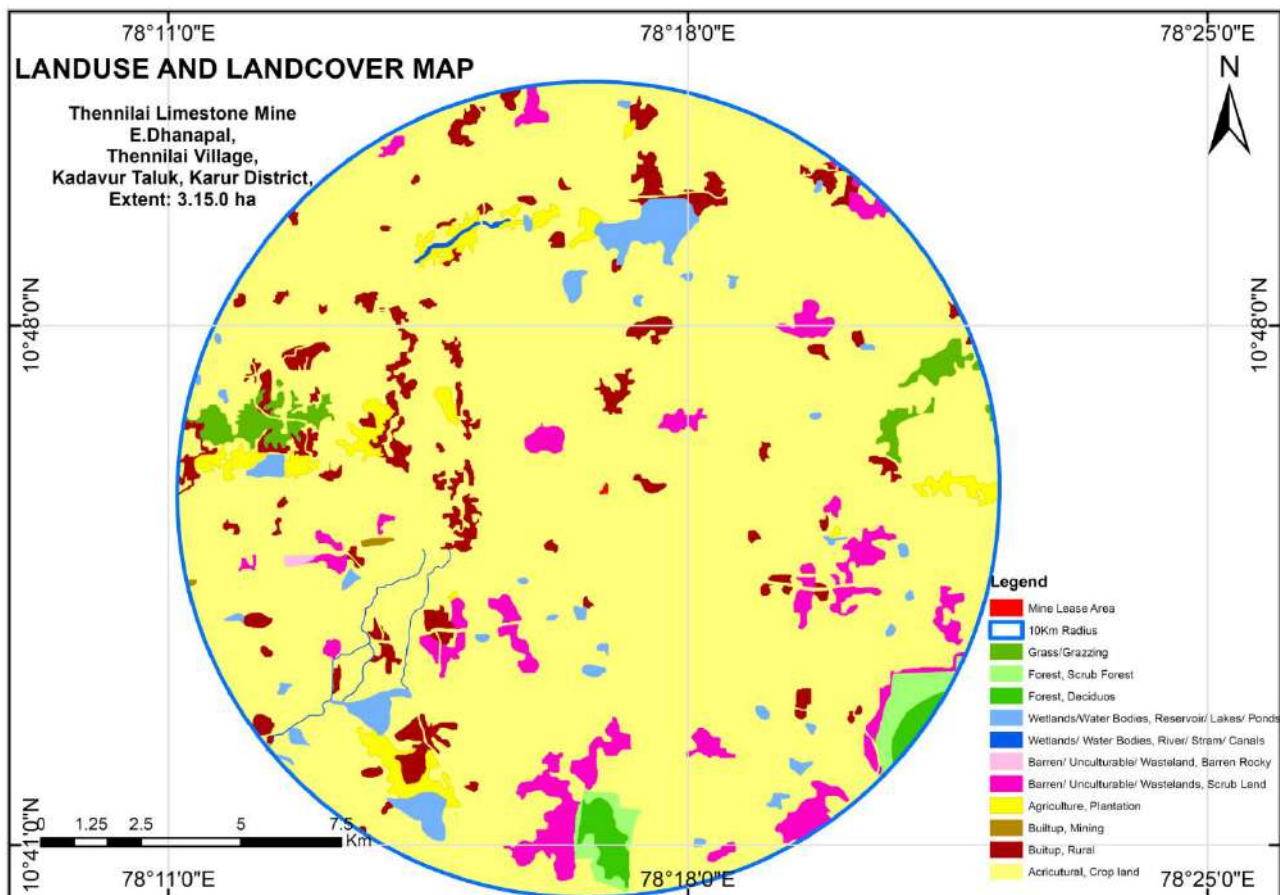


### 3.1 Land Environment

Existing land use pattern of the project area is dry barren land, partially patta land and Government land, No forest land is involved. Land use pattern of the study area is studied through the Bhuvan (ISRO) by covering 10KM radius from the periphery of the project site.

Majority of the land covered in the study area is Agriculture Land 86.10%, Barren Land 4.18%, Total mining areas within the study area is 0.65% from this projection of mining areas the project area covers 19%.

#### LAND USE LAND COVER MAP OF THE STUDY AREA (10KM RADIUS)



### Soil Environment

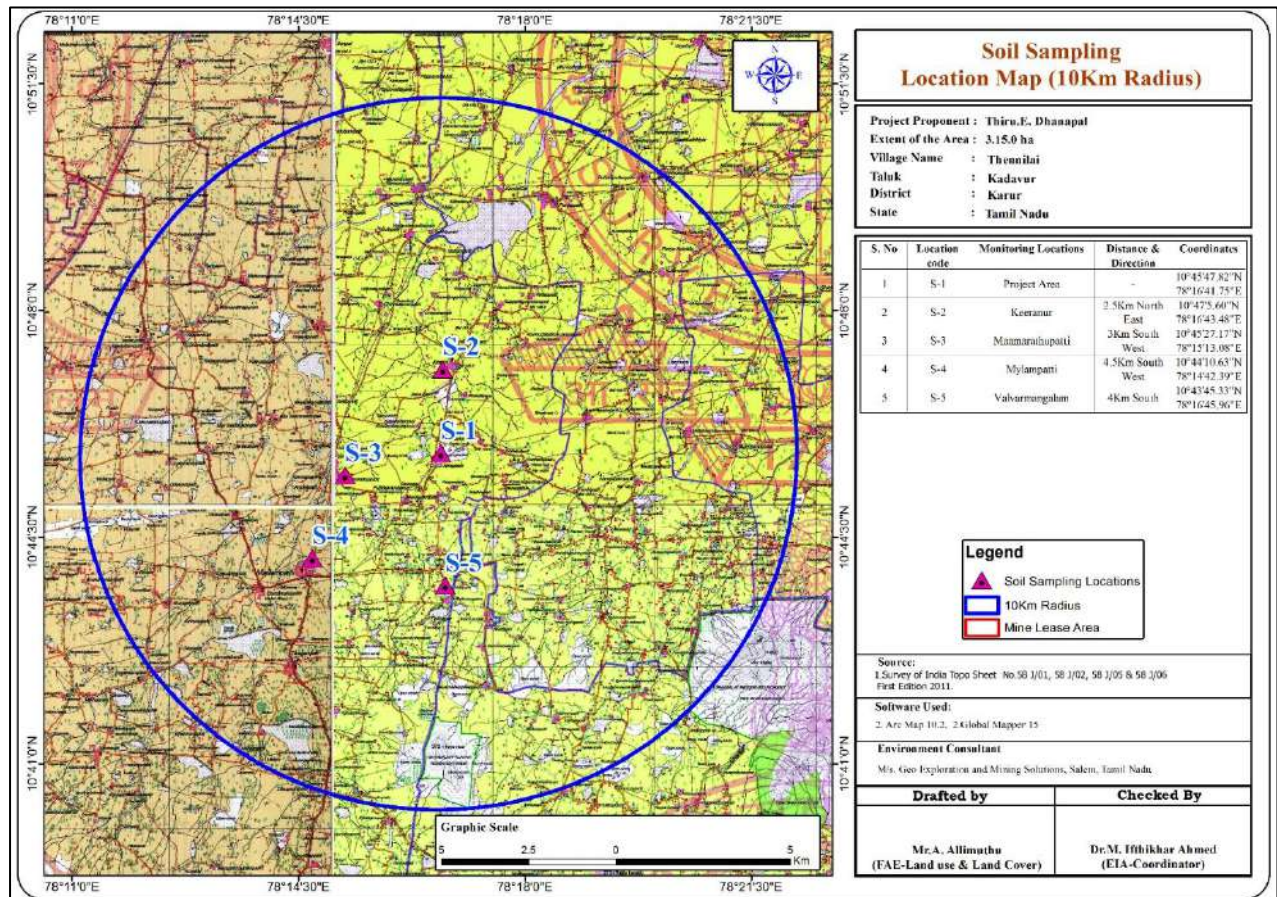
Five soil sampling locations were selected and analysed. The physical properties of the soil samples were examined for texture, bulk density, porosity and water holding capacity.

It is observed that the pH of the Soil ranging from 8.21 to 8.45 indicating that the soils is Highly Alkaline in nature. The Electrical Conductivity of the Soil ranges from 1217 to 1583 indicating High Conductivity. The concentration of Nitrogen is in the range 14mg/Kg to 28mg/kg and the Potassium ranges 0.3 mg/100g which are very low in concentration. The concentration of Chlorides is ranging from 18.4 to 19.2 which are found to be on the higher



side, this is due to the dispersion of chlorides from the limestone to the nearby areas. The soil found in the area is semi fertile soil.

### SOIL SAMPLES COLLECTION LOCATION MAP



### 3.2 Water Environment –

Around 7 ground water samples and 1 surface water sample were collected to assess the water quality. The ground water samples were drawn from bore wells of villages being used for domestic needs. Surface water sample were taken from the mine pit.

#### Ground Water –

- The pH was varying from 6.98 to 7.37.
- The Calcium value was in the range of 56 to 117 mg/l.
- The TDS values is ranging from 532 to 1429 mg/l
- Hardness values is ranging from 252 to 524 mg/l

#### Surface Water–

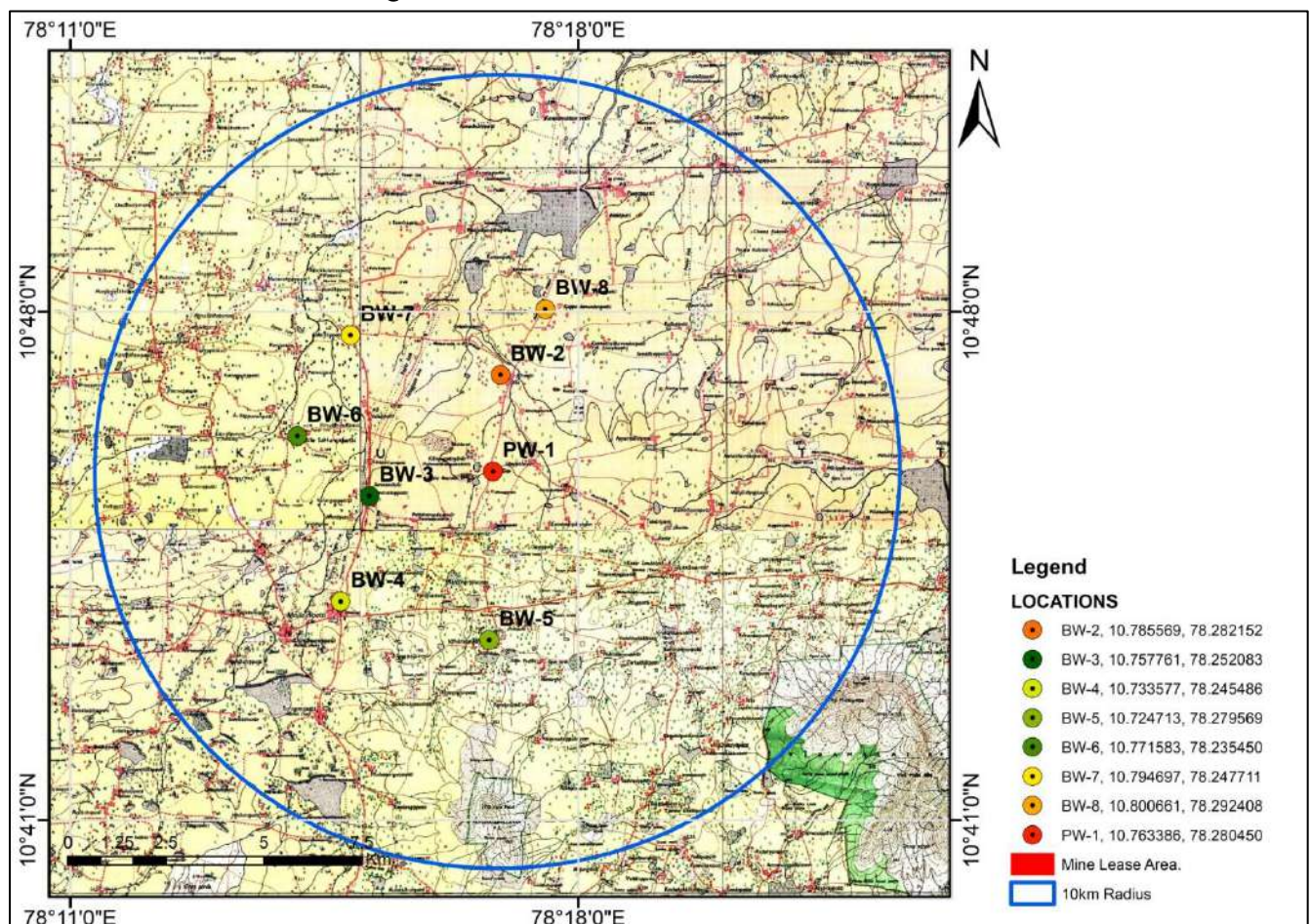
- The pH value is 7.06



- The Calcium value is 107mg/l
- The TDS values is 755 mg/l
- Hardness values is 456 mg/l

The heavy metal content has been found to be well within the limit. The physio-chemical and biological analysis revealed that these waters are well within the prescribed limits as per CPCB standard and the water can be used for drinking purpose in the absence of alternate sources

### WATER QUALITY MONITORING LOCATIONS



### 3.3 Air Environment – Meteorology (Climate) –

- The prevailing climate in Karur is known as a local steppe climate during the year, there is little rainfall in Karur. According to Köppen and Geiger, this climate is classified as BSh. The average temperature in Karur is 28.7 °C. The average annual rainfall is 595 mm. The driest month is March. There is 8 mm of precipitation in March. Most precipitation falls in October, with an average of 166 mm. With an average of 31.5 °C, May is the warmest month. In December, the average temperature is 25.6 °C. It is the

lowest average temperature of the whole year. The precipitation varies 158 mm between the driest month and the wettest month. The average temperatures vary during the year by 5.9 °C The nearest IMD station for the proposed mine project is Karur paramathi vide index No KPM -43342.

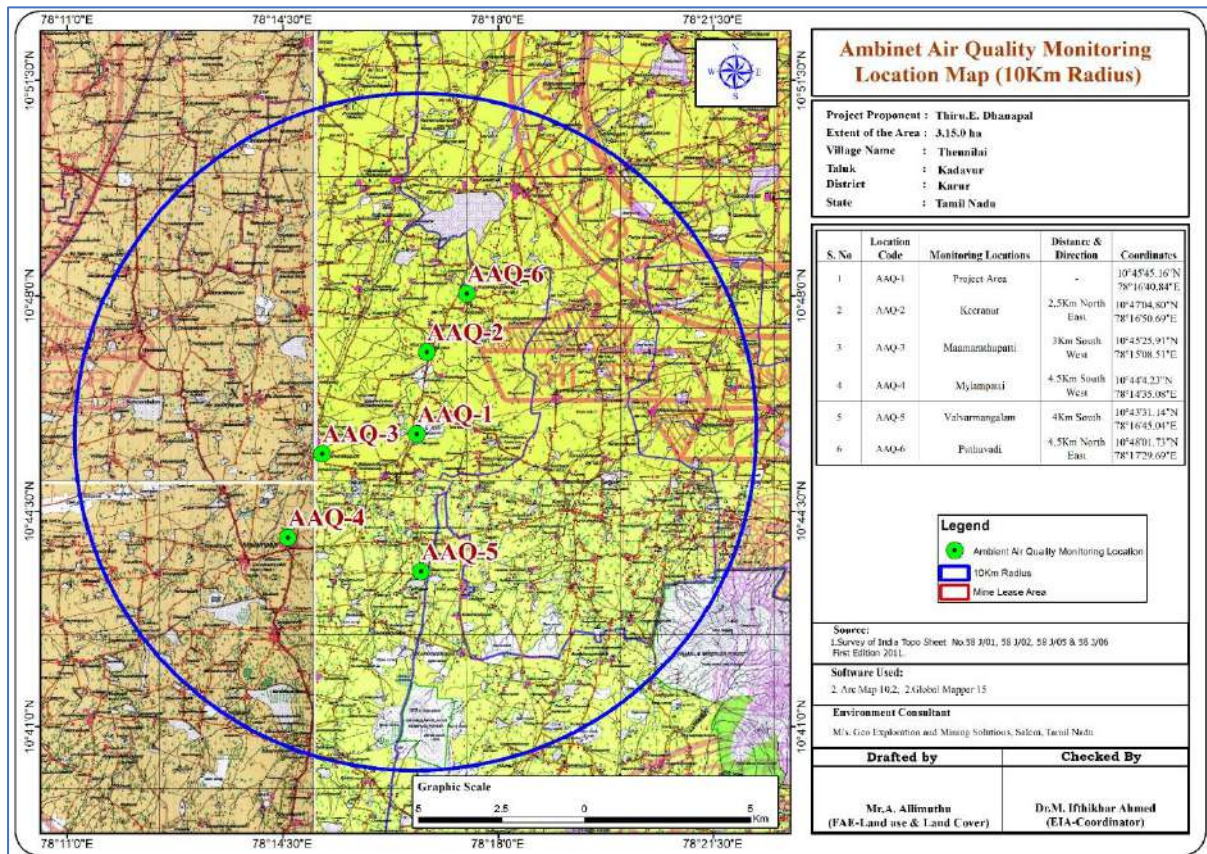
#### **Air quality Monitoring -**

Ambient Air quality Stations were selected based on the Predominant downwind direction in respect to the project site. Six Ambient Air Quality Monitoring (AAQM) Stations were selected by considering the wind rose pattern for pre-monsoon season and the accessibility of the selected sites.

- The 98<sup>th</sup> Percentile Value of PM<sub>10</sub> varies between 36 µg/m<sup>3</sup> at Keeranur Village to 36.95 µg/m<sup>3</sup> at Project Area
  - The 98<sup>th</sup> Percentile Value of PM<sub>2.5</sub> varies between 17.00 µg/m<sup>3</sup> at Keeranur Village to 17.91 µg/m<sup>3</sup> at Project Area
  - The average concentration of SO<sub>2</sub> and NO<sub>2</sub> varies between 4.30 µg/m<sup>3</sup> and 14.95 µg/m<sup>3</sup> at Keeranur Village to 4.62 µg/m<sup>3</sup> to 15.80 µg/m<sup>3</sup> Project Area; respectively.
  - The concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>2</sub> are observed to be well within the NAAQ standards prescribed by Central Pollution Control Board (CPCB) for industrial and rural/residential zone.
  - All the values are found to be well within the prescribed standard as per CPCB norms.
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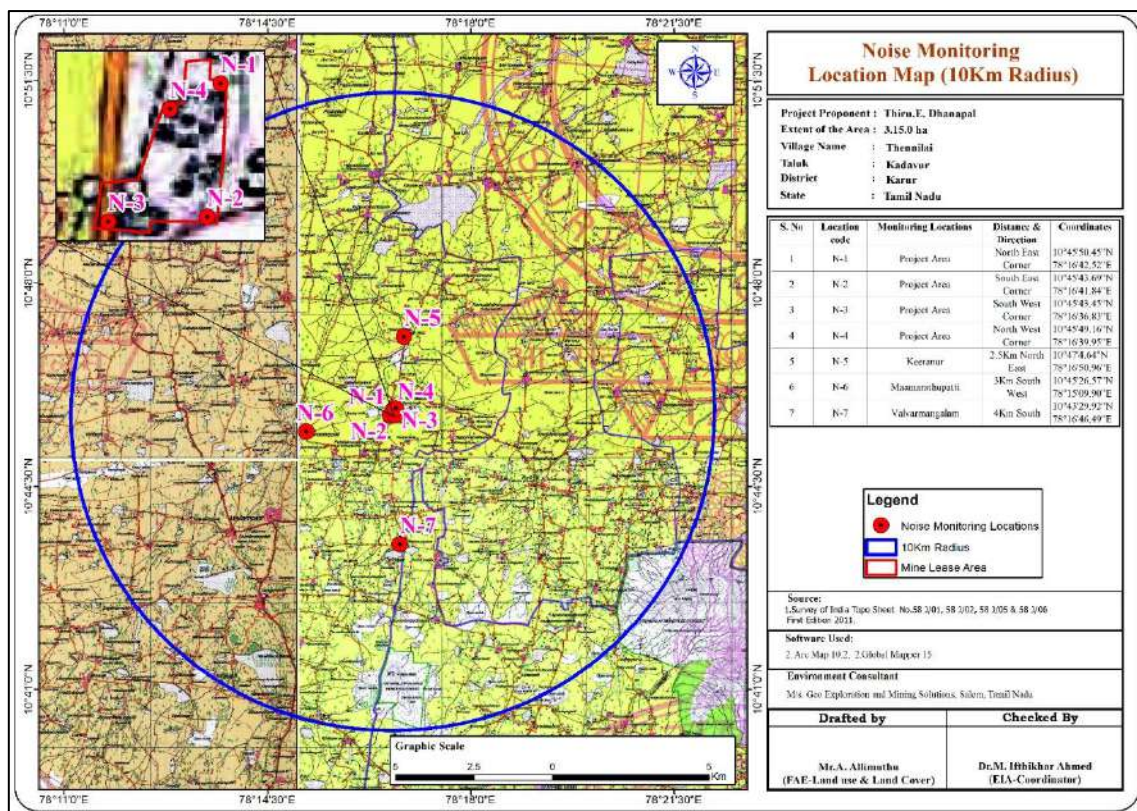
### AIR QUALITY MONITORING LOCATION MAP



### 3.4 Noise Environment –

- Baseline noise levels were monitored at 7 locations, using continuous noise measurement device. Day levels were monitored during 6 AM to 10 PM and the night levels during 10 PM to 6 AM.
- The day equivalents during the study period are ranging between 37.1 dB (A) to 59.8 dB (A).
- The night equivalents were in the range of 35.1 dB (A) to 49.7 dB (A).
- From the results, it is inferred the day equivalents and the Night equivalents levels were within the Ambient Noise Standards of Industrial / Commercial / Residential Area.

## NOISE MONITORING LOCATION MAP



### 3.5 Biological Environment –

Ecological survey has been carried out to understand baseline ecological status, important floristic elements and fauna structure.

There are No Schedule – I Species listed as per The Indian Wildlife (Protection) Act, 1972 or Threatened Species as per IUCN Red List noticed within the Study Area.

### 3.6 Socio Economics –

Sample survey was carried out to collect qualitative information about the socio-economic environment of the area. The Study area has all basic amenities such as roads, drinking water facilities, township, education institution, temples, medical facilities and electricity facilities and was evident during the site visit.

Though agriculture is the main occupation in the surrounding villages, it has provided employment opportunities to only 50-60% of the families. The remaining population is depended on the other type of employment opportunities mainly as laborers.

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## 4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 4.1 Land Environment:

In the Opencast Mining method the major impact is Land Environment, the existing land use pattern of the area is dry barren land, no forest land is involved in this project. Total extent of 3.15.0ha, about 2.19.8ha area is proposed for Mining activity which will have the impact during the mining. At conceptual stage the mined out pit will be allowed to store the rain water which act as a temporary reservoir. Total area of 2,200 sqm is proposed for green belt development.

There is no major vegetation found in the project area at present, after the completion of the mining operation the rate of the green belt development will be increased in the project site.

### 4.2 Water Environment

The ultimate pit limit is 25m below the ground level; the water table in the area is 42m in summer and 40m in rainy season. The proposed depth for the mining operation is well above the water table and there is no intersection of surface water (streams, Canal, Odai etc.,) within the lease area.

#### Mitigation Measures –

- Construction of garland drains to divert surface run – off in to the mining area
- Construction of retaining with weep holes around the Mineral reject dumps to prevent the siltation to the nearby lands.

### 4.3 Air Environment–

The air borne particulate matter generated by mining operations and transportation is the main air pollutant. The emissions of Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Oxides (NO<sub>x</sub>) contributed by vehicles plying on haul roads will be marginal.

The Predicted maximum Ground level concentration of 24 Hour average of particulate matter concentration is superimposed on the maximum baseline concentration obtained during the study period to estimate the post project scenario, which would prevail at the post operational phase.

The maximum incremental ground level concentration of PM<sub>10</sub> is 42.90µg/m<sup>3</sup> – Keeranur Village and 36.9µg/m<sup>3</sup> – Thennilai village. This shows that the adverse impact of mining outside the ML area is marginal and has no adverse effect on health of human and animals and also on the flora of the area.\

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**Mitigation Measures –**

- Water spraying on working face to control dust emission due to loading & handling operations
- Water sprinklers along the mine haulage roads to reduce dust generation during plying of HEMM
- Controlled blasting techniques will be implemented
- Periodic water sprinkling on waste dumps and haul roads to minimize dust emissions.
- Practicing wet drilling procedures & Dust mask provision to workers
- Avoiding of overloading of tippers and covering of loaded tippers with tarpaulins during mineral transportation
- Green belt development will be carried out to arrest the dust particles
- Periodical monitoring of air quality to take steps to control the pollutants

**4.4 Noise Environment**

Noise pollution is mainly due to the blasting, Operation of machineries and Occasional plying of tippers in the mines and during transportation of mineral to needy customers.

**Mitigation Measures –**

- Controlled blasting techniques will be implemented, thus Noise due to the blasting from the mine site not going to be significant it will be upto a few seconds in the whole day.
- In the high noise intensity working areas, earmuffs or earplugs or any other suitable personal protective equipment will be provided to the workers.
- Regular noise level monitoring shall be done periodically for taking corrective action.
- Green belt development around the mine sites, office buildings and all along the internal road will be practiced as to create a barrier between the source and the receiver so that the noise is absorbed and the exposure level is minimized.

**4.5 Biological Environment**

The impact on biodiversity is minimal as there is no forest, wild life sanctuaries, and Eco sensitive zone within the radius of 10 Km.

The impact would be due to dust generated from drilling and blasting activities and emission of gaseous pollutant from HEMM and mineral transportation. Adequate dust control measures will be taken to control dust emission. Thick Greenbelt development will be carried

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out in the mine area and haul roads to control the dust emission. Besides the air quality standards for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> and all other values are well within the AAQ standards.

#### **4.6 Socio Economic Environment.**

Due to the mining activities in the three leases about 28 numbers of skilled and unskilled workers are benefitted through direct employment. About 50 numbers of peoples will be benefitted indirectly. Additional facilities such as medical, educational and infrastructural development will also take place under CSR/CER activities.

Considering the socio – economic and sociological impact it has been noticed that the economic level and living standard of the people will generally increase.

### **5 ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)**

#### **Site Alternatives –**

No alternative site has been proposed as Limestone occurrence is site specific in nature and the location of the proposed project is restricted to the geology and mineral deposition of the area.

#### **Mining Technology alternatives –**

Opencast, category “A” opencast Mechanized method and the excavator will be deployed for the formation of benches and loading. Excavator attached with rock breaker will be deployed for breaking and fragmentation to avoid blasting as the strata is medium hard in nature.

The project will follow opencast mining method because of surface mineral deposits and to ensure higher mineral conservation. The mining by opencast method will be highly productive & economical as compared to underground method.

### **6 ENVIRONMENT MONITORING PROGRAM –**

Usually, an impact assessment study is carried over short period of time and the data cannot bring out all variations induced by natural or human activities. Hence regular monitoring program of Environmental parameters is essential to take into account the changes in the Environment. The Objective of Monitoring -

- To check or assess the efficiency of the controlling measures;
  - To establish a data base for future impact assessment studies.
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**7 ADDITIONAL STUDIES - RISK ASSESSMENT & HAZARD –**

The components associated with risk and hazard in these mines include jackhammer drilling & blasting, waste dump and explosive storage. Measures to reduce and avoid any incidents occurring from the above mentioned components shall be planned and implemented as soon as the mine starts commissioning; this includes measures to avoid the above discussed risk factors. Proper risk management plan will be proposed to avoid any kind of accident/disaster.

**8 PROJECT BENEFITS –**

- Demand supply gap for the limestone
- Improvement in physical infrastructure
- Improvement in Social Infrastructure
- Employment Potential
- Proponents will carry out CSR activities like community awareness program, health camps, Medical aid, family welfare camps etc.,
- A massive plantation will be carried out in the mine area to mitigate the ill-effects of mining and to improve the vicinity and environment of mine and its surrounding area.

**9 ENVIRONMENTAL COST BENEFIT ANALYSIS.**

Environmental cost benefit analysis is not recommended.

**10 ENVIRONMENT MANAGEMENT PLAN –**

The Environmental Management Plan (EMP) is a site-specific plan developed based on the base line environmental status, mining methodology and environmental impact assessment. In each of the areas of impact, measures have to be taken to reduce potentially significant adverse impacts and where these are beneficial in nature, such impacts are to be enhanced/augmented so that the overall adverse impacts are reduced to as low level as possible.

The proponent shall organize an Environment Monitoring Cell in common which is responsible for the management and implementation of the environmental control measures. Basically, this department shall supervise the monitoring of environmental pollution levels like ambient air quality, water quality, soil quality and noise level by appointing approved external agencies.

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The working conditions in the mines are governed by the enactments of the Director General of Mines Safety (DGMS). The proponent shall take all necessary precautions regarding health and safety of workers as per the guidelines of the Mines Act, sanitary facilities shall be provided within the lease area; carry out periodic health check-up of workers.

The proponent will carry out CSR activities for overall development of the people in the area. The activities shall include medical camps, water supply, improvement of school infrastructure, etc. The proponents have been carrying out CSR Activities in various fields for social welfare around the project site and spent an amount of Rs 5 Lakhs each till date.

## **11 CONCLUSION –**

It can be concluded from overall assessment of the impacts, in terms of positive and negative effects on various environmental components, that the mining activities will not have any adverse effect on the surrounding environment.

To mitigate any impacts due to the mining activities, a well-planned EMP and a detailed post project monitoring system is provided for continuous monitoring and immediate rectification at site. Due to the mining activities, socio economic conditions in and around the project site will be improved substantially. Hence, the Environmental Clearance shall be granted at the earliest based on the merits of the project.

- Since the mining operation have been stopped for last seven years which has caused unemployment and affected the livelihood of the workers who were employed and a major loss to the infrastructure and machinery deployed.
  - The livelihood of the proponent is very much dependent upon this mining operation which had been working from several years hence the Environmental Clearance shall be granted at the earliest.
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