# ANNEXURE

# A. NANDAKUMAR ROUGH STONE AND GRAVEL QUARRY

**Chikkaramapalayam Village, Mettupalayam Taluk, Coimbatore District**

**ToR obtained vide**

**Lr.No. SEIAA-TN/F.No.9011/SEAC/ToR-1161/2022 Dated: 06.06.2022 for P1**

**CLUSTER EXTENT = 38.01.55 ha**

## NAME OF PROJECT PROPONENTS

| Sl. No. | Proponent Name | Extent |
|---|---|---|
| 1 | **Thiru.A. Nandakumar**<br>S/o.Arukutty Goundar,<br>No.79D, Avinashi Road, Annur,<br>Coimbatore District – 641 653<br>Mobile: +91 9842262448 | **3.46.00 ha** |

# LIST OF ANNEXURES


| CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY | | |
|---|---|---|
| P1 Thiru.A. Nandakumar | Copy of ToR | 1A-20A |
| | Copy of 500m Radius Letter & Approval Letter | 21A-28A |
| | Copy of Approved Mining plan and Drawing | 29A -98A |
| P2 Thiru.K. Sundararaj | Copy of ToR | 99A-119A |
| P3 M/s. Sri Blue Metals | Copy of ToR | 120A-138A |
| P4 Thiru.R. Raju | Copy of ToR | 139A- 158A- |
| P5 Thiru. R.K. Palanisamy | Copy of ToR | 159A-176A |
| P6 S.Palanisamy | Copy of ToR | 177A-190A |
| M/s.Palanivel Sri Blue Metals | Copy of ToR | 191A-204A |
| Tmt.M.Muthammal | Copy of ToR | 205A-218A |
| C.N.Mani | Copy of ToR | 219A-236A |
| M/s.Sri Blue Metal | Copy of ToR | 237A-252A |
| EXISTING QUARRIES | | |
| E2 Thiru. S. Gnanasekaran | Copy of Approved Mining plan | 253A-295A |
| E4 Tmt. R. Poorani | Copy of Approved Mining plan | 296A-352A |
| E5 Tmt. T. Kaveriammal | Copy of Approved Mining plan | 353A-406A |
| E6 R.K. Selvakumar | Copy of Approved Mining plan | 407A-470A |
| | Copy of Baseline data | 471A-514A |
| | Copy of Consultant Accreditation certificate | 515A |

**TMT. P. RAJESWARI, I.F.S.,**
**MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU**
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359973
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.9011/SEAC/ToR-1161/2022 Dated: 06.06.2022**

**To**

Thiru. A Nandakumar
S/o. Arukutty Gounder
No.79D, Avinashi Road, Annur
Coimbatore District – 641653

**Sir,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone quarry lease over an extent of 3.46.0 Ha in S. F. Nos. 78/1 (P), 419, 420 Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru A. Nandakumar - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/ 72349/2022, dated: 17.02.2022
2. Your application seeking Terms of Reference submitted on: 21.02.2022
3. Minutes of the 273rd Meeting of SEAC held on 14.05.2022
4. Minutes of the 518th Meeting of SEIAA held on 06.06.2022.

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

The project proponent, Thiru A. Nandakumar has submitted application seeking ToR for B1 category project in Form-I, for the Proposed Rough Stone quarry lease over an extent

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of 3.46.0 Ha in S. F. Nos. 78/1 (P), 419, 420 Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu and has furnished Pre-feasibility report.

The proposal was placed in 273rd SEAC meeting held on 14.5.2022. The project proponent gave detailed presentation. SEAC noted the following:

1. The Project Proponent, Thiru A. Nandakumar has applied for Terms for Reference for the proposed Rough stone quarry lease over an extent of 3.46.0 Ha in S. F. Nos. 78/1 (P), 419, 420 Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. **As per the mining plan, the lease period is 5 year. The production as per mining plan for 5 years not to exceed -386746 m3 of Rough Stone and 28470 m3 of Gravel . The Annual peak production as per mining plan is 80200 m3 of Rough Stone (2nd year) and 14094 m3 of Gravel (1st year) with ultimate depth of 47 BGL.**

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

1. The Proponent shall carry out the cumulative & comprehensive impact study due to mining operations carried out in the quarry cluster specifically with reference to the environment in terms of air pollution, water pollution & health impacts, accordingly the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
2. The PP shall carry out controlled blasting & vibration study with the reputed institution and furnish the same along with EIA report.
3. Certified EC compliance report shall be included in the EIA report.

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4. 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,
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b) Quantity of minerals mined out.
    c) Highest production achieved in any one year
    d) Detail of approved depth of mining.
    e) Actual depth of the mining achieved earlier.
    f) Name of the person already mined in that leases area.
    g) If EC and CTO already obtained, the copy of the same shall be submitted.
    h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
5. 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).
6. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
7. 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.
8. 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.
9. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure

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safety and to protect the environment.

10. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
11. 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.
12. 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.
13. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
14. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
15. The PP shall produce/display the EIA report, Executive summery and other related with respect to public hearing should in Tamil Language also.
16. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
17. 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

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in the **appendix** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.

18. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper espacement 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
19. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
20. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.
21. The specific flora & fauna studies shall be carry out with the help of local School/College students and the same shall be included in EIA Report.
22. 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.
23. 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.
24. 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 Reference besides attracting penal provisions in the Environment (Protection) Act, 1986.

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

1. ***Aeglemarmelos***–Vilvam
2. ***Adenaantherapavonina***-Manjadi

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3. ***Albizialebbeck***–Vaagai
4. ***Albiziaamara***-Usil
5. ***Bauhinia purpurea*** - Mantharai
6. ***Bauhinia racemosa*** - Aathi
7. ***Bauhinia tomentosa***–Iruvathi
8. ***Buchananiaaillaris***-Kattuma
9. ***Borassusflabellifer***- Panai
10. ***Buteamonosperma*** - Murukkamaram
11. ***Bobaxceiba***– Ilavu, Sevvilavu
12. ***Calophylluminophyllum*** - Punnai
13. ***Cassia fistula***- Sarakondrai
14. ***Cassia roxburghii***- Sengondrai
15. ***Chloroxylonsweitenia*** - Purasamaram
16. ***Cochlospermumreligiosum***– Kongu, ManjalIlavu
17. ***Cordiadichotoma***– Mookuchalimaram
18. ***Cretevaadansonii***–Mavalingum
19. ***Dilleniaindica***– Uva, Uzha
20. ***Dilleniapentagyna***– SiruUva, Sitruzha
21. ***Diospyrosebenum***- Karungali
22. ***Diospyroschloroxylon***– Vaganai
23. ***Ficusamplissima***– KalItchi
24. ***Hibiscus tiliaceous***–Aatrupoovarasu
25. ***Hardwickiabinata***– Aacha
26. ***Holopteliaintegrifolia***-Aayili
27. ***Lanneacoromandelica*** - Odhiam
28. ***Lagerstroemia speciosa*** - Poo Marudhu
29. ***Lepisanthustetraphylla***- Neikottaimaram
30. ***Limoniaacidissima*** - Vila maram
31. ***Litseaglutinosa***–Pisinpattai
32. ***Madhucalongifolia*** - Illuppai
33. ***Manilkarahexandra***–UlakkaiPaalai
34. ***Mimusopselengi*** - Magizhamaram
35. ***Mitragynaparvifolia*** - Kadambu
36. ***Morindapubescens***–Nuna
37. ***Morindacitrifolia***– VellaiNuna
38. ***Phoenix sylvestre***-Eachai
39. **Pongamiapinnata**–Pungam
40. **Premnamollissima**– Munnai
41. **Premnaserratifolia**– Narumunnai
42. **Premnatomentosa**-PurangaiNaari, PudangaNaari
43. **Prosopiscinerea** - Vannimaram

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44. **Pterocarpusmarsupium** - Vengai
45. **Pterospermumcanescens**–Vennangu, Tada
46. **Pterospermumxylocarpum** - Polavu
47. **Puthranjivaroxburghii**–Puthranjivi
48. **Salvadorapersica**– UgaaMaram
49. **Sapindusemarginatus**- Manipungan, Soapukai
50. **Saracaasoca** - Asoca
51. **Streblusasper**- Pirayamaram
52. **Strychnosnuxvomica**–Yetti
53. **Strychnospotatorum** - TherthangKottai
54. **Syzygiumcumini** - Naval
55. **Terminaliabellerica**- Thandri
56. **Terminalia arjuna**- Venmarudhu
57. **Toona ciliate** – Sandhanavembu
58. **Thespesiapopulnea**- Puvarasu
59. **Walsuratrifoliata**–valsura
60. **Wrightiatinctoria**- Vep

The proposal was placed in the 518th Authority meeting held on 06.06.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
2. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
3. 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.
4. The Environmental Impact Assessment shall study in detail on the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon

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sinks and temperature reduction including control of other emission and climate mitigation activities.

5. 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.
6. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
7. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the nearby water body and Reservoir.
8. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
9. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
10. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
11. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
12. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
13. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
14. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
15. The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.
16. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
17. 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.

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18. 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.
19. The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.
20. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
    a) Soil health & bio-diversity.
    b) Climate change leading to Droughts, Floods etc.
    c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
    d) Possibilities of water contamination and impact on aquatic ecosystem health.
    e) Agriculture, Forestry & Traditional practices.
    f) Hydrothermal/Geothermal effect due to destruction in the Environment.
    g) Bio-geochemical processes and its foot prints including environmental stress.
    h) Sediment geochemistry in the surface streams.
21. 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.
22. 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.
23. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

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24. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.
25. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

**A. STANDARD TERMS OF REFERENCE**

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

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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

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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.

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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

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receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should

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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

**MEMBER SECRETARY**
**SEIAA-TN**

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

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SEIAA-TN

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.

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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.

MEMBER SECRETARY
SEIAA-TN

30. Reserve funds should be earmarked for proper closure plan.

31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.

b. All documents may be properly referenced with index, page numbers and continuous page numbering.

c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

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

e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J - 11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

**MEMBER SECRETARY**
**SEIAA-TN**

- 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.

**MEMBER SECRETARY**
**SEIAA-TN**

**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SEZ), Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District
7. Stock File.

Protects if She is Protected

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

To
Thiru.A.Nandhakumar,
S/o. Arukutty Gounder,
79D, Avinashi Road,
Annur,
Coimbatore District.

**Rc.No.939/Mines/2021 Dated: 31.12.2021**

Sir,

Sub : Mines & Minerals – Minor Mineral – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village - Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) - over an extent of 3.46.0 hectares of patta land - Application preferred by Thiru.A.Nandhakumar for quarrying Roughstone and Gravel – Precise area communicated – Mining Plan – approved – further particulars called for – furnished - regarding.

Ref: 1. Assistant Director, Dept. of Geology and Mining, Coimbatore Letter Rc.No.939/Mines/2021, Dated: 02.12.2021.

2. Thiru.A.Nandhakumar letter dated: 15.12.2021.

******

In the reference 2nd cited Thiru.A.Nandhakumar has requested to furnish certain particulars regarding the precise area granted in Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) over an extent of 3.46.0 hectares of patta land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District. In this connection the following details are furnished.

The area was previously held under quarry lease and the details are as follows,

| Sl. No. | Name of the Exlessee | SF.No/ Extent | District Collector's proceedings No. & Date | Validity | Lease Period |
|---|---|---|---|---|---|
| 1 | Thiru.S.A.Palani samy | 78/1 (Part), 420 (Part) 1.17.0 hec | Rc.25/2009/ MM1 Dated: 04.09.2009 | 04.09.2009 to 03.09.2014 | 5 Years |
| 2 | Thiru.A.Nandha kumar | 78/1 (Part), 420 (Part) 1.17.0 Hec | Rc.No.996/Mines/2014 Dated: 02.06.2016 | 02.06.2016 to 01.06.2021 | 5 Years |

At the time of inspection, the quarry pit with a dimension of Pit 180 Meter (length) X 80 Meter (width) X 20 Meter (Max depth)is noticed in the applied area.

Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

To
Thiru.A.Nandhakumar,
S/o. Arukutty Gounder,
79D, Avinashi Road,
Annur,
Coimbatore District.

**Rc.No.939/Mines/2021 Dated: 31.12.2021**

Sir,

Sub: Mines & Minerals – Minor Mineral – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village - Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) - over an extent of 3.46.0 hectares of patta land - Application preferred by Thiru.A.Nandhakumar for quarrying Roughstone and Gravel – Precise area communicated - Details of quarries situated within 500 meter radial distance - Requested – furnished - reg.

Ref. 1. Assistant Director, Dept. of Geology and Mining, Coimbatore Letter Rc.No.939/Mines/2021, Dated: 02.12.2021
2. Thiru.A.Nandhakumar Coimbatore letter dated 15.12.2021.

********

I invite kind attention to the reference cited wherein Thiru.A.Nandhakumar has been issued precise area for the grant of Rough Stone and Gravel quarry lease over an extent of 3.46.0 hectares of patta land in Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

In the reference 2nd cited of Thiru.A.Nandhakumar has requested to furnish details of quarries situated within 500 meter radial distance from the proposed area.

In this connection the details of abandoned, expired, existing and proposed quarries situated within 500 meter radial distance from the proposed area is furnished below.

**i) Existing Quarries**

| Sl. No | Name of the Owner | Village &S.F.Nos. | Extent in Hect. | Lease period | Remarks |
|---|---|---|---|---|---|
| 1. | Thiru.S.Gnanasekaran | Chikkarampalayam 77/2D(Part) | 1.01.2 | 01.10.2018 to 30.09.2023 | |

| | | | | | |
|---|---|---|---|---|---|
| 2. | Tmt.Kaveriammal | Chikkarampalayam 77/2B(Part) | 0.99.0 | 24.12.2018 to 23.12.2023 | |
| 3. | Thiru.R.K.Selvakumar | Chikkarampalayam 69 (Part) | 2.19.0 | 17.10.2017 to 16.10.2022 | |

**ii) Expired Quarries**

| Sl. No | Name of the Owner | Village &S.F.Nos. | Extent in Hect. | Lease period | Remarks |
|---|---|---|---|---|---|
| 1 | Thiru.M.Shanmugam | Chikkarampalayam 428/1A, 60/1B, 61 | 1.75.5 | 23.05.2015 to 22.05.2019 | |

**iii) Abandoned quarries**

| Sl. No. | Name of the Owner | Village &S.F.Nos. | Extent in Hect. | Lease period | Remarks |
|---|---|---|---|---|---|
| ---Nil--- | | | | | |

**iv) Proposed quarries**

| Sl. No. | Name of the Owner | Village & S.F.Nos. | Extent in Hect. | Remarks |
|---|---|---|---|---|
| 1 | Thiru.A.Nandhakumar | Chikkarampalyam 78/1(Part), 419 & 420 | 3.46.0 | Subject area Precise area communicated |
| 2 | Tmt.M.Muthammal | Chikkarampalayam 77/2E(Part), 77/2F (Part), 79/1A(Part) | 1.82.0 | Pending with SEIAA |
| 3 | Thiru.C.N.Mani | Chikkarampalayam 75 | 2.47.50 | Pending with SEIAA |

**v) Future Proposed quarries**

| Sl. No. | Name of the Owner | Village &S.F.Nos. | Extent in Hect. | Remarks |
|---|---|---|---|---|
| ---NIL--- | | | | |

Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

To
Thiru.A.Nandhakumar,
S/o. Arukutty Gounder,
79D, Avinashi Road,
Annur,
Coimbatore District.

**Rc.No.939/Mines/2021 Dated: 31.12.2021**

Sir,

Sub: Mines & Minerals - Minor Mineral - Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village - Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) - over an extent of 3.46.0 hectares of patta land - Application preferred by Thiru.A.Nandhakumar for quarrying Roughstone and Gravel- Submission of mining plan for approval - approved - regarding.

Ref:
1. Quarry lease application dated 06.08.2021 preferred by Thiru.A.Nandhakumar, Coimbatore District.
2. Assistant Director, Dept. of Geology and Mining, Coimbatore Letter Rc.No.939/Mines/2021, Dated: 02.12.2021.
3. Thiru.A.Nandhakumar, Coimbatore letter dated 15.12.2021

********

In response to the precise area communicated by the Assistant Director of Geology and Mining, Coimbatore the applicant Thiru.A.Nandhakumar vide reference 3rd cited has submitted three copies of mining plan for the grant of Roughstone and Gravel quarry lease over an extent of 3.46.0 hectares of patta land in Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

2. The mining plan submitted for the grant of Rough stone and gravel quarry lease over an extent of 3.46.0 hectares of patta land in Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District has been verified in detail.

3. As per the guidelines/instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Rc.No.3868/LC/2012, dated 19.11.2012, the mining plan 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) Amended Act, 2015, 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) 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) As per the Assistant Director, Dept. of Geology and Mining, Coimbatore letter Rc.No.939/Mines/2021, Dated: 02.12.2021 the following conditions have been incorporated in the Mining Plan .

a) A safety distance of 7.5 meters should be provided for the adjacent patta lands from the lease applied area.

b) A safety distance of 50 meter should be provided for EB line passing on Western side of the applied area.

v) 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.

Encl: Two copies of Approved Mining Plan.

Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

Copy submitted to:
The Director of Geology and Mining, Chennai-32.

26 A

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

To
Thiru.A.Nandhakumar,
S/o. Arukutty Gounder,
79D, Avinashi Road,
Annur,
Coimbatore District.

**Rc.No.939/Mines/2021 Dated: 31.12.2021**

Sir,

Sub : Mines & Minerals – Minor Mineral – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village - Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) - over an extent of 3.46.0 hectares of patta land - Application preferred by Thiru.A.Nandhakumar for quarrying Roughstone and Gravel – Precise area communicated – Mining Plan – approved – further particulars called for – furnished - regarding.

Ref: 1. Assistant Director, Dept. of Geology and Mining, Coimbatore Letter Rc.No.939/Mines/2021, Dated: 02.12.2021.

2. Thiru.A.Nandhakumar letter dated: 15.12.2021.

******

In the reference 2nd cited Thiru.A.Nandhakumar has requested to furnish certain particulars regarding the precise area granted in Survey Nos.78/1 (Part) (1.21.0 Hec), 420 (1.05.5 Hec) and 419 (1.19.50 Hec) over an extent of 3.46.0 hectares of patta land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District. In this connection the following details are furnished.

The area was previously held under quarry lease and the details are as follows,

| Sl. No. | Name of the Exlessee | SF.No/ Extent | District Collector's proceedings No. & Date | Validity | Lease Period |
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| 2 | Thiru.A.Nandha kumar | 78/1 (Part), 420 (Part) 1.17.0 Hec | Rc.No.996/Mines/2014 Dated: 02.06.2016 | 02.06.2016 to 01.06.2021 | 5 Years |

At the time of inspection, the quarry pit with a dimension of Pit 180 Meter (length) X 80 Meter (width) X 20 Meter (Max depth)is noticed in the applied area.

Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

31 DEC 2021

# MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 41 & 42 AS AMENDED IN TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

*Patta Lands / Lease Period = Five Years*

IN

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

| | | |
|---|---|---|
| EXTENT | : | 3.46.0 Ha |
| S.F.NOS | : | 78/1 (P), 419 & 420 |
| VILLAGE | : | CHIKKARAMPALAYAM |
| TALUK | : | METTUPALAYAM |
| DISTRICT | : | COIMBATORE |
| STATE | : | TAMIL NADU |

FOR

**APPLICANT**

**Thiru.A.Nandakumar,**

S/o. Arukutty Gounder,

No. 79D, Avinashi Road, Annur,

Coimbatore District – 641 653.

**PREPARED BY**

**P.Viswanathan, M.Sc.,**

Qualified Person

No.17, Advaitha Ashram Road,

Alagapuram, Salem District – 636 004.

Cell: +91 94422 78601 & 94433 56539.

E-mail: infogeoexploration@gmail.com

இயக்குநர் அலு
31 DEC 2021

**A.Nandakumar,**
S/o. Arukutty Gounder,
No. 79D, Avinashi Road, Annur,
Coimbatore District – 641 653.

## CONSENT LETTER FROM THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Chikkarampalayam Rough Stone and Gravel Quarry in S.F.Nos. 78/1 (P), 419 & 420 over an extent of 3.46.0Ha of Patta lands in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State has been prepared by

**P.Viswanathan, M.Sc.,**
Qualified Person

I request to the Assistant Director, Department of Geology and Mining, Coimbatore District to make further correspondence regarding the modification of the Mining Plan with the said Qualified Person at his following address.

**P.Viswanathan, M.Sc.,**
No. 17, Advaitha Ashram Road,
Alagapuram, Salem District – 636 004.
Cell: +91 94422 78601 & 94433 56539.

I hereby undertake that all the modifications, if any 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.

Signature of the Applicant

A.Nandakumar

Place: Coimbatore
Date: 03.12.2021

உதவி இயக்குநர் அலு
31 DEC 2021

**A.Nandakumar,**
S/o. Arukutty Gounder,
No. 79D, Avinashi Road, Annur,
Coimbatore District – 641 653.

## DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Chikkarampalayam Rough Stone and Gravel Quarry in S.F.Nos. 78/1 (P), 419 & 420 over an extent of 3.46.0Ha of Patta lands in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

A.Nandakumar

Place: Coimbatore
Date: 03.12.2021

31 DEC 2021

# CERTIFICATE

Certified that I am, **P.Viswanathan,** M.Sc., having an office at Regd. Off. No. 17, Advaitha Ashram Road, Alagapuram, Salem – 636 004, holding a Post Graduate Degree in Applied Geology (M.Sc., Applied Geology) from Periyar University, Salem and I worked in the field of Geology in a role of Geologist.

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

Accordingly, I am prepare this Mining Plan and Progressive Quarry Closure Plan in Respect of Chikkarampalayam Rough Stone and Gravel Quarry in S.F.Nos. 78/1 (P), 419 & 420 over an extent of 3.46.0Ha of Patta lands in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State for **Thiru.A.Nandakumar,** S/o. Arukutty Gounder, residing at No. 79D, Avinashi Road, Annur, Coimbatore District – 641 653, Tamil Nadu State. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

P. Viswanathan

P.Viswanathan, M.Sc.,

Place: Salem

Date: 06.12.2021

இயக்குநர் அலுவ
31 DEC 2021

**P.Viswanathan,** M.Sc.,
No. 17, Advaitha Ashram Road,
Alagapuram, Salem District – 636 004.
Cell: +91 94422 78601 & 94433 56539.

## CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Chikkarampalayam Rough Stone and Gravel Quarry in S.F.Nos. 78/1 (P), 419 & 420 over an extent of 3.46.0Ha of Patta lands in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State has been prepared for

**Thiru.A.Nandakumar,**
S/o. Arukutty Gounder,
No. 79D, Avinashi Road, Annur,
Coimbatore District – 641 653.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director, Department of Geology and Mining, Coimbatore District, Tamil Nadu for such permissions/ exemptions/ relaxations and approvals.

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

Signature of the Qualified Person

P. Viswanathan, M.Sc.,

Place: Salem
Date: 06.12.2021

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**P.Viswanathan, M.Sc.,**
No. 17, Advaitha Ashram Road,
Alagapuram, Salem District – 636 004.
Cell: +91 94422 78601 & 94433 56539.

## CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Chikkarampalayam Rough Stone and Gravel Quarry in S.F.Nos. 78/1 (P), 419 & 420 over an extent of 3.46.0Ha of Patta lands in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State has been prepared for

**Thiru.A.Nandakumar,**
S/o. Arukutty Gounder,
No. 79D, Avinashi Road, Annur,
Coimbatore District – 641 653.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director General of Mines Safety (DGMS), No.5, II Street, Block–AA, Anna Nagar, Chennai - 40, Tamil Nadu for such permissions / exemptions / relaxations and approvals.

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

Signature of the Qualified Person

P. Viswanathan

P.Viswanathan, M.Sc.,

Place: Salem
Date: 06.12.2021

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# MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 3.46.0Ha IN CHIKKARAMPALAYAM VILLAGE, METTUPALAYAM TALUK, COIMBATORE DISTRICT, TAMIL NADU STATE.

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

## 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

This Mining Plan and Environment Management Plan are prepared for **Thiru.A.Nandakumar,** S/o. Arukutty Gounder, residing at No. 79D, Avinashi Road, Annur, Coimbatore District – 641 653.

The applicant applied for Rough Stone and Gravel quarry over an extent of 3.46.0Ha of Patta lands in S.F.Nos. 78/1 (P), 419 & 420 of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State under Rules 19 (1) & 20 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director, Department of Geology and Mining, Coimbatore District and passed a Precise Area Communication letter vide **Rc.No.939/Mines/2021, Dated: 02.12.2021** to submit Mining Plan for the approval in Department of Geology and Mining, Coimbatore District and obtain Environmental Clearance from the SEIAA, Chennai, Tamil Nadu State, with the conditions to provide:

1. No hindrance shall be caused to the adjoining Patta lands and Public while carrying out Rough Stone and Gravel quarrying operations.
2. A safety distance of 7.5 meters should be provided to the adjacent patta lands.
3. A safety distance of 50 meters should be provided to the E.B. Line is passing on the West side of the lease applied area.
4. Child labor should not be engaged for quarry operation.

(Please refer Annexure No – I).

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less than 5ha

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would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan, Environmental Management Plan and Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre-feasibility report to obtain environmental clearance from the SEIAA, Chennai, Tamil Nadu State, Rough Stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 24.01.2019.

**Short Notes of Mining Plan:**

a. Village Panchayat - Chikkarampalayam

b. Panchayat Union - Karamadai

c. The Geological Resources are **13,49,900m$^3$** of Rough Stone and **39,684m$^3$** of Gravel formation in the entire area.

d. The Total Mineable Reserves are **3,86,746m$^3$** of Rough Stone and **28,470m$^3$** of Gravel in the entire area.

e. The proposed quantity of reserves/ (level of production) to be mined are **3,86,746m$^3$** of Rough Stone and **28,470m$^3$** of Gravel for five years in the entire area.

f. Total extent of the lease applied area = 3.46.0Ha

g. Topography of the area = The area exhibits Flat terrain

h. Proposed Depth of mining = 47m (2m Gravel + 45m Rough Stone) below the ground level

i. Mining Plan Period = Five years

j. It is a fresh lease application but, the applied area has been considered quarrying operation earlier. The quarry lease was previously granted in the favour of **Thiru.A.Nandakumar**, over an extent of 1.17.0 hectares of Patta lands in S.F.Nos. 78/1 (P) & 420 (P) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District vide **Rc.No.996/Mines/2014, Dated: 02.06.2016** for the period of five years from 02.06.2016 to 01.06.2021 for quarrying of Rough Stone and Gravel. The lessee has obtained Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu vide letter No. **SEIAA-TN/F.No.3822/EC/1(a)/2709/2015, Dated: 11.01.2016.** The applicant has once again applied a quarry lease on 06.08.2021, over an extent of 3.46.0 hectares of Patta land in S.F.Nos.78/1 (P), 419 & 420 of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District for the period of five years. The application was meritoriously processed

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by the Assistant Director, Department of Geology and Mining, Coimbatore District and recommended the quarry lease for the period of five years.

k. The maximum dimension of the **existing quarry pit** is given table below (Refer Plate No. II).

| Existing Pit Dimension (maximum) | | |
|---|---|---|
| Length (m) | Width (m) | Depth (m) |
| 180 | 80 | 20m below ground level |

l. Method of mining / level of mechanization.

Opencast mechanized method, the quarry operation involves shallow Jack hammer drilling, slurry blasting.

m. Type of machineries proposed in the quarrying operation is given below:

Excavators attached with rock breaker (Rental Basis).

Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity) (Rental Basis).

n. No trees will be uprooted due to this quarrying operation.

o. The approach road from the main road to quarry is already existence in good condition. The same will be maintained and utilized for Transportation of quarry materials and machineries.

p. There is No Export of this Rough Stone and Gravel.

q. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships is marked and enclosed as Plate Nos. IA & IB.

r. The lease applied area is about 3.46.0Ha bounded by twelve corners; the corners are designated as 1-12 Clockwise from the Southwestern corner the Co – ordinates for the all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No. II.

s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III and IV.

t. General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the,

*i) Interstate Boundary,*

*ii) Protected area under wild life protection ACT, 1972,*

*iii) Critically polluted areas as identified by CPCB,*

*iv) Notified Eco sensitive areas.*

u. There is no waste anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

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v. Around 38 employees are deploying in the quarrying operation.

w. Total Cost of the project is about **Rs.81,04,000/-.**

x. Infrastructures around the lease applied area given below in the table:

TABLE-1

| Particulars | Location | Approximate aerial distance and direction from lease applied area |
|---|---|---|
| Nearest Post Office | Karamadai | 2km – W |
| Nearest School | Karamadai | 2km – W |
| Nearest Dispensary | Karamadai | 2km – W |
| Nearest Town | Karamadai | 2km – W |
| Nearest Police Station | Karamadai | 2km – W |
| Nearest Hospital | Karamadai | 2km – W |
| Nearest D.S.P. Office | Mettupalayam | 8km – NW |
| Nearest Railway Station | Karamadai | 2km – W |
| Nearest Airport | Coimbatore | 24km – SE |
| Nearest Seaport | Kochi | 139km – SW |
| District Head quarters | Coimbatore | 25km – S |

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## 2.0 GENERAL INFORMATION

**2.1 a) Name of the Applicant** : **Thiru.A.Nandakumar,**
S/o. Arukutty Gounder

**b) Address of the Applicant (With Phone No and Aadhaar No)**

| | | |
|---|---|---|
| Address | : | No. 79D, Avinashi Road, Annur, Coimbatore District. |
| Pin Code | : | 641 653 |
| Mobile No | : | +91 98422 62448 & 95853 43636 |
| Aadhaar No | : | 9916 3553 4233 |
| Email ID | : | annurambal@gmail.com |

**c) Status of the Applicant (Individual / Company / Firm):**

The applicant is an Individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough Stone and Gravel only.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Coimbatore District vide **Rc.No. 939/Mines/2021, Dated: 02.12.2021** to submit approved mining plan and to obtain Environmental Clearance from the SEIAA, Chennai, Tamil Nadu State.

**c) Period of permission / lease to be granted:**

Five Years.

**d) Name and address of the Qualified Person who preparing the Mining Plan:**

| | | |
|---|---|---|
| Name | : | **P.Viswanathan, M.Sc.,** Qualified Person |
| Address | : | No.17, Advaitha Ashram Road, Alagapuram, Salem District – 636 004. |
| Telephone | : | 0427- 2431989 (Office) |
| Cell No | : | +91 94422 78601 & 94433 56539 |
| Email | : | infogeoexploration@gmail.com |

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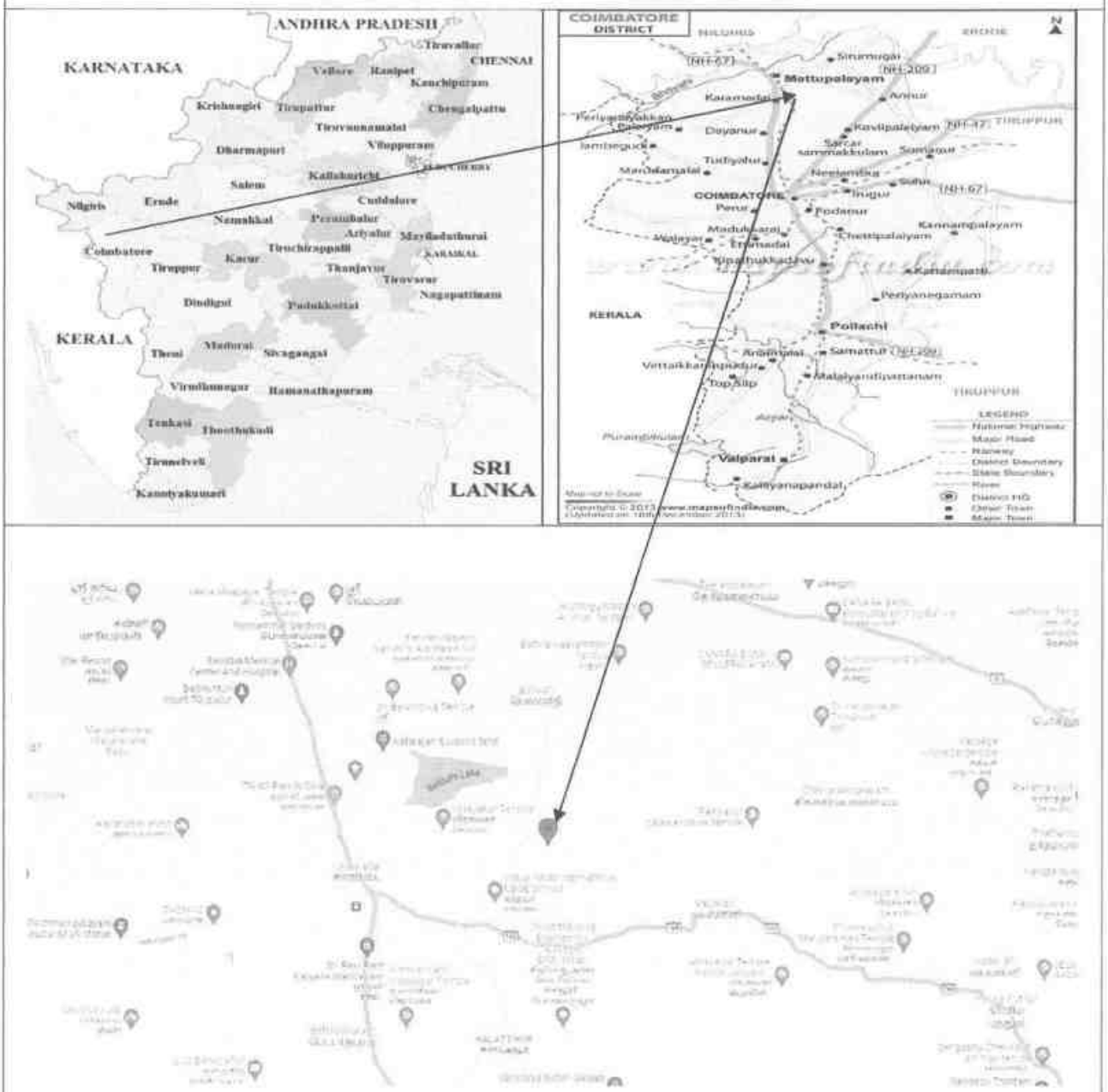
## 3.0 LOCATION

**a) Details of the area with location map:**

The lease applied area is located about 25km North side of Coimbatore, 8km Southeast side of Mettupalayam and 3km Southwest side of Chikkarampalayam Village.

| | 32km | | 10km | | 3m | |
|---|---|---|---|---|---|---|
| Coimbatore | → | Mettupalayam | → | Chikkarampalayam | → | Lease Applied area |
| | North | | Southeast | | Southwest | |

**Location Map of the Lease Applied Area**



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TABLE-2

| District | Taluk | Village | S.F. No. | Lease Applied Area (Ha) | Patta No |
|---|---|---|---|---|---|
| Coimbatore | Mettupalayam | Chikkarampalayam | 78/1 (P) | 1.21.0 | 1033 |
| | | | 419 | 1.19.5 | 1768 |
| | | | 420 | 1.05.5 | 1052 |
| **Total Extent** | | | | **3.46.0** | |

**b) Classification of the area (Ryotwari/ Poramboke / others):**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right):**

It is a Patta land, registered in the name of the applicant (Thiru.A.Nandakumar), vide Patta Nos.1033, 1768 & 1052. (Refer Annexure Nos. IV & VI).

**d) Topo sheet No. with latitude and longitude:**

The lease applied area falls in the Topo sheet No: **58 - A/16** Latitude between: **11°14'42.00"N** to **11°14'47.83"N** and Longitude between: **76°58'41.37"E** to **76°58'49.95"E** on WGS datum-1984. Please refer the Plate Nos. I to II.

**e) Existence of public road / Railway line, if any nearby and approximate distance:**

The approach (Cart track) road is situated on the Southern side which is connects to the Karamadai – Vadavalli Village Road located at 120m on the Southern side of the applied area.

Multiple road access is available from the quarry to state highways and National Highway, no villages are enrooted hence the traffic density is not much more due to the transportation of Rough Stone.

The approach road from the quarry is already existed and the same will be utilized for haulage and maintained during the entire lease period, tree sapling will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Coimbatore – Ooty which is about 2km on the Southwestern side of the lease applied area.

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## PART – A

## 4.0 GEOLOGY AND MINERAL RESERVES

### 4.1 Brief description of the Topography and general Geology of the area (with plans):

The lease applied area is exhibits Flat terrain. The area has gentle sloping towards Southern side. The altitude of the area is 350m (max) above Mean Sea level. The area is covered by 2m thickness of Gravel formation. Massive Charnockite which is clearly inferred from the existing quarry pits.

The Water table is found at a depth of 70m in summer and at 65m in rainy seasons. Average annual rainfall is about 689mm.

**Topographical View of lease applied area**



Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N30°E – S30°W with dipping towards SE60°.

The general geological sequences of the rocks in this area are given below:

| AGE | | FORMATION |
|---|---|---|
| Recent | - | Quaternary Formation (Gravel) |
| ----------Unconformity---------- | | |
| Archaean | - | Charnockite |
| | | Peninsular Gneiss complex |

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**4.2 Details of exploration already carried out if any:**

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Coimbatore District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area. The Rough Stone formation is clearly inferred from the existing quarry pits.

**4.3 Estimation of Reserves:**

**a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000**

As far as Rough Stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough Stone within the field and careful evaluation of body luster, physical properties, engineering properties and commercial aspects etc.,

Totally four sections have been drawn, two sections are drawn as Length wise as (X-Y & X1-Y1) and other two sections are drawn as Width wise as (A-B & C-D) to cover the maximum area considered for lease.

The Topographical, Geological Plan and Sections demarcated the commercial marketable Rough Stone (Charnockite) deposit has been prepared in 1:1000 scale (please refer the Geological Plan and Sections Plate No. III). As the sale of Rough Stone is in terms of cubic meters (Volume) only and not in terms of tonnage.

**<u>Geological Resources (Plate No. III):</u>**

The Geological Resources of Rough Stone and Gravel are calculated up to a maximum depth of 47m (2m Gravel + 45m Rough Stone) below the ground level. The total Geological resources are calculated by sectional method and the resources are estimated after depletion of existing quarry pits. The total geological resources are given table below:

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TABLE-3

| GEOLOGICAL RESOURCES | | | | | | |
|---|---|---|---|---|---|---|
| **Section** | **Bench** | **Length (m)** | **Width (m)** | **Depth (m)** | **Geological Resources of Rough Stone ($m^3$)** | **Gravel ($m^3$)** |
| XY-AB | I | 30 | 9 | 2 | | 540 |
| | II | 30 | 18 | 5 | 2700 | |
| | III | 30 | 18 | 5 | 2700 | |
| | IV | 30 | 18 | 5 | 2700 | |
| | V | 30 | 18 | 3 | 1620 | |
| | V | 106 | 66 | 2 | 13992 | |
| | VI | 106 | 66 | 5 | 34980 | |
| | VII | 106 | 66 | 5 | 34980 | |
| | VIII | 106 | 66 | 5 | 34980 | |
| | IX | 106 | 66 | 5 | 34980 | |
| | X | 106 | 66 | 5 | 34980 | |
| **Total** | | | | | **198612** | **540** |
| XY-CD | I | 8 | 9 | 2 | | 144 |
| | II | 8 | 9 | 5 | 360 | |
| | III | 8 | 9 | 5 | 360 | |
| | IV | 18.5 | 47 | 5 | 4347.5 | |
| | V | 18.5 | 47 | 3 | 2608.5 | |
| | V | 112 | 88 | 2 | 19712 | |
| | VI | 112 | 88 | 5 | 49280 | |
| | VII | 112 | 88 | 5 | 49280 | |
| | VIII | 112 | 88 | 5 | 49280 | |
| | IX | 112 | 88 | 5 | 49280 | |
| | X | 112 | 88 | 5 | 49280 | |
| **Total** | | | | | **273788** | **144** |
| X1Y1-AB | I | 135 | 96 | 2 | | 25920 |
| | II | 135 | 96 | 5 | 64800 | |
| | III | 135 | 96 | 5 | 64800 | |
| | IV | 135 | 96 | 5 | 64800 | |
| | V | 135 | 96 | 5 | 64800 | |
| | VI | 135 | 96 | 5 | 64800 | |
| | VII | 135 | 96 | 5 | 64800 | |
| | VIII | 135 | 96 | 5 | 64800 | |
| | IX | 135 | 96 | 5 | 64800 | |
| | X | 135 | 96 | 5 | 64800 | |
| **Total** | | | | | **583200** | **25920** |
| X1Y1-CD | I | 109 | 60 | 2 | | 13080 |
| | II | 109 | 60 | 5 | 32700 | |
| | III | 109 | 60 | 5 | 32700 | |
| | IV | 109 | 60 | 5 | 32700 | |
| | V | 109 | 60 | 5 | 32700 | |
| | VI | 109 | 60 | 5 | 32700 | |
| | VII | 109 | 60 | 5 | 32700 | |
| | VIII | 109 | 60 | 5 | 32700 | |
| | IX | 109 | 60 | 5 | 32700 | |
| | X | 109 | 60 | 5 | 32700 | |
| **Total** | | | | | **294300** | **13080** |
| **Grand Total** | | | | | **1349900** | **39684** |

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Total Geological Resources of Gravel : **39,684m$^3$**

Total Geological Resources of Rough Stone : **13,49,900m$^3$**

**Existing Pit Dimension:**

The lease applied area has been quarried in earlier the existing pit dimensions are follows:

TABLE-4

| Existing Pit Dimension (maximum) | | |
|---|---|---|
| Length (m) | Width (m) | Depth (m) |
| 180 | 80 | 20m below ground level |

**Available Mineable Reserves:**

The available Mineable reserves are calculated after leaving the safety distance and bench loss to a maximum depth of 47m below ground level.

TABLE-5

| MINEABLE RESERVES | | | | | | |
|---|---|---|---|---|---|---|
| **Section** | **Bench** | **Length (m)** | **Width (m)** | **Depth (m)** | **Mineable Reserves of Rough Stone (m$^3$)** | **Gravel (m$^3$)** |
| XY-AB | V | 71 | 44 | 2 | 6248 | |
| | VI | 66 | 42 | 5 | 13860 | |
| | VII | 61 | 37 | 5 | 11285 | |
| | VIII | 56 | 32 | 5 | 8960 | |
| | IX | 51 | 27 | 5 | 6885 | |
| | X | 46 | 22 | 5 | 5060 | |
| **Total** | | | | | **52298** | |
| XY-CD | IV | 5 | 33 | 5 | 825 | |
| | V | 94 | 28 | 3 | 7896 | |
| | V | 94 | 69 | 2 | 12972 | |
| | VI | 89 | 64 | 5 | 28480 | |
| | VII | 84 | 59 | 5 | 24780 | |
| | VIII | 79 | 53 | 5 | 20935 | |
| | IX | 74 | 43 | 5 | 15910 | |
| | X | 69 | 33 | 5 | 11385 | |
| **Total** | | | | | **123183** | |
| X1Y1-AB | I | 105 | 87 | 2 | | 18270 |
| | II | 102 | 84 | 5 | 42840 | |
| | III | 92 | 74 | 5 | 34040 | |
| | IV | 82 | 64 | 5 | 26240 | |
| | V | 72 | 54 | 5 | 19440 | |
| | VI | 62 | 44 | 5 | 13640 | |
| | VII | 52 | 34 | 5 | 8840 | |
| | VIII | 42 | 24 | 5 | 5040 | |
| | IX | 22 | 14 | 5 | 1540 | |
| | X | 2 | 4 | 5 | 40 | |
| **Total** | | | | | **151660** | **18270** |

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| | | | | | | |
|---|---|---|---|---|---|---|
| X1Y1-CD | I | 100 | 51 | 2 | | 10200 |
| | II | 97 | 48 | 5 | 23280 | |
| | III | 87 | 38 | 5 | 16530 | |
| | IV | 77 | 28 | 5 | 10780 | |
| | V | 67 | 18 | 5 | 6030 | |
| | VI | 57 | 8 | 5 | 2280 | |
| | VII | 47 | 3 | 5 | 705 | |
| **Total** | | | | | **59605** | **10200** |
| **Grand Total** | | | | | **386746** | **28470** |

The mineable reserves have been computed as **3,86,746m$^3$** of Rough Stone and **28,470m$^3$** of Gravel at the rate of 100% recovery upto a maximum depth of 47m below ground level for a period of five years.

## 5.0 MINING

### 5.1 Method of mining (opencast / underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.

### 5.2 Mode of working (mechanized, semi mechanized, manual):

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow Jack hammer drilling, slurry explosives in blasting, excavation, loading and transportation of Rough Stone to the needy crusher.

The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and slurry explosives blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

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**5.3 Proposed Bench Height and Width:**

The Charnockite is hard and compact rock, the bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

**5.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough Stone will be directly loaded into tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate Nos. III.

**Year wise development and Production**

TABLE-6

| YEARWISE RESERVES | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Year** | **Section** | **Bench** | **Length (m)** | **Width (m)** | **Depth (m)** | **Recoverable Reserves of Rough Stone ($m^3$)** | **Gravel ($m^3$)** |
| I | X1Y1-AB | I | 81 | 87 | 2 | | 14094 |
| | | II | 75 | 84 | 5 | 31500 | |
| | | III | 60 | 74 | 5 | 22200 | |
| | | IV | 45 | 64 | 5 | 14400 | |
| | | V | 30 | 54 | 5 | 8100 | |
| | | VI | 15 | 44 | 5 | 3300 | |
| | | **Total** | | | | **79500** | **14094** |
| II | X1Y1-AB | I | 24 | 87 | 2 | | 4176 |
| | | II | 27 | 84 | 5 | 11340 | |
| | | III | 32 | 74 | 5 | 11840 | |
| | | IV | 37 | 64 | 5 | 11840 | |
| | | V | 42 | 54 | 5 | 11340 | |
| | | VI | 47 | 44 | 5 | 10340 | |
| | X1Y1-CD | I | 43 | 51 | 2 | | 4386 |
| | | II | 40 | 48 | 5 | 9600 | |
| | | III | 35 | 38 | 5 | 6650 | |
| | | IV | 30 | 28 | 5 | 4200 | |
| | | V | 25 | 18 | 5 | 2250 | |
| | | VI | 20 | 8 | 5 | 800 | |
| | | **Total** | | | | **80200** | **8562** |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| III | X1Y1-CD | I | 57 | 51 | 2 | | 5814 |
| | | II | 57 | 48 | 5 | 13680 | |
| | | III | 52 | 38 | 5 | 9880 | |
| | | IV | 47 | 28 | 5 | 6580 | |
| | | V | 42 | 18 | 5 | 3780 | |
| | | VI | 37 | 8 | 5 | 1480 | |
| | XY-AB | V | 71 | 44 | 2 | 6248 | |
| | | VI | 66 | 42 | 5 | 13860 | |
| | XY-CD | IV | 5 | 33 | 5 | 825 | |
| | | V | 94 | 28 | 3 | 7896 | |
| | | V | 94 | 69 | 2 | 12972 | |
| | | **Total** | | | | **77201** | **5814** |
| IV | XY-AB | VII | 61 | 37 | 5 | 11285 | |
| | | VIII | 56 | 32 | 5 | 8960 | |
| | XY-CD | VI | 89 | 64 | 5 | 28480 | |
| | | VII | 64 | 59 | 5 | 18880 | |
| | X1Y1-AB | VII | 52 | 34 | 5 | 8840 | |
| | X1Y1-CD | VII | 47 | 3 | 5 | 705 | |
| | | **Total** | | | | **77150** | |
| V | XY-AB | IX | 51 | 27 | 5 | 6885 | |
| | | X | 46 | 22 | 5 | 5060 | |
| | XY-CD | VII | 20 | 59 | 5 | 5900 | |
| | | VIII | 79 | 53 | 5 | 20935 | |
| | | IX | 74 | 43 | 5 | 15910 | |
| | | X | 69 | 33 | 5 | 11385 | |
| | X1Y1-AB | VIII | 42 | 24 | 5 | 5040 | |
| | | IX | 22 | 14 | 5 | 1540 | |
| | | X | 2 | 4 | 5 | 40 | |
| | | **Total** | | | | **72695** | |
| **Grand Total** | | | | | | **386746** | **28470** |

The Recoverable reserves have been computed as **3,86,746m$^3$** of Rough Stone and **28,470m$^3$** of Gravel for five years at 100% recovery upto depth of 47m below ground level.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the Rough Stone locked up in benches will be exploited after obtaining necessary permission from the office of **Director General of Mine Safety, Chennai** region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

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| | | |
|---|---|---|
| One lorry load | = | $6m^3$ (approx.) |
| Total No of Working days | = | 300 Days per year |
| Total quantity to be removed in these five years plan period | = | $3,86,746m^3$ |
| Hence total lorry loads per day | = | $3,86,746m^3 / 6m^3$ |
| | = | 64,458 lorry loads |
| | = | 64,458 / 5 years |
| | = | 12,892 / 300 Days |
| Rough Stone | = | **42 - 43 Lorry loads per day** |
| Total quantity of Gravel to be removed during three years | = | $28,470m^3$ |
| Hence total Lorry loads per day | = | $28,470m^3 / 6m^3$ |
| | = | 4,745 Lorry loads |
| | = | 4,745 / 3years |
| | = | 1,582 / 300 days |
| Gravel | = | **5 - 6 Lorry loads per day** |

Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 pm lunch break)

**5.5 Machineries to be used:**

**For Mining:**

The following machineries are utilized on rental basis for the development and production work at this quarry.

TABLE-7

**I. DRILLING MACHINE:**

| S. No. | Type | Nos | Dia Hole mm | Size Capacity | Motive power |
|---|---|---|---|---|---|
| 1 | Jack hammer | 10 | 30-35 | 1.2m to 2.0m | Compressed air |
| 2 | Compressor | 3 | - | 400 psi | Diesel Drive |

**II. EXCAVATION & LOADING EQUIPMENT:**

| S. No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Excavator with Bucket and Rock Breaker | 2 | 300 | Diesel Drive |

**III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:**

| S. No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Tippers | 4 | 20 tonnes | Diesel Drive |

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**5.6 Disposal of Overburden/Waste:**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough Stone (100%) will be directly loaded into Tippers to the needy customers. There is no Waste anticipated during this plan period hence, disposal of waste does not arise.

**5.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and Environment considerations:**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.

As the applicant has applied quarry lease for five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below:

TABLE-8

| Ultimate Pit Dimension (maximum) | | |
|---|---|---|
| Length (m) | Width (m) | Depth (m) |
| 180 | 205 | 47m below ground level |

Greenbelt has proposed on the Panchayat roads by planting native species of Neem, Casuarina and Pongamia pinnata, etc., tree sapling. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF & CC Norms. It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

There is no waste anticipated during the entire life of quarry. Hence, backfilling is not possible in this quarry. After completion of quarry operation, the quarry pit will be allowed to collect the seepage and rainwater, the water storage will be kept as temporary reservoir for charging the nearby wells and the storage water will be used for afforestation purpose. The quarry pit will be fenced with barbed wire fencing to prevent inadvertent entry of public and cattle (Refer Plate No. IV).

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## 6.0 BLASTING

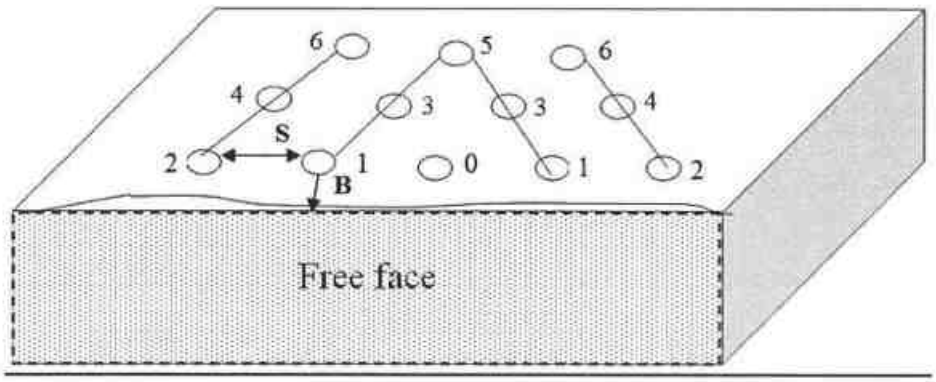
### 6.1 Blasting pattern:

The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and slurry blasting of shattering effect for loosen the Rough Stone.

Drilling and blasting parameters are as follows:

| | | |
|---|---|---|
| Depth of Each hole | : | 1.5m |
| Diameter of hole | : | 30-32mm |
| Spacing between holes | : | 1.2m |
| Burden for hole | : | 1.0m |
| Pattern of hole | : | Zigzag – Multi-rows |
| Inclination of holes | : | 80° from horizontal |
| Use of delay detonators | : | 25millisecond relays |
| Detonating fuse | : | "Detonating" Cord |

**BLASTING PATTERN DRAWING**




**Staggered "V" Pattern of Blasting Design**

| | | |
|---|---|---|
| **Spacing** | = | **1.2m** |
| **Burden** | = | **1.0m** |
| **Depth of the hole** | = | **1.5m** |
| **No of holes proposed per day** | = | **224 Holes** |

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**6.2 Type of explosives to be used:**

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.

**6.3 Measures proposed to minimize ground vibration due to blasting:**

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & 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 (millisecond delays) permits to divide the shot in 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 | = 224 Holes |
| Yield | = 670 Tons |
| Powder factor | = 6 Tons/Kg of explosives |
| Total explosive required | = 112 Kg-Slurry explosives |
| Charge/ hole | = 0.5 Kg |
| Blasting at day time only | = 12.00 – 12.30p.m (whenever required) |

**6.4 Storage and safety measures to be taken while blasting:**

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be have the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the Explosives Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.

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## 7.0 MINE DRAINAGE

### 7.1 Depth of water table (based on nearby wells and water bodies):

The Water Table in the area is 70m in summer season and 65m in rainy season which is observed from the nearby bore wells and the data obtained from existing private boreholes. The lease area is fully covered by Massive Charnockite formation. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

TABLE-9

| Type | Distance & Direction | Location |
|---|---|---|
| Bore Well | 155m North side | 11°14'52.63"N<br>76°58'42.85"E |

### 7.2 Arrangements and places where the mine water is finally proposed to be discharged:

Quarry operations are confined well above the water table during the entire lease period. If water is encountered at due to rain water and seepage, the same will be pumped out by 5HP water pumps to the Greenbelt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

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**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)**

**8.1 Habitations/ Villages natham:**

There is no approved habitation within 300m radius from the lease applied area.

**8.2 Power Lines (HT/LT):**

There is EB line passing on the West side of the applied area, hence 50m safety distance has been maintained. There is no other EB (LT/HT) line or Housing area situated within 50m radius of the lease applied area.

**8.3 Water bodies (river, ponds, lake, odai, canal, etc.,):**

There is no River, Pond, Lake, Odai, Canal located within 50m radius of the lease applied area.

**8.4 Archaeological / historical monuments:**

There is no Archaeological / historical monuments within 300m radius from the lease applied area.

**8.5 Road (NH, SH, others):**

The Nearest National Highway (NH-181) Coimbatore – Gundlupete Road is situated about 2.0km on the Southwestern side of the lease applied area.

The State Highway (SH-168) Karamadai – Kariyampalayam Road is situated about 1.0km on the Southern side of the lease applied area.

The Major District Road (MD-979) Karamadai – Sirumugai Road is situated about 2.0km on the Western side of the lease applied area.

**8.6 Places of worships:**

There is no place of worships within the radius of 300m from the lease applied area.

**8.7 Reserved forest / forest / social forest / wild life sanctuary etc.,:**

There is no reserved forest / forest / social forest / wild life sanctuary etc., within radius of 500m of the lease applied area.

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**SALIENT FEATURES**

<table>
<tr><th>S. No.</th><th>Salient Features Present around site</th><th>Prescribed safety distance</th><th>If any present within Prescribed distance it's actual distance and direction from the area</th></tr>
<tr><td>1.</td><td>Railways, Highways, Reservoirs or Canal</td><td>50m</td><td>None of the above situated within 50m radius.</td></tr>
<tr><td>2.</td><td>Village Road</td><td>10m</td><td>There is no Village Road is situated within 10m radius of the lease applied area.</td></tr>
<tr><td>3.</td><td>Habitation / Village</td><td>300m</td><td>There is no approved habitation within 300m radius from the lease applied area (Refer Plate No I-B).</td></tr>
<tr><td>4.</td><td>Adjacent Patta lands / Govt. Land</td><td>7.5m/10m</td><td><table><tr><th>Direction</th><th>Classification</th><th>Safety Distance</th></tr><tr><td>North</td><td>Patta Land</td><td>7.5m</td></tr><tr><td>East</td><td>Patta Land</td><td>7.5m</td></tr><tr><td>South</td><td>Patta Land</td><td>7.5m</td></tr><tr><td>West</td><td>EB Line</td><td>50m</td></tr></table>(Refer Plate No. II).</td></tr>
<tr><td>5.</td><td>Housing area, EB line (HT & LT Line)</td><td>50m</td><td>There is EB line passing on the West side of the applied area, hence 50m safety distance has been maintained. There is no other EB (LT/HT) line or Housing area situated within 50m radius of the lease applied area (Refer Plate No. II).</td></tr>
<tr><td>6.</td><td>Boundaries of the permitted area</td><td>7.5m/10m</td><td>The boundaries of the permitted areas are as follows:<br>North-S.F.Nos. 421 & 77<br>East - S.F.No. 79<br>South-S.F.Nos. 78/1 (P) & 412<br>West - S.F.No. 418<br>(Refer Plate No. II).</td></tr>
<tr><td>7.</td><td>Reserve forest</td><td>60m</td><td>There is no reserved forest located within the radius of 60m from the lease applied area.<br>(Refer Plate No. IA and IB).</td></tr>
<tr><td>8.</td><td>Protected area / ECO sensitive area/ Wild Life Sanctuary</td><td>10km</td><td>There is no ECO sensitive Zone/ Wild Life Sanctuary/ Critically Polluted Area/ HACA/ CRZ located within 10km radius of the area.<br>(Refer Plate No. IA).</td></tr>
</table>

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## 9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

### 9.1 Employment potential (skilled, semi skilled, un skilled):

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous Mines Regulations, 1961.

| | | | |
|---|---|---|---|
| a. | Skilled labour: | | |
| | Mine Foreman | : | 1 |
| | Blaster/mate | : | 1 |
| | Excavator – Operator & Driver | : | 6 |
| | Jack hammer operator | : | 20 |
| b. | Semi-skilled: | | |
| | Security | : | 1 |
| c. | Unskilled: | | |
| | Labour & Helper | : | 3 |
| | Co-operator and Cleaner | : | 6 |
| | **Total** | **:** | **38** |

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

### 9.2 Welfare Measures:

**a. Drinking Water:**

Packaged drinking water is available from the nearby approved water vendors in Karamadai which is about 2.0km on the Western side of the lease applied area.

**b. Sanitary Facilities:**

Hygienic modern Sanitary Facilities will be constructed as semi permanent structure and it will be maintained periodically as hygienic.

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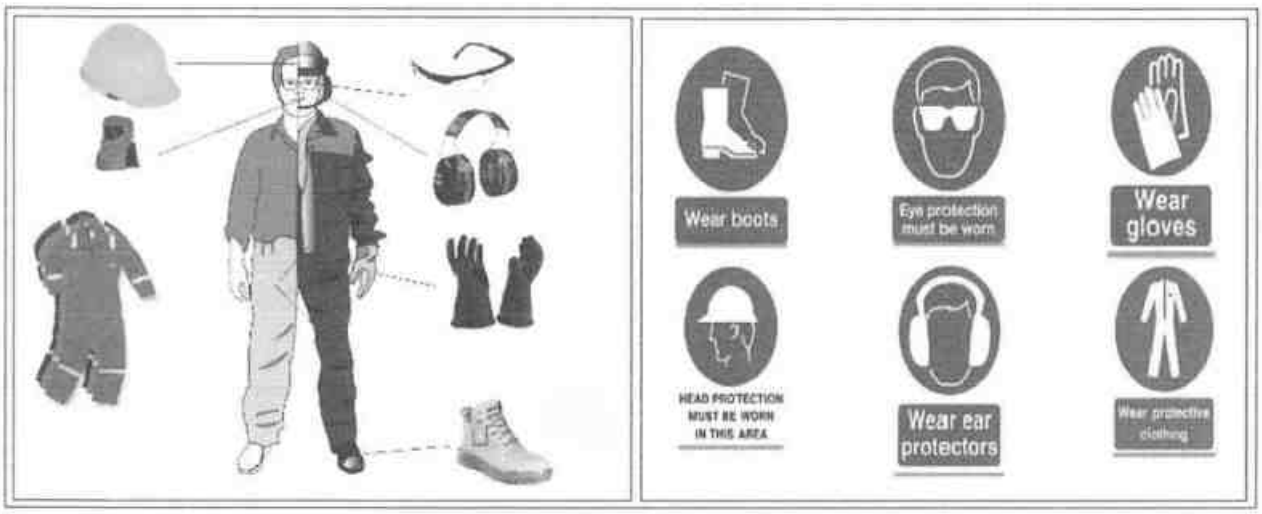
**c. First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant vehicle. Hospital is available in Karamadai located at a distance of 2.0km on the Western side.

**d. Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e. Precautionary safety measures to the labourers:**




- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets,
- Safety Shoes

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough Stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

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## PART – B

## 10.0 ENVIRONMENT MANAGEMENT PLAN

### 10.1 Existing Land use pattern:

The quarry lease applied area is exhibits Flat terrain. The area is a dry barren land devoid of Agriculture and Habitations. The lease applied area has utilized only for quarry operation in earlier.

LAND USE TABLE-10

| Description | Present area (Ha) | Area at the end of this quarrying period (Ha) |
|---|---|---|
| Quarrying Pit | 1.22.7 | 2.79.1 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.01.0 | 0.02.0 |
| Green Belt | Nil | 0.42.0 |
| Unutilized Area | 2.22.3 | 0.21.9 |
| **Grand Total** | **3.46.0** | **3.46.0** |

### 10.2 Water Regime:

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climate change.

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**10.3 Flora and Fauna:**

TABLE–11

| S.No. | Name of the plant (Scientific) | Family Name | Common Name | Habit | Picture |
|---|---|---|---|---|---|
| 1. | *Cocos nucifera* | *Arecaceae* | Coconut, Thennai | Tree |  |
| 2. | *Curcuma longa* | *Zingiberaceae* | Turmeric | Herb |  |
| 3. | *Sorghum bicolour* | *Poaceae* | Solam | Grass |  |
| 4. | *Borassus flabellifera* | *Arecaceae* | Palmyra Palm | Tree |  |
| 5. | *Calotropis gigantea* | *Asclepiadaceae* | Crown Flower, Erukku | Shrub |  |

| List of Fauna | | | |
|---|---|---|---|
| S.No. | Scientific Name | Common Name | Picture |
| 1. | *Egrettagarzetta* | Little egret |  |
| 2. | *Boigaspp* | Cat snake |  |
| 3. | *Dicrurusmacrocercus* | Black drongo |  |
| 4. | *Calotes versicolor* | Garden Lizard |  |
| 5. | *Funambuluspalmarum* | Indian palm squirrel |  |
| 6. | *Hieroglyphus sp* | Grasshopper |  |

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**10.4 Climatic Conditions:**

The area receives rainfall of about 689mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 35°C and winter encounters a minimum temperature of 22°C.

**10.5 Human settlement:**

There are few villages located in this area within 5km radius; the approximate distance and population are given below:

TABLE–12

| S. No | Name of the Village | Approximate distance & Direction from lease applied area | Approximate population |
|---|---|---|---|
| 1. | Belladhi | 2km – N | 7,800 |
| 2. | Chikkarampalayam | 3km – NE | 10,400 |
| 3. | Vadavalli | 2km – SE | 4,000 |
| 4. | Karamadai | 2km – W | 1,38,000 |

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Karamadai located at a distance of 2.0km on the Western side of the area.

**10.6 Plan for air, dust suppression:**

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the slurry blasting, Jack hammer drilling, loading and unloading during the Rough Stone quarry operation.

The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigative measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000**/year.

**10.7 Plan for Noise level control:**

The noise level increased due to the Drilling, Blasting, Excavation and Transportation.

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**Engineering Noise control:**

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipment's is proposed to be deployed for the Rough Stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as slurry explosives, ordinary safety fuse will be used for Rough Stone. Hence, ground vibration and noise pollution i.e., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000**/Year.

**10.8 Environment impact assessment statement describing impact of mining on the five years:**

In the mining plan proposed for a production of Rough Stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the Environment impact studies will be conducted as per EIA notification issued by MoEF & CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-.**

**10.9 Proposal for waste management:**

There is no waste anticipated in this Rough Stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%).

**10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):**

In the mining plan proposed only to a maximum depth of 47m below ground level has been envisaged as workable depth for safe & economic mining during entire lease applied area. There is no waste generated hence, backfilling is not possible. Hence, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around **Rs.2,31,000/-.**

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**10.11 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):**

The safety zone all along the boundary barrier has been identified to be utilized for Greenbelt development. Appropriate native species of Neem, Pongamia Pinnata, Casuarina, etc., trees will be planted in a phased manner as described below.

TABLE–13

| Years | No. of tress proposed to be planted | Survival % | Area to be covered sq.m | Name of the species | No. of trees expected to be grown |
|---|---|---|---|---|---|
| I | 94 | 80 | 840 | Neem, Pongamia Pinnata, Casuarina, etc., | 75 |
| II | 94 | 80 | 840 | | 75 |
| III | 94 | 80 | 840 | | 75 |
| IV | 94 | 80 | 840 | | 75 |
| V | 94 | 80 | 840 | | 75 |

Nearly 4,200 sq.m area is proposed to use under Greenbelt by planting 94 Number of trees saplings during every year with an anticipated survival rate of 80% (Please refer Plate No. III). The estimated budget for plantation and maintenance of Greenbelt development would be around **Rs.47,000/-** for the period of five years.

The Greenbelt Development will be formed in the quarried out top benches and approach road of the lease applied area. The cost would be around **Rs.20,000/-.**

**10.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the entire quarrying period:

TABLE-14

| S. No | Monitory and Analysis Description | Rate per location | No. of location | Total Charges/ six months | Total Charges/ year |
|---|---|---|---|---|---|
| 1 | Ambient air quality monitoring | 6500 | 4 | 26000 | 52000 |
| 2 | Noise level monitoring | 250 | 4 | 1000 | 2000 |
| 3 | Ground vibration monitoring | 1000 | 2 | 2000 | 4000 |
| 4 | Water sampling and analysis | 9000 | 1 | 9000 | 18000 |
| **Total EMP Cost/ year** | | | | | **76,000** |

The EMP cost would be around **Rs.3,80,000/-** for the period of five years.



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<table>
<tr><td colspan="3">A. Project / investment / Operational cost</td></tr>
<tr><td>i) Land cost</td><td>The Land value as per the Government Guideline land cost is calculated as follows,<br><table><tr><td>S.F.No</td><td>Extent</td><td>Cost/Ha</td><td>Total</td></tr><tr><td>78/1 (P)</td><td>1.21.0</td><td>580000</td><td>701800</td></tr><tr><td>419</td><td>1.19.5</td><td>580000</td><td>693100</td></tr><tr><td>420</td><td>1.05.5</td><td>580000</td><td>611900</td></tr><tr><td>Total</td><td>3.46.0</td><td>Total</td><td>2006800</td></tr></table>i.e., Rs.20,07,000/-<br>(source: https://tnreginet.gov.in/portal/)</td><td>= Rs.20,07,000/-</td></tr>
<tr><td>ii) Machinery to be used</td><td>The following machineries are proposed to meet out the productions. Excavator attached with rock breaker, Tippers, Tractor mounted compressor with Jack hammer and loose tools (Rental Basis)</td><td>= Rs.40,00,000/-</td></tr>
<tr><td>iii) Refilling/ Fencing</td><td>Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around</td><td>= Rs.2,31,000/-</td></tr>
<tr><td>iv) Labourers shed</td><td>Labour sheds will be constructed as semi permanent structure. The cost would be around</td><td>= Rs.2,00,000/-</td></tr>
<tr><td>v) Sanitary facility</td><td>Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around</td><td>= Rs.1,00,000/-</td></tr>
<tr><td>vi) Others items</td><td>First aid room & accessories</td><td>= Rs.1,20,000/-</td></tr>
<tr><td>vii) Drinking water facility for the labourers</td><td>Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around</td><td>= Rs.1,50,000/-</td></tr>
<tr><td>viii) Sanitary arrangement</td><td>The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around</td><td>= Rs.80,000/-</td></tr>
</table>

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| | | |
|---|---|---|
| ix) Safety kit | All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around | = Rs.1,50,000/- |
| x) Water sprinkling | Water will be sprinkled in the haul roads by water sprinklers the cost would be around | = Rs.2,50,000/- |
| xi) Garland drains Construction | Construction of garland drains to divert surface run-off from virgin area away from mining area | = Rs.2,10,000/- |
| xii) Greenbelt etc. | Greenbelt program will be carried out in the boundary barriers the cost would be around | = Rs.47,000/- |
| | Greenbelt program will be in the quarried out top benches and approach road | = Rs.20,000/- |
| | **Total Operational Cost** | **= Rs.75,65,000/-** |

| **B. EMP Cost:- (Per year)** | |
|---|---|
| Air Quality monitoring | Rs.52,000/- |
| Water Quality Sampling | Rs.18,000/- |
| Noise Monitoring | Rs. 2,000/- |
| Ground Vibration test | Rs. 4,000/- |
| **Total Cost** | **Rs.76,000/-** |
| Total EMP Cost for the five years period is **Rs.3,80,000/-** | |

| **Description** | **Amount (Rs.)** |
|---|---|
| **A. Operational Cost** | **75,65,000** |
| **B. EMP Cost** | **3,80,000** |
| **Total Project Cost (A+ B)** | **79,45,000** |
| The applicant indents to involve corporate environment responsibilities (CER) activity like Water Purifier, Medicine Storage Rack, Cot & Bed facilities to the nearby Govt. Dispensary and Water Purifier and Sanitary facilities to the nearby Govt. School at 2.0% from the total project cost. The Cost would be around **Rs.1,59,000/-**. | **1,59,000** |
| **Total Cost** | **81,04,000** |
| The Total cost would be around eighty one lakhs and four thousand only. | |

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## 11.0 PROGRESSIVE QUARRY CLOSURE PLAN

### 11.1 Introduction:

The Progressive Quarry Closure Plan for Rough Stone and Gravel quarry over an extent of 3.46.0 Ha of Patta lands in S.F.Nos. 78/1 (P), 419 & 420 of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu State has been prepared for **Thiru.A.Nandakumar,** S/o. Arukutty Gounder, residing at No. 79D, Avinashi Road, Annur, Coimbatore District – 641 653.

### 11.2 Present Land use pattern:

LAND USE TABLE-15

| Description | Present area (Ha) |
|---|---|
| Quarrying Pit | 1.22.7 |
| Infrastructure | Nil |
| Roads | 0.01.0 |
| Green Belt | Nil |
| Unutilized Area | 2.22.3 |
| **Grand Total** | **3.46.0** |

### 11.3 Method of Mining:

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height for Rough Stone.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

### 11.4 Mineral Processing Operations:

The quarried out Rough Stone will be transported by the 20tons capacity Tipper to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by Jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

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**11.5 Reasons for closure:**

As the mineral is not going to be exhausted during the proposed plan period no immediate closure is planned and sufficient reserves are available to carry on the activities. The reason for closure will be discussed in the ensuing mining plan.

**11.6 Statutory obligations:**

The applicant ensures to comply all the conditions were imposed while granting the precise area communication letter before the execution of lease deed and during the course of quarry operations.

**11.7 Progressive quarry closure plan preparation:**

Name and address of the Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the preparation of progressive quarry closure plan.

| | | |
|---|---|---|
| Name | : | **P.Viswanathan, M.Sc.,** Qualified Person |
| Address | : | No.17, Advaitha Ashram Road, Alagapuram, Salem District – 636 004. |
| Telephone | : | 0427- 2431989 (Office) |
| Cell No | : | +91 94422 78601 & 94433 56539 |

Applicant will himself implement the closure plan; no outside agency will be involved.

**11.8 Review of Implementation of Mining Plan including Progressive Closure Plan upto the Final Closure Plan:**

There is no waste generated during entire life of quarry, hence backfilling is not possible in the quarried out pit. The entire quarry area is an active also no proposal given for Progressive quarry closure plan in the previous mining plan hence, the applicant has not taken any action for progressive quarry closure. Hence, review of implementation of progressive quarry closure does not arise at present. However, if any work done for progressive quarry closure plan during this plan period, it will be discuss in the ensuing Mining Plan.

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**11.9 Closure Plan:**

**(i) Mined Out Land:**

At the end of mining plan period, about 2.79.1Ha of area will be mined out. Land use at various stages is given in the table below.

LAND USE TABLE-16

| Description | Present area (Ha) | Area at the end of this quarrying period (Ha) |
|---|---|---|
| Quarrying Pit | 1.22.7 | 2.79.1 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.01.0 | 0.02.0 |
| Green Belt | Nil | 0.42.0 |
| Unutilized Area | 2.22.3 | 0.21.9 |
| **Grand Total** | **3.46.0** | **3.46.0** |

The Greenbelt Development will be formed in the quarried out top benches and approach road of the lease applied area.

**(ii) Water quality management:**

Following control measures will be adopted for controlling water pollution:

- Construction of garland drains to divert surface run-off from virgin area away from mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture land.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

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**(iii) Air Quality Management:**

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

**(iv) Top Soil and Waste Management:**

There is no topsoil or waste generated during the proposed plan period. The entire quarried out Rough Stone is utilized (100%). Hence, waste management does not arise.

**(v) Disposal of mining machinery:**

All the machineries will be engage on rental basis. Hence, disposal or decommissioning of mining machinery does not arise.

**(vi) Safety & Security:**

Safety measures will be implemented to prevent access in the excavation area an un-authorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be provide before blasting time to prevent any accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.

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**(vii) Disaster Management and Risk Assessment:**

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete quarrying operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The Greenbelt Development will be formed in the quarried out top benches and approach road of the lease applied area.

**(viii) Care and Maintenance during Temporary Discontinuance:**

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

  Quarry roads and approach roads,

  Fencing on approach roads,

  Checking and maintenance of machines and equipment,

  Drinking water arrangements,

  Quarry office, first aid stations etc.

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- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, quarrying operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

**(ix) Economic Repercussion of Closure of Quarry and manpower Retrenchments:**

The Quarry Lease is granted for a period of maximum five years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

**(x) Time Scheduling for Abandonment:**

The lease applied area has enormous potential for continuance of operations even after the expiry of the lease period. The details of time schedule of all abandonment will be given at the time of final closure plan.

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**(xi) Abandonment Cost:**

As at present mining is not going to be closed so abandonment cost could not be assessed. However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

LAND USE TABLE-17

| ACTIVITY | | YEAR | | | | | RATE | COST (Rs.) |
|---|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | | |
| Plantation under safety zone | Nos. | 94 | 94 | 94 | 94 | 94 | @100 Rs Per sapling | 47,000/- |
| | Cost | 9400 | 9400 | 9400 | 9400 | 9400 | | |
| Plantation in the quarried out top benches and approach road | Nos. | 40 | 40 | 40 | 40 | 40 | | 20,000/- |
| | Cost | 4000 | 4000 | 4000 | 4000 | 4000 | | |
| Wire Fencing (In Mtrs) 770 Mtrs | | 2,31,000 | - | - | - | - | @300 Rs Per Meter | 2,31,000/- |
| Garland drain (In Mtrs) 700 Mtrs | | 2,10,000 | - | - | - | - | @300 Rs Per Meter | 2,10,000/- |
| **TOTAL** | | | | | | | | **5,08,000/-** |

## 12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

This Mining Plan for Rough Stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Concerned Department.

Prepared by

P. Viswanathan

P.Viswanathan, M.Sc.,
Qualified person

Place: Salem

Date: 06.12.2021

| DONATE RED |
| --- |
| SPREAD GREEN |
| SAVE BLUE |

This Mining Plan is Approved subject to the conditions / stipulation & indicated in the Mining Plan Approval Letter No: 934/Mines/21 dt 31-12-21 office of the A.D, Geology & Mining Coimbatore

This Mining Plan is Approved based on the incorporation of the particulars specified in the letter of the commissioner of Geology and Mining, Chennai ref No: 3863/LC/2012 Dated 19.11.2012 and subjected to further fulfillment of the condition laid down under Tamilnadu Minor Mineral Concession Rules 19[illegible]

31/12/21

ASSISTANT DIRECTOR
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE DISTRICT.

31/12/21

ANNEXURE V

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உதவி இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
மாவட்ட ஆட்சியர் அலுவலக வளாகம்,
கோயம்புத்தூர் - 18.

ந.க.எண்.939/கனிமம்/2021 நாள்: 02.12..2021

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - கோயம்புத்தூர் மாவட்டம் - மேட்டுப்பாளையம் வட்டம் - சிக்காரம்பாளையம் கிராமம் - புல எண்கள். 78/1 (பகுதி)-ல் 1.21.0 ஹெக்டேர், 420-ல் 1.05.5 ஹெக்டேர் மற்றும் 419-ல் 1.19.50 ஹெக்டேர் ஆக மொத்தம் 3.46.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க திரு.A.நந்தகுமார் என்பவருக்கு - குவாரி குத்தகை அனுமதி வழங்குவது - தொடர்பாக.

பார்வை:
1. திரு.A.நந்தகுமார், த/பெ.ஆறுக்குட்டி கவுண்டர், 79D, அவிநாசி ரோடு, அன்னூர், கோயம்புத்தூர் என்பவரது விண்ணப்ப நாள்: 06.08.2021.
2. இவ்வலுவலக கடிதம் இதே எண். நாள்: 07.08.2021.
3. வருவாய் கோட்டாட்சியர், கோயம்புத்தூர் வடக்கு அவர்களின் கடித ந.க.எண். 2164/2021/அ3 நாள் 08.10.2021.
4. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கோயம்புத்தூர் அவர்களின் தணிக்கை அறிக்கை நாள்: 25.11.2021
5. இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை கடிதம் எண். 1870/எம்.எம்-1/2020 நாள்: 12.08.2020.

******

பார்வை 1-ல் கோயம்புத்தூர் மாவட்டம், 79D, அவினாசி ரோடு, அன்னூர் என்ற முகவரியில் வசிக்கும் திரு.ஆறுக்குட்டிகவுண்டர் என்பவரின் மகன் திரு.A.நந்தகுமார் என்பவர் கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண்கள். 78/1 (பகுதி)-ல் 1.21.0 ஹெக்டேர், 419-ல் 1.19.50 ஹெக்டேர் மற்றும் 420-ல் 1.05.5 ஹெக்டேர் ஆக மொத்தம் 3.46.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் கோரி உரிய ஆவணங்களுடன் விண்ணப்பித்துள்ளார்.

மேற்படி மனு தொடர்பாக, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் கோயம்புத்தூர் புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு கோயம்புத்தூர் மாவட்டம், 79D, அவினாசி ரோடு, அன்னூர் என்ற முகவரியில் வசிக்கும் திரு.ஆறுக்குட்டிகவுண்டர் என்பவரின் மகன் திரு.A.நந்தகுமார் என்பவருக்கு கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண்கள். 78/1 (பகுதி)-ல் 1.21.0 ஹெக்டேர், 419-ல் 1.19.50 ஹெக்டேர் மற்றும் 420-ல் 1.05.5 ஹெக்டேர் ஆக மொத்தம் 3.46.0 ஹெக்டேர்

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பரப்பளவுள்ள பட்டா பூமியில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க சில நிபந்தனைகளுடன் பரிந்துரை செய்துள்ளார்கள்.

அனுமதி கோரும் புல எண்கள். 78/1, 420 மற்றும் 419 ஆகியவை பட்டா எண்கள் முறையே 1033, 1052 மற்றும் 1768 ஆகியவற்றின்படி திரு.ஆறுக்குட்டிகவுண்டர் என்பவரின் மகன் நந்தகுமார் என்பவர் பெயரில் தனிப்பட்டாவாக கிராம கணக்கில் தாக்கலாகியுள்ளது. எனவே மேற்படி பூமியில் மனுதாரர் குவாரி குத்தகை உரிமம் பெற தகுதியுடையவர் ஆவார்.

எனவே, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கோயம்புத்தூர் ஆகியோரின் பரிந்துரைகளின் அடிப்படையில் கோயம்புத்தூர் மாவட்டம், 79D, அவினாசி ரோடு, அன்னூர் என்ற முகவரியில் வசிக்கும் திரு.ஆறுக்குட்டிகவுண்டர் என்பவரின் மகன் திரு.A.நந்தகுமார் என்பவருக்கு கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண்கள். 78/1 (பகுதி)-ல் 1.21.0 ஹெக்டேர், 419-ல் 1.19.50 ஹெக்டேர் மற்றும் 420-ல் 1.05.5 ஹெக்டேர் ஆக மொத்தம் 3.46.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகளில் விதி 19(1) மற்றும் 20-ன் படி குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றும் நாளிலிருந்து 5 (ஐந்து) ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு குவாரி குத்தகை வழங்குவதற்குரிய நிலப்பரப்பாக (Precise Area Communication) கருதப்படுகிறது.

நிபந்தனைகள்

1. அருகிலுள்ள பட்டா நிலங்களுக்கும் மற்றும் பொது மக்களுக்கும், எவ்வித இடையூரும் இன்றி சாதாரண கல் மற்றும் கிராவல் குவாரி மேற்கொள்ள வேண்டும்.
2. அருகில் உள்ள பட்டா நிலத்திற்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப்பணி மேற்கொள்ள வேண்டும்.
3. அனுமதி கோரும் புலத்தின் மேற்கு பகுதியில் செல்லும் மின்கம்பி பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப்பணி மேற்கொள்ள வேண்டும்.
4. குழந்தை தொழிலாளர்களை வேலைக்கு அமர்த்தல் கூடாது.

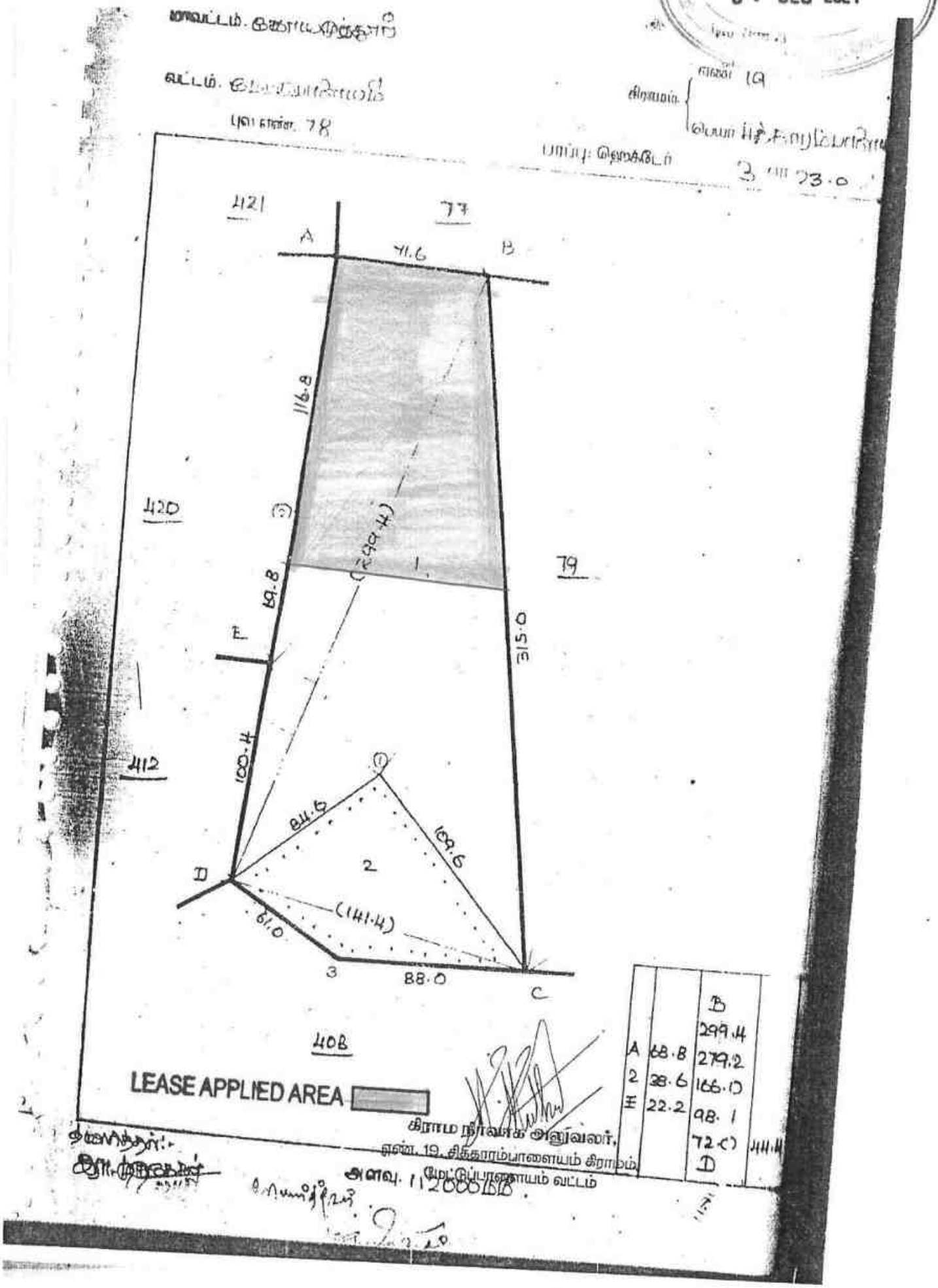
மேலும், தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண். 41 மற்றும் 42-ன் படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறும், மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு அதிகார அமைப்பின் அனுமதியினை பெற்று சமர்ப்பிக்கவும் மனுதாரரை கேட்டுக் கொள்ளப்படுகிறது.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை
கோயம்புத்தூர்.

பெறுநர்:
திரு.A.நந்தகுமார்,
த/பெ.ஆறுக்குட்டி கவுண்டர்,
79D, அவிநாசி ரோடு,
அன்னூர், கோயம்புத்தூர்.

ANNEXURE II

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...க்குநர் அலு...
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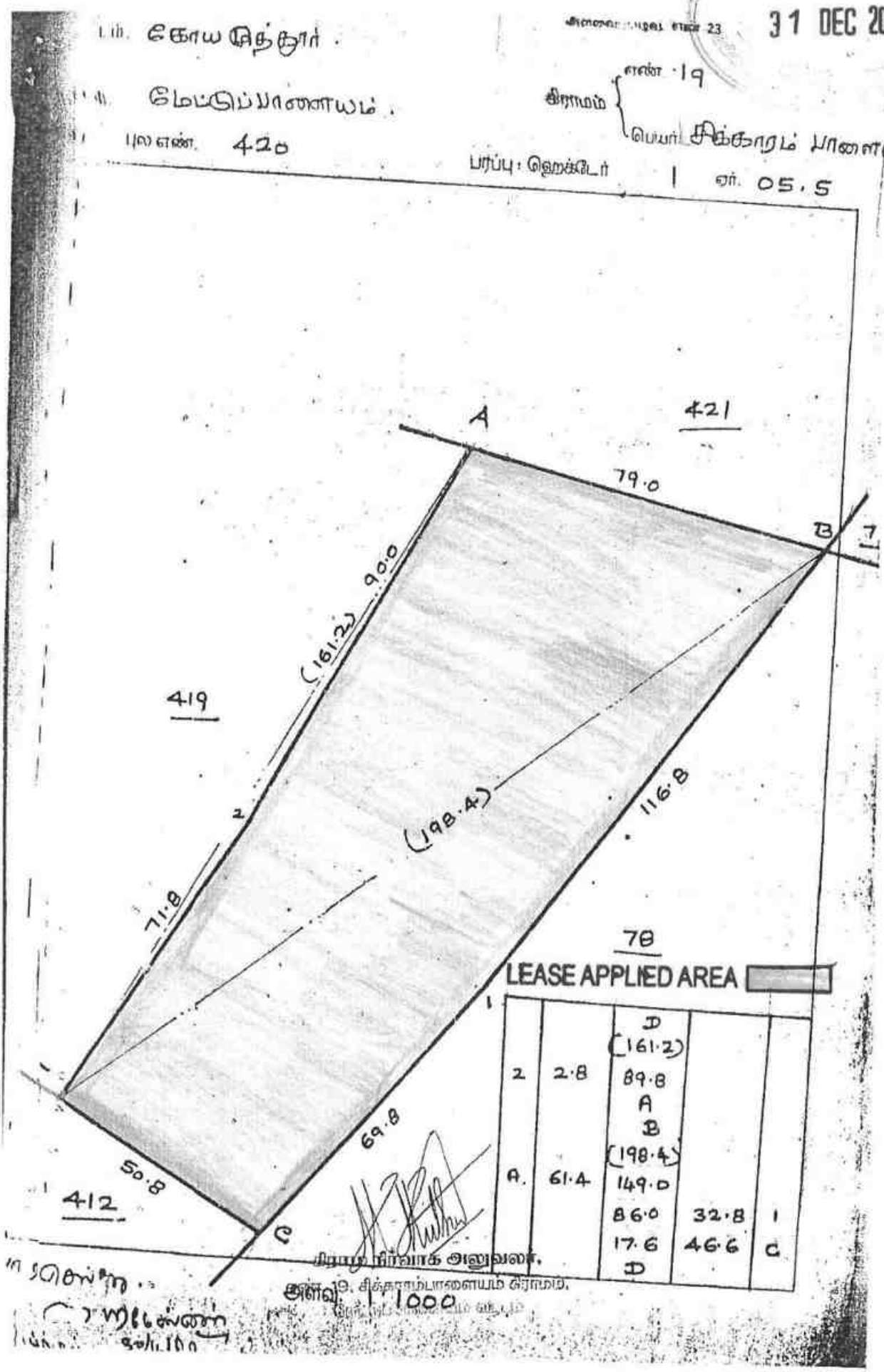
வட்டம் கோயம்புத்தூர்.

கிராமம் மேட்டுப்பாளையம்.

நிலை எண் 420

கிராமம் { எண் 19
பெயர் சிக்காரம் பாளை...

பரப்பு : ஹெக்டேர் 1 ஏ. 05.5




நிலஅளவை அலுவலர்.

அளவு 1:1000

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31 DEC 2021

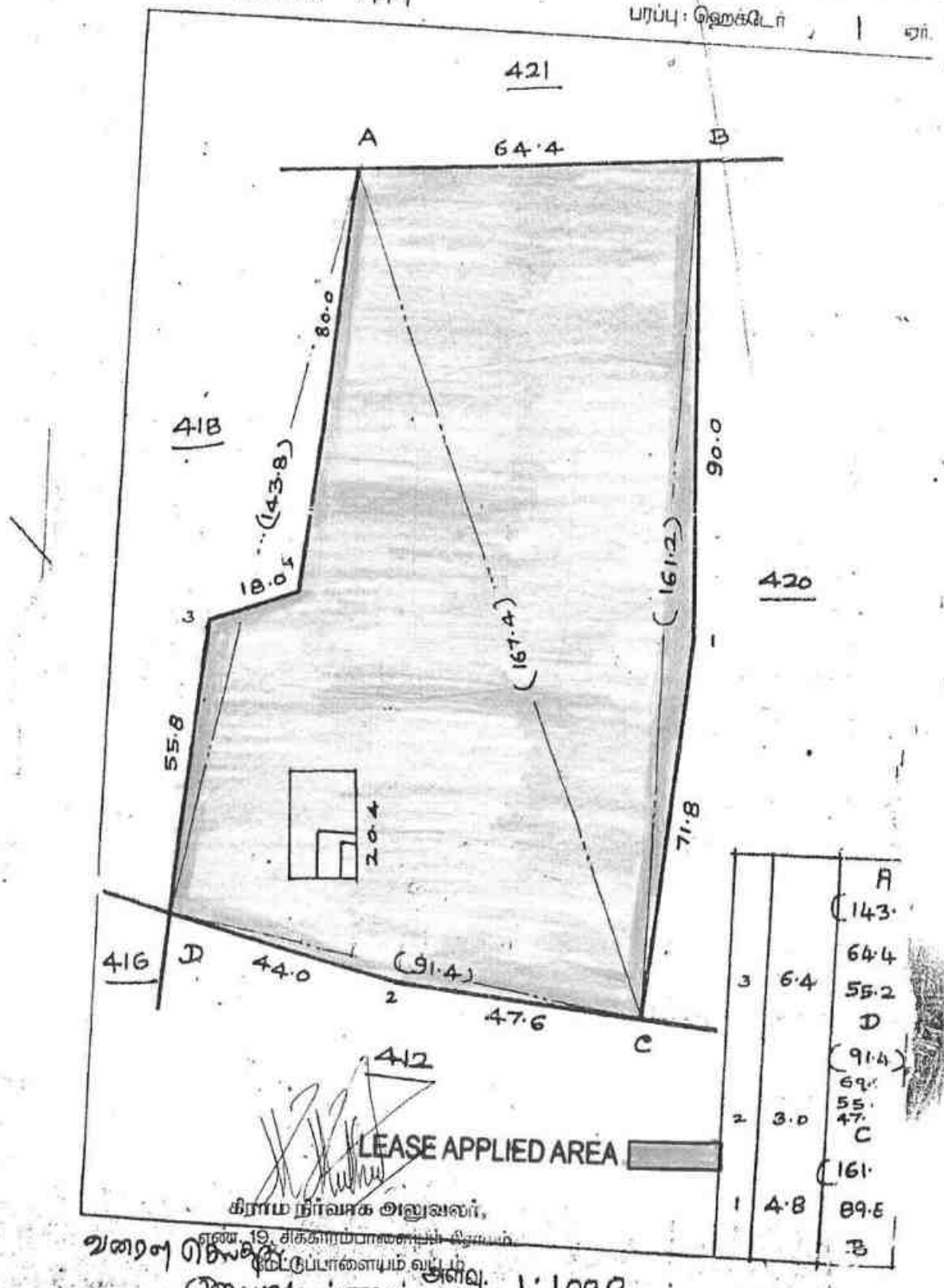
வட்டம். மேட்டுப்பாளையம்.

கிராமம் { சிக்கு

புல எண். 419

பெயர். சிக்கு

பரப்பு : ஹெக்டேர் 1 ஏர்.




கிராம நிர்வாக அலுவலர்,
எண். 19, சிக்காரம்பாளையம் கிராமம்,
மேட்டுப்பாளையம் வட்டம்.

அளவு. 1:1000

79 A

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ANNEXURE III

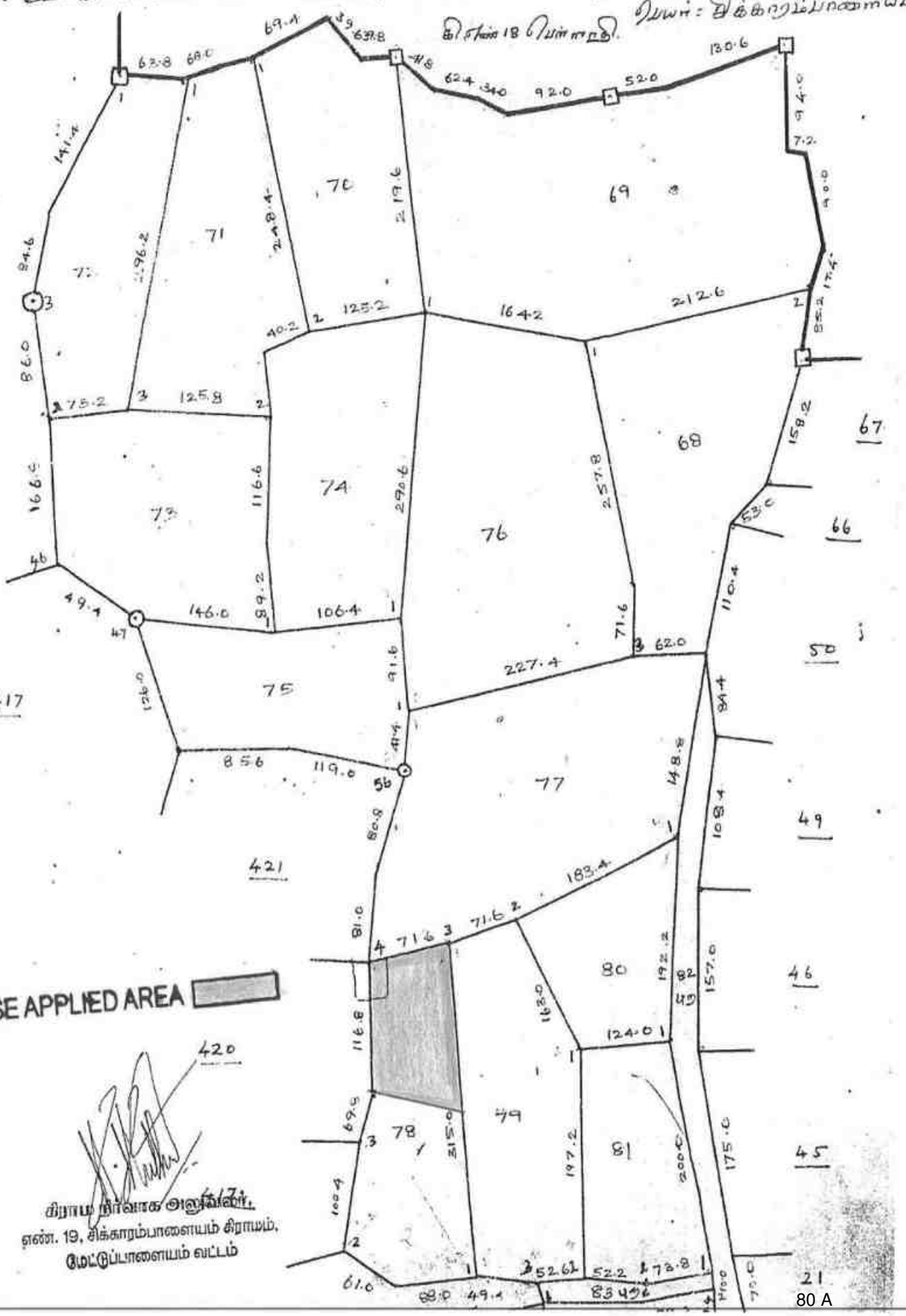
31 DEC 2021

[redacted]

மாவட்டம்: தென்காசி  புல எண்கள் 66 to 84

வட்டம்: சங்கரன்கோவில்  பக்கம் எண் 3  கிராமம்

பிர்கா: சிக்காரம்பாளையம்  கிராம எண் 19 பெரும்பதி.

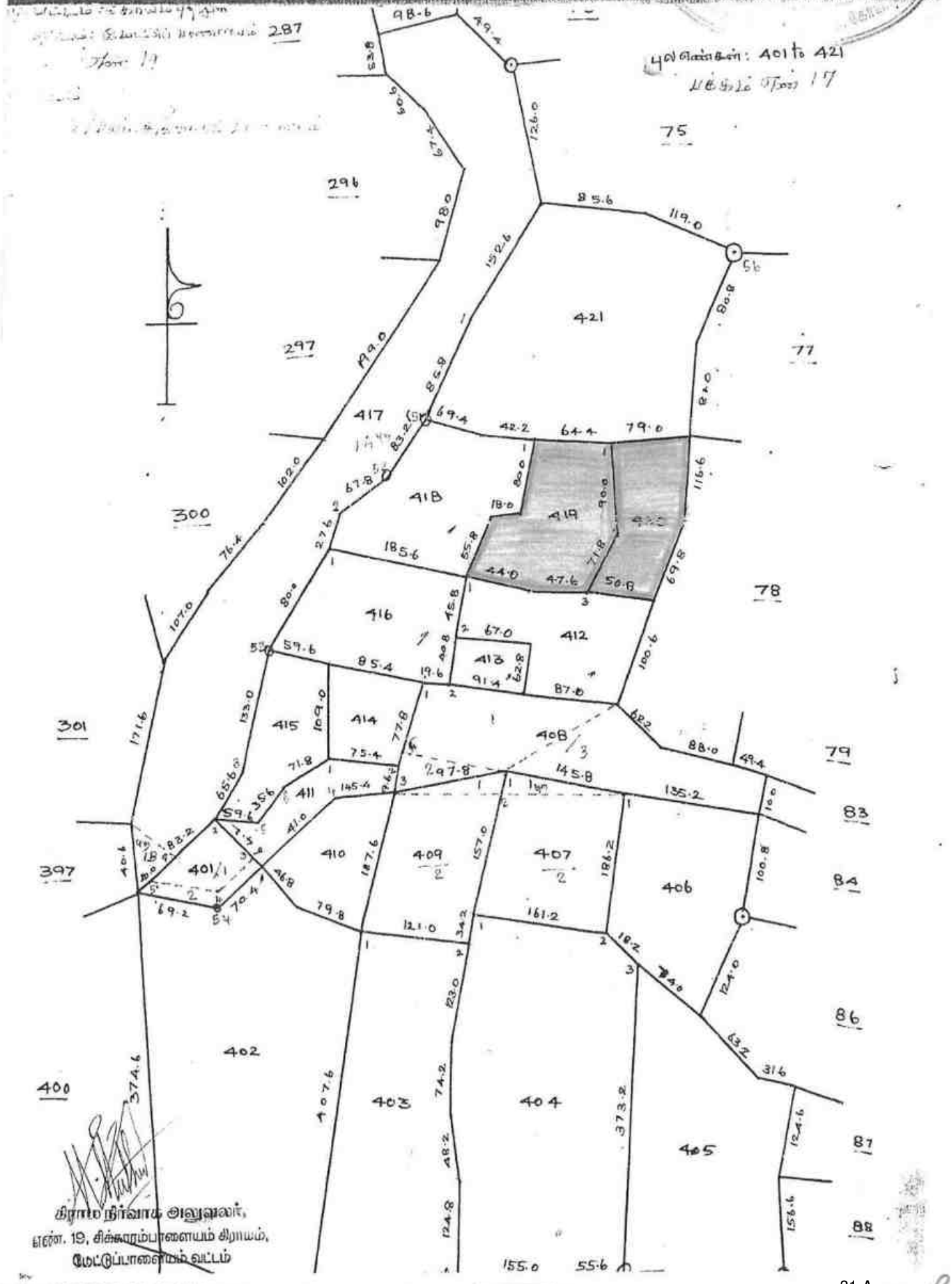



கிராம நிர்வாக அலுவலர்,
எண். 19, சிக்காரம்பாளையம் கிராமம்,
மேட்டுப்பாளையம் வட்டம்

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திராம நிர்வாக அலுவலர்,
எண். 19, சிக்காரம்பாளையம் கிராமம்,
மேட்டுப்பாளையம் வட்டம்

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LEASE APPLIED AREA

ANNEXURE IV

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தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் : மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 1033

உரிமையாளர்கள் பெயர்

1. ஆறுக்குட்டி மகன் நந்தகுமார்

| 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 | |
| 78 | 1 | 2 - 60.00 | 7.19 | -- | -- | -- | -- | R14/2109--- -- 03-10-2014 |
| | | 2 - 60.00 | 7.19 | | | | | |

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **12/04/019/01033/10977** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 20-07-2021 அன்று 03:48:46 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

31 DEC 2021

தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் : மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 1768

உரிமையாளர்கள் பெயர்

1. ஆறுகுட்டி கவுண்டர் மகன் நந்தகுமார்

| 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 | |
| 419 | - | 1 - 19.50 | 4.04 | -- | -- | -- | -- | 2021/0103/12/311013-- -- 16-09-2021 |
| | | 1 - 19.50 | 4.04 | | | | | |

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **12/04/019/01768/10922** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 04-12-2021 அன்று 03:52:54 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

யக்குநர் (பொ)

31 DEC 2021

தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் : மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 1052

உரிமையாளர்கள் பெயர்

1. ஆறுகுட்டி கவுண்டர் மகன் நந்தகுமார்

| 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 | |
| 412 | - | 1 - 13.50 | 3.15 | -- | -- | -- | -- | S02/1451A--- -- 25-03-2003 |
| 413 | - | 0 - 39.50 | 1.09 | -- | -- | -- | -- | S02/1451B--- -- 25-03-2003 |
| 416 | 2 | 0 - 4.00 | 0.11 | -- | -- | -- | -- | ---- -- 03-10-2014 |
| 418 | 2 | 0 - 45.50 | 1.53 | -- | -- | -- | -- | ---- -- 03-10-2014 |
| 420 | - | 1 - 5.50 | 2.92 | -- | -- | -- | -- | ---- -- 02-01-2002 |
| | | 3 - 8.00 | 8.80 | | | | | |

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **12/04/019/01052/10968** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இந்த தகவல்கள் 20-07-2021 அன்று 11:52:22 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

கிராமக் கணக்கு

1430- ஆம் பசலியில் கோயம்புத்தூர் மாவட்டம் வேட்டுப்பாளையம் வட்டம் சிக்காரம்பாளையம் கிராமத்தில் வருவாரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

எண் 2

| நில வரித் திட்டத்தின்படி புலன்களின் விபரம். | | | | | கைப்பற்று தாருடைய பெயரும் என்னும் அல்லது அரசுசேக தாருடைய பெயர். | சாகுபடி வாரியின் பெயர். | முதல் போகம். | | | | | இரண்டாம் போகம். | | | | | எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது. | பயிரின் பெயர். | பரிமாண / அளவைப் பாடு. | உற்பத்தியான பயிர்ச் சூடுகளும். | விளைச்சல் ஆரை விருக்காடு. | விவரம் அறுவாயில் தரிப்புரை :- (1) புலன்களின் பகுதிகளில் மட்டும் பயிரிடப்பட்ட விவரங்கள் அளவில் (2) வெப்பத்தில் நிலவாத நன்செய் வாரத்தில் (3) முற்றாகை மாகத்தில் பயிர்ச் சேதம் உறுதியிற்கு மாறி நிலம் எற்று பயிரிடப்பட்ட நிலங்களும் பிறவும் மாறுபாடு விபரங்கள். | கிடக்கண்டவகையில் பயிரிடப்படாது உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விவரங்கள் முல்லொரு நில அளவை என அல்லது அதன் பகுதியில். (அ) வளம் (ஆ) பயனற்ற பயிர் செய்ய இயலாத நிலம். (இ) விளையும் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தும் நிலம். (ஈ) பயிரிடத்தக்க தரிசு நிலம். (உ) நிலவாளன புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும். (ஊ) விதைக்கப்பட்ட இதர பயிர் சேர்க்கப்படாத பலவகைப் பயிர்களும் நோய்களும். (எ) தடம்பற் தரிகள். (ஏ) இதர தரிசு நிலங்கள். | பயிர் பாசனத்தில் அரசால் குறிப்பிடப்பட்ட. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| நில அளவை எண். | உட்பிரிவு எண். | பரப்பு. | தீர்வை. | தரம் போகம் அல்லது இரு போகம். | | | முதல் பயிர் செய்யப்பட்டு எந்த மாதத்தில் அறுவடை செய்யப்பட்டது. | பயிரின் பெயர். | பயிரான / அளவைப் பாடு. | உற்பத்தியான பயிர்ச் சூடுகளும். | விளைச்சல் ஆரை விருக்காடு. | எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது. | பயிரின் பெயர். | பரிமாண / அளவைப் பாடு. | உற்பத்தியான பயிர்ச் சூடுகளும். | விளைச்சல் ஆரை விருக்காடு. | விவரம் அறுவாயில் தரிப்புரை :- (1) புலன்களின் பகுதிகளில் மட்டும் பயிரிடப்பட்ட விவரங்கள் அளவில் (2) வெப்பத்தில் நிலவாத நன்செய் வாரத்தில் (3) முற்றாகை மாகத்தில் பயிர்ச் சேதம் உறுதியிற்கு மாறி நிலம் எற்று பயிரிடப்பட்ட நிலங்களும் பிறவும் மாறுபாடு விபரங்கள். | கிடக்கண்டவகையில் பயிரிடப்படாது உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விவரங்கள் முல்லொரு நில அளவை என அல்லது அதன் பகுதியில். (அ) வளம் (ஆ) பயனற்ற பயிர் செய்ய இயலாத நிலம். (இ) விளையும் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தும் நிலம். (ஈ) பயிரிடத்தக்க தரிசு நிலம். (உ) நிலவாளன புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும். (ஊ) விதைக்கப்பட்ட இதர பயிர் சேர்க்கப்படாத பலவகைப் பயிர்களும் நோய்களும். (எ) தடம்பற் தரிகள். (ஏ) இதர தரிசு நிலங்கள். | பயிர் பாசனத்தில் அரசால் குறிப்பிடப்பட்ட. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (18அ) | (19) | | |
| 78 | 1 | 2.600 | 7.19 | 1032 | அ. ரங்கநாதன் | | | | — | — | — | — | — | — | — | — | கிணறு | | | | |
| 446 | 2 | 0.040 | 0.11 | 1052 | — ம — | | | | — | | | | | | | | | | | | |
| 448 | 2 | 0.480 | 1.33 | 1052 | — ம — | | 10. நிலக்கடலை | | 0.360 | | | | | | | | | | | | |
| 419 | | 1.195 | 4.04 | 1052 | — ம — | | 7 தீவன | | 0.050 | | | | | | | | கி.கிணறு-1 5HP Motor-1 | | | | |
| | | | | | | | சோளம் | | 0.200 | | | | | | | | ஆழ்குழாய் கிணறு-1 | | | | |
| 420 | | 1.050 | 0.92 | 1052 | — ம — (ஏர்) | | அவரை | | 0.100 | | | | | | | | கிணறு | | | | |

சொன் வைகாசி

கிராம நிர்வாக அலுவலர்,
எண். 19, சிக்காரம்பாளையம் உ. வ.,
மேட்டுப்பாளையம் வட்டம்

360/39 RFIII A 10- 10,00,000 cps.,-GBP-Mdu-7-2020.

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ANNEXURE

ANNEXURE VI

31 DEC 2021

அ-பதிவேடு

District Coimbatore Taluk METTUPALAYAM Village SIKKARAMPALA YAM

| | உட்பிரிவு எண் | பகுதி | அ-டி | நிலவகை | பாசன ஆதாரம் | இருபோகவசதியும் உள்ளதா | மண் வகைப்பாடும் தரமும் | மண் தரம் | நிலவரி - தொகை ரூ | நிலவரி - தொகை பை | பரப்பு தொகை | பரப்பு வகை | மொத்த நிலவரி ரூ | மொத்த நிலவரி பை | பட்டா எண் | குறிப்பு |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 77/2 | P | 0 | புன்செய் | | | E-3 | 5 | 2 | 0 | 1 | 1.00 | 2 | 02 | 488 காளேரியம்மாள் | |
| | 77 | P | 0 | புன்செய் | | | E-3 | 5 | 2 | 0 | 0 | 6.50 | 0 | 13 | 586 முத்தம்மாள் மற்றும் 11 நபர்(கள்) | |
| | 77 | P | 0 | புன்செய் | | | E-3 | 5 | 2 | 0 | 1 | 4.00 | 2 | 08 | 1711 சந்திரா மற்றும் 1 நபர்(கள்) | |
| | 77/2 | P | 0 | புன்செய் | | | E-3 | 5 | 2 | 0 | 1 | 38.00 | 2 | 76 | 758 முத்தம்மாள் | |
| | 77/2 | P | 0 | புன்செய் | | | E-3 | 5 | 2 | 0 | 0 | 99.00 | 1 | 98 | 2030 முத்தம்மாள் | |
| | | | | Total For Survey Number- 77 | | | | | 5 | 34.0 | 10 | 68 | | | | |
| | 78/1 | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 2 | 60.00 | 7 | 19 | 1033 நந்தகுமார் | |
| | 1 | P | அ | புறம்போக்கு | AW | | 0 - null | 0 | 0 | 0 | 0 | 63.00 | 0 | 00 | 0 | கல்லாங்குத்து |
| | | | | Total For Survey Number- 78 | | | | | 3 | 23.0 | 7 | 19 | | | | |
| A | 79/1 | P | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 96.00 | 2 | 66 | 721 மகேந்திரன் | |
| B | 79/1 | P | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 29.00 | 0 | 80 | 416 மகேந்திரன் மற்றும் 2 நபர்(கள்) | |
| | P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 1 | 95.50 | 5 | 42 | 1697 நாகம்மாள் மற்றும் 10 நபர்(கள்) | |
| | | | | Total For Survey Number- 79 | | | | | 3 | 20.5 | 8 | 88 | | | | |
| | 80 P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 1 | 27.00 | 3 | 52 | 26 முருகாயி | |
| | 2 | | 0 | புன்செய் | | | E-2 | 1 | 2 | 77 | 1 | 42.50 | 3 | 93 | 1061 கிருஷ்ணசாமி மற்றும் 1 நபர்(கள்) | |
| | | | | Total For Survey Number- 80 | | | | | 2 | 69.5 | 7 | 47 | | | | |
| | 81 | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 2 | 51.00 | 6 | 94 | 877 நாகம்மாள் மற்றும் 10 நபர்(கள்) | |
| | 82 | | அ | புறம்போக்கு | | | 0 - | 0 | 0 | 0 | 0 | 79.50 | 0 | 00 | 0 | |
| | 83 | | அ | புறம்போக்கு | | | 0 - | 0 | 0 | 0 | 0 | 16.00 | 0 | 00 | 0 | |
| | 84 P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 1 | 22.00 | 3 | 38 | 1427 ராமசாமி மற்றும் 1 நபர்(கள்) | |
| | P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 89.00 | 2 | 47 | 1427 ராமசாமி மற்றும் 1 நபர்(கள்) | |
| | | | | Total For Survey Number- 84 | | | | | 2 | 11.0 | 5 | 85 | | | | |
| A | 85-1P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 10.00 | 0 | 28 | 483 நாகராஜன் | |
| B | 1P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 74.00 | 2 | 05 | 69 கந்தசாமி | |
| C | 1P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 2.50 | 0 | 07 | 1091 ராமசாமி மற்றும் 2 நபர்(கள்) | |
| D | 1P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 48.00 | 1 | 33 | 1607 கந்தசாமி மற்றும் 5 நபர்(கள்) | |
| E | 1P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 42.00 | 0 | 16 | 774 ராமசாமி | |
| | 2 | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 31.00 | 0 | 86 | 1091 ராமசாமி மற்றும் 2 நபர்(கள்) | |
| | | | | Total For Survey Number- 85 | | | | | 2 | 7.5 | 4 | 75 | | | | |
| | 86 P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 28.50 | 0 | 79 | 483 நாகராஜன் | |
| | P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 71.00 | 1 | 97 | 69 கந்தசாமி | |
| | P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 56.00 | 1 | 55 | 483 நாகராஜன் | |
| | P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 0 | 21.50 | 0 | 60 | 774 ராமசாமி | |
| | | | | Total For Survey Number- 86 | | | | | 1 | 77.0 | 4 | 91 | | | | |
| | 87 | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 1 | 73.50 | 4 | 80 | 1983 ராஜ கோபால மற்றும் 3 நபர்(கள்) | திருவிடம் வலையபட்டியைத் TL 1 |
| | 88 P | | 0 | புன்செய் | | | E-1 | 3 | 3 | 38 | 0 | 45.50 | 1 | 56 | 1407 சண்முகம் | |
| | P | | 0 | புன்செய் | | | E-1 | 3 | 3 | 38 | 0 | 58.00 | 1 | 96 | 2111 சாந்தமணி | |
| | P | | 0 | புன்செய் | | | E-1 | 3 | 3 | 38 | 0 | 83.50 | 2 | 82 | 339 செல்வராணி | |
| | | | | Total For Survey Number- 88 | | | | | 1 | 87.0 | 6 | 32 | | | | |
| | 89 P | | 0 | புன்செய் | | | E-2 | 4 | 2 | 77 | 1 | 26.00 | 3 | 49 | 1549 பரிபூரணம் மற்றும் 2 நபர்(கள்) | |

கிராம நிர்வாக அலுவலர்,
எண். 19, சிக்காரம்பாளையம் கிராமம்,
மேட்டுப்பாளையம் வட்டம்



மேட்டுப்பாளையம் வட்டம்

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15

பக்குநர் கிளை
31 DEC 2021

அ-பதிவேடு

District :Coimbatore Taluk :METTUPALAYAM Village :SIKKARAMPALAYAM

| புல எண் | உட்பிரிவு எண் | பகுதி | அ-வ | நீர்வகை | பாசனம் ஆதாரம் | இருபோகமாவை | மண் வகை | மண் தரம் | தீர்வை - தெக | | பரப்பு | | மொத்த தீர்வை | | பட்டா எண் | குறிப்பு |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | ரூ | பை | ஹெக் | ஏ | ரூ | பை | | |
| | | | | | | | | | | | | | | | | 1 நபர்(கள்) |
| | | | | Total For Survey Number- 409 | | | | | | | 2 | 7.5 | 5 | 54 | | |
| 1 | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 72.00 | 1 | 99 | 242 கிணற்றைப | |
| A | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 0 | 61.50 | 1 | 71 | 1729 மனோகரன் மற்றும் 1 நபர்(கள்) | |
| | | | | Total For Survey Number- 410 | | | | | | | 1 | 33.5 | 3 | 70 | | |
| 411 | | அ | புறம்போக்கு | | | 0 | 0 | | 0 | 0 | 0 | 19.50 | 0 | 00 | 0 | |
| 412 | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 1 | 13.50 | 3 | 15 | 1052 நந்தகுமார் | வடு-1, கிணறு-1 |
| 413 | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 39.50 | 1 | 09 | 1052 நந்தகுமார் | கிணறு 1 |
| 414 P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 1.00 | 0 | 06 | 747 ஏங்கலப்ப கவுடர் | கிணறு 1 |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 27.00 | 0 | 75 | 940 முருகையன் மற்றும் 3 நபர்(கள்) | |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 25.50 | 0 | 71 | 1943 ஏங்கலப்ப கவுடர் மற்றும் 1 நபர்(கள்) | கிணறு 1 |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 18.00 | 0 | 50 | 1845 மருதாய கவுடர் மற்றும் 2 நபர்(கள்) | |
| | | | | Total For Survey Number- 414 | | | | | | | 0 | 71.5 | 2 | 02 | | |
| 415 P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 5.00 | 0 | 14 | 407 தேவியாய கவுடர் | |
| P | P | 0 | புஞ்சை | | | E - 2 | 4 | | 3 | 77 | 0 | 3.50 | 0 | 10 | 575 மருதாய கவுடர் | KALLIPPALAYAM MANDAI |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 2.00 | 0 | 06 | 1290 தேசிக கவுடர் மற்றும் 5 நபர்(கள்) | |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 10.00 | 0 | 28 | 747 ஏங்கலப்ப கவுடர் | கிணறு 1 |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 49.00 | 1 | 35 | 940 முருகையன் மற்றும் 3 நபர்(கள்) | |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 65.00 | 1 | 80 | 1944 ஏங்கலப்ப கவுடர் மற்றும் 1 நபர்(கள்) | கிணறு 1 |
| P | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 4.50 | 0 | 12 | 1294 ஏங்கலப்ப கவுடர் மற்றும் 3 நபர்(கள்) | |
| | | | | Total For Survey Number- 415 | | | | | | | 1 | 39.0 | 3 | 85 | | |
| 416/1 | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 1 | 33.00 | 4 | 51 | 1151 ஏலுமலை மற்றும் 3 நபர்(கள்) | |
| 2 | | 0 | புஞ்சை | | | E - 2 | 4 | | 2 | 77 | 0 | 4.00 | 0 | 11 | 1052 நந்தகுமார் | |
| | | | | Total For Survey Number- 416 | | | | | | | 1 | 37.0 | 4 | 62 | | |
| A 417/1 | | அ | புறம்போக்கு | | | 0 - | | | 0 | 0 | 0 | 17.00 | 0 | 00 | 0 | |
| B 1B | | அ | புறம்போக்கு | | | 0 - | 0 | | 0 | 0 | 0 | 3.50 | 0 | 00 | 0 | |
| 2 | | 0 | புஞ்சை | | | 7 - 2 | 3 | | 3 | 38 | 0 | 21.00 | 0 | 70 | 1945 தேசிக கவுடர் மற்றும் 2 நபர்(கள்) | |
| 417/1 | | அ | புறம்போக்கு | | | 0 | | | 0 | 0 | 0 | 27.00 | 0 | 00 | 0 | |
| 417/1 | | அ | புறம்போக்கு | | | 0 | | | 0 | 0 | 0 | 4.00 | 0 | 00 | 0 | நந்தம் |
| | | | | Total For Survey Number- 417 | | | | | | | 6 | 72.5 | 8 | 70 | | |
| 418/1 | | 0 | புஞ்சை | | | 7 2 | 3 | | 3 | 38 | 1 | 81.00 | 6 | 14 | 1151 ஏலுமலை மற்றும் 3 நபர்(கள்) | |
| 2 | | 0 | புஞ்சை | | | 7 2 | 3 | | 3 | 38 | 0 | 45.50 | 1 | 53 | 1052 நந்தகுமார் | |
| | | | | Total For Survey Number- 418 | | | | | | | 2 | 26.5 | 7 | 67 | | |
| 419 | | 0 | புஞ்சை | | | 7 - 2 | 3 | | 3 | 38 | 1 | 19.50 | 4 | 041768 | நந்தகுமார் மற்றும் 3 நபர்(கள்) | |
| 420/1 | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 1 | 5.50 | 2 | 92 | 1052 நந்தகுமார் | கிணறு 1 |
| 421/1 | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 0 | 3.00 | 0 | 08 | 861 ஞானசேகரன் | |
| A 2P | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 0 | 72.00 | 1 | 99 | 861 ஞானசேகரன் | |
| B 2P | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 3 | 72.00 | 10 | 60 | 861 ஞானசேகரன் | |
| | | | | Total For Survey Number- 421 | | | | | | | 4 | 47.0 | 12 | 47 | | |
| 422/1 | | 0 | புஞ்சை | | | E 2 | 4 | | 2 | 77 | 0 | 11.50 | 0 | 31 | 1947 குப்தன் மற்றும் | |



கிராம நிர்வாக அலுவலர்,
எண். 49. சிக்காரம்பாளையம் கிராமம்

ANNEXURE VII

31 DEC 2021

இந்திய அரசாங்கம்
Unique Identification Authority of India
Government of India

பதிவு எண் / Enrolment No.: 1110/11101/05685

To
நந்தகுமார் ஆறுக்குட்டி கவுண்டர்
Nandakumar Arukutty Gounder
S/O: Arukutty Gounder
79 D AVINASHI ROAD
ANNUR
Annur(t.p)
Annur
Annur Coimbatore
Tamil Nadu 641653

12/11/2013
3337468

MN8307486S6FT

உங்கள் ஆதார் எண் / Your Aadhaar No. :

4431 3132 4742

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

இந்திய அரசாங்கம்
Government of India

நந்தகுமார் ஆறுக்குட்டி கவுண்டர்
Nandakumar Arukutty Gounder
பிறந்த நாள் / DOB : 09/01/1973
ஆண்பால் / Male

4431 3132 4742

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

AADHAAR

தகவல்

- ஆதார் அடையாளத்திற்கான சான்று குடியுரிமைக்கு அல்ல .
- அடையாள சான்றை இணையதளம் மூலம் உறுதிப்படுத்திக் கொள்ளவும்

INFORMATION

- Aadhaar is proof of identity, not of citizenship .
- To establish identity, authenticate online .

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

ஆதார்
முகவரி:
S/O: அறுக்குட்டி கவுண்டர், 79 டி, அவினாசி ரோடு, அன்னூர், கோயம்புத்தூர், அன்னூர், தமிழ் நாடு, 641653

Unique Identification Authority of India
Address:
S/O: Arukutty Gounder, 79 D, AVINASHI ROAD, ANNUR, Annur(t.p), Coimbatore, Annur, Tamil Nadu, 641653

4431 3132 4742

1947
1800 300 1947

help@uidai.gov.in

www.uidai.gov.in

ANNEXURE VIII

31 DEC 2021

# பெரியார் பல்கலைக்கழகம்
# Periyar University

அறிவியல் புலம்
FACULTY OF SCIENCE

**பெரியார் பல்கலைக்கழக** ஆட்சிக்குழு **2010** ஆம் ஆண்டு **ஏப்ரல்** மாதம் நடந்த **பயன்பாட்டுப்புவியமைப்பியல்** தேர்வில் அரசு கலைக் கல்லூரி, சேலம் - 636 007 ( தன்னாட்சி ) பயின்ற **P விஸ்வநாதன்** என்பவர் **முதல் வகுப்பு A++ தரத்தில்** தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி **அறிவியல் நிறைஞர்** என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

*The Syndicate of the* **Periyar University** *hereby makes known that* **VISWANATHAN P** *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 A++ GRADE** *at the Examination held in* **APR-2010** *through* GOVERNMENT ARTS COLLEGE, SALEM - 636 007 (AUTONOMOUS).

*Given under the seal of this university*

நாள்
Dated 28-02-2011
சேலம் 636011, தமிழ்நாடு, இந்தியா.
Salem 636011, Tamil Nadu, India.

பதிவாளர்
Registrar

துணைவேந்தர்
Vice-Chancellor

ANNEXURE IX

TIN. No. : 3312 2703755
C.S.T. No. : 880783 / 29.11.2005
Area Code : 142

Ph : Mines : 0427 - 2403645
Fact : 0427 - 2400046

31 DEC 2021

# SUDHARSHAAN MINING CORPORATION

Mfrs : Dead Burnt Magnesite, Lightly Calcined Magnesite, Dunite Chips & Powder.
**S.F. No. 77, Kuduvampatty Road, Vinayagampatti, SALEM - 636 008.**

Date : 28.12.2015.....

## EXPERIENCE CERTIFICATE

This is to certify that **Shri.P.Viswanathan, S/o. P.Paramasivam, Geologist,** has worked in our Magnesite Mines from **13.09.2010 to 25.11.2015** as our company Geologist. During his service he used to maintain all records and returns submitted to Government Departments.

His nature of work in the mines was to show the plan of working and demarcate Magnesite reserve areas. He was looking after production of Magnesite and was maintaining quality of the Mineral as per the specifications given by the buyers.

During his tenor of his service he was very sincere and prompt in his duties.

I wish him the best of luck in all his future endevours.

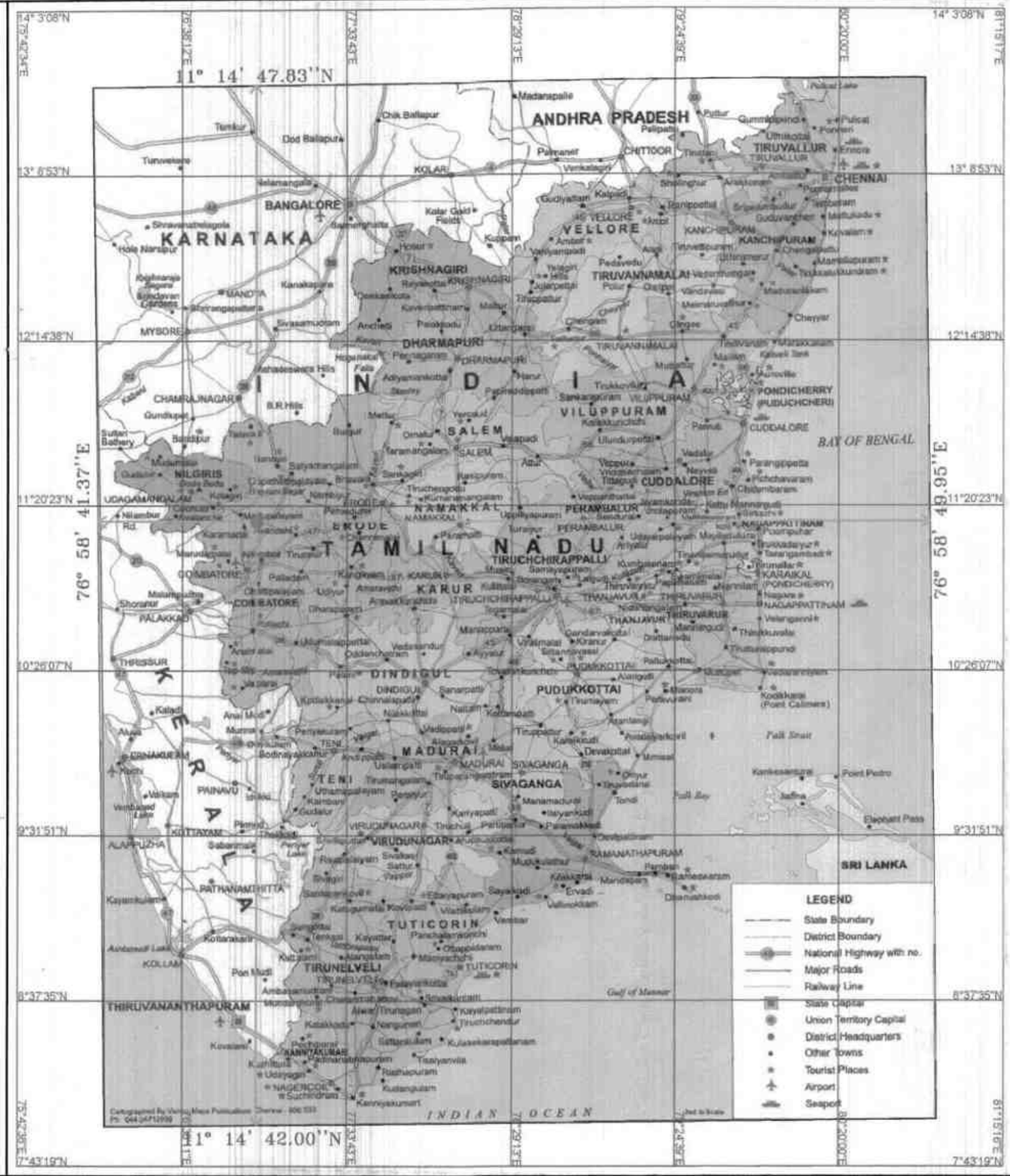
**For M/s.SUDHARSHAAN MINING CORPORATION,**

SUDHARSHAN MINING CORPORATION
SF-77, KUDUVAMPATTI ROAD,
SALEM - 636 008. Tamilnadu.

28 Dec 2015

**G.PASUPATHY,**
**Proprietor**

**Resi : "Garuda" 14/315, Kaliyapillai Garden IInd Cross, Fairlands, Salem - 636 004. Tamilnadu.**




31 DEC 2021

PLATE NO:I

DATE OF SURVEY : 04.12.2021

APPLICANT:

THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

LOCATION OF QUARRY LEASE APPLIED AREA:

S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

Q. L.A. AREA :

TOPO SHEET NO. : 58 A/16

LATITUDE : 11° 14' 42.00"N to 11° 14' 47.83"N

LONGITUDE : 76° 58' 41.37"E to 76° 58' 49.95"E

LOCATION PLAN

SCALE 1:24,00,000

PREPARED BY :

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

P. VISWANATHAN, M.Sc.,
QUALIFIED PERSON

PLATE NO:I-A

DATE OF SURVEY : 04.12.2021

**APPLICANT:**

THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

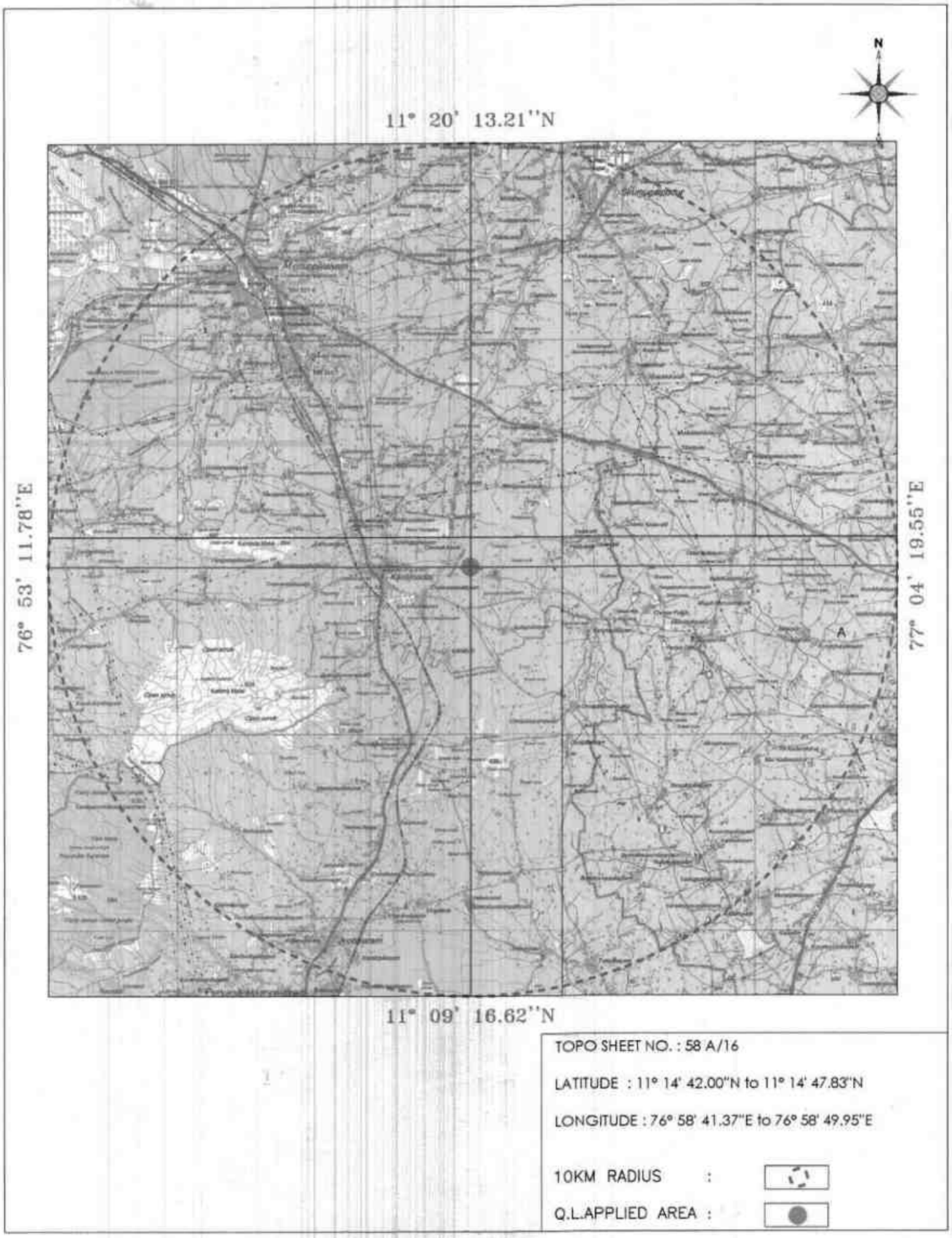
31 DEC 2021

**LOCATION OF QUARRY LEASE APPLIED AREA:**

S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

**INDEX**




**TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS**

SCALE– 1:100000

TOPO SHEET NO. : 58 A/16

LATITUDE : 11° 14' 42.00"N to 11° 14' 47.83"N

LONGITUDE : 76° 58' 41.37"E to 76° 58' 49.95"E

10KM RADIUS :

Q.L.APPLIED AREA :

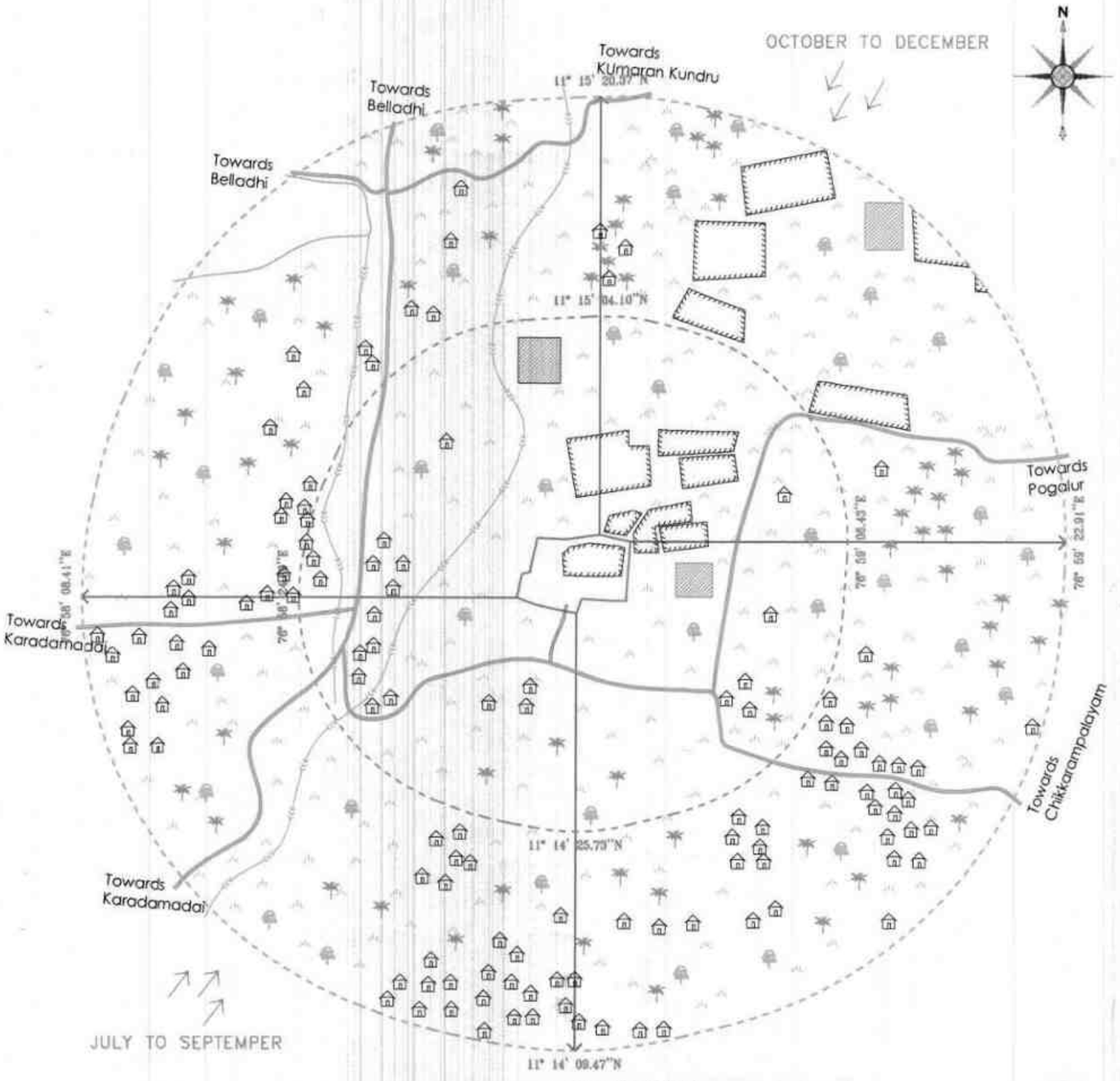
**PREPARED BY :**

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

P. Viswanathan.

P.VISWANATHAN,M.Sc.,
QUALIFIED PERSON

92 A




| LANDUSE PATTERN | | |
|---|---|---|
| DESCRIPTION | PERCENTAGE | INDEX |
| ROADS | (10%) | |
| HABITATION | (15%) | |
| TREES\TANK\ODAI | (15%) | |
| AGRICULTURAL LAND | (40%) | |
| PIT\CRUSHER PLANT | (20%) | |

## PLATE NO:I-B

DATE OF SURVEY : 04.12.2021

1Km Radius

500m Radius :

Q.L.Applied Area

31 DEC 2021

TOPO SHEET NO. : 58 A/16

LATITUDE : 11° 14' 42.00"N to 11° 14' 47.83"N

LONGITUDE : 76° 58' 41.37"E to 76° 58' 49.95"E

## APPLICANT:

THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

## LOCATION OF QUARRY LEASE APPLIED AREA:

S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM.
TALUK : METTUPALAYAM.
DISTRICT : COIMBATORE.
STATE : TAMIL NADU.

## INDEX

- APPROACH ROAD
- VILLAGE ROAD
- HABITATION
- TREES
- AGRICULTURAL LAND
- PIT
- WIND DIRECTION
- CRUSHER PLANT
- ODAI
- TANK

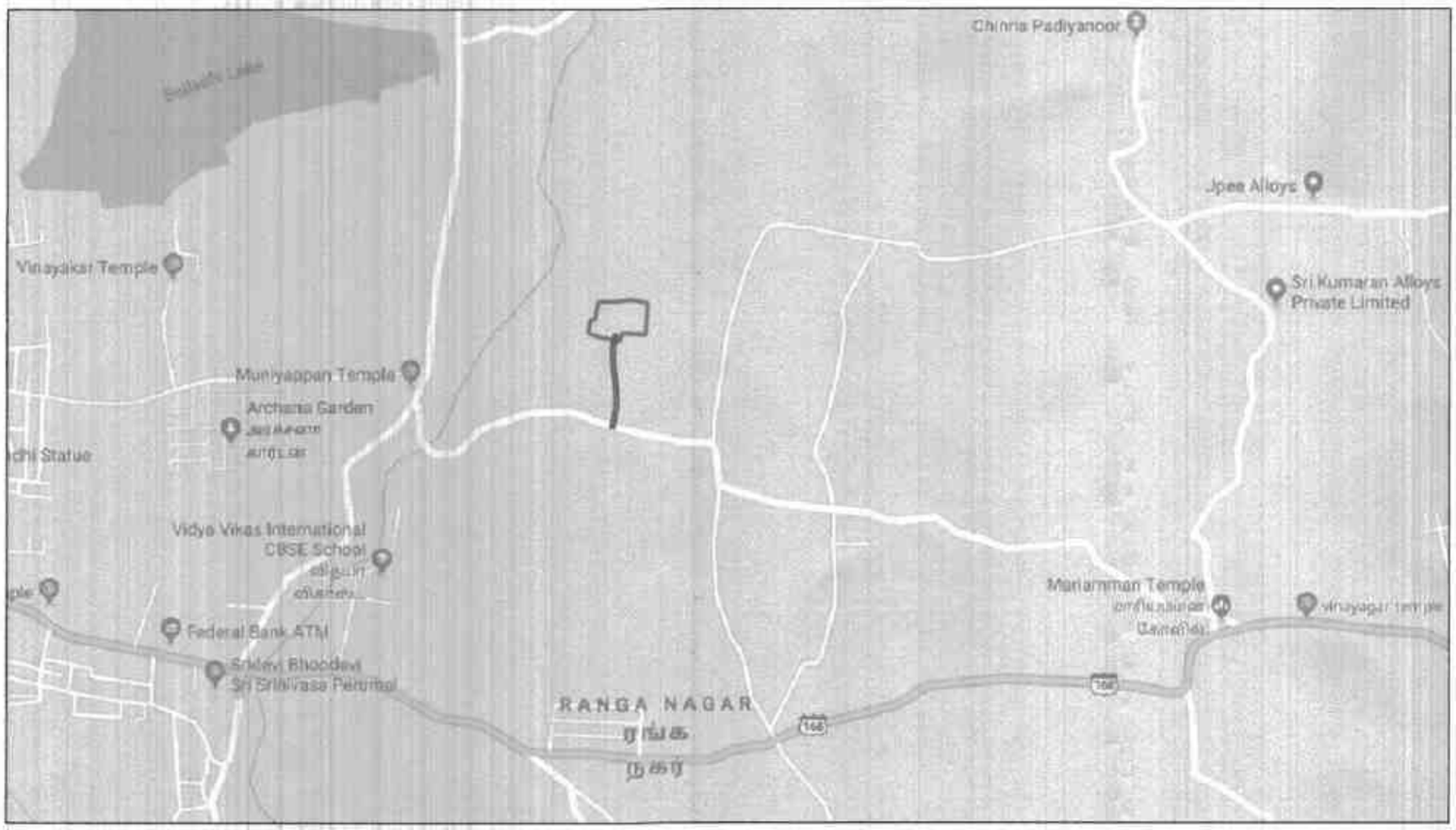
## TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 1Km RADIUS

SCALE– 1:10,000

## PREPARED BY :

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

P.VISWANATHAN,M.Sc.,
QUALIFIED PERSON




31 DEC 2021

PLATE NO.I-C

DATE OF SURVEY: 04.12.2021

**APPLICANT:**

THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

**LOCATION OF QUARRY LEASE APPLIED AREA:**

S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

**INDEX**

Q.L.APPLIED AREA

SH-168

MAJOR ROAD

VILLAGE ROAD

APPROACH ROAD

## ROUTE MAP

Not To Scale

**PREPARED BY :**

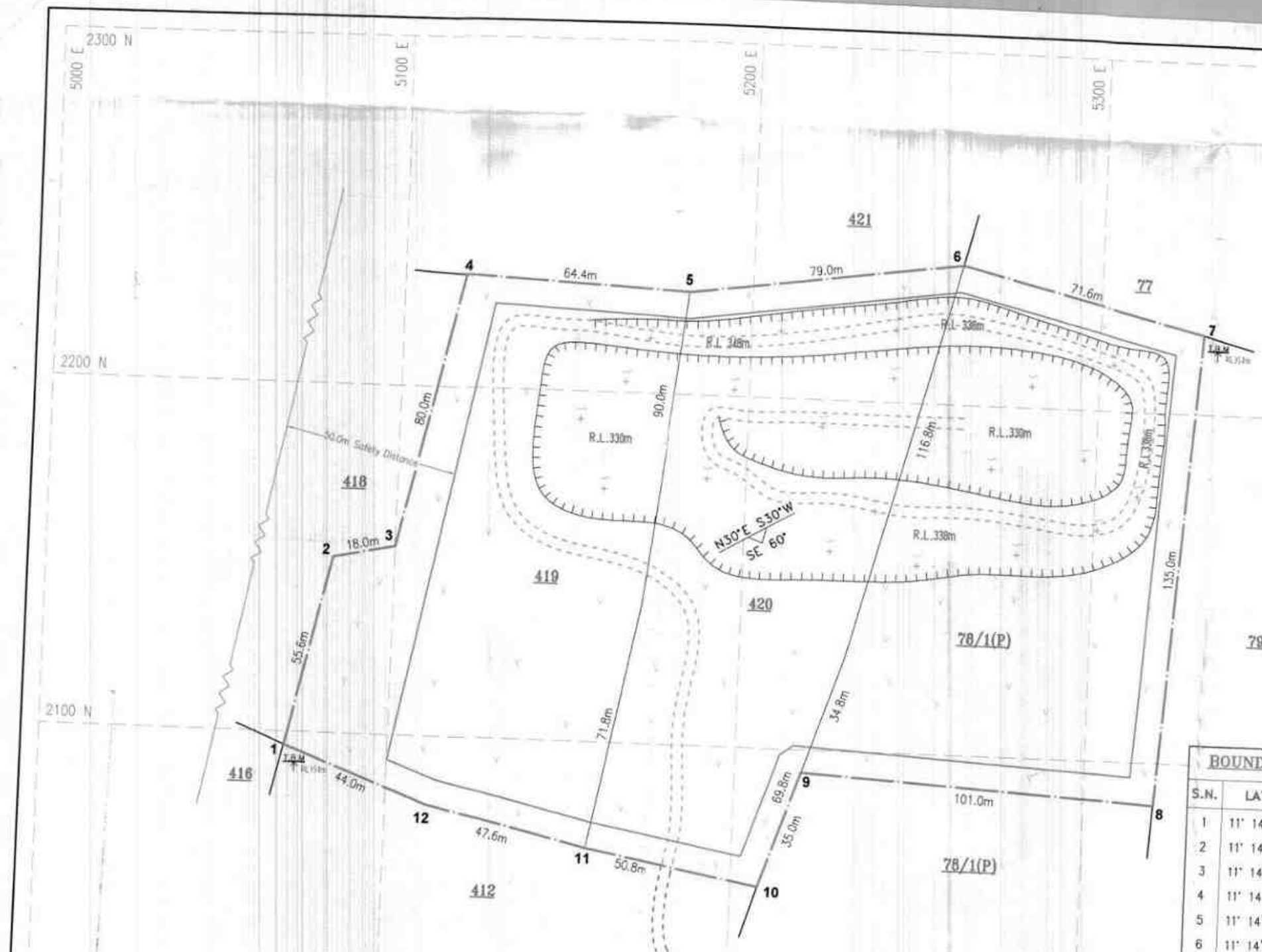
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEMAP AUTHENTICATED BY STATE GOVERNMENT

P. Viswanathan

P.VISWANATHAN,M.Sc.,
QUALIFIED PERSON

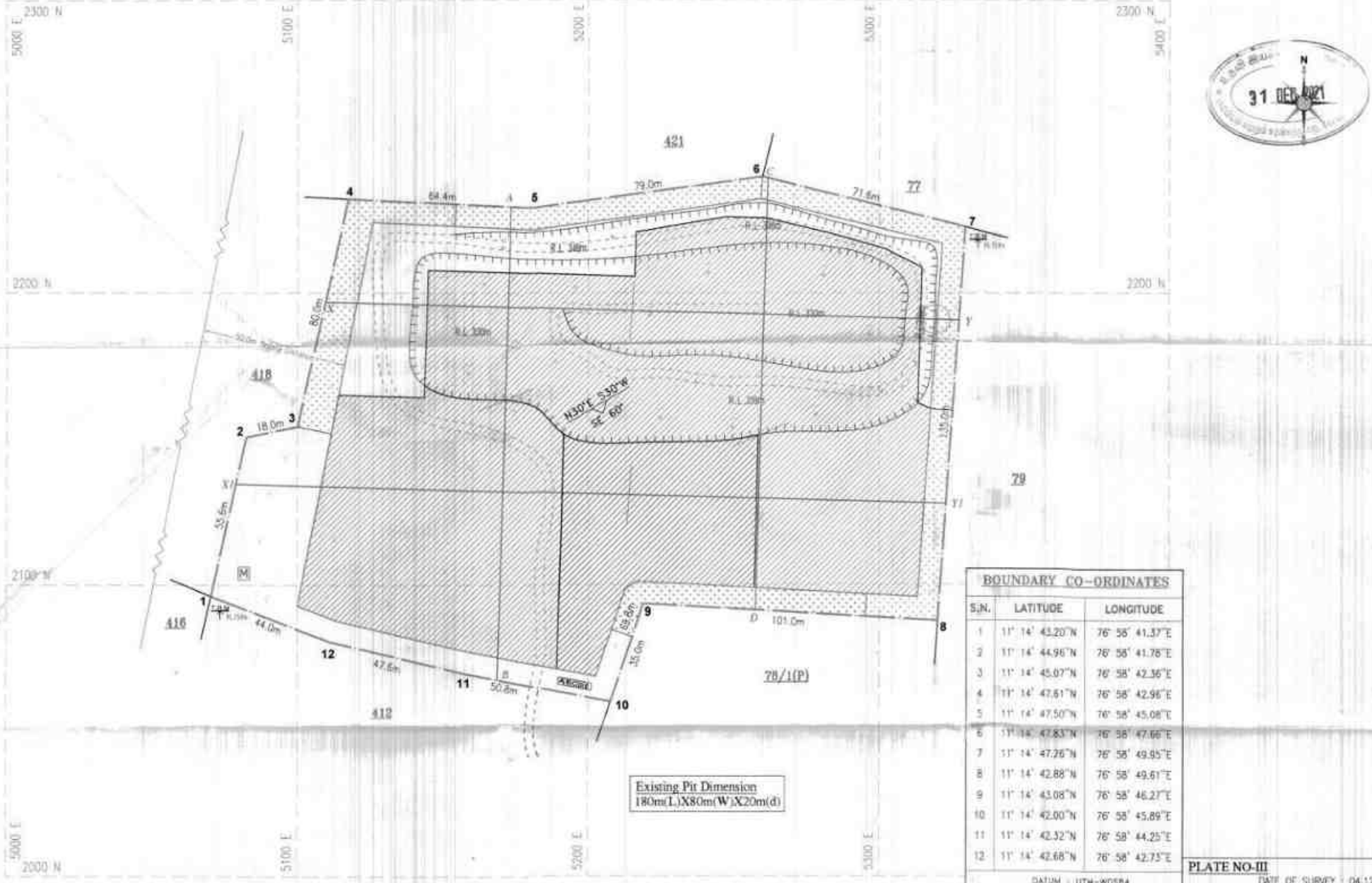
94 A

163




BOUNDARY CO-ORDINA

| S.N. | LATITUDE | LONGITU |
|---|---|---|
| 1 | 11° 14' 43.20"N | 76° 58' 41. |
| 2 | 11° 14' 44.96"N | 76° 58' 41. |
| 3 | 11° 14' 45.07"N | 76° 58' 42. |
| 4 | 11° 14' 47.61"N | 76° 58' 42. |
| 5 | 11° 14' 47.50"N | 76° 58' 45. |
| 6 | 11° 14' 47.83"N | 76° 58' 47. |
| 7 | 11° 14' 47.26"N | 76° 58' 49. |
| 8 | 11° 14' 42.88"N | 76° 58' 49. |
| 9 | 11° 14' 43.08"N | 76° 58' 46. |
| 10 | 11° 14' 42.00"N | 76° 58' 45. |
| 11 | 11° 14' 42.32"N | 76° 58' 44. |




| BOUNDARY CO-ORDINATES | | |
|---|---|---|
| S.N. | LATITUDE | LONGITUDE |
| 1 | 11° 14' 43.20"N | 76° 58' 41.37"E |
| 2 | 11° 14' 44.96"N | 76° 58' 41.78"E |
| 3 | 11° 14' 45.07"N | 76° 58' 42.36"E |
| 4 | 11° 14' 47.61"N | 76° 58' 42.96"E |
| 5 | 11° 14' 47.50"N | 76° 58' 45.08"E |
| 6 | 11° 14' 47.83"N | 76° 58' 47.66"E |
| 7 | 11° 14' 47.26"N | 76° 58' 49.95"E |
| 8 | 11° 14' 42.88"N | 76° 58' 49.61"E |
| 9 | 11° 14' 43.08"N | 76° 58' 46.27"E |
| 10 | 11° 14' 42.00"N | 76° 58' 45.89"E |
| 11 | 11° 14' 42.32"N | 76° 58' 44.25"E |
| 12 | 11° 14' 42.68"N | 76° 58' 42.73"E |

DATUM : UTM-WGS84

**PLATE NO-III**

DATE OF SURVEY : 04.12.2021

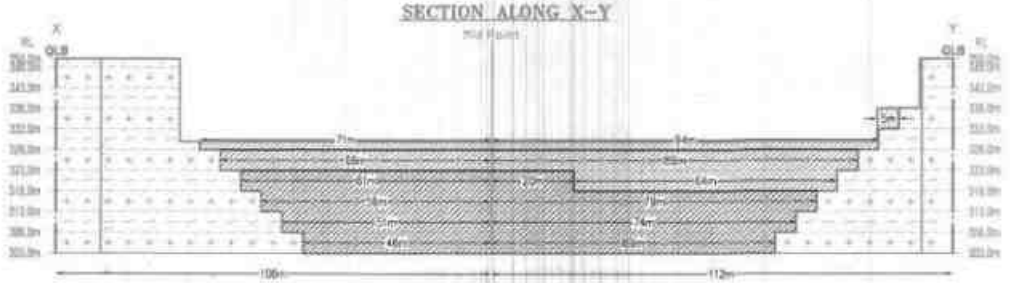
**APPLICANT:**

THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

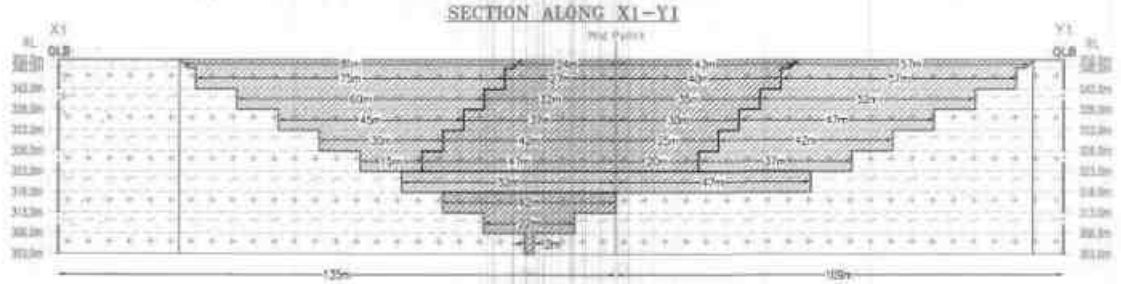
**LOCATION OF QUARRY LEASE APPLIED AREA:**

S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

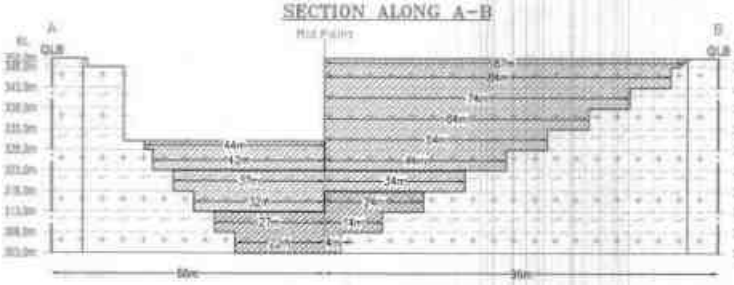
## SECTION ALONG X-Y



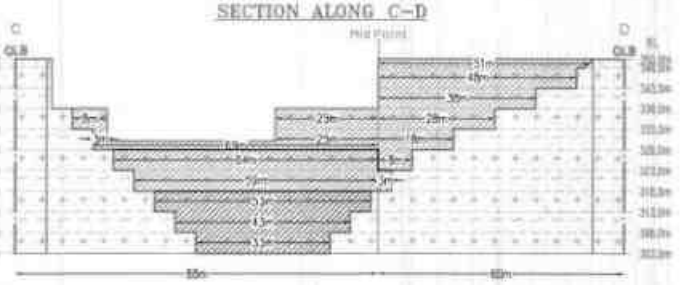

## SECTION ALONG X1-Y1




## SECTION ALONG A-B




## SECTION ALONG C-D




| I Yr EXCAVATION | I Yr PLANTATION |
|---|---|
| II Yr EXCAVATION | II Yr PLANTATION |
| III Yr EXCAVATION | III Yr PLANTATION |
| IV Yr EXCAVATION | IV Yr PLANTATION |
| V Yr EXCAVATION | V Yr PLANTATION |

USE SERVICES
A-OFFICE
B-FIRST AID ROOM
C-STORE
D-REST SHED
E-TOILET
F-MAGAZINE(Proposed)

**PRESENT & POST LAND USE PATTERN**

| DESCRIPTION | PRESENT AREA (Ha) | AREA AT THE END OF THIS QUARRYING PERIOD (Ha) |
|---|---|---|
| AREA UNDER QUARRYING | 1.22.7 | 2.79.1 |
| INFRASTRUCTURE | Nil | 0.01.0 |
| ROADS | 0.01.0 | 0.02.0 |
| GREEN BELT | Nil | 0.42.0 |
| UN-UTILIZED AREA | 2.22.3 | 0.21.9 |
| GRAND TOTAL | 3.46.0 | 3.46.0 |

**INDEX**

- Q.L. APPLIED AREA BOUNDARY
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- APPROACH ROAD
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- QUARRY ROAD
- ROUGH STONE
- GRAVEL
- STRIKE AND DIP

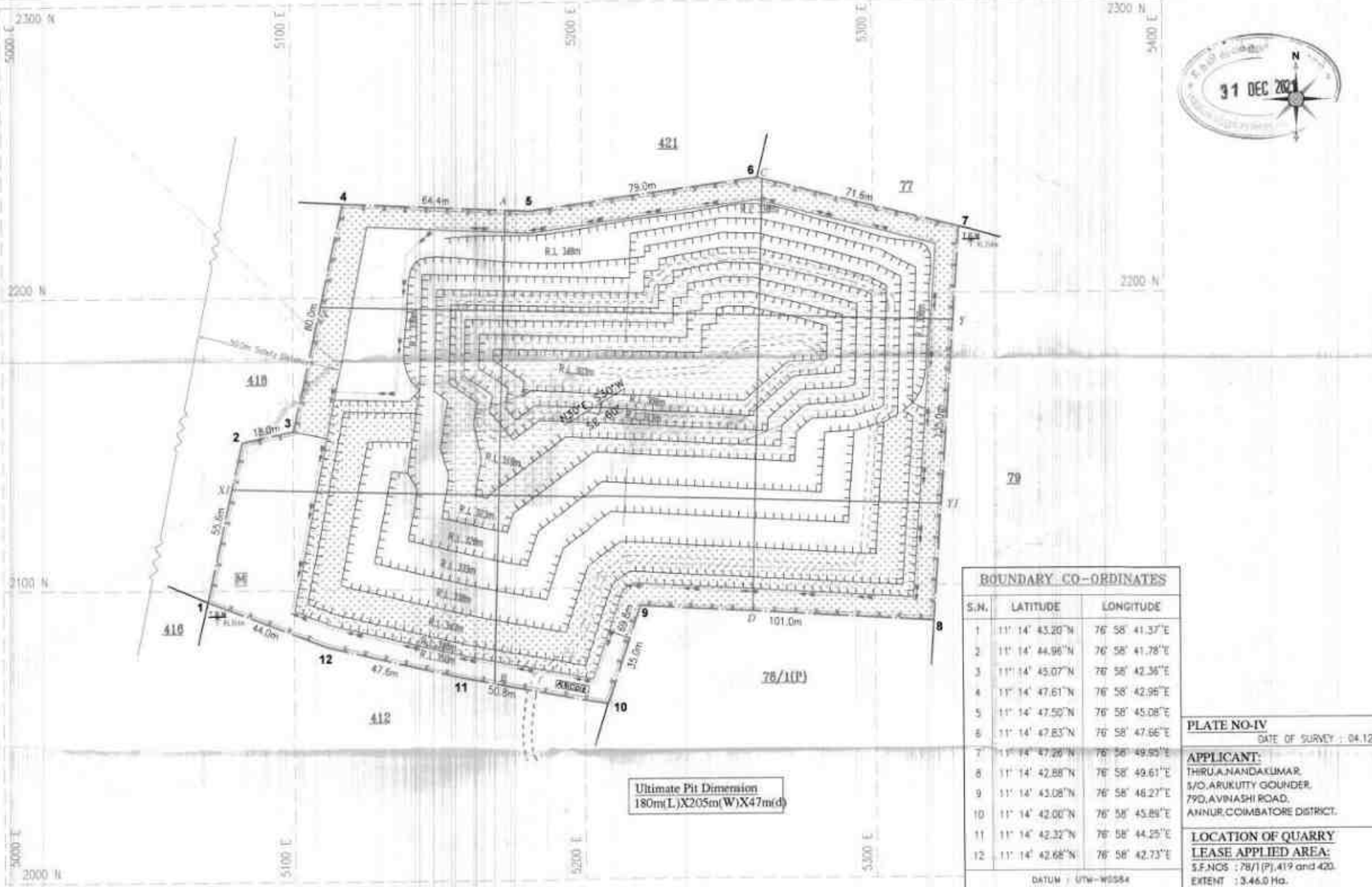
**TOPOGRAPHY,GEOLOGICAL, YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS**

SCALE 1 : 1000

**PREPARED BY :**

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLAN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD RECORDS AVAILABLE IN THE DEPARTMENT

P. NIRMALATHAN, M.Sc.,
QUALIFIED PERSON




Ultimate Pit Dimension
180m(L)X205m(W)X47m(d)

31 DEC 2021

## BOUNDARY CO-ORDINATES

| S.N. | LATITUDE | LONGITUDE |
|---|---|---|
| 1 | 11° 14' 43.20"N | 76° 58' 41.37"E |
| 2 | 11° 14' 44.96"N | 76° 58' 41.78"E |
| 3 | 11° 14' 45.07"N | 76° 58' 42.36"E |
| 4 | 11° 14' 47.61"N | 76° 58' 42.96"E |
| 5 | 11° 14' 47.50"N | 76° 58' 45.08"E |
| 6 | 11° 14' 47.83"N | 76° 58' 47.66"E |
| 7 | 11° 14' 47.26"N | 76° 58' 49.95"E |
| 8 | 11° 14' 42.88"N | 76° 58' 49.61"E |
| 9 | 11° 14' 43.08"N | 76° 58' 48.27"E |
| 10 | 11° 14' 42.00"N | 76° 58' 45.89"E |
| 11 | 11° 14' 42.32"N | 76° 58' 44.25"E |
| 12 | 11° 14' 42.68"N | 76° 58' 42.73"E |

DATUM : UTM-WGS84

PLATE NO-IV
DATE OF SURVEY : 04.12.2021

**APPLICANT:**
THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

**LOCATION OF QUARRY**
**LEASE APPLIED AREA:**
S.F.NOS : 78/1 (P),419 and 420.
EXTENT : 3.46.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE.
STATE : TAMIL NADU.

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- APPROACH ROAD
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- QUARRY PIT
- QUARRY ROAD
- TREES
- EXISTING LANDFORM
- OLD SURFACE LEVEL
- FINISHED SURFACE LEVEL
- RAIN WATER STORAGE
- REHABILITATED LANDFORM
- FENCING
- PROPOSED GARLAND DRAIN

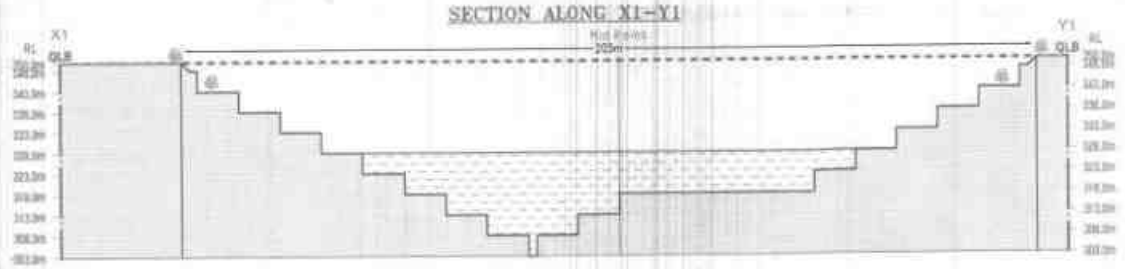
I-V Yr PLANTATION

SITE SHEDDES
A-OFFICE
B-FIRST AID ROOM
C-STORE
D-REST SHED
E-TOILET
F-MAGAZINE

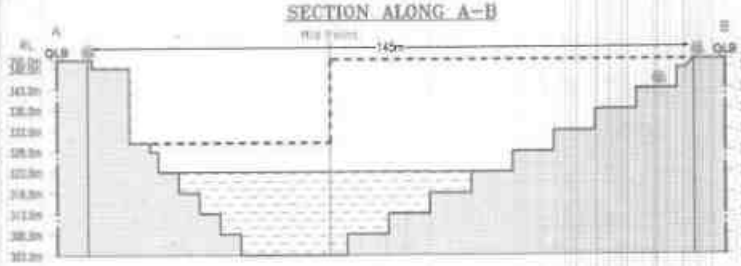
## SECTION ALONG X-Y



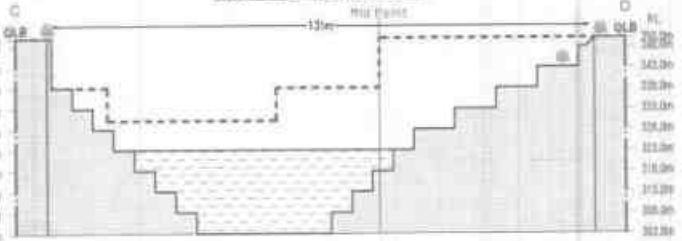

## SECTION ALONG X1-Y1




## SECTION ALONG A-B




## SECTION ALONG C-D




## PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS

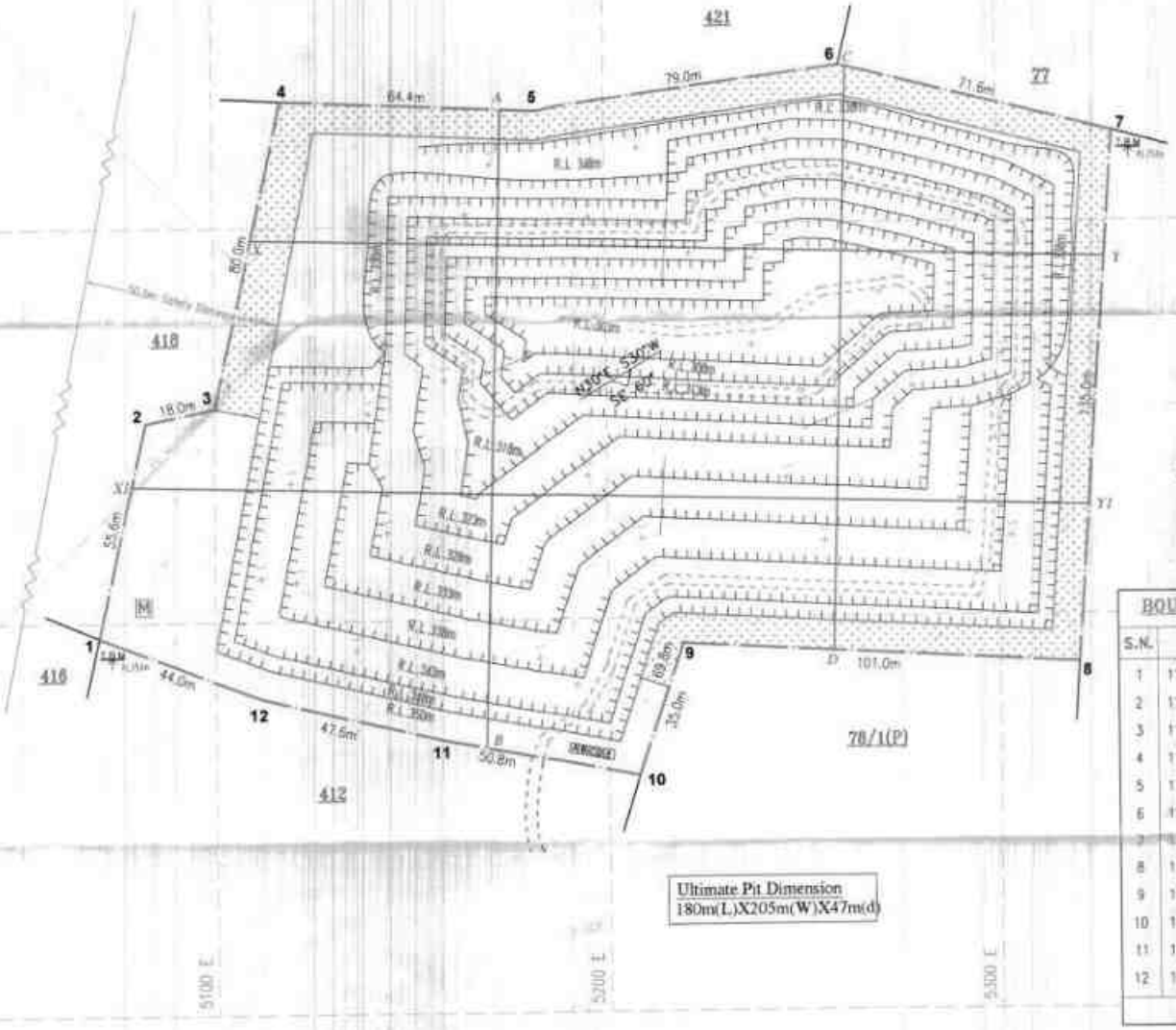
SCALE 1 : 1000

**PREPARED BY :**

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

P. HEMANATHAN, M.Sc.,
QUALIFIED PERSON

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| BOUNDARY CO-ORDINATES | | |
|---|---|---|
| S.N. | LATITUDE | LONGITUDE |
| 1 | 11° 14' 43.20"N | 76° 58' 41.37"E |
| 2 | 11° 14' 44.96"N | 76° 58' 41.78"E |
| 3 | 11° 14' 45.07"N | 76° 58' 42.36"E |
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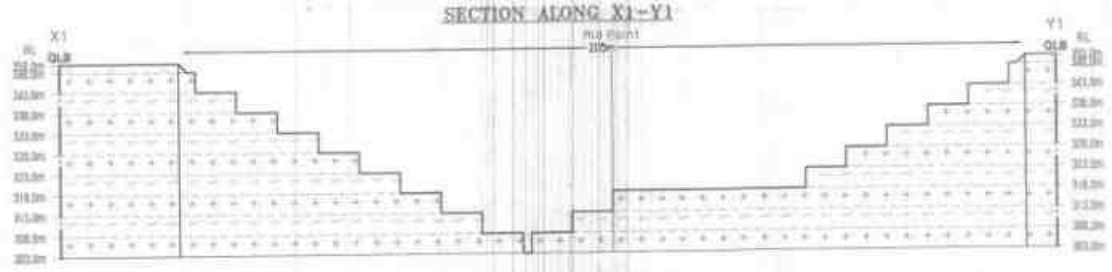
DATUM : UTM-WGS84

Ultimate Pit Dimension
180m(L)X205m(W)X47m(d)

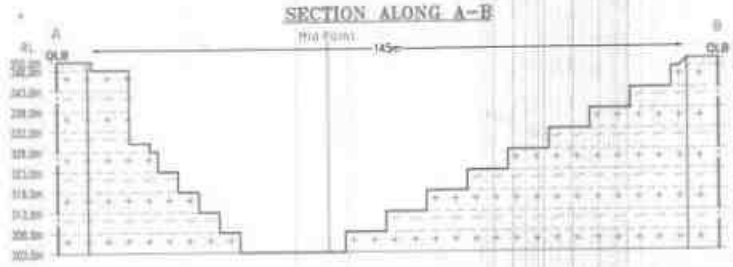
## SECTION ALONG X-Y



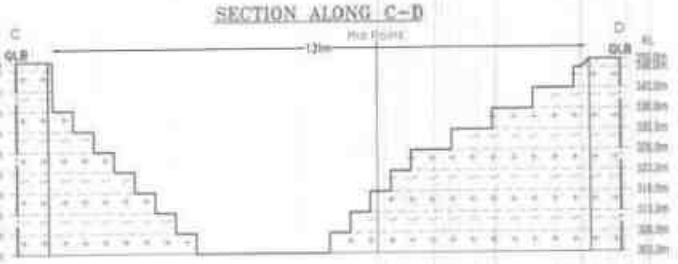

## SECTION ALONG X1-Y1




## SECTION ALONG A-B




## SECTION ALONG C-D




1-V Yr PLANTATION

SITE SERVICES
A-OFFICE
B-FIRST AID ROOM
C-STORE
D-REST SHED
E-TOILET
M-MAGAZINE

**PLATE NO-V**

DATE OF SURVEY : 04.12.2021

**APPLICANT:**
THIRU.A.NANDAKUMAR,
S/O.ARUKUTTY GOUNDER,
79D,AVINASHI ROAD,
ANNUR,COIMBATORE DISTRICT.

**LOCATION OF QUARRY LEASE APPLIED AREA:**
S.F.NOS : 78/1(P),419 and 420.
EXTENT : 3.46.0 Ha.
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- QUARRY ROAD
- ROUGH STONE
- GRAVEL
- STRIKE AND DIP

**CONCEPTUAL PLAN & SECTIONS**
SCALE 1 : 1000

**PREPARED BY :**
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASEHOLD AUTHENTICATED BY STATE GOVERNMENT

D.RAMANATHAN, M.Sc.,
QUALIFIED PERSON

**TMT. P. RAJESWARI, I.F.S.,**
**MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU**
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359973
Fax No. 044-24359975

## TERMS OF REFERENCE (ToR)

**Lr No.SEIAA-TN/F.No.9087/SEAC/ToR- 1176/2022, Dated:14.06.2022**

**To**

Thiru K. Sundararaj
S/o. Karuppanna Gounder,
Somayanur
Chinnathadagam,
Coimbatore District - 641 108.

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough stone & gravel quarry lease over an extent of 2.11.5Ha in S.F.Nos. 393/1A (P) Belladhi Village, Mettupalayam Taluk, Coimbatore District Tamil Nadu by K. Sundararaj - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/73517/2022, dated: 12.03.2022
2. Your application seeking Terms of Reference submitted on: 18.03.2022
3. Minutes of the 274th Meeting of SEAC held on 19.05.2022
4. Minutes of the 519th Meeting of SEIAA held on 14.06.2022.

---

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

The project proponent, Thiru K. Sundararaj, has submitted application seeking ToR for B1 category project in Form-I, for the Proposed Rough stone & gravel quarry lease over an extent of

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2.11.5Ha in S.F.Nos. 393/1A (P) Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu and has furnished Pre-feasibility report.

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

The proposal was placed in 274th SEAC meeting held on 19.5.2022. The project proponent has given a detailed presentation. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The project proponent gave detailed presentation. SEAC noted the following:

1. The Project Proponent, Thiru K. Sundararaj has applied for Terms for Reference for the Rough stone & gravel quarry lease over an extent of 2.11.5 Ha S.F.No.393/1A (P), Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. **As per the mining plan, the lease period is for 5 year. The production as per mining plan for 5 years not to exceed –292600 m3 of Rough Stone, 32600m3 of gravel and 29648 m3 of Weathered Rock. The Annual peak production as per mining plan is 63650 m3 of Rough Stone(4th year), 15410m3 of gravel( 1st year) and 13298 m3 of Weathered Rock (1st year) with ultimate depth of 44m BGL.**

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

1. 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 prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.
2. The Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, as the depth of the working is extended beyond 35 m below ground level.
3. 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

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blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.

4. The PP shall furnish the proposal for carrying out the controlled blasting techniques involving the line drilling for each blast as well as along the boundary of the lease facing the village/habitations in the EIA report.
5. 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.
6. 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,
   a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
   b) Quantity of minerals mined out.
   c) Highest production achieved in any one year
   d) Detail of approved depth of mining.
   e) Actual depth of the mining achieved earlier.
   f) Name of the person already mined in that leases area.
   g) If EC and CTO already obtained, the copy of the same shall be submitted.
   h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.

5. 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).
6. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
7. 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.
8. 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.

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9. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
10. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
11. 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.
12. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
13. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
14. Issues relating to Mine Safety, including slope geometry in case of Granite quarrying, blasting parameters etc. should be detailed. The proposed safeguard measures in each case should also be provided.
15. 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.
16. 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,

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should be provided.

17. Since non-saleable waste /OB / intermediate waste etc. is huge in the granite quarry, the Proponent shall provide the details pertaining to management of the above material with year wise utilization and average moving inventory be submitted.
18. 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.
19. 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.
20. Impact on local transport infrastructure due to the Project should be indicated.
21. 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.
22. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
23. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
24. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
25. The PP shall produce/display the EIA report, Executive summery and other related information with respect to public hearing in Tamil Language also.
26. 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.
27. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016)

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**SEIAA-TN**

and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).

28. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the **appendix-I** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
29. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the 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
30. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
31. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.
32. 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.
33. 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.
34. 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.
35. Details of litigation pending against the project, if any, with direction /order passed by any

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Court of Law against the Project should be given.

36. 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.
37. 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.
38. 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.

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

1. ***Aeglemarmelos***–Vilvam
2. ***Adenaantherapavonina***-Manjadi
3. ***Albizialebbeck***–Vaagai
4. ***Albiziaamara***-Usil
5. ***Bauhinia purpurea*** - Mantharai
6. ***Bauhinia racemosa*** - Aathi
7. ***Bauhinia tomentosa***–Iruvathi
8. ***Buchananiaaillaris***-Kattuma
9. ***Borassusflabellifer***- Panai
10. ***Buteamonosperma*** - Murukkamaram
11. ***Bobaxceiba***– Ilavu, Sevvilavu
12. ***Calophylluminophyllum*** - Punnai
13. ***Cassia fistula***- Sarakondrai
14. ***Cassia roxburghii***- Sengondrai
15. ***Chloroxylonsweitenia*** - Purasamaram
16. ***Cochlospermumreligiosum***– Kongu, ManjalIlavu
17. ***Cordiadichotoma***– Mookuchalimaram
18. ***Cretevaadansonii***–Mavalingum
19. ***Dilleniaindica***– Uva, Uzha
20. ***Dilleniapentagyna***– SiruUva, Sitruzha
21. ***Diospyrosebenum***- Karungali
22. ***Diospyroschloroxylon***– Vaganai
23. ***Ficusamplissima***– KalItchi
24. ***Hibiscus tiliaceous***–Aatrupoovarasu
25. ***Hardwickiabinata***– Aacha
26. ***Holopteliaintegrifolia***-Aayili

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27. ***Lanneacoromandelica*** - Odhiam
28. ***Lagerstroemia speciosa*** - Poo Marudhu
29. ***Lepisanthustetraphylla***- Neikottaimaram
30. ***Limoniaacidissima*** - Vila maram
31. ***Litseaglutinosa***–Pisinpattai
32. ***Madhucalongifolia*** - Illuppai
33. ***Manilkarahexandra***–UlakkaiPaalai
34. ***Mimusopselengi*** - Magizhamaram
35. ***Mitragynaparvifolia*** - Kadambu
36. ***Morindapubescens***–Nuna
37. ***Morindacitrifolia***– VellaiNuna
38. ***Phoenix sylvestre***-Eachai
39. **Pongamiapinnata**–Pungam
40. **Premnamollissima**– Munnai
41. **Premnaserratifolia**– Narumunnai
42. **Premnatomentosa**-PurangaiNaari, PudangaNaari
43. **Prosopiscinerea** - Vannimaram
44. **Pterocarpusmarsupium** - Vengai
45. **Pterospermumcanescens**–Vennangu, Tada
46. **Pterospermumxylocarpum** - Polavu
47. **Puthranjivaroxburghii**–Puthranjivi
48. **Salvadorapersica**– UgaaMaram
49. **Sapindusemarginatus**- Manipungan, Soapukai
50. **Saracaasoca** - Asoca
51. **Streblusasper**- Pirayamaram
52. **Strychnosnuxvomica**–Yetti
53. **Strychnospotatorum** - TherthangKottai
54. **Syzygiumcumini** - Naval
55. **Terminaliabellerica**- Thandri
56. **Terminalia arjuna**- Venmarudhu
57. **Toona ciliate** – Sandhanavembu
58. **Thespesiapopulnea**- Puvarasu
59. **Walsuratrifoliata**–valsura
60. **Wrightiatinctoria**- Vep

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

The proposal was placed in the 519th meeting of Authority held on 13.06.2022. The Authority noted that the proposal was placed in the 274th meeting of SEAC held on 19.05.2022. SEAC has furnished its recommendations to the Authority for granting Terms of Reference (ToR) along with Public Hearing for the project.

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After detailed discussions, the Authority accepted the recommendation of SEAC and decided to **grant Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the ToR as recommended by SEAC & standard ToR in addition to the following ToR:

1. Depth of mining shall be restricted to 34m and the corresponding production as per the approved mining plan.
2. The scientific studies shall be carried out for any proposed quarry over the existing pit/quarry by the reputed Government Scientific Research / Academic Institutions such as Anna University, NITs, IITs, NIRM, CISR laboratories where the depth of the proposed working (or) ultimate depth of working is extended beyond 40 m below ground level (BGL) in case of flat terrain and the excavation extends beyond 30 m above ground level (AGL) in case of outcrops/hilly terrains for evaluating the stability of slopes. A copy of the report shall be submitted to the SEIAA, the concerned AD/DGM, the concerned DEE/TNPCB and the Director of Mines Safety, Chennai.
3. Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
4. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
5. 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.
6. The Environmental Impact Assessment shall study in detail on 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.
7. 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.
8. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
9. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the nearby water body and Reservoir.

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10. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
11. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
12. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
13. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
14. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
15. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
16. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
17. The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.
18. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
19. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.
20. 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.
21. The project proponent shall study and furnish the possible pollution due to plastic and micro plastic on the environment. The ecological risks and impacts of plastic & micro plastic on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.
22. The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.
23. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following

    a) Soil health & bio-diversity.

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b) Climate change leading to Droughts, Floods etc.

c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.

d) Possibilities of water contamination and impact on aquatic ecosystem health.

e) Agriculture, Forestry & Traditional practices.

f) Hydrothermal/Geothermal effect due to destruction in the Environment.

g) Bio-geochemical processes and its foot prints including environmental stress.

h) Sediment geochemistry in the surface streams.

23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby water bodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
24. 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.
25. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
26. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

**A. STANDARD TERMS OF REFERENCE**

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

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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.

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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

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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

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clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

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

32) Impact on local transport infrastructure due to the Project should be indicated. Projected

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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.

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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.

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**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

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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.

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

e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

**MEMBER SECRETARY**
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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC,

Paryavaran Bhavan, CGO Complex, New Delhi 110003

6. The District Collector, Coimbatore District.
7. Stock File.

**TMT. P. RAJESWARI, I.F.S.,**
**MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU**
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359973
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.9044/SEAC/ToR-1163/2022 Dated: 06.06.2022**

**To**

Tvl. Sri Blue Metals
Prop. S. Gnanasekaren
No.2/241, Kannarpalayam
Karamadai, Mettupalayam Taluk
Coimbatore District – 641104

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone & Gravel quarry lease over an extent of 2.69.05 Ha in S.F.Nos.343 & 344/1 Belladhi Village, Mettupalayam Taluk, Coimbatore District by Tvl. Sri Blue Metals - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/ 72625/2022, dated: 25.02.2022
2. Your application seeking Terms of Reference submitted on: 02.03.2022
3. Minutes of the 273rd Meeting of SEAC held on 14.05.2022
4. Minutes of the 518th Meeting of SEIAA held on 06.06.2022.

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

The project proponent, Tvl. Sri Blue Metals has submitted application seeking ToR for B1 category project in Form-I, for the Proposed Rough Stone & Gravel quarry lease over an extent of

Rajeswari P
**MEMBER SECRETARY**
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2.69.05 Ha in S.F.Nos.343 & 344/1 Belladhi Village, Mettupalayam Taluk, Coimbatore District Tamil Nadu and has furnished Pre-feasibility report.

The proposal was placed in 273rd SEAC meeting held on 14.5.2022. The project proponent gave detailed presentation. SEAC noted the following:

1. The Project Proponent, Tvl. Sri Blue Metals has applied for Terms for Reference for the proposed Rough stone & gravel quarry lease over an extent of 2.69.05 Ha in S.F.Nos.343 & 344/1 Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. **As per the mining plan, the lease period is 5 year. The production as per mining plan for 5 years is not to exceed – 4,83,960 m3 of Rough Stone, 42,900 m3 of gravel. The Annual peak production as per mining plan is 119560 m3 of Rough Stone (3rd year) & 17446 m3 of gravel (1st year) with ultimate depth of 47m (2m Gravel + 45m Rough stone)BGL.**

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

1. The Proponent shall carry out the cumulative & comprehensive impact study due to mining operations carried out in the quarry cluster specifically with reference to the environment in terms of air pollution, water pollution & health impacts, accordingly the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
2. The PP shall carry out controlled blasting & vibration study with the reputed institution and furnish the same along with EIA report.
3. Certified EC compliance report shall be included in the EIA report.
4. 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,

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a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
b) Quantity of minerals mined out.
c) Highest production achieved in any one year
d) Detail of approved depth of mining.
e) Actual depth of the mining achieved earlier.
f) Name of the person already mined in that leases area.
g) If EC and CTO already obtained, the copy of the same shall be submitted.
h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.

5. 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).
6. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
7. 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.
8. 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.
9. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
10. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual

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monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.

11. 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.
12. 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.
13. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
14. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
15. The PP shall produce/display the EIA report, Executive summery and other related with respect to public hearing should in Tamil Language also.
16. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
17. 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** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
18. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper espacement as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall

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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

19. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
20. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.
21. The specific flora & fauna studies shall be carry out with the help of local School/College students and the same shall be included in EIA Report.
22. 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.
23. 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.
24. 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 Reference besides attracting penal provisions in the Environment (Protection) Act, 1986.

**Appendix -I**

**List of Native Trees Suggested for Planting**

1. ***Aeglemarmelos***–Vilvam
2. ***Adenaantherapavonina***-Manjadi
3. ***Albizialebbeck***–Vaagai
4. ***Albiziaamara***-Usil
5. ***Bauhinia purpurea*** - Mantharai
6. ***Bauhinia racemosa*** - Aathi
7. ***Bauhinia tomentosa***–Iruvathi
8. ***Buchananiaaillaris***-Kattuma
9. ***Borassusflabellifer***- Panai
10. ***Buteamonosperma*** - Murukkamaram
11. ***Bobaxceiba***– Ilavu, Sevvilavu
12. ***Calophylluminophyllum*** - Punnai
13. ***Cassia fistula***- Sarakondrai
14. ***Cassia roxburghii***- Sengondrai
15. ***Chloroxylonsweitenia*** - Purasamaram

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16. ***Cochlospermumreligiosum***– Kongu, ManjalIlavu
17. ***Cordiadichotoma***– Mookuchalimaram
18. ***Cretevaadansonii***–Mavalingum
19. ***Dilleniaindica***– Uva, Uzha
20. ***Dilleniapentagyna***– SiruUva, Sitruzha
21. ***Diospyrosebenum***- Karungali
22. ***Diospyroschloroxylon***– Vaganai
23. ***Ficusamplissima***– KalItchi
24. ***Hibiscus tiliaceous***–Aatrupoovarasu
25. ***Hardwickiabinata***– Aacha
26. ***Holopteliaintegrifolia***-Aayili
27. ***Lanneacoromandelica*** - Odhiam
28. ***Lagerstroemia speciosa*** - Poo Marudhu
29. ***Lepisanthustetraphylla***- Neikottaimaram
30. ***Limoniaacidissima*** - Vila maram
31. ***Litseaglutinosa***–Pisinpattai
32. ***Madhucalongifolia*** - Illuppai
33. ***Manilkarahexandra***–UlakkaiPaalai
34. ***Mimusopselengi*** - Magizhamaram
35. ***Mitragynaparvifolia*** - Kadambu
36. ***Morindapubescens***–Nuna
37. ***Morindacitrifolia***– VellaiNuna
38. ***Phoenix sylvestre***-Eachai
39. **Pongamiapinnata**–Pungam
40. **Premnamollissima**– Munnai
41. **Premnaserratifolia**– Narumunnai
42. **Premnatomentosa**-PurangaiNaari, PudangaNaari
43. **Prosopiscinerea** - Vannimaram
44. **Pterocarpusmarsupium** - Vengai
45. **Pterospermumcanescens**–Vennangu, Tada
46. **Pterospermumxylocarpum** - Polavu
47. **Puthranjivaroxburghii**–Puthranjivi
48. **Salvadorapersica**– UgaaMaram
49. **Sapindusemarginatus**- Manipungan, Soapukai
50. **Saracaasoca** - Asoca
51. **Streblusasper**- Pirayamaram
52. **Strychnosnuxvomica**–Yetti
53. **Strychnospotatorum** - TherthangKottai
54. **Syzygiumcumini** - Naval
55. **Terminaliabellerica**- Thandri
56. **Terminalia arjuna**- Venmarudhu

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57. **Toona ciliate** – Sandhanavembu
58. **Thespesiapopulnea**- Puvarasu
59. **Walsuratrifoliata**–valsura
60. **Wrightiatinctoria**- Vep

**Discussion by Authority and the Remarks**

The proposal was placed in the 518th Authority meeting held on 06.06.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
2. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
3. 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.
4. The Environmental Impact Assessment shall study in detail on 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.
5. 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.
6. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
7. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the nearby water body and Reservoir.
8. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
9. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.

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10. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
11. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
12. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
13. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
14. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
15. The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.
16. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
17. 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.
18. 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.
19. The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.
20. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
    a) Soil health & bio-diversity.
    b) Climate change leading to Droughts, Floods etc.
    c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
    d) Possibilities of water contamination and impact on aquatic ecosystem health.

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e) Agriculture, Forestry & Traditional practices.

f) Hydrothermal/Geothermal effect due to destruction in the Environment.

g) Bio-geochemical processes and its foot prints including environmental stress.

h) Sediment geochemistry in the surface streams.

21. 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 water bodies 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.
22. 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.
23. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
24. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.
25. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

**A. STANDARD TERMS OF REFERENCE**

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its

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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.

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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

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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.

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23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly

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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

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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

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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.

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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,

Rajeswari P

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1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.

b. All documents may be properly referenced with index, page numbers and continuous page numbering.

c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

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

e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District.
7. Stock File.

Nature Protects if She is Protected

THIRU.DEEPAK S.BILGI, I.F.S.
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
Fax No. 044-24359975

## TERMS OF REFERENCE (ToR)

**Lr No.SEIAA-TN/F.No.9221/SEAC/ToR-1193/2022 Dated :14.07.2022**

**To**

R.Raju,
S/o. Rangasamy Naidu,
No.108, Deepalaya,
Valluvar Street,
Sivananda Colony,
Coimbatore District - 641 012

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough stone quarry lease over an extent of 2.93.0Ha at S.F.No. 391, Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru R.Raju- under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/76152/2022, dated: 27.04.2022
2. Your application seeking Terms of Reference submitted on: 04.05.2022
3. Minutes of the 287th Meeting of SEAC held on 22.06.2022
4. Minutes of the 532nd meeting of Authority held on 14.07.2022.

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

The project proponent, R.Raju has submitted application seeking ToR for B1 category project in Form-I, for the Proposed Rough stone quarry lease over an extent of 2.93.0Ha at S.F.No.

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391, Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu and has furnished Pre-feasibility report.

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

**Proposed Rough stone quarry lease over an extent of 2.93.0Ha at S.F.No. 391, Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru R.Raju for Terms of Reference (SIA/TN/MIN/76152/2022, Dt 27.04.2022)**

The proposal was placed in this 287th Meeting of SEAC held on 22.06.2022. The details of the project furnished by the proponent are available in the website (parivesh.nic.in).

The SEAC noted the following

1. The Project Proponent, Thiru R.Raju has applied for Terms of Reference for the proposed Rough stone quarry lease over an extent of 2.93.0Ha at S.F.No. 391, Belladhi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The proposed quarry/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. As per the mining plan the lease period is 5 years. The mining plan is for the period of five years & production should not exceed 148565 Cu.m of Rough stone. The annual peak production is 30815 Cu.m of Rough stone (2nd year). The ultimate depth is 44m BGL.

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

1. The PP shall furnish the letter received from DFO concerned stating the proximity details of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., upto a radius of 25 km from the proposed site.
2. The PP shall include the certified compliance report on EC in the name of M/s Technomax which is located adjacent to the proposed site.
3. 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 prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.

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4. 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.
5. 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.
6. **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.**
7. 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.
8. 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,
    a. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b. Quantity of minerals mined out.
    c. Highest production achieved in any one year
    d. Detail of approved depth of mining.
    e. Actual depth of the mining achieved earlier.
    f. Name of the person already mined in that leases area.
    g. If EC and CTO already obtained, the copy of the same shall be submitted.
    h. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
9. 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).
10. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
11. The proponent shall furnish photographs of adequate fencing, green belt along the periphery

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including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.

12. 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.
13. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
14. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
15. 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.
16. 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 and its mintigation measures. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
17. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
18. 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

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submitted. Impact, if any, of change of land use should be given.

19. 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.
20. 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.
21. 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.
22. Impact on local transport infrastructure due to the Project should be indicated.
23. 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.
24. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
25. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
26. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
27. The PP shall produce/display the EIA report, Executive summery and other related information with respect to public hearing in Tamil Language also.
28. 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.
29. 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

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consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.

30. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the 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
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
37. 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.
38. 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.

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39. 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.
40. 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.

**Appendix -I**

**List of Native Trees Suggested for Planting**

1. ***Aeglemarmelos***–Vilvam
2. ***Adenaantherapavonina***-Manjadi
3. ***Albizialebbeck***–Vaagai
4. ***Albiziaamara***-Usil
5. ***Bauhinia purpurea*** - Mantharai
6. ***Bauhinia racemosa*** - Aathi
7. ***Bauhinia tomentosa***–Iruvathi
8. ***Buchananiaaillaris***-Kattuma
9. ***Borassusflabellifer***- Panai
10. ***Buteamonosperma*** - Murukkamaram
11. ***Bobaxceiba***– Ilavu, Sevvilavu
12. ***Calophylluminophyllum*** - Punnai
13. ***Cassia fistula***- Sarakondrai
14. ***Cassia roxburghii***- Sengondrai
15. ***Chloroxylonsweitenia*** - Purasamaram
16. ***Cochlospermumreligiosum***– Kongu, ManjalIlavu
17. ***Cordiadichotoma***– Mookuchalimaram
18. ***Cretevaadansonii***–Mavalingum
19. ***Dilleniaindica***– Uva, Uzha
20. ***Dilleniapentagyna***– SiruUva, Sitruzha
21. ***Diospyrosebenum***- Karungali
22. ***Diospyroschloroxylon***– Vaganai
23. ***Ficusamplissima***– KalItchi
24. ***Hibiscus tiliaceous***–Aatrupoovarasu
25. ***Hardwickiabinata***– Aacha
26. ***Holopteliaintegrifolia***-Aayili
27. ***Lanneacoromandelica*** - Odhiam
28. ***Lagerstroemia speciosa*** - Poo Marudhu
29. ***Lepisanthustetraphylla***- Neikottaimaram
30. ***Limoniaacidissima*** - Vila maram
31. ***Litseaglutinosa***–Pisinpattai
32. ***Madhucalongifolia*** - Illuppai

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33. ***Manilkarahexandra***–UlakkaiPaalai
34. ***Mimusopselengi*** - Magizhamaram
35. ***Mitragynaparvifolia*** - Kadambu
36. ***Morindapubescens***–Nuna
37. ***Morindacitrifolia***– VellaiNuna
38. ***Phoenix sylvestre***-Eachai
39. **Pongamiapinnata**–Pungam
40. **Premnamollissima**– Munnai
41. **Premnaserratifolia**– Narumunnai
42. **Premnatomentosa**-PurangaiNaari, PudangaNaari
43. **Prosopiscinerea** - Vannimaram
44. **Pterocarpusmarsupium** - Vengai
45. **Pterospermumcanescens**–Vennangu, Tada
46. **Pterospermumxylocarpum** - Polavu
47. **Puthranjivaroxburghii**–Puthranjivi
48. **Salvadorapersica**– UgaaMaram
49. **Sapindusemarginatus**- Manipungan, Soapukai
50. **Saracaasoca** - Asoca
51. **Streblusasper**- Pirayamaram
52. **Strychnosnuxvomica**–Yetti
53. **Strychnospotatorum** - TherthangKottai
54. **Syzygiumcumini** - Naval
55. **Terminaliabellerica**- Thandri
56. **Terminalia arjuna**- Venmarudhu
57. **Toona ciliate** – Sandhanavembu
58. **Thespesiapopulnea**- Puvarasu
59. **Walsuratrifoliata**–valsura
60. **Wrightiatinctoria**- Vep

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

The proposal was placed in the 532nd meeting of Authority held on 14.07.2022. The Authority noted that the proposal was placed in the 287th meeting of SEAC held on 22.06.2022. SEAC has furnished its recommendations to the Authority for granting Terms of Reference (ToR) along with Public Hearing for the project.

After detailed discussions, the Authority accepted the recommendation of SEAC and decided to **grant Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the ToR as recommended by SEAC & subject specific standard ToR stipulated by MoEF& CC in addition to the following ToR:

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1. Considering the environmental impacts due to mining, safety of the working personnel and following the principle of sustainable mining, the ultimate depth of mining is restricted to **39m below ground level and 1,21,590 cu.m of rough stone is permitted for mining over a period of five years** as per the approved mining plan.
2. The scientific studies shall be carried out for any proposed quarry over the existing pit/quarry by the reputed Government Scientific Research / Academic Institutions such as Anna University, NITs, IITs, NIRM, CISR laboratories where the depth of the proposed working (or) ultimate depth of working is extended beyond 40 m below ground level (BGL) in case of flat terrain and the excavation extends beyond 30 m above ground level (AGL) in case of outcrops/hilly terrains for evaluating the stability of slopes. A copy of the report shall be submitted to the SEIAA, the concerned AD/DGM, the concerned DEE/TNPCB and the Director of Mines Safety, Chennai.
3. Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
4. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
5. 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.
6. The Environmental Impact Assessment shall study in detail on 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.
7. 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.
8. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
9. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the nearby water body and Reservoir.
10. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
11. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.

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12. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
13. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
14. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
15. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
16. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
17. The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.
18. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
19. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.
20. 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.
21. The project proponent shall study and furnish the possible pollution due to plastic and micro plastic on the environment. The ecological risks and impacts of plastic & micro plastic on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.
22. The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.
23. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following

    a) Soil health & bio-diversity.
    b) Climate change leading to Droughts, Floods etc.
    c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
    d) Possibilities of water contamination and impact on aquatic ecosystem health.

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e) Agriculture, Forestry & Traditional practices.

f) Hydrothermal/Geothermal effect due to destruction in the Environment.

g) Bio-geochemical processes and its foot prints including environmental stress.

h) Sediment geochemistry in the surface streams.

24. 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 water bodies 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.
25. 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.
26. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
27. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

**A. STANDARD TERMS OF REFERENCE**

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

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5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

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

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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.

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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

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detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

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

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

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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:-

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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).

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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.

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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

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(NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District.
7. Stock File.

THIRU.DEEPAK S.BILGI, I.F.S.
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.9309/SEAC/ToR-1242/2022 Dated:30.08.2022**

**To**

Thiru. R.K. Palanisamy,
S/o. T.Karivaradha Goundar,
No. 4/51, Ramapalayam,
Jadayampalayam,
Mettupalayam Taluk,
Coimbatore – 641302.

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone and Gravel quarry lease area over an extent of 4.90.0 Ha at S.F.No. 340 (Part) & 341/3 (Part) in Bellathi Village, Mettupalayam Taluk, Coimbatore District - Tamil Nadu by Thiru. R.K. Palanisamy - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/ 77789/2022, Dt. 04.06.2022
2. Your application submitted for Terms of Reference dated: 10.06.2022
3. Minutes of the 302nd Meeting of SEAC held on 18.08.2022
4. Minutes of the 547th meeting of Authority held on 30.08.2022.

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

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The proponent, Thiru. R.K. Palanisamy has submitted application for ToR, in Form-I, Pre-Feasibility report for the Rough Stone and Gravel quarry lease area over an extent of 4.90.0 Ha at S.F.No. 340 (Part) & 341/3 (Part) in Bellathi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

**Proposed Rough Stone and Gravel quarry lease area over an extent of 4.90.0 Ha at S.F.No. 340 (Part) & 341/3 (Part) in Bellathi Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru. R.K. Palanisamy - For Terms of Reference.**

**(SIA/TN/MIN/77789/2022, dated: 30.05.2022).**

The proposal was placed in this 302nd Meeting of SEAC held on 18.08.2022. The details of the project furnished by the proponent are available in the website (www.parivesh.nic.in).

**The SEAC noted the following:**

1. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Minerals Projects" of the Schedule to the EIA Notification, 2006.

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

1. The PP shall provide a certified compliance report obtained from MOEF&CC on existing EC.
2. The PP shall furnish DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., upto a radius of 25 km from the proposed site.
3. The PP shall enumerate the all structures located within 500m radius from the project site and discuss the impact on the them by this project in the EIA report.
4. The project proponent shall upload the essential documents such as the mining plan, precise area communication, mining plan letter etc along with the Powerpoint presentation in the PARIVESH portal before placing the subject to SEIAA.
5. The PP shall provide conceptual design for carrying out the NONEL initiation based controlled blasting operation involving muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled within the permissible limits as stipulated by the DGMS as well as no fly rock travel beyond 30 m from the blast site.

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6. In the case of proposed lease in an existing (or old) quarry where the benches are nonexistent (or) partially formed critical of the bench geometry approved in the Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the 'highwall' benches to ensure slope stability in the proposed quarry lease which shall be vetted by the concerned Asst. Director of Geology and Mining as a part of the Mining Plan, during the time of appraisal for obtaining the EC.
7. The Proponent shall submit a conceptual 'Slope Stability Plan' for the existing quarried area and the proposed mine indicating the possible stabilizing measures as a part of the Mining Plan during the appraisal while obtaining the EC, as the depth of the working is extended beyond 30 m below ground level.
8. 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.
9. 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.
10. 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,
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b) Quantity of minerals mined out.
    c) Highest production achieved in any one year
    d) Detail of approved depth of mining.
    e) Actual depth of the mining achieved earlier.
    f) Name of the person already mined in that leases area.
    g) If EC and CTO already obtained, the copy of the same shall be submitted.
    h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
11. 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).

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12. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
13. 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.
14. 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.
15. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
16. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
17. 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.
18. 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.
19. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
20. 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.

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Impact, if any, of change of land use should be given.

21. 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.
22. 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.
23. 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.
24. Impact on local transport infrastructure due to the Project should be indicated.
25. 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.
26. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
27. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
28. The Public hearing advertisement shall be published in one major National daily and one most circulated Tamil daily.
29. The PP shall produce/display the EIA report, Executive summery and other related information with respect to public hearing in Tamil Language also.
30. 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.
31. 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

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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.

32. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the 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
33. 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.
34. 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.
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. 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.
38. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
39. 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.
40. 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.

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41. 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.
42. 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.

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

The proposal was placed in the 547th Authority meeting held on 30.08.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. Restricting the ultimate depth of mining upto 37m and quantity of 2,63,254 cu.m of Rough stone & 22,512 cu.m of Gravel are permitted for mining over a period of five years considering the environmental impacts due to the mining, safety precautionary measures of the working personnel and following the principle of the sustainable mining.
2. 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.
3. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
4. 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.
5. 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.
6. 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.
7. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.

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8. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
9. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
10. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
11. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
12. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
13. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
14. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
15. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
16. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.
17. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
18. 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.
19. 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.
20. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following

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a) Soil health & bio-diversity.

b) Climate change leading to Droughts, Floods etc.

c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.

d) Possibilities of water contamination and impact on aquatic ecosystem health.

e) Agriculture, Forestry & Traditional practices.

f) Hydrothermal/Geothermal effect due to destruction in the Environment.

g) Bio-geochemical processes and its foot prints including environmental stress.

h) Sediment geochemistry in the surface streams.

22. 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.
23. 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.
24. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
25. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.
26. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

**A. STANDARD TERMS OF REFERENCE**

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

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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

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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

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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

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transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

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

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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.

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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:-**

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**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

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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.

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e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

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**SEIAA-TN**

**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st& 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District.
7. Stock File.

Thiru. K.V. GIRIDHAR, I.F.S.,
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359973
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.7029/SEAC/ToR-782/2020 Dated: 06.10.2020**

**To**

Thiru.S.Palanisamy
S/o. Samappagowder
No. 2/246, Kannarpalayam
Karamadi
Coimbatore.

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference (ToR) for the Proposed Rough Stone & Gravel quarry lease over an extent of 1.55.0 Ha in S.F.Nos. 435/2B1, 435/2B2, 435/2C, 435/2D & 435/2E of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru. S. Palanisamy under project category – "B1" and Schedule S.No. 1(a)– ToR issued along with Public Hearing- preparation of EIA report –Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/ 36222/2019, Dated: 14.05.2019.
2. Your application submitted for Terms of Reference dated: 09.08.2019.
3. Minutes of the 168th SEAC Meeting held on 05.08.2020.
4. Minutes of the 398th SEIAA Meeting held on 23.09.2020.

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

The proponent, Thiru. S. Palanisamy has submitted application for ToR on 09.08.2019, in Form-I, Pre- Feasibility report for the Rough Stone & Gravel quarry lease over an extent of

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1.55.0 Ha in S.F.Nos. 435/2B1, 435/2B2, 435/2C, 435/2D & 435/2E of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

The proposal was placed in the 168th Meeting of SEAC held on 05.08.2020. Based on the presentation given by the project proponent and document furnished by the project proponent, the SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) to SEIAA with Public Hearing, subject to the following specific conditions in addition to the points mentioned in the standard Terms of Reference for conducting Environment Impact Assessment study for non-coal mining projects and information to be included in EIA/EMP report issued by the MoEF&CC.

1. 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.
2. The proponent shall conduct the hydro-geological study to evaluate the impact of proposed mining activity on the groundwater table, agriculture activity, and water bodies such as rivers, tanks, canals, ponds etc. located nearby by the proposed mining area.
3. The proponent shall furnish the details on number of groundwater pumping wells, open wells within the radius of 1 km along with the water levels in both monsoon and non-monsoon seasons. The proponent would also collect the data of water table level in this area during both monsoon and non-monsoon seasons from the PWD / TWAD.
4. The Proponent shall conduct the Cumulative impact study on the agricultural area due to Mining, Crushers and other activities around the site area.
5. The details of surrounding well and the cumulative impact on the ground water shall be part of EIA study.
6. The Socio-economic impact assessment due to the project needs to be carried out within 10 km buffer zone from the mines.
7. A detailed report on the green belt development already undertaken is to be furnished. They also need to submit the proposal for green belt activities for the proposed mine(s).
8. Proposal for CER activities should be furnished taking into consideration the requirement of the local habitants available within the buffer zone as per Office Memorandum of MoEF& CC dated 01.05.2018.
9. A detailed mining closure plan for the proposed project shall be submitted.

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10. A detail report on the safety and health aspects of the workers and for the surrounding habitants during operation of mining for drilling and blasting shall be submitted.
11. The recommendation for the issue Terms of Reference is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981 /2016, M.A.No.982/2016 & M.A.No.384/2017).
12. Details of the lithology of the mining lease area shall be furnished.
13. A study shall be conducted on the number of trees (name of the species, age) present in the mining lease applied area and how, it will be managed during mining activity.
14. The proponent shall furnish the following details along with the EIA Report, AD/DD-mines of concern District to ensure no violation file is appraised under normal cases.
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD /DD mines?
    b) Quantity of minerals mined out.
    c) Detail of approved depth of mining.
    d) Actual depth of the mining achieved earlier
    e) Name of the person already mined in that leases area.
    f) If EC and CTO already obtained compliance report from competent authority.

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

The proposal was placed before the 398th SEIAA Meeting held on 23.09.2020. After detailed discussion the Authority decided to grant Terms of Reference with public hearing for the preparation of EIA Report with additional ToR as recommended by SEAC and subject to General conditions in addition to the following conditions:

1. Details of study on social impact, including livelihood of local people.
2. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
3. Reserve funds should be earmarked for proper closure plan.
4. 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

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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.

5. A detailed post-COVID health management plan for workers as per ICMR and MHA guidelines or the State Govt. guideline may be followed and report shall be furnished.

**A. STANDARD TERMS OF REFERENCE**

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

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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

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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

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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.

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28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

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

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

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

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

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

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.

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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

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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.

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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.

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e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance
- The TORs 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.

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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.

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5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District.
7. Stock File.



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Thiru. K.V. GURUDIAR, I.F.S.,
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY – TAMIL NADU
3rd Floor, Panagal Maaligai,
No. 1, Tennis Road, Saidapet,
Chennai-15.
Phone No. 044-24153973
Fax No. 044-24153975

**TERMS OF REFERENCE (ToR)**

**Lr.No.SEIAA-TN/F.No.8000/SEAC/ToR-951/2020 Dated: 18.02.2021**

To

Tvl.Palaniveltx Blue Metals India Pvt Ltd
V.K. Village, Thanneerpandal
Coimbatore District - 641034

Sir / Madam,

Sub: SEIAA, Tamil Nadu - Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone & Gravel quarry lease over an extent of 1.75.5 Ha at S.F.Nos.478/1A, 98/2B & 61 of Chikkampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by M/s. Palaniveltx Blue Metals India Private Limited - project category – "B1" and Schedule S.No. 1(a) of the EIA notification, with Public Hearing- preparation of EIA report - Regarding.

Ref: 1. Online proposal No.SIA/TN/MIN/57772/2020, Dated: 26.10.2020.
2. Your application submitted for Terms of Reference dated: 09.11.2020.
3. Minutes of the 191st SEAC Meeting held on 29.12.2020.
4. Minutes of the 47th SEIAA Meeting held on 08.02.2021.

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

The proponent, Tvl.Palaniveltx Blue Metals India Pvt Ltd has submitted application for ToR on 06.11.2020, in Form-I, Pre-Feasibility report for the Rough Stone & Gravel quarry lease over an extent of 1.75.5 Ha at S.F.Nos.478/1A, 98/2B & 61, of Chikkampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

The proposal was placed in the 319th SEAC Meeting held on 07.01.2021. Based on the documents furnished and presentation made by the Proponent, the SEAC, after detailed deliberations, SEAC decided to recommend the proposal to SEIAA for the issue of the following Terms of Reference along with public hearing for the proposed project in addition to the sector specific standard ToR :

1. Considering the Environment point of view, committee decided to restrict the ultimate depth of mining to 45m(Pit-I Only) and the same was accepted by the proponent. Hence the quantity that shall be mined as per the approved mining plan is Rough stone: 211045m³ and Gravel : 3948m³.
2. Fugitive emission modelling studies to be carried out and report shall be submitted
3. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and its variation over the period due to mining activity.
4. The Project Proponent shall conduct the hydro geological study to evaluate the impact of proposed mining activity on the ground water table, aquifer activity, and water bodies such as rivers, tanks, canals, ponds etc. located nearby to the proposed mining area.
5. 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 minerals. 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 rose showing the dominant wind direction may also be indicated on the map
6. The proponent shall furnish the details on sources of groundwater pumping, wells, open wells within the radius of 1 km along with the water levels in bore wells and non-monsoon seasons. The proponent should also collect the data of water table level in this area during both monsoon and non monsoon seasons from the PWD-TNSAD.
7. The Proponent shall conduct the Cumulative impact study on the agricultural area due to Mining, Crushers and other activities around the site area.
8. The detail of surrounding well and the cumulative impact on the ground water shall be part of EIA study.

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9. The Socio-economic impact assessment of the project needs to be carried out within 10km buffer zone from the mines.

10. A detailed report on the green belt development already undertaken is to be furnished. They also need to submit the proposed for green belt activities for the proposed mines(s)

11. A detailed mining closure plan for the proposed project shall be submitted.

12. A detailed report on the safety and health concerns of the workers and for the surrounding habitations during operation of mining for drilling and blasting shall be submitted.

13. The recommendation for the grant/renewal of ToR/Environmental Clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A. No.136 of 2016 (M.A.No.250/2016) and O.A. No.300/2016 and O.A.No.580/2016 (M.A.No.1162/2016) and O.A.No.192/2017 and O.A.No.104/2016 (M.A.No. 958/2016, M.A.No.920/2016, M.A.No.1192/2016, M.A.No.1219/2017 & M.A. No. 943/2017) and O.A.No.486/2016 & O.A.No.520 of 2016, M.A.No. 981/120 & M.A.No.950/2016 & M.A.No.38-2017)

14. Details of the lithology of the mining lease area shall be furnished.

15. A study shall be conducted on the number of trees to be felled of the species, age, present in the mining lease applied area and how it will be managed during mining activity.

16. The details of the period of the earlier operation of the mines along with the dimension of the pits shall be furnished from the competent Authority, if applicable.

17. The proponent shall submit the waste management plan along with EIA report.

18. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wild life as applicable shall be obtained, if the project site attracts NBWL clearance.

19. Wind speed data of the project site shall be furnished.

20. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated 30.09.2020 and 22.10.2020 the proponent shall furnish the detailed EMP containing all the activities as proposed in the CER.

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

The proposal was placed before the 482nd SEIAA Meeting held on 08.02.2021. After detailed discussion. After detailed discussion, the Authority noted as follows

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1. As per the 192nd SEAC minutes (Agenda No.192-14), the project activity is covered under Category "B1" of 1(a) Mining of minerals of the Schedule to the E.I.A Notification 2006.

3. As per Deputy Director, Department of Geology & mining letter No.Na1/34879/2018/dtdco dated 24.09.2020, the total extent of quarries located within 500m radius including this quarry is more than 5 hectare & hence this proposal is comes under "B1" category.

4. In the 192nd SEAC minutes (Agenda No.192-14), the total extent of proposed quarry is mentioned as 1.70.0 Ha. On verifying the available records & document attached in the mail, the total extent of proposed quarry is achieved as 1.75.3Ha. It shows that the extent of proposed quarry is typed inadvertently as 1.70.0Ha in the SEAC minutes.

5. The SEAC in its 192nd meeting has recommended the proposal for the grant of Terms of Reference with public hearing subject to the certain conditions and one such is.

   a. Considering the Environment point of view, committee decided to restrict the ultimate depth of mining to 30m (+5m=35m); and the same was accepted by the proponent. Hence the quantity that shall be mined as per the approved mining plan is Rough stone: 121194m3 and Gravel: 9683m3

In view of the above, the Authority unanimously accepts the recommendation of SEAC and decided to grant Terms of Reference with **public hearing** for undertaking Environment Impact Assessment and preparation of Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following condition.

2. As per the recommendation of SEAC and as accept by the proponent & considering the Environment point of view, the Ultimate depth of mining is restricted to 30m (+5m=35m) and hence the quantity that shall be mined as per the approved mining plan is 121194m3 of Rough stone and 9683 m3 of Gravel.

3. 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.

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**A. STANDARD TERMS OF REFERENCE**

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there has been any increase in production after the EIA Notification 1994 and if so, since when. 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 scrupulously adhered to 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 weather coordinates of the mine lease area superimposed on a High Resolution Imagery/ topo sheet, toposheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecologically sensitive features of the study area (core and buffer zone).

5) Information should be provided in Survey of India toposheet or 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing mineral 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 as 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

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and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each area 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, wild life sanctuary, national park, migratory routes of fauna, water bodies, human settlement and other ecological features should be indicated and site plan of the mine lease area should be prepared indicating existing, proposed, operational and post operational phases and accordingly, increase if any, of change of land use should be given.

11) Details of the land for any Govt. Approved Units outside the mine lease, such as extent of land area, distance from mine lease, its land use, NOC issued, 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 vis-a-vis the extent of any boundary 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 the regard as mentioned above be issued. In all such cases, it should be ensured for representation of the State Forest Department to attend the Expert Appraisal Committee.

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 area 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 surroundings and any other protected area and accordingly, detailed mitigative measures required, if any, carried 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

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mine lease should be clearly indicated, supported by a Scheme map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas 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) Location of Areas reserved as 'Critically Polluted' or the Project area likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and wherever any proposed mining activities are to be conducted, prior permission from the Competent Authorities, such as the SPCB or State Mining Department, should be secured and furnished to the effect that the proposed mining activities can be conducted.

20) Separate for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating HTL, LTL, 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 processing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SC's /STs and other weaker sections of the society in the study area, a need based assessment survey, family-wise should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of the 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

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their R&R etc. socio-economic aspects should be discussed in the Report.

22) One season (pre-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 & 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 finalized keeping in view the predominant downwind direction and location of sensitive receptors. There should at least one monitoring station within 500 m of the mine lease in the predominant 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 mine, location of sensitive receptors if any, and the habitation. The wind rose showing the 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 permission 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 ground water, 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

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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 the elevation, working depth, present water 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 that 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 quality value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

32) Impact of transportation in the area due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (indicating options other than the Project road should be worked out, wherever it is capable of handling the incremental load). Action plan for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall carry out detailed 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 Rehabilitation of mined out areas with plans and with adequate number of trees planted 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

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mining plan may be collected.

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

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, quantified indications 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, 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

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transfer 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-1 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 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 full surface plan of the area indicating contours of main topographic features, drainage and mining area, geological maps and sections and fifty sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

<u>In addition to the above, the following shall be furnished:-</u>

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

1. Project name and location (Village, District, State, Industrial Estate (complex).
2. Process description in brief, specifically indicating the process emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and norms of discharges or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the mine site showing the number of

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wells located around the site and impact on the wells due to mining activity

6. A detailed study of the hydrology of the mining lease area shall be furnished.
7. Details of village maps "A" register and FMB sketch shall be furnished
8. Detailed mining closure plan for the proposed project approved by the Geology & Mining department shall be shall be submitted along with EIA report
9. Obtain a letter certificate from the Assistant Director of Geology and Mining stating 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 chiefly 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 canalization 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 vegetation, chemical and biological property of soil, if any may be assessed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, source of water availability, nearby (in 5 km) water body, population within 10km, other industries, forest / eco-sensitive zones, accessibility, if more - 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 & 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 man made emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with budgetary expenditure.

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24. Occupational Health Measures

25. Post project monitoring plan

26. The project proponent shall carry out detailed hydro geological study through in house/NABET Accredited agencies

27. A detailed report on the green belt development already undertaken in the area for related activities and proposal for green belt activities.

28. The proponent shall propose the suitable control measures to control the fugitive emissions during the operations of the mines

29. A specific study should include impact on flora & fauna, if any due to sedimentary pollutants/minerals.

30. Reserve figures should be reconciled 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 Climate Change 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 indexed, 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 questionnaire involved in the preparation of EIA-EMP report after reconciliation with Quality Council of India (QCI)/NABET and Accreditation Board of Education and Training (NABET) should also be included in this regard in the EIA-EMP reports

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prepared by them and data provided by other organizations/Laboratories including their status of approvals etc., as per the report circular no. J-11013/77/2004-IA.II(I) dated 2nd December, 2009, 15th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006 covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report should be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TOR is prescribed shall be **valid for a period of three years** from the date of issue for submission of the EIA/EMP report as per O.M.No.J-11013/41/2006-IA.II(I) dated 29th August, 2017.

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Copy to:

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD Cum Office Complex, East Arjun Nagar, New Delhi-110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC, 3rd, 4th, IPO Building, IInd & 3rd Floor, Cathedral Garden Road, Nungambakkam, Chennai-34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhawan, CGO Complex, New Delhi-110003.
6. The District Collector, Coimbatore District.
7. Stock File

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THIRU. K.V. GIRIDHAR, I.F.S.,
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai-15.
Phone No. 044-24359973
Fax No. 044-24359975

## TERMS OF REFERENCE (ToR)

**Lr No.SEIAA-TN/F.No.8393/SEAC/ToR- 973/2021 Dated: 05.07.2021**

**To**

Tmt.M.Muthammal
W/o.R.Mahendran
No.64-G, Sirumugai Road
Siva Nagar
Karamadai, Mettupalayam Taluk
Coimbatore District – 641104.

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference (ToR) with Public Hearing for the proposed Rough Stone and Gravel Quarry lease over an extent of 1.82.0Ha at S.F.Nos. 77/2E(P), 77/2F(P), 79/1A(P) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Tmt.M.Muthammal under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing – preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/61127/2021, Dated: 23.02.2021
2. Your application submitted for Terms of Reference dated: 26.02.2021
3. Minutes of the 213th Meeting of SEAC held on 11.06.2021
4. Minutes of the 447th Meeting of SEIAA held on 05.07.2021

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

The proponent, Tmt.M.Muthammal has submitted application for ToR on 26.02.2021. in Form-1, Pre- Feasibility report for the Rough Stone & Gravel Quarry lease over an extent of

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1.82.0Ha at S.F.Nos. 77/2E(P), 77/2F(P), 79/1A(P) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

The proposal was placed for appraisal in the 213th meeting of SEAC held on 11.06.2021. Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) with Public Hearing, subject to the following specific ToR in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MoEF& CC to be included in EIA/EMP report:

1. **Restricting the maximum depth of mining from 22m to 12m below ground level considering the environmental impacts due to the mining, safety of the working personnel and following the principle of the sustainable mining and consequently the maximum minable quantities of 66504cu.m of Rough stone are permitted for mining over five years.**
2. A bench height of 5m needs to be maintained as per the approved mining plan considering the hydrogeological regime of the surrounding area as well as for safe mining.
3. Between existing and proposed mining area a distance 7.5m should be left.
4. Dumping of waste shall be done in a proper way and more of trees should be planted.
5. The Project Proponent shall furnish the contour map of the water table detailing the number of wells located around the site and its impacts on the wells due to mining activity.
6. The Project Proponent shall conduct the hydro-geological study to evaluate the impact of proposed mining activity on the groundwater table, agriculture activity, and water bodies such as rivers, tanks, canals, ponds etc. located nearby by the proposed mining area.
7. The Project Proponent shall furnish the details on the number of groundwater pumping and open wells within 1 km (radius) along with the water levels in both monsoon and non-monsoon seasons. The proponent also shall collect the data of water table level from the PWD / TWAD in this area in both monsoon and non-monsoon seasons.
8. The Proponent shall carry out the Cumulative impact study on the Agricultural area

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due to Mining, Crushers and other activities around the site area.

9. The details of surrounding well and the assessment of cumulative impact on the groundwater due to mining shall be the part of EIA study. The Socio-economic studies should be carried out within a 10 km buffer zone from the mines.
10. A tree survey study shall be carried out (nos., name of the species, age etc.,) in the mining lease applied area and its management during mining activity.
11. CER activities should be carried out taking into consideration the requirement of the local habitants available within the buffer zone as per Office Memorandum of MoEF& CC.
12. A Detailed mining closure plan for the proposed project shall be submitted.
13. A detail report on the safety and health aspects of the workers and for the surrounding habitations during operation of mining for drilling and blasting shall be submitted.
14. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
15. A detailed study of the lithology of the mining lease area shall be furnished.
16. The project proponent shall furnish the details of the existing Green belt area earmarked with GPS coordinates and list of trees planted with a copy of photos/documents, and be included in the EIA Report.

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

The proposal was placed before the 447th meeting of SEIAA held on 05.07.2021. The Authority noted the following:

1. The Project Proponent, Tmt. M. Muthammal, has applied for Terms of Reference for the proposed Rough Stone and Gravel Quarry lease over an extent of 1.82.0Ha at S.F.Nos. 77/2E (P), 77/2F(P), 79/1A(P) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The Project Proponent, Tmt. M. Muthammal, has applied for Terms of Reference for the proposed Rough Stone and Gravel Quarry lease over an extent of 1.82.0Ha at S.F.Nos.

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77/2E (P), 77/2F(P), 79/1A(P) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, TamilNadu.

3. In the 213th meeting of SEAC held on 11.06.2021, the SEAC has recommended the proposal for the issue of the following Terms of Reference along with public hearing for the proposed project in addition to the sector specific standard TOR among others:
    1. Restricting the maximum depth of mining from 22m to 12m below ground level considering the environmental impacts due to the mining, safety of the working personnel and following the principle of the sustainable mining and consequently the maximum minable quantities of 66504cu.m of Rough stone are permitted for mining over five years.
4. On verifying the records and as per the approved mining plan submitted by the proponent, **the mineable quantity of Rough stone for the restricted depth of mining of 12m is 63384cu.m of Rough stone**

In view of the above, after detailed discussions, the Authority unanimously accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions.

1. **As per the recommendation of SEAC and as accepted by the proponent, the ultimate depth of mining is restricted to 12m and accordingly the quantity of mining is 63384cu.m of Rough stone as per the approved mining plan considering the hydro geological regime of the surrounding area.**
2. 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.
3. The decision of the Authority may be communicated to SEAC.

## A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came

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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

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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.

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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

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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

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should be brought out.

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

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

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

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

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

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

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

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

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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)

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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

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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.

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28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
b. All documents may be properly referenced with index, page numbers and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.
    - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the

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proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs 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.

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**Copy to:**

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

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**TMT.P.RAJESWARI, I.F.S.,**
**MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU**
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai-15.
Phone No. 044-24359973
Fax No. 044-24359975

## TERMS OF REFERENCE (ToR)

**Lr No.SEIAA-TN/F.No.8709/ToR-1084/2021 Dated: 17.03.2022.**

**To**

Thiru.C.N.Mani
S/o. Nanjundagavudar
D.No.1/40, Chinnakaranur
Belladhi Post, Karamadai
Mettupalayam Taluk
Coimbatore District-641104

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with public Hearing (ToR) for the proposed Rough Stone and Gravel Quarry lease over an extent of 2.47.5Ha at S.F.No.75 of Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by Thiru.C.N.Mani - under project category – "B1" and Schedule S.No.1(a) – ToR issued along with Public Hearing - preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/66501/2021 Dt.10.08.2021
2. Your application submitted for Terms of Reference dated: 17.08.2021.
3. Minutes of the 248th SEAC meeting held on 24.02.2022
4. Minutes of the 492nd Authority meeting held on 16.03.2022.

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

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The proponent, Thiru.C.N.Mani has submitted application for Terms of Reference (ToR) with public Hearing on 17.08.2021, in Form-I, Pre- Feasibility report for the proposed Rough Stone and Gravel Quarry lease over an extent of 2.47.5Ha at S.F.No.75 of Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

**Proposed Rough Stone and Gravel Quarry lease over an extent of 2.47.5 Ha at S.F.No.75 of Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District,Tamil Nadu by Thiru.C.N.Mani - For Terms of Reference.**

**(SIA/TN/MIN/66501/2021 Dt.10.08.2021)**

The proposal was placed in 248th SEAC meeting held on 24.02.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

1. The Project Proponent, Thiru.C.N.Mani has applied for Terms for Reference for the proposed Rough Stone and Gravel Quarry lease over an extent of 2.47.5Ha at S.F.No.75 of Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. The Production for the five years states that total quantity should not exceed 2,00,603$m^3$ of rough stone with a ultimate depth of mining is 57m (2m Gravel + 55m Rough Stone) below ground level.

Based on the presentation made by the proponent and the documents furnished, SEAC decided to **recommend the proposal for the grant of Terms of Reference (TOR) with Public Hearing** for the Production for the five years states that total quantity should not exceed 2,00,603$m^3$ of rough stone with a ultimate depth of mining is 57m (2m Gravel + 55m Rough Stone) below ground level, Subject to the following TORs, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. The Proponent shall carry out the cumulative & comprehensive environmental impact assessment study due to mining operations carried out in the quarry cluster specifically with reference to the environment in terms of air pollution, water pollution, & health impacts, and accordingly the Environment Management plan should be prepared keeping the concerned

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quarry and the surrounding habitations in the mind.

2. The Proponent shall carry out the Socio Economic Impact Assessment study in the vicinity of the villages located in the proposed quarry. 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,
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b) Quantity of minerals mined out.
    c) Highest production achieved in any one year
    d) Detail of approved depth of mining.
    e) Actual depth of the mining achieved earlier.
    f) Name of the person already mined in that leases area.
    g) If EC and CTO already obtained, the copy of the same shall be submitted.
    h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
3. 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).
4. 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.
5. The Project Proponent shall provide the details of geological 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 proposed mitigation measures for the same.
6. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
7. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface

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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.

8. A detailed study shall be carried out in order to ascertain the status of existing trees (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
9. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific, along with the exclusive photographs/images/plans showing the proposed closure activities conceptually.
10. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
11. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No.758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
12. 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 reduce the visual impacts. A wide range of indigenous plant species should be planted as given in the **appendix** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
13. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper spacing 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
14. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
15. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP

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Report.

16. 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.
17. 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.
18. 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 Reference besides attracting the penal provisions as given in the Environment (Protection) Act, 1986.

## Appendix

### List of Native Trees for Planting

1. *Aegle marmelos* – Vilvam
2. *Adenaanthera pavonina* - Manjadi
3. *Albizia lebbeck* – Vaagai
4. *Albizia amara* - Usil
5. *Bauhinia purpurea* - Mantharai
6. *Bauhinia racemosa* - Aathi
7. *Bauhinia tomentosa* – Iruvathi
8. *Buchanania aillaris* - Kattuma
9. *Borassus flabellifer* - Panai
10. *Butea monosperma* - Murukka maram
11. *Bobax ceiba* – Ilavu, Sevvilavu
12. *Calophyllum inophyllum* - Punnai
13. *Cassia fistula* - Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylon sweitenia* - Purasa maram
16. *Cochlospermum religiosum* – Kongu, Manjal Ilavu
17. *Cordia dichotoma* – Mookuchali maram
18. *Creteva adansonii* – Mavalingum

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19. *Dillenia indica* – Uva, Uzha
20. *Dillenia pentagyna* – Siru Uva, Sitruzha
21. *Diospyros ebenum* - Karungali
22. *Diospyros chloroxylon* – Vaganai
23. *Ficus amplissima* – Kal Itchi
24. *Hibiscus tiliaceous* – Aatru poovarasu
25. *Hardwickia binata* – Aacha
26. *Holoptelia integrifolia* - Aayili
27. *Lannea coromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthus tetraphylla* - Neikottai maram
30. *Limonia acidissima* - Vila maram
31. *Litsea glutinosa* –Pisin pattai
32. *Madhuca longifolia* - Illuppai
33. *Manilkara hexandra* – Ulakkai Paalai
34. *Mimusops elengi* - Magizha maram
35. *Mitragyna parvifolia* - Kadambu
36. *Morinda pubescens* – Nuna
37. *Morinda citrifolia* – Vellai Nuna
38. *Phoenix sylvestre* - Eachai
39. *Pongamia pinnata* – Pungam
40. *Premna mollissima* – Munnai
41. *Premna serratifolia* – Narumunnai
42. *Premna tomentosa* - Purangai Naari, Pudanga Naari
43. *Prosopis cinerea* - Vanni maram
44. *Pterocarpus marsupium* - Vengai
45. *Pterospermum canescens* – Vennangu, Tada
46. *Pterospermum xylocarpum* - Polavu
47. *Puthranjiva roxburghii* – Puthranjivi
48. *Salvadora persica* – Ugaa Maram
49. *Sapindus emarginatus* - Manipungan, Soapu kai
50. *Saraca asoca* - Asoca
51. *Streblus asper* - Piraya maram
52. *Strychnos nuxvomica* – Yetti
53. *Strychnos potatorum* - Therthang Kottai
54. *Syzygium cumini* - Naval
55. *Terminalia bellerica* - Thandri
56. *Terminalia arjuna* - Ven marudhu

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57. Toona ciliate – Sandhana vembu
58. Thespesia populnea - Puvarasu
59. Walsura trifoliata – valsura
60. Wrightia tinctoria - Vep

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

The subject was placed in the 492nd Authority meeting held on 16.03.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. 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.
2. 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.
3. 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.
4. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
5. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
6. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
7. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
8. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.

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9. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
10. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
11. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
12. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
13. The project proponent shall study and furnish the impact of project on plantations in adjoing patta lands, Horticulture, Agriculture and livestock.
14. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
15. 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.
16. 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.
17. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife.

## A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its

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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

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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.

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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

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modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

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

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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

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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

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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

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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.

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c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

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

e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.

4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Coimbatore District.
7. The EO/BDO, Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District
8. Stock File.

Nature Protects if She is Protected

TMT.P.RAJESWARI, I.F.S.,
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY – TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai-15.
Phone No. 044-24359973
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.8834/ToR-1087/2021 Dated: 17.03.2022.**

**To**

M/s. Sri Blue Metals,
Proprietor Thiru.S.Gnanasekaran
D.no.2/241, Kannarpalayam, Karamadai Post,
Chikkarampalayam village,
Mettupalayam Taluk,
Coimbatore District-641104

**Sir / Madam,**

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with public Hearing (ToR) for the proposed Rough stone quarry lease over an extent of 3.11.0Ha at S.F.No.77/1B & 421/2B (Part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by M/s. Sri Blue Metals. - under project category – "B1" and Schedule S.No.1 (a) – ToR issued along with Public Hearing - preparation of EIA report – Regarding.

**Ref:** 1. Online proposal No.SIA/TN/MIN/68142/2021 Dt.04.10.2021
2. Your application submitted for Terms of Reference dated: 08.10.2021.
3. Minutes of the 248th SEAC meeting held on 24.02.2022
4. Minutes of the 492nd Authority meeting held on 16.03.2022.

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

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The proponent, M/s. Sri Blue Metals has submitted application for Terms of Reference (ToR) with public Hearing on 08.10.2021, in Form-I, Pre- Feasibility report for the proposed Rough stone quarry lease over an extent of 3.11.0Ha at S.F.No.77/1B & 421/2B (Part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.

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

**Proposed Rough stone quarry lease over an extent of 3.11.0 Ha at S.F.No.77/1B & 421/2B (Part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu by M/s. Sri Blue Metals - For Terms of Reference.**

**(SIA/TN/MIN/68142/2021 Dt.04.10.2021)**

The proposal was placed in 248th SEAC meeting held on 24.02.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

1. The Project Proponent, M/s. Sri Blue Metals has applied for Terms for Reference for the proposed Rough stone quarry lease over an extent of 3.11.0Ha at S.F.No. 77/1B & 421/2B (Part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. The Production for the five years states that total quantity should not exceed 2,75,864 $m^3$ of rough stone with a ultimate depth of mining is 52m below ground level.

Based on the presentation made by the proponent and the documents furnished, SEAC decided to **recommend the proposal for the grant of Terms of Reference (TOR) with Public Hearing** for the total Production for the period of five years states that total quantity should not exceed 2,75,864 $m^3$ of rough stone with a ultimate depth of mining is 52m below ground level, Subject to the following TORs is in annexure of this minutes, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. The Proponent shall carry out the cumulative & comprehensive environmental impact assessment study due to mining operations carried out in the quarry cluster specifically with reference to the environment in terms of air pollution, water pollution, & health impacts, and accordingly the Environment Management plan should be prepared keeping the concerned

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quarry and the surrounding habitations in the mind.

2. 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,
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b) Quantity of minerals mined out.
    c) Highest production achieved in any one year
    d) Detail of approved depth of mining.
    e) Actual depth of the mining achieved earlier.
    f) Name of the person already mined in that leases area.
    g) If EC and CTO already obtained, the copy of the same shall be submitted.
    h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
3. 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).
4. 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.
5. The Project Proponent shall provide the details of geological 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 proposed mitigation measures for the same.
6. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
7. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD

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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.

8. 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.
9. A detailed study shall be carried out in order to ascertain the status of existing trees (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
10. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific, along with the exclusive photographs/images/plans showing the proposed conceptual final closure activities.
11. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
12. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
13. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
14. The purpose of Green belt around the project is to capture the fugitive dust emissions, carbon sequestration and to attenuate the noise generated, in addition to reduce the visual impacts. A wide range of indigenous plant species should be planted as given in the **appendix** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
15. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper spacing as per the advice of local forest

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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.

16. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
17. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.
18. 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.
19. 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.
20. 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 Reference besides attracting the penal provisions as given in the Environment (Protection) Act, 1986.

## Appendix

### List of Native Trees for Planting

1. *Aegle marmelos* – Vilvam
2. *Adenaanthera pavonina* - Manjadi
3. *Albizia lebbeck* – Vaagai
4. *Albizia amara* - Usil
5. *Bauhinia purpurea* - Mantharai
6. *Bauhinia racemosa* - Aathi
7. *Bauhinia tomentosa* – Iruvathi
8. *Buchanania aillaris* - Kattuma
9. *Borassus flabellifer* - Panai
10. *Butea monosperma* - Murukka maram
11. *Bobax ceiba* – Ilavu, Sevvilavu
12. *Calophyllum inophyllum* - Punnai

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13. *Cassia fistula* - Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylon sweitenia* - Purasa maram
16. *Cochlospermum religiosum* – Kongu, Manjal Ilavu
17. *Cordia dichotoma* – Mookuchali maram
18. *Creteva adansonii* – Mavalingum
19. *Dillenia indica* – Uva, Uzha
20. *Dillenia pentagyna* – Siru Uva, Sitruzha
21. *Diospyros ebenum* - Karungali
22. *Diospyros chloroxylon* – Vaganai
23. *Ficus amplissima* – Kal Itchi
24. *Hibiscus tiliaceous* – Aatru poovarasu
25. *Hardwickia binata* – Aacha
26. *Holoptelia integrifolia* - Aayili
27. *Lannea coromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthus tetraphylla* - Neikottai maram
30. *Limonia acidissima* - Vila maram
31. *Litsea glutinosa* –Pisin pattai
32. *Madhuca longifolia* - Illuppai
33. *Manilkara hexandra* – Ulakkai Paalai
34. *Mimusops elengi* - Magizha maram
35. *Mitragyna parvifolia* - Kadambu
36. *Morinda pubescens* – Nuna
37. *Morinda citrifolia* – Vellai Nuna
38. *Phoenix sylvestre* - Eachai
39. *Pongamia pinnata* – Pungam
40. *Premna mollissima* – Munnai
41. *Premna serratifolia* – Narumunnai
42. *Premna tomentosa* - Purangai Naari, Pudanga Naari
43. *Prosopis cinerea* - Vanni maram
44. *Pterocarpus marsupium* - Vengai
45. *Pterospermum canescens* – Vennangu, Tada
46. *Pterospermum xylocarpum* - Polavu
47. *Puthranjiva roxburghii* – Puthranjivi
48. *Salvadora persica* – Ugaa Maram
49. *Sapindus emarginatus* - Manipungan, Soapu kai
50. *Saraca asoca* - Asoca

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51. *Streblus asper* - Piraya maram
52. *Strychnos nuxvomica* – Yetti
53. *Strychnos potatorum* - Therthang Kottai
54. *Syzygium cumini* - Naval
55. *Terminalia bellerica* - Thandri
56. *Terminalia arjuna* - Ven marudhu
57. Toona ciliate – Sandhana vembu
58. Thespesia populnea - Puvarasu
59. Walsura trifoliata – valsura
60. Wrightia tinctoria - Vep

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

The subject was placed in the 492nd Authority meeting held on 16.03.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. 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.
2. 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.
3. 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.
4. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
5. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
6. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.

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7. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
8. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
9. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
10. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
11. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
12. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
13. The project proponent shall study and furnish the impact of project on plantations in adjoing patta lands, Horticulture, Agriculture and livestock.
14. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
15. 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.
16. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

## A. STANDARD TERMS OF REFERENCE

1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

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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.

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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

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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

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quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

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

31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have

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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

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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

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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./

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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.

Rajeswari.P
MEMBER SECRETARY
SEIAA-TN

உதவி இயக்குநர் அலுவலகம்
28 JUL 2017
சுரங்கத்துறை. கோயம்புத்தூர்

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULE 19 OF TAMILNADU MINOR MINERAL CONCESSION RULES, 1959 & AS PER AMENDMENT UNDER RULE 41 & 42)
(Lease Period = Five years)

*IN*

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

EXTENT : 1.01.2Ha
S.F.NO : 77/2D(P)
VILLAGE : CHIKKARAMPALAYAM
TALUK : METTUPALAYAM
DISTRICT : COIMBATORE
STATE : TAMILNADU

*FOR*

**APPLICANT**

**Thiru.S.Gnanasekaran,**
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

***PREPARED BY***

**S. ILAVARASAN, M.Sc.,**
Qualified Person
RQP/MAS/253/2013/A

Old.No.260-B, New No: 17,
Advaitha Ashram Road,Alagapuram Post,
Salem – 636 004.
Cell: 94433 56539.
E-mail: geothangam@gmail.com,

**S.Gnanasekaran,**
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

உதவி இயக்குநர் அலுவலகம்
28 JUL 2017
புவியியல் மற்றும் சுரங்கத்துறை, கோயம்புத்தூர்

## CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of Rough Stone and Gravel Quarry lease Applied area in S.F.No.77/2D(P) over an extent of 1.01.2Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared by

**S.ILAVARASAN, M.Sc.,**
RQP/MAS/253/2013/A

I request the District Collector, Coimbatore to make further correspondence regarding the modification of the Mining Plan with the said qualified person at his following address.

**S.ILAVARASAN, M.Sc.,**
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram post,
Salem – 636 004.
Cell: 94433 56539.

I hereby undertake that all the modifications, if any 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.

Signature of Applicant

S.Gnanasekaran

Place: Coimbatore
Date: 23.06.217

**S.Gnanasekaran,**
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

உதவி இயக்குநர் அலுவலகம்
28 JUL 2017
சுரங்கத்துறை, கோயம்புத்தூர்

## DECLARATION OF THE APPLICANT

The Mining Plan in respect of Rough Stone and Gravel Quarry lease Applied area in S.F.No.77/2D(P) over an extent of 1.01.2Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of Applicant

S.Gnanasekaran

Place: Coimbatore
Date: 23.06.2017

**S.ILAVARASAN, M.Sc.,**
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram post,
Salem – 636 004.
Cell: 94433 56539.

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28 JUL 2017
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## CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of Rule Prepared Under Rule 19 Of Tamilnadu Minor Mineral Concession Rules, 1959 & As Per Amendment Under Rule 41 & 42 Have Been Observed in the preparation of Mining Plan for Rough Stone and Gravel Quarry lease Applied area in S.F.No.77/2D(P) over an extent of 1.01.2Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Thiru.S.Gnanasekaran,**
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions / exemptions / relaxations and approvals are required, the Applicant will approach the concerned authorities of the District Collectorate, Coimbatore, Tamilnadu for such permissions/ exemptions / relaxations and approvals.

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

Qualified Person Signature

S.ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem
Date: 03.07.2017

**S.ILAVARASAN, M.Sc.,**
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram post,
Salem – 636 004.
Cell: 94433 56539.

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## CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan for Rough Stone and Gravel Quarry lease Applied area in S.F.No.77/2D(P) over an extent of 1.01.2Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Thiru.S.Gnanasekaran,**
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director General of Mines Safety (DGMS), No. 5, II[nd] Street, Block – AA, Anna Nagar, Chennai-40, Tamilnadu for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the mining plan are true and correct to the best of my knowledge.

Qualified Person Signature

S.ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem
Date: 03.07.2017




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**MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 1.01.2HA IN CHIKKARAMPALAYAM VILLAGE, METTUPALAYAM TALUK, COIMBATORE DISTRICT, TAMILNADU**

(PREPARED UNDER RULE 19 OF TAMILNADU MINOR MINERAL CONCESSION RULES, 1959 & AS PER AMENDMENT UNDER RULE 41 & 42)

## INTRODUCTION AND EXECUTIVE SUMMARY

The present Mining Plan and Environmental Management plan is prepared for Thiru.S.Gnanasekaran, S/o.Sammappa Gowder, No.2/241, Kannarpalayam, Karamadai(Po), Mettupalayam Taluk, Coimbatore District.

The applicant applied to quarry Rough stone and Gravel in the S.F.Nos.77/2D(P) over an extent of 1.01.2Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

The application was processed by the District Collector Coimbatore and passed a letter vide **Rc.No. 83/ Mines/2017 dated 22.06.2017** to submit Mining Plan for the approval in Department of Geology and Mining, Coimbatore, Environmental Clearance from the District Level Environment Impact Assessment Authority, Tamil Nadu.

**Short Notes of Mining plan**

a. Village Panchayat - Chikkarampalayam

b. Panchayat Union - Mettupalayam

c. The Total Mineable Reserves are **34,130m$^3$** of Rough stone and **1104m$^3$** of Gravel in the entire area.

d. The proposed quantity of reserves/ (level of production) for Five year plan period is to be mined is **34,130m$^3$** of Rough stone and **1104m$^3$** of Gravel.

e. Total extent of the lease applied area = 1.01.2Ha.

f. Topography of the area = The area exhibits almost plain topography (quarried out pits is observed).

g. Existing Depth = 12m Depth below ground level.

h. Proposed Depth of mining = 32m Depth below ground level.

i. Lease period = Five years.

j. It is a fresh lease (the area has been quarrying earlier during previous lease period)



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k. Method of mining / level of mechanization.

Opencast semi mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.

l. Type of machineries proposed in the quarrying operation.

Excavators attached with rock breaker

Jack hammers 30-32mm dia

Tractor mounted compressor (2 jack hammer capacity).

m. No trees will be uprooted due to this quarrying operation.

n. The existing road from the main road to quarry is in good condition and the same will be maintained and utilized for Transportation of Rough stone and Gravel.

o. There is No Export of this Rough stone and Gravel.

p. Topo sketch covering 10Km and 1Km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archeological importance, places of worships is marked and enclosed as Plate No IA and IB.

q. The lease applied area is about 1.01.2Ha bounded by Nine corners; the corners are designated as 1-9 Clock wise from the South Western corner the Co – ordinates for the all the corners are clearly marked in the Topography, Geological Plan and section enclosed as (Plate No-III)

r. The diagram showing the Mining area, dimensions of the pit, its proposed depth of mining for the lease period are enclosed as Plate No III.

s. The lease applied area is 10Km away from the interstate boundary, protected area under wild life protection ACT 1972, critically polluted areas as identified by CPCB and notified Eco sensitive areas.

t. There are no wastages anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

u. Around 11 employees are deploying in the quarrying operation.

v. Total Cost of the project is about **Rs.43,17,400/-**

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1. **GENERAL INFORMATION**

**1.1 a) Name of the Applicant : Thiru.S.Gnanasekaran**

**b) Address of the Applicant (With Phone No and E-mail Address)**

Address : S.Gnanasekaran,
S/o.Sammappa Gowder,
No.2/241, Kannarpalayam,
Karamadai(Po), Mettupalayam Taluk,
Coimbatore District.

Mobile No : 97867 96039, 98422 04259

Pin Code : 641 104

**c) Status of the Applicant (Individual / Company / Firm).**

The Applicant is an individual.

**1.2 a) Mineral which the Applicant intends to mine**

The Applicant intends to quarry Rough stone and Gravel only. No other Minerals observed in the lease applied area.

**b) Precise area communication letter details received from the Competent authority of the Government.**

The precise area communication letter was received from the District Collector Coimbatore vide **Rc.No. 83/ Mines/2017 dated 22.06.2017** to obtain mining plan and obtain Environmental Clearance from the DEIAA, Tamilnadu.

**C) Period of permission / lease to be granted.**

The applicant applied permission to quarry Rough stone and Gravel for the period of five years/ The District Collector considered for the Grant of quarry lease for the period of five years.

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**d) Name and address of the Qualified Person/ Authorized person preparing the mining plan.**

| | | |
|---|---|---|
| Name | : | S.Ilavarasan, M.Sc., Qualified Person |
| Address | : | Regd.off.Old No.260-B, New No. 17, Advaitha Ashram Road, Alagapuram, Salem. |
| Mobile | : | 94433 56539. |
| Tele Fax | : | 0427- 2431989 |
| Registration No | : | RQP/MAS/253/2013/A |
| Email | : | geothangam@gmail.com |

## 2.0 Location

### a) Details of the area with location map

The lease applied area is about 6.5Km South Eastern Side of Mettupalayam and 26Km Northern side of Coimbatore, the lease applied area located along Chikkarampalayam Village at the distance of 2Km (South Eastern Side).

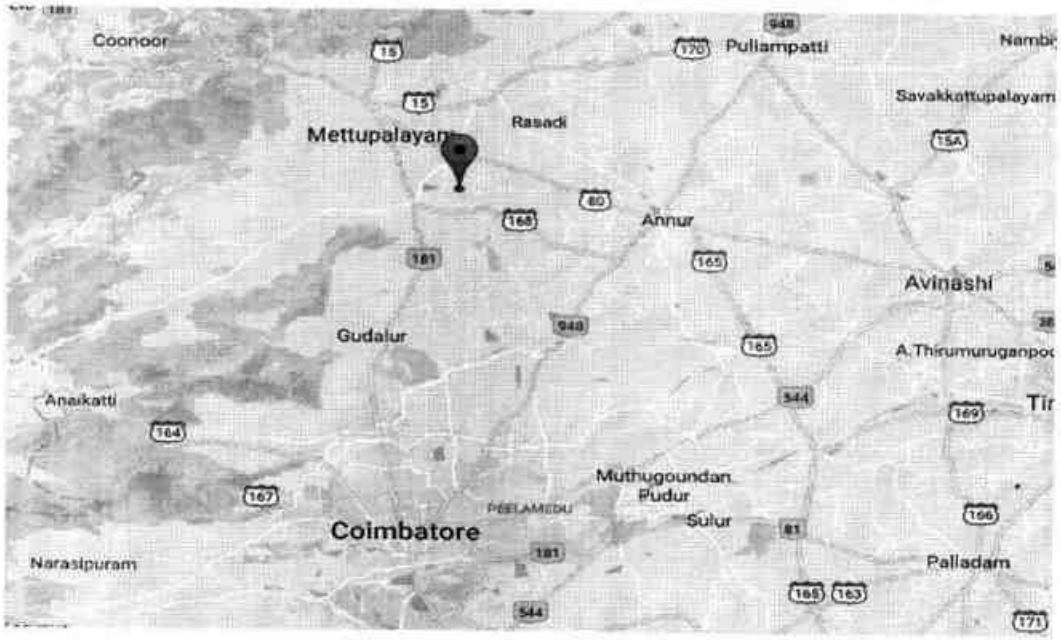



**Fig. 1.0 Location Map of the Lease applied area**

TABLE - 1

| District | Taluk | Village | S.F.No. | Area in Ha. |
|---|---|---|---|---|
| Coimbatore | Mettupalayam | Chikkarampalayam | 77/2D (P) | 1.01.2Ha |
| **Total Extent** | | | | 1.01.2Ha |

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**b) Classification of the area (Ryotwari/ Poramboke / others).**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right).**

It is a Patta land Registered in the name applicant (Tmt.Chandra & Tmt.Muthammal) vide patta No.1711. The Applicant has obtain consent from the pattadhars. (Refer Annexture No.IV)

**d) Toposheet No. with latitude and longitude.**

The lease applied area falls in the Toposheet **No.58-A/16** Latitude between **11°14'49.77"N to 11°14'53.70"N** and Longitude between **76°58'48.20"E to 76°58'54.52"E** on WGS datum-1984. Please refer the Plate No (Plate No I to II).

**e) Existence of public road / Railway line, if any nearby and approximate distance.**

There is an existing metal road is on the Eastern side, this metal road connecting in the Ranga Nagar Village Road at a distance of 150m.

The road from the quarry to main road is already in exists, the same road will be maintained and utilized for transportation besides trees will be planted on the either side of the road to prevent dust and noise to the nearby areas. The area in and around the quarry is devoid of Vegetation and plantation.

The Nearest Railway line is Coimbatore- Mettupalayam which is about 2.5Km from the South Western side of the area.

**PART – A**

## 3. GEOLOGY AND MINERAL RESERVES.

### 3.1 Brief description of the Topography and general Geology of the area (with plans).

The Topography of the area is almost plain terrain covered by the Gravel , the thickness of the Gravel Formation is about 2m, Charnockite formation is noticed followed by the Gravel formation.

The crystalline rocks of the district are derived through a complex evolutionary history during Archaean and Proterozoic times with multiple deformations, anatexis, intrusions and polyphase metamorphic events.



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**Fig.2.0. Topographical View of lease applied area**

The massive Charnockite formation is clearly inferred from the existing pit. The slope is gentle towards Southern side. The altitude of the area is above 356m (Maximum) from MSL.

Water table is found at a depth of 60m in summer and at 57m in rainy seasons. Average annual rainfall is about 900mm during NE monsoon. Archaean forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body trends $N30^0E$- $S30^0W$ with dipping towards $SE60^0$.

The general geological sequences of the rocks in this area are given below.

| AGE | | FORMATION |
|---|---|---|
| Recent | - | Quaternary weathered formation (Gravel ) |
| ---------Unconformity---------- | | |
| Archaean | - | Charnockite Peninsular Gneiss complex. |



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### 3.2 Details of exploration already carried out if any

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Coimbatore District. Besides, the Qualified Person and his team members made a detailed geological study of the area The Rough stone formation is clearly inferred from the existing quarry pit.

### 3.3 Estimation of Reserves

**a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000.**

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally Five sections have been drawn, Two sections drawn Length wise as (X-Y) & (X1-Y1) and another Three sections drawn Width wise as (A-B), (C-D) & (E-F) to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in 1:1000 and vertical as 1:500 scale (please refer the Geological plan and sections Plate No- III. As the sale of Rough stone are in terms of cubic metres (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No. III)**

Geological Resources of Rough stone is calculated upto a depth of 32m below the ground level.

Geological Resources are calculated in area method.

| | | |
|---|---|---|
| Total Extent of the area | = | 1.01.2Ha |
| Area in square meter | = | 1.01.2HaX 10,000 = 10,120Sqm |
| Gravel | = | 2m below the ground level |
| | = | 10,120Sqm X 2m Depth |
| | = | **20,240m$^3$** of Gravel. |
| Rough Stone formation | = | 30m below the ground level. |
| | = | 10,120Sqm X30m Depth below the Ground level. |
| | = | **3,03,600m$^3$** of Rough stone upto a depth of 30m. |

Total Geological Resources of Rough Stone : **3,03,600m$^3$**

Total Geological Resources of Gravel : **20,240m$^3$**



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**Already Excavated.**

The area has been quarried in earlier the existing pit dimensions are follow

Table-2

| Pit.No | Length Avg in (m) | Width Max in (m) | Depth Max in (m) |
|---|---|---|---|
| I | 128m | 44m | 12m |

**Available Mineable Reserves.**

The available mineable reserves are calculated after leaving 7.5m & 10m safety distance to the adjacent patta lands & Quarry Road and Bench loss.

**Table-3**

| MINABLE RESERVES | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Section** | **Bench** | **Length in m** | **Width in m** | **Depth in m** | **Volume in $m^3$** | **Mineable Reserves of Rough Stone in $m^3$** | **Gravel in $m^3$** |
| **XY-AB** | **IV** | 43 | 36 | 5 | 7740 | 7740 | |
| | **V** | 38 | 26 | 5 | 4940 | 4940 | |
| | **VI** | 33 | 16 | 5 | 2640 | 2640 | |
| | **VII** | 28 | 6 | 5 | 840 | 840 | |
| | **TOTAL** | | | | | **16160** | |
| **XY-CD** | **IV** | 50 | 30 | 5 | 7500 | 7500 | |
| | **V** | 50 | 20 | 5 | 5000 | 5000 | |
| | **VI** | 45 | 10 | 5 | 2250 | 2250 | |
| | **TOTAL** | | | | | **14750** | |
| **XY-EF** | **IV** | 28 | 13 | 5 | 1820 | 1820 | |
| | **TOTAL** | | | | | **1820** | |
| **X1Y1-GH** | **I** | 46 | 12 | 2 | 1104 | | 1104 |
| | **II** | 40 | 7 | 5 | 1400 | 1400 | |
| | **TOTAL** | | | | | **1400** | **1104** |
| **GRAND TOTAL** | | | | | | **34130** | **1104** |

The Available mineable reserves have been computed as **34,130$m^3$** of Rough stone and **1104$m^3$** of Gravel Formation at the rate of 100% recovery upto depth of 32m below the ground level for a period of Five years.

## 4.0 Mining.

### 4.1 Method of mining (opencast / underground).

Open cast Semi-Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.



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**4.2 Mode of working (mechanized, semi mechanized, manual).**

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Semi- Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough stone to the needy crusher.

The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast semi mechanized method of mining.

**4.3 Proposed Bench Height and Width.**

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

**4.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.)**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and leveling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into tipper to the needy customers.

The Composite plan, Development plan and section indicating the Pit lay out, Green belt development are shown in Plate No-III.

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**Year wise development and Production table**

Table-4

| YEARWISE PRODUCTION DETAILS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Section | Bench | Length in m | Width in m | Depth in m | Volume in $m^3$ | Recoverable Reserves of Rough stone in $m^3$ | Gravel in $m^3$ |
| I-YEAR | XY-AB | IV | 38 | 36 | 5 | 6840 | 6840 | |
| | | TOTAL | | | | | **6840** | |
| II-YEAR | XY-CD | IV | 5 | 36 | 5 | 900 | 900 | |
| | | IV | 40 | 30 | 5 | 6000 | 6000 | |
| | | TOTAL | | | | | **6900** | |
| III-YEAR | XY-CD | IV | 10 | 30 | 5 | 1500 | 1500 | |
| | XY-EF | IV | 28 | 13 | 5 | 1820 | 1820 | |
| | XY-CD | V | 35 | 20 | 5 | 3500 | 3500 | |
| | | TOTAL | | | | | **6820** | |
| IV-YEAR | XY-CD | V | 15 | 20 | 5 | 1500 | 1500 | |
| | XY-AB | V | 38 | 26 | 5 | 4940 | 4940 | |
| | | TOTAL | | | | | **6440** | |
| V-YEAR | XY-AB | VI | 33 | 16 | 5 | 2640 | 2640 | |
| | | VII | 28 | 6 | 5 | 840 | 840 | |
| | XY-CD | VI | 45 | 10 | 5 | 2250 | 2250 | |
| | X1Y1-GH | I | 46 | 12 | 2 | 1104 | | 1104 |
| | | II | 40 | 7 | 5 | 1400 | 1400 | |
| | TOTAL | | | | | | **7130** | **1104** |
| | GRAND TOTAL | | | | | | **34130** | **1104** |

The Recoverable Reserves have been computed as **34,130$m^3$** of Rough stone and **1104$m^3$** of Gravel.

ASSISTANT DIRECTOR
DEPARTMENT OF GEOLOGY &
COIMBATORE DISTRICT

**4.5 Machineries to be used.**

**a) For Mining**

It is a fresh lease (the area has been quarrying earlier during previous lease period),

1. Excavator of 0.90Cbm bucket capacity (with Rock breaker attachment).
2. Tractor mounted compressor attached with Jackhammer (2 jack hammer capacity).

**b) Loading Equipment**

The quarried out Rough stone will be loaded with the help of hired excavator.



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**c) Transportation (includes within the mine and mine to destination).**

The Rough stone will be transported from the quarry pit to needy customer sites/Crushing unit by the 10/20Tons capacity tippers.

**4.6 Disposal of Overburden/Waste**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into tipper to the needy customers.

**4.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations.**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for five years, the ultimate pit limit (dimension) at the end of lease period is given below.

Table-5

| Description | Length (Max) (m) | Width (Avg) (m) | Depth (Max) (m) |
|---|---|---|---|
| Pit-I | 129 | 44 | 32m |
| Pit-II | 64 | 12 | 7m |

Afforestation has proposed on the 7.5m safety barrier by planting neem trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MOEF Norms. Please refer plat No.III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

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## 5.0 BLASTING

### 5.1 Blasting pattern

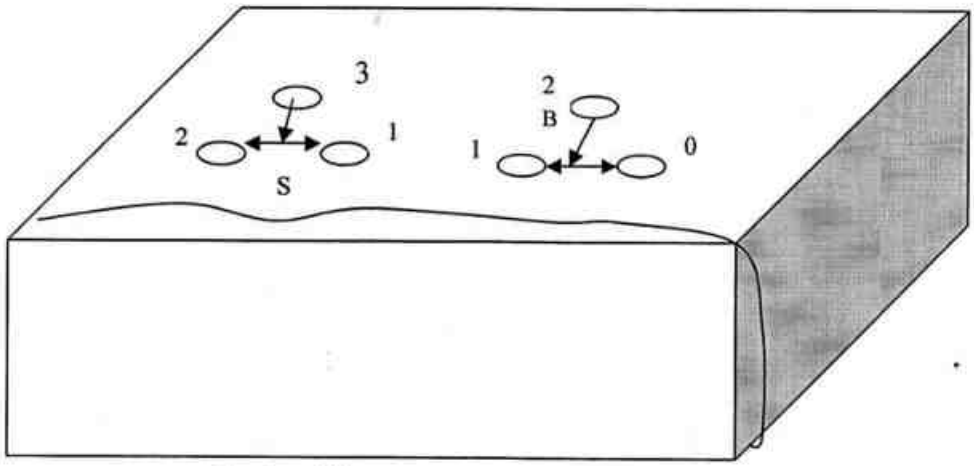
The quarrying operation is proposed to carried out by Semi Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting for shattering effect and loosen the Rough stone.

**Drilling and Blasting pattern**

Drilling and blasting parameters are as follows

| | | |
|---|---|---|
| Depth of Each hole | : | 1.2m-1.5m |
| Diameter of hole | : | 30-32mm |
| Spacing between holes | : | 0.5m |
| Burden for hole | : | 0.5m |
| Pattern of hole | : | Zigzag |
| Inclination of holes | : | $80^0$from horizontal |
| Use of delay detonators | : | 25millisecond delays. |
| Detonating fuse | : | "Detonating" Cord |
| Hole pattern | : | Staggered in two to three rows |

**BLASTING PATTERN DRAWING**




| | | |
|---|---|---|
| Spacing (S) | : | 0.5m |
| Burden (B) | : | 0.5m |
| Delay Detonators | : | 0,1,2 ... |

### 5.2 Type of explosives to be used

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.

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## 5.3 Measures proposed to minimize ground vibration due to blasting

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly rock.

**Delay detonators**

Delay blasting (milli second delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantage 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 | = 22Holes |
| Yield | = 66Tons |
| Powder factor | = 6 tons/Kg of explosives |
| Total explosive required | = 11Kg-Slurryexplosives |
| Charge/ hole | = 0.5 Kg |
| Blasted at day time | = 5-6p.m(whenever required) |

## 5.4 Storage and safety measures to be taken while blasting

They will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies will have experienced blaster. He will explode in the quarry site. After the completion of Blasting the explosives Agencies will take it out back the remaining quantity of Explosives. Magazine is available at the quarry site to temporarily store the explosives.

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## 6.0 Mine Drainage

### 6.1 Depth of water table (based on nearby wells and water bodies).

The water table in the area is 60m BGL in summer season and 57m in Rainy season which is observed from the nearby wells and the data obtained from existing Government and private boreholes.

Table -6

| S.No | Type | Distance & Direction | Location |
|---|---|---|---|
| 1 | Bore Well | 500m SE side | 11°14'35.04"N 76°58'58.13"E |

Hence the ground water will not be affected in any manner due to the quarrying operation during the entire life period.

### 6.2 Arrangements and places where the mine water is finally proposed to be discharged.

Quarry operations are confined well above the water table during the entire lease period.

If water is encountered at due to rain water and seepage, the same will be pumped out by 5HP water pumps to the afforestation and Green belt development areas. Besides the water will also be used for dust suppression on haul roads during Haulage of machineries.

## 7.0 OTHER PERMANENT STRUCTURES (also shown in the map)

### 7.1 Habitations/ Villages natham.

There is no houses within the radius of 300m from the periphery of the lease applied area.

### 7.2 Power Lines (HT/LT)

There is no LT/ HT line within the radius of 50m from the periphery of the quarry site.

### 7.3 Water bodies (river, pond, lake, odai, canal,etc.,).

Odai present in the 200m Radius of the Western Side. No major other water bodies like river, pond, lake odai etc., water bodies within the radius of 500m.

### 7.4 Archaeological / historical monuments.

There is no Archaeological / historical monuments within 500m radius from the area.



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**7.5 Road (NH, SH others)**

The nearest National Highway (NH - 67) Coimbatore- Nagapattinam is about 2.5Km from the South Western side of the area.

The State Highway (SH-168) Karamadai- Kariampalayam is 1.5Km from the South Western side of the area.

**7.6 Places of worships.**

There is no places of worships within the radius of 500m.

**7.7 Reserved forest / forest / social forest / wild life sanctuary etc.**

There is no Reserved forest / forest / social forest / wild life sanctuary etc., within radius of 500m.

**SALIENT FEATURES**

| S. No. | Salient Futures Present around site | Prescribed safety distance | Actual Distance from the site |
|---|---|---|---|
| 1. | Railways, Highways, Reservoirs or Canal | 50m | Railway line – 2.5Km ( Coimbatore- Mettupalayam) South Western side.<br>Highways-<br>National Highway (NH-67) Coimbatore-Nagapattinam 2.5Km from South Western side of area.<br>Reservoir – No reservoir within 10Km radius.<br>Canal- No canals within 1Km Radius. |
| 2. | Village Road | 10m | Ranga Nagar village road is 150m from the Eastern side of the area. |
| 3. | Habitation / Village | 300m | There is no houses within the radius of 500m. Actual distance are clearly marked in the Plate No I-B. |
| 4. | Adjacent Patta Land | | North -S.F.No. 77/1,77/1A<br>East -S.F.No. 77/2B, 2F, 2C, 2D(P)<br>South - S.F.No. 77/2E<br>West -S.F.No. 421<br>7.5m safety distance has been maintained from the patta land. |

| S.No | Name of the Village | Approximate distance & Direction from lease applied area |
|---|---|---|
| 1. | Mongampalayam | 2.0Km – NE |
| 2. | Chikkarampalayam | 2.0Km – SE |
| 3. | Karamadai | 3.0Km - SW |
| 4. | Chinna Thottipalayam | 2.0Km - NW |



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| | | | |
|---|---|---|---|
| 5. | Housing area, EB line (HT & LT Line) | 50m | There is no houses within the radius of 300m. LT Line: There is no LT Line within the radius of 50m. |
| 6. | Boundaries of the permitted area | 7.5m & 10m | The boundaries of the permitted areas is as follows |

| Direction | S.F.No | Classification |
|---|---|---|
| North | 77/1,77/1A | Patta Land |
| East | 77/2B, 2F, 2C,2D(P) | Patta land |
| South | 77/2E | Patta land |
| West | 421 | Patta land |

| | | | |
|---|---|---|---|
| 7. | Reserve forest / protected area / ECO sensitive area | 10Km | No reserved forest within the radius of 10Km. |

## 8. EMPLOYMENT POTENTIAL & WELFARE MEASURES

### 8.1 Employment potential (skilled, semi skilled, un skilled).

The following manpower are proposed to carry out the day-to-day quarrying activities aimed at the proposed production target and also to comply with the statutory provisions of the metalliferous mines regulations, 1961.

| | | | |
|---|---|---|---|
| a. | Skilled labour | | |
| | Mine Foreman/ Permit Mines Manager | : | 1 |
| | Jack hammer operator | : | 2 |
| | Excavator Operator | : | 1 |
| | Blaster/ mate | : | 1 |
| b. | Semi-skilled | : | |
| | watchman | : | 1 |
| c. | Unskilled- helper | : | 5 |
| | **Total** | **:** | **11** |

Allowing 10% absenteeism the man power would be around 10, The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations.

It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

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## 8.2 Welfare Measures

**a) Drinking Water**

Packaged drinking water is available from the nearby approved water vendors in Karamadai which is about 3Km from the South Western side of the area, Drinking water shall be readily available at conveniently accessible points during the whole of the working shift.

**b) Sanitary Facilities**

Hygienic modern Sanitary facilities will be constructed with in the quarrying area as permanent structure and it will be maintained periodically.

**C) First aid facility**

First aid kits are kept in Mines office room, in case of such eventualities the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 3Km South Western in Karamadai the competent and Statutory foreman/ permit manager will be in charge of first aid.

**d) Labour Health**

Periodically medical check up related to occupational health safety will be conducted to all the workers in Applicant own cost.

**e) Precautionary safety measures to the labourers.**

All the quarry workers will be provided with safety equipments like helmets, Mine Goggles, Ear plugs, Ear muffs, Dust mask, reflector jackets and Safety Shoes as personal protective device as per the specification approved by Director of mines safety. Periodically medical check up will be conducted for all workers for any mine health related problems. Proper training and induction will be given by qualified and experienced safety officer to all employees about the safe and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically to carry out the quarrying operations scientifically to safe guard the men machinery and mineral and to create awareness of conventional opencast quarrying operations.

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## PART – B

## 9. ENVIRONMENT MANAGEMENT PLAN

### 9.1 Existing Land use pattern

The quarry lease applied area is exhibits almost plain topography. The area is a dry barren land devoid of Agriculture and Habitations. The land is not used for any specific vegetation.

LAND USE TABLE-7

| Description | Present area in (Ha) | Area at the end of Lease period (Ha.) |
|---|---|---|
| Area under quarrying | 0.45.0 | 0.50.0 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.01.0 | 0.02.0 |
| Green Belt | Nil | 0.15.0 |
| Unutilized | 0.55.2 | 0.33.2 |
| Grand Total | 1.01.2 | 1.01.2 |

### 9.2 Water Regime

Ground water occurrence in this area is 60m depth. The quarrying operation is proposed upto a depth of 32m below the ground level, Hence the quarry operation will not be affected by the ground water.

### 9.3 Flora and Fauna:

There are no trees observed in the area. Thorny bushes, Neem and Palm are found in around the area. No plants of botanical interest or animals of zoological interest are noticed. There are no cultivation, plantation or agriculture found within the vicinity of the area.

### 9.4 Climatic Conditions

The area receives rainfall of about 900mm/per annum and the rainy season is mainly from Oct - Jan during North East, monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 23°C.

### 9.5 Human settlement

There is no houses within the radius of 300m, There are few villages located in this area within 5km radius, the approximate distance and population are given below.



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Table – 8

| S.No | Name of the Village | Approximate distance & Direction from lease applied area | Approximate population |
|---|---|---|---|
| 1. | Mongampalayam | 2.0Km – NE | 500 |
| 2. | Chikkarampalayam | 2.0Km – SE | 200 |
| 3. | Karamadai | 3.0Km - SW | 1500 |
| 4. | Chinna Thottipalayam | 2.0Km - NW | 400 |

Basic human welfare Amenities such as Health Center, Schools, Communication Facilities, and Commercial Centers etc are available at Karamadai located at a distance of 3km on the South Western side of the area.

## 9.6 Plan for air, dust suppression

The air quality will be affected by the Suspended Particulate Matter (SPM) this will be generated by the blasting, jack hammer drilling, Loading and unloading during the quarrying Rough stone quarry operation.

The following Mitigations measures will be carried out

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be planted on the exposed surface.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigation Measures will be carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs 52,000/year.**

## 9.7 Plan for Noise level control.

The noise level increased due to the excavation, Drilling, Blasting and Transportation.

**Engineering Noise control:**

Noise will be created due to the usage of Machinaries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments
- Implementation of effective preventive maintenance which reduces noise more than 50%.

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- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly inducted to move the vehicle during the transportation not exceed 40 km per hour.
- Sentries with flags & whistle will posted in village junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and 1.5m depth will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse only will be used for rough stone. Hence, ground vibration and noise pollution will be minimal and restricted within the quarry workings.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs 2,000/Year.**

**9.8 Environmental impact assessment statement describing impact of mining on the next five years.**

The mining plan proposed is for a small production of Rough stone without involving deep hole drilling and heavy blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and noise is concerned, anyhow environmental impact studies will be conducted as per EIA notification issued by MoEF. It is B2 Category mine. The estimated budget would be around **Rs. 7,10,000/-**

**9.9 Proposal for waste management**

There is no waste in this Rough stone and gravel quarry operation.

**9.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.)**

In the mining plan only a maximum depth of 32m has been envisaged as workable depth for safe & economic mining during the lease period. After quarry reaches the ultimate depth 32m and the end of the lease period fencing will be constructed around the quarried pits to prevent inherent entry of the public and cattle. There is no proposal for reclamation and rehabilitation. the barbed wire fencing cost would be around **Rs.50,000/-**

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**9.11 Programme of afforestation (indicate extend, number, name of species to be afforestated).**

The 7.5m safety distance along the lease boundary has been identified to be utilized for afforestation Appropriate native species of neem trees will be planted in a phased manner as described below.

Table – 9

| Year | No. of tress proposed to be planted | Survival % | Area to be covered Sq.m | Name of the species | No. of trees expected to be grown |
|---|---|---|---|---|---|
| I | 30 | 80% | 300 | Neem/ Casuarina | 24 |
| II | 30 | 80% | 300 | Neem/ Casuarina | 24 |
| III | 30 | 80% | 300 | Neem/ Casuarina | 24 |
| IV | 30 | 80% | 300 | Neem/ Casuarina | 24 |
| V | 30 | 80% | 300 | Neem/ Casuarina | 24 |

Nearly 1500Sqm area is proposed to use under afforestation by planting 30 Nos of neem/ Casuarina trees every year with an anticipated survival rate of 80%. (Please refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around **Rs. 30,000/-** for the period of five years.

**9.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the entire quarrying period.

Table -10

| S. No | Monitory and Analysis Description | Rate per location | No. of location | Total Charges/ six months | Total Charges/ year |
|---|---|---|---|---|---|
| 1 | Ambient air quality monitoring | 6500 | 4 | 26000 | 52000 |
| 2 | Noise level monitoring | 250 | 4 | 1000 | 2000 |
| 3 | Ground vibration monitoring | 1000 | 2 | 2000 | 4000 |
| 4 | Water sampling and analysis | 9000 | 1 | 9000 | 18000 |
| **Total EMP Cost/ year** | | | | | **76,000** |

The EMP cost would be around **Rs 3,80,000/-** for the period of five years.

| | **Project cost / investment** | |
|---|---|---|
| | i) Land cost | It is patta land, the present land cost is about **Rs.2,00,000/Ha,** hence the total land cost is calculated about **Rs 2,02,400/-** |
| | ii) Machinery to be used | Excavators attached with rock breaker (Rental Basis) = **Rs. 15,00,000/-**<br>Tractor mounted compressor with jack Hammer and loose tools. = **Rs. 6,00,000/-** |

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| | | |
|---|---|---|
| | | Tippers (10/20Tons Capacity) 1No = **Rs 10,00,000/-** |
| | iii) Refilling / Fencing | Fencing will be constructed around the quarry pit to prevent the inherent entry of public and cattles cost would be around **Rs.50,000/-** |
| | iv) Laboureres shed | Labour sheds will be constructed as semi permenant structure. The cost would be around **Rs 50,000/-** |
| | v) Sanitary facility | Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around **Rs. 50,000/-** |
| | vi) Others items | First aid room & accessories = **Rs. 50,000/-** |
| | vii) | **A. Fixed asset :-**<br>Land cost = Rs 2,02,400/-<br>Labour shed = Rs 50,000/-<br>First aid room and accessories = Rs 50,000/-<br>Sanitary facilities = Rs 50,000/-<br>**Total Fixed asset = Rs 3,52,400/-**<br>**B. Operational Cost :-**<br>Machinaries to be used = Rs 31,00,000/-<br>Fencing cost = Rs 50,000/-<br>**Total operational cost =Rs. 31,50,000/-** |
| | **(a) Expenditure** | |
| | i) Drinking water facility for the laborers | Packaged drinking water is being provided for all the labours. Drinking water is readily available at conveniently accessible points during the whole of the working shift the cost would be around **Rs.1,00,000/-** |
| | ii) Sanitary arrangement, | The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around **Rs.50,000/-** for the entire period. |
| | iii) Safety kits | All the Safety kits such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided by the applicant own cost the cost would be around **Rs. 50,000/-** |

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| | | |
|---|---|---|
| | iv) Water sprinkling | Water will be sprinkled in the haul roads by water sprinklers the cost would be around **Rs.1,00,000/-** |
| | v) Afforestation etc. | Afforestation program will be carried out in the boundary barrier the cost would be around **Rs.30,000/-** for the five year plan period. |
| | | **Total Cost = RS. 3,30,000/-** |

**C. EMP Cost :- (Per year)**

| | | |
|---|---|---|
| Air Quality monitoring | = | Rs. 52,000/- |
| Water Quality Sampling | = | Rs. 18,000/- |
| Noise Monitoring | = | Rs. 2,000/- |
| Ground vibration test | = | Rs. 4,000/- |
| **Total Cost** | = | **Rs. 76,000/-** |

Total EMP Cost for the five year period is **Rs. 3,80,000/-**

Total Expenditure and EMP cost (Including EMP Studies) **= Rs. 7,10,000/-**

**A+B+C=**

| | |
|---|---|
| A. Fixed asset cost | = Rs 3,52,400/- |
| B. Operational cost | = Rs 31,50,000/- |
| C. EMP Cost | = Rs 7,10,000/- |
| **Total Project Cost (A+B+C)** | **= Rs 42,12,400/-** |

The applicant ensures to involve corporate social responsibilities (CSR) like providing note books to nearby school, providing drinking water facilities to the nearby villages etc., at around 2.5% from the total project cost the cost would be around **Rs.1,05,000/-**

| | | |
|---|---|---|
| Total Project cost | = Rs. | 42,12,400/- |
| CSR Cost (2.5%) | = Rs. | 1,05,000/- |
| **Total cost** | **= Rs.** | **43,17,400/-** |

(The Total cost of the project including EMP Cost is Rupees Forty Three Lakhs Seventeen Thousand and Four Hundred Rupees only)



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## 10. MINE CLOSURE PLAN

### 10.1 Steps proposed for phased restoration, reclamation of already mined out areas.

There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of the life of lease will be fenced to prevent inherent entry of public and cattles. After treating the water the same will be utilized for nearby agriculture purpose to the nearby agriculture lands.

### 10.2 Measures to be under taken on mine closure as per Act & Rules.

Measure will be taken as per Act & Rules, There is no proposal for back filling, reclamation and rehabilitation. The quarry pit will be fenced by barbed wire to prevent inherent entry of public and cattle.

The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture lands.

### 10.3 Mitigation Measure To Be Undertaken For Safety And Restoration / Reclamation Of The Already Mined Out Area.

**Air quality: (Air quality will be degrade due to the drilling, blasting, mining operation and transportation).**

**Mitigation measures:**

Drilling will be carried out by wet drilling mode to control the dust propagation into the air. Blasting will be carried out on limited scale. Mist Water spraying on haul road is proposed to prevent the dust propagation into the air. Air quality will be monitored periodically as per norms.

**NOISE AND VIBRATION: (The noise will be formed due to the drilling, blasting, loading and movement of Machineries.**

**Mitigation measures :**

The applicant proposed to carry out the plantation all along the boundary to prevent Noise besides wet drilling will be practiced to prevent dust. All the machineries will be maintained in good conditions as per RTO and TNPCB Norms to prevent Noise, Smoke and vibration.

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**WATER REGIME :**

**Mitigation Measures :**

The quarry operation proposed upto a depth of 32m below the ground level for the five year period, the proposed depth is well above the water table (Summer in 60m and rainy seasons in 57m), hence the water table will not be affected in any..

The seepage and rain water will be drained out from the pit by the 5H.P motor pump and will be discharged through filter media to boundary barrier for afforestation and excess water will be sprayed on haul roads to prevent dust propagation in to the atmosphere. The rough stone quarry will not produce any harmful toxic effluence in the form of solid liquid or gas.

**HUMAN HEALTH & SAFETY: Dust will be limited due to the mine operation.**

All the labours has been provided with safety equipment's like helmet, Safety Goggles, Ear muff, Hand Glouse, safety jacket, safety belt, and Mine boots etc., at Applicant own cost, As per the specifications of Director of mines safety. The competent qualified person foreman/Permit Mines Manager will provide first aid and will take care of small & minor injuries. If any accident happens, the victim will be taken to the nearby hospital by the Applicant van which is always kept in the mines office. The hospital is about 3Km in Karamadai (SW).

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**11. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANTS**

This Mining plan for Rough stone (Charnockite) and Gravel is prepared under rule 19 of Tamilnadu Minor Mineral concession rules, 1959 & as per amendment under rule 41 & 42. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied with, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

Prepared by

S.Ilavarasan, M.Sc.,
RQP/MAS/253/2013/A

Place : Salem
Date : 03.07.2017

ASSISTANT DIRECTOR
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE DISTRICT

ANNEXURE - T




From

Thiru. T.N.Hariharan, I.A.S.,
District Collector,
Coimbatore District,
Coimbatore – 18.

To

Thiru.S.Gnanasekaran,
S/o. Saamappa Gowder,
2/241, Kannarpalayam,
Karamadai (Po),
Mettupalayam Taluk,
Coimbatore District.

R.C. 83/ Mines/2017 Dated 22.06.2017

Sir,

Sub Mines & Minerals - Minor Mineral – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village - over an extent of 1.01.2 hectares out of 1.04.0 hectares of patta land - Survey No. 77/2D (Part) - Application preferred by Thiru.S.Gnanasekaran for quarrying Roughstone and gravel - precise area communicated – mining plan called for - Reg

Ref 1. Quarry lease application dated 30.01.2017 preferred by Thiru.S.Gnanasekaran, S/o. Saamappa Gowder, 2/241, Kannarpalayam, Karamadai (Po), Mettupalayam Taluk, Coimbatore District.
2. This office letter even number dated 17.02.2017 addressed to the Revenue Divisional Officer, Coimbatore North
3. Revenue Divisional Officer, Coimbatore North Letter RC.No.583/2017/A3 dated 24.04.2017
4. Inspection report of the Assistant Director, Geology and Mining, Coimbatore dated 09.06.2017
5. G.O.Ms.No.29, Industries (MMC-1) Department dated 06.04.2015

.....

The quarry lease application preferred by Thiru.S.Gnanasekaran, S/o. Saamappa Gowder, 2/241, Kannarpalayam, Karamadai (Po), Mettupalayam Taluk, Coimbatore for the grant of quarry lease for quarrying rough stone and gravel over an extent of 1.01.2 hectares out of 1.04.0 hectares of patta land in SF.No. 77/2D (part) in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District has been taken up for consideration under rule 19 of Tamilnadu Minor Mineral Concession Rules, 1959 and the following precise area is considered for the grant of quarry lease for a period of 5 years with the conditions stipulated below.

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| Taluk | Village | SF.Nos | Extent (in hect.) | Extent applied for (in Hect.) |
|---|---|---|---|---|
| Mettupalayam | Chikkarampalayam | 77/2D (Part) | 1.04.0 | 1.01.2 |
| | | Total | 1.04.0 | 1.01.2 |

1. A safety distance of 10 meters should be provided for the approach road passing on the South and Eastern side of the applied area and a safety distance of 7.5 meters should be provided all along the boundary of the area applied for lease.

2. While carry out quarry operation, no hindrance shall be caused to the adjoining patta land and road.

3. The applicant should fence the area with barbed wire before execution of lease deed.

4. Environmental clearance should be obtained from the District Level Environmental Impact Assessment Authority in respect of the subject area as per the orders of the Hon'ble Supreme court dated 27.02.2012 in IA.No 12-13/2011 in SLP (C No.19629/2009 and office memorandum No.L.11011/47/2011-1A II (M) dated 18.05.2012 of the Ministry of Environment and Forest.

In this regard you are directed to prepare a mining plan for the above mentioned area through the help of Recognized Qualified Person (ROP) and to submit the same before the Assistant Director for getting approval within in a period of 90 days from the date of receipt of this letter as required under rule 41 of Tamilnadu Minor Mineral Concession Rules, 1959.

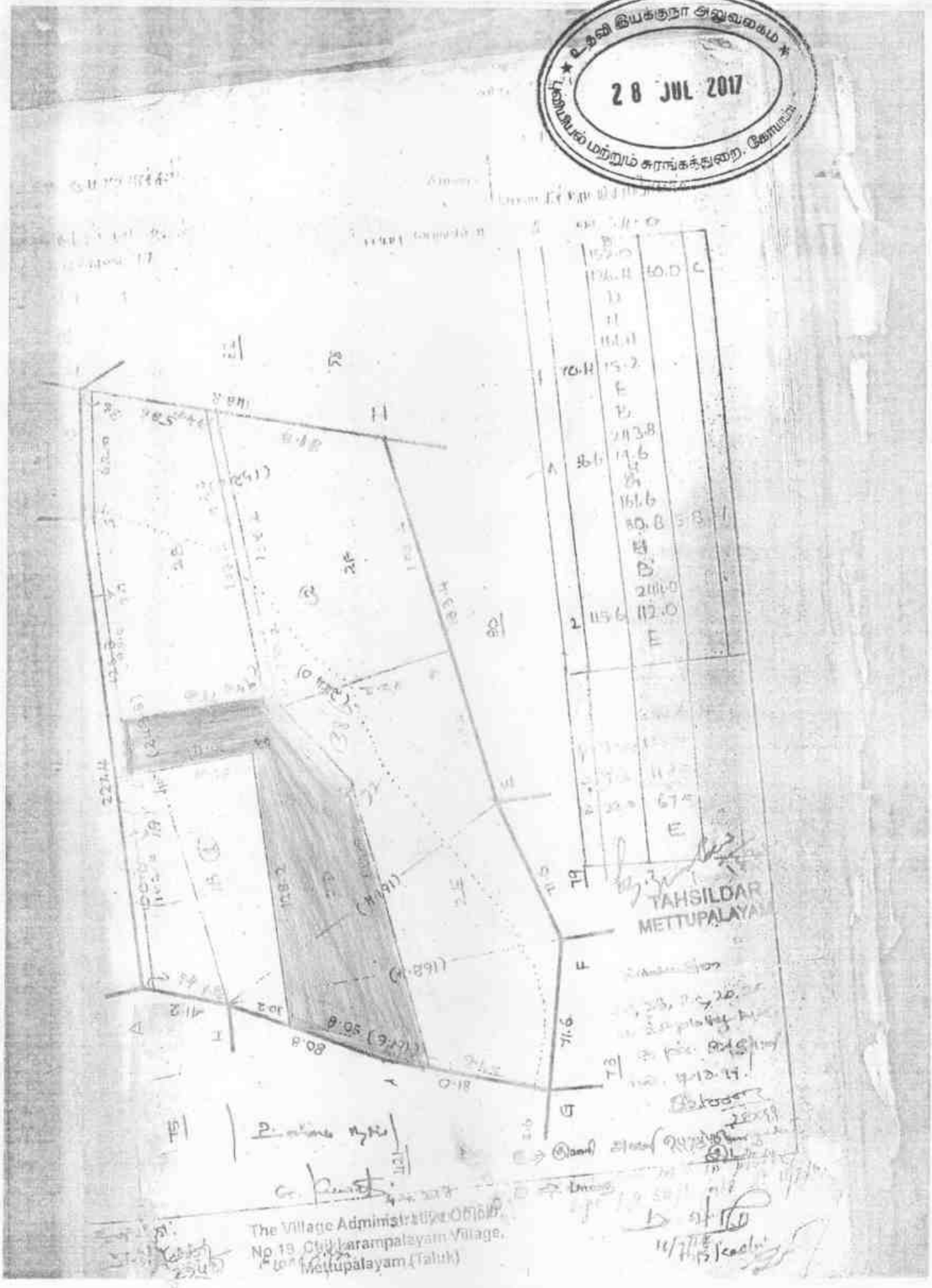
Sd /xxx
District Collector,
Coimbatore.

//True Copy/By Order//

For District Collector,
Coimbatore.

28762/7 A

ANNEXURE - II

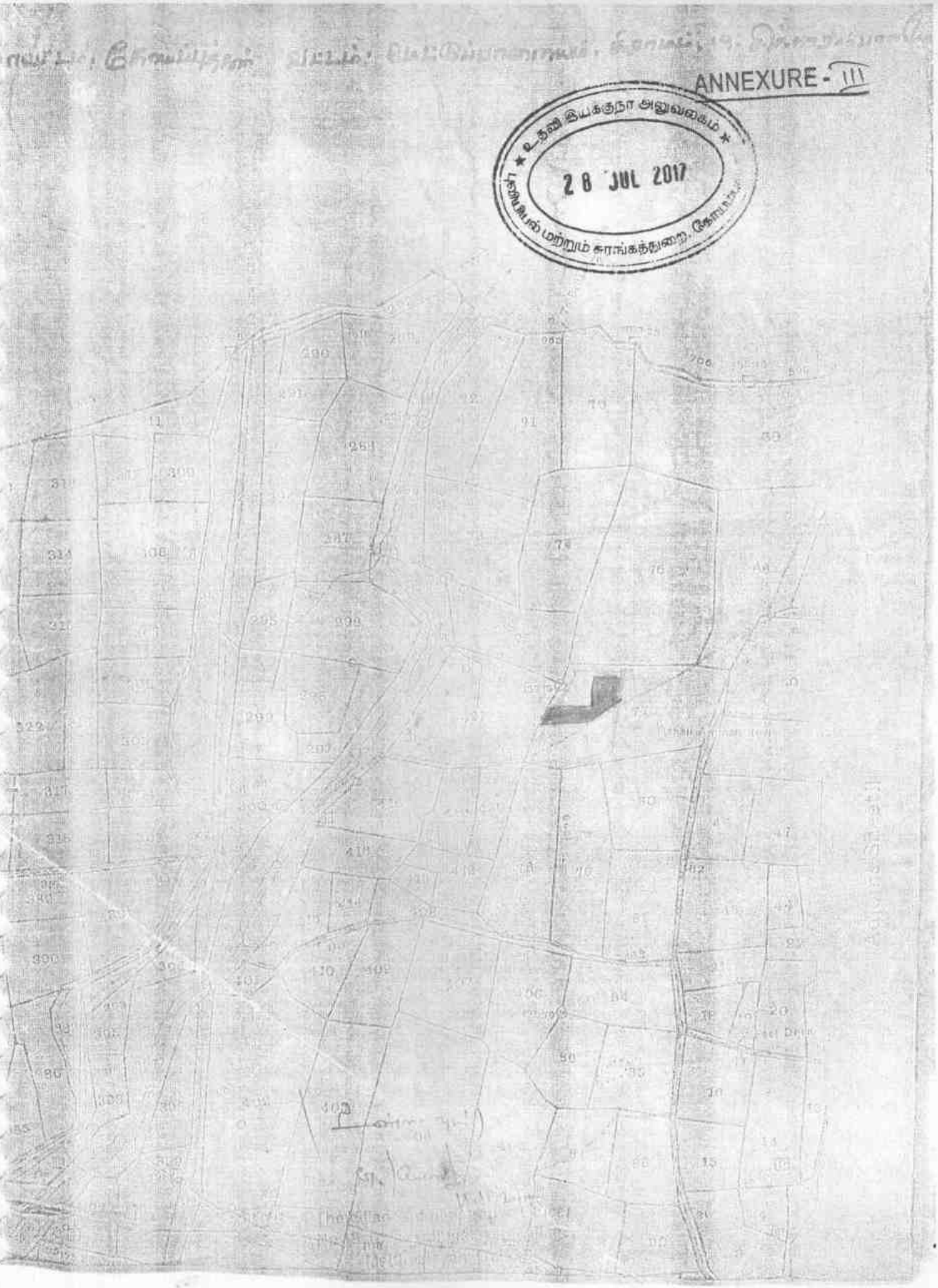



LEASE APPLIED AREA

28862828 A

ANNEXURE - III

உதவி இயக்குநர் அலுவலகம்
28 JUL 2017
சுரங்கங்கள் மற்றும் கனிமத்துறை, கோயம்புத்தூர்



LEASE APPLIED AREA

28962 29 A

ANNEXURE - IV

தமிழக அர[illegible]

வருவாய்த் துறை

28 JUL 2017

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் :
மேட்டுப்பாளையம்
வருவாய கிராமம் : சிக்காரம்பாளையம் பட்டா எண் :
1711

உரிமையாளர்கள் பெயர்

| | | | |
|---|---|---|---|
| 1. | ஞானசேகரன் | மனைவி | சந்திரா |
| 2. | மகேந்திரன் | மனைவி | முத்துமாமாள |

| | | நனசெய | | பனசெய | | மற்றவை | |
|---|---|---|---|---|---|---|---|
| | | பரபபு | தீர்வை | பரபபு | தீர்வை | பரபபு | தீர்வை |
| புல எண் | உடபிரிவு | ஹெக - ஏர | ரூ - பை | ஹெக - ஏர | ரூ - பை | ஹெக - ஏர | ரூ - பை |
| 77 | 2D | -- | -- | 1 - 4.00 | 2.08 | -- | -- |
| | | | | 1 - 4.00 | 2.08 | | |

குறிப்பு2 :

1. மேறகணட தகவல / சானறிதழ நகல விவரங்கள மின பதிவேடடிலிருநது பெறபபடடவை. இவறறை தாஙகள http://eservices.tn.gov.in எனற இணைய தளததில 12/04/019/01711/10950 எனற குறிபபு எணணை உளளிடு செயது உறுதி செயதுகொளளவும.
2. இத தகவலகள 10-01-2017 அனறு 12:40:22 PM நேரததில அசசடிகபபடடது.
3. கைபபேசி கேமராவின 2D barcode படிபபான மூலம படிதது 3G/GPRS வழி இணையதளததில சரிபாரகக்வும

1/10/2017 12:40 PM

1 of 1

290630 A

கிராம கணக்கு

எண் 2

L.F. III A 10. 10,00,000 Cps. G.B.P. MDU-2010

கிராமத்தில் வருடவாரி புலவாரி கைப்பற்று சகுபடி அடங்கல் கணக்கு

ஆ. – ஆ பதவியில் [illegible] மாவட்டம் [illegible] வட்டம் [illegible]

| நில வரித் திட்டத்தின்படி புலன்களின் விபரம் | | | | | கைப்பற்று தாருடைய பெயரும் எண்ணும் அல்லது அறுபோக தாருடைய பெயர். | சாகுபடி பயனின் பெயர் | முதல் போகம் | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| நில அளவை எண் | உட்பிரிவு எண் | பரப்பு | நிலவகை | ஒரு போகம் குலையும் தீர்வை | | நிலத்தின் சந்த பருதி யாரது அனுபவத்தில் பயிர் நின்றது. | எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது | பயிரின் பெயர். | பயிரை / அறுவடை யானவர். | உள்வையான பாய்ச்சல் ஆதாரம். | விளைச்சல் அளவு விபரத்தைக் குறிக்கவும். |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 1 | 2B | 1.04.0 | 2.C2 | 726 | சந்திரா (2) | | | | | | |

| இரண்டாம் போகம். | | | | | | கீழ்க்கண்டவகையில் பயிரிடப்படாது உள்ள நிலத்தின் தரமை மற்றும் பயன்படாத விபரங்கள் குறிப்பு | |
|---|---|---|---|---|---|---|---|
| எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது | பயிரின் பெயர். | பயிரை / அறுவடை யானவர் பெயர். | உள்வையான பாய்ச்சல் ஆதாரம். | விளைச்சல் அளவு விபரத்தைக் குறிக்கவும். | அரசு அனுமதியுடன் தற்காலிகமாக பயிர் செய்யப்பட்டுள்ள நிலங்கள் (ii) வேலையாள் தட்டுப்பாடு காரணமாக தரிசு நிலம் (iii) முன்னோர் பயன்படுத்தி பயிரிடப்பட்டுவந்த நிலம் (iv) பிற காரணங்களால் தரிசு நிலம் | (அ) மானாம் (ஆ) பராமரிப்பு பயிர் செய்ய இயலாத நிலம், (இ) விவசாய மற்றும் இதர பயன்களுக்கு நிலங்களும், (ஈ) விளைநிலப் பயன்பாடு மாற்றம் செய்யப்பட்ட நிலம் (உ) பயிர் செய்யும் தகுதியுள்ள தரிசு நிலங்கள் (ஊ) நடைமுறை தரிசுகள் | கருத்து |
| (13) | (14) | (15) | (16) | (17) | (18) | (18அ) | (19) |

28 JUL 2017

ANNEXURE - V

2916681 A

ANNEXURE - VI






அ-பதிவேடு விவரங்கள்

மாவட்டம் : கோயம்புத்தூர்

வட்டம் : மேட்டுப்பாளையம்

கிராமம் : சிக்காரம்பாளையம்

| | | | |
|---|---|---|---|
| 1. புல எண் | 77 | 9. மண் வயனமும் ரகமும் | 8 - 3 |
| 2. உட்பிரிவு எண் | 2D | 10. மண் தரம் | 5 |
| 3. பழைய புல - உட்பிரிவு எண் | 77 | 11. தீர்வை (ரூ - ஹெ) | 2.00 |
| 4. பகுதி | P | 12. பரப்பு (ஹெக்டேர் - ஏர்) | 1 - 4.00 |
| 5. அரசு / ரயத்துவாரி | ரயத்துவாரி | 13. மொத்த தீர்வை (ரூ - பை) | 2.08 |
| 6. நிலத்தின வகை | புஞ்சை | 14. பட்டா எண் | 1711 |
| 7. பாசன ஆதாரம் | - | 15. குறிப்பு | - |
| 8. இரு போகமா | - | 16. பெயர் | 1.சந்திரா 2.முத்தம்மாள் |

குறிப்பு 1:

1. மேற்கண்ட தகவல் / சார்நிலை நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **70950** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



2926832 A

ANNEXURE - VII




INDIA NON JUDICIAL

TAMIL NADU

S. 6ணைதாரபுரி — Rs 201-

S. [illegible] சலி 32AB 988782

வி எண்: 273
தேதி: 5.7.2017

சந்திரா
W/O ஞானசேகரன்
2/241, கண்ணார்பாளையம்
சிக்காரம்பாளையம்(பி)

சம்மதக் கடிதம்

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், காரமடை அருகில், 2/241-கண்ணார்பாளையம் என்ற முகவரியில் வசிக்கும் திரு. S. ஞானசேகரன் மனைவி திருமதி. S. சந்திரா ஆகிய நான் எனது கணவரும், மனுதாரருமான திரு. S. ஞானசேகரன் என்பவருக்கு எழுதிக்கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்,

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், பட்டா எண் 1711-ன் படி க.ச.எண் 77/2D காலையில் மொத்தம் 1.04.0 ஹெக்டேர் பரப்பானது எனக்கு பாத்தியப்பட்டது. மேற்படி காலைகளில் சாதாரணக்கல் மற்றும் மண் வெட்டி எடுக்க கோவை மாவட்ட ஆட்சியர் அவர்களால் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றப்படும் நாளிலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரணக்கல் மற்றும் மண் வெட்டி எடுக்க எனது கணவரும், மனுதாரருமான திரு. S. ஞானசேகரன் என்பவருக்கு குத்தகை உரிமம் வழங்க எவ்வித ஆட்சேபணையும் இல்லை என்பதை இச்சம்மதக் கடிதத்தின் மூலம் தெரிவித்துக் கொள்கிறேன்.

இப்படிக்கு

ANNEXURE - VIII

உதவி இயக்குநர் அலுவலகம்
28 JUL 2017
சார்பதிவாளர் மற்றும் சரகத்தலைவர், கோயம்புத்தூர்

Government of India

AADHAAR

தகவல்

- ஆதார் அடையாளத்திற்கான சான்று குடியுரிமைக்கு அல்ல.
- அடையாள சான்றை இணையதளம் மூலம் உறுதிப்படுத்திக் கொள்ளவும்.

INFORMATION

- Aadhaar is proof of identity, not of citizenship.
- To establish identity, authenticate online.

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

Unique Identification Authority of India

Address: S/O Samappagowder, 2/241, KANNARPALAYAM, KARAMADAI, Chikkarampalayam, Karamadal, Coimbatore, Tamil Nadu, 641104

4171 8521 8213

1947 | help@uidai.gov.in | www.uidai.gov.in

आधार

இந்திய அரசாங்கம்

Unique Identification Authority of India

பதிவு / அடையாளம் / Enrollment No. : 2043/50910/09437

To
Gnanasekaran S
S/O: Samappagowder
2/241
KANNARPALAYAM
KARAMADAI
Chikkarampalayam
Karamadal,Coimbatore
Tamil Nadu - 641104
9842204259

30/06/2015

KH473938885FT
47393888

உங்கள் ஆதார் எண் / Your Aadhaar No.

**4171 8521 8213**

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

இந்திய அரசாங்கம்

Gnanasekaran S

DOB: 04/03/1962

Male

4171 8521 8213

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

ANNEXURE - X

28 JUL 2017

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES



**अर्हताप्राप्त व्यक्ति के रुप में मान्यता प्रमाण पत्र**
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)

## CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एस. इलवरसन, पिता यू. सनंतानम, 7सी, मेट्टु स्ट्रट, भीमा नगर, तिरुची - १, तमिलनाडू, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोषजनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हताप्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri S.Ilavarasan, S/o.U.Santhanam, 7C, Mettu Street, Beema Nagar, Tridhy -1, Tamilnadu, whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

उनकी पंजीयन संख्या है
His registration number is : RQP /MAS/253/2013/A

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 27.08.2023 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 27.08.2023

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिती में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।
This certificate will liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान / Place : Chennai
दिनांक / Date : 28.08.2013.

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines
भारतीय खान ब्यूरो / Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

JUL 2016

(PREPARED UNDER RULE 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

***Lease period = Five years***

*IN*

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

| | | |
|---|---|---|
| EXTENT | : | 1.27.0ha |
| S.F.NO | : | 80/1 |
| VILLAGE | : | CHIKKARAMPALAYAM |
| TALUK | : | METTUPALAYAM |
| DISTRICT | : | COIMBATORE |
| STATE | : | TAMIL NADU |

*FOR*

**APPLICANT**

**Tmt.R.Poorni,**
**W/o.R.Rajamani,**
No.85/54, Kondasamy Naidu Nagar,
Karamadai Post,
Mettupalayam Taluk,
Coimbatore District.

*PREPARED BY*

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Qualified Person

**M/s.Geo Exploration and Mining Solutions,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.
E-Mail: infogeoexploration@gmail.com
Website: www.gemssalem.com

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**R.Poorni,**
W/o.R.Rajamani,
No.85/54, Kondasamy Naidu Nagar,
Karamadai Post,
Mettupalayam Taluk,
Coimbatore District.

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## CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.80/1 over an extent of 1.27.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared by

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Qualified Person

I request the District Collector, Coimbatore to make further correspondence regarding the modification of the Mining Plan with the said qualified person at his following address.

**Dr. P.Thangaraju, M.Sc., Ph.D.,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

I hereby undertake that all the modifications, if any 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.

Signature of the Applicant

R. Poorni

R.Poorni

Place: Coimbatore
Date: 06.07.2018

18 JUL 2018

**R.Poorni,**
W/o.R.Rajamani,
No.85/54, Kondasamy Naidu Nagar,
Karamadai Post,
Mettupalayam Taluk,
Coimbatore District.

## DECLARATION OF THE APPLICANT

The Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.80/1 over an extent of 1.27.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

R.Poorni

R.Poorni

Place: Coimbatore
Date: 06.07.2018

18 JUL 2018

## CERTIFICATE

Certified that I, **Dr.P.THANGARAJU, M.Sc., Ph.D.,** having an office at M/s. Geo Exploration and Mining Solutions, Regd.off.No.17, Advaitha Ashram Road, Alagapuram, Salem – 636 004, am a Post Graduate in Geology (M.Sc.Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

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

Accordingly, I prepare this Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.80/1 over an extent of 1.27.0ha Patta Land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State for **Tmt.R.Poorni,** W/o.R.Rajamani, No.85/54, Kondasamy Naidu Nagar, Karamadai Post, Mettupalayam Taluk, Coimbatore District., Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 12.07.2018

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**Dr. P.Thangaraju, M.Sc., Ph.D.,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

## CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of under Rule 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan for Rough stone and Gravel Quarry lease applied area in S.F.No.80/1 over an extent of 1.27.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Tmt.R.Poorni,**
W/o.R.Rajamani,
No.85/54, Kondasamy Naidu Nagar,
Karamadai Post,
Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the District Collectorate, Coimbatore, Tamilnadu for such permissions/ exemptions / relaxations and approvals.

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

Signature of the Qualified Person

Dr. P.Thangaraju, M.Sc., Ph.D.,

Place: Salem
Date: 12.07.2018

**Dr.P.Thangaraju,** M.Sc., Ph.D.,
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

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## CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan for Rough stone and Gravel Quarry lease applied area in S.F.No.80/1 over an extent of 1.27.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Tmt.R.Poorni,**
W/o.R.Rajamani,
No.85/54, Kondasamy Naidu Nagar,
Karamadai Post,
Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director General of Mines Safety (DGMS), No. 5, IInd Street, Block – AA, Anna Nagar, Chennai-40, Tamilnadu for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the mining plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr. P.Thangaraju, M.Sc., Ph.D.,

Place: Salem
Date: 12.07.2018

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# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 1.27.0ha IN CHIKKARAMPALAYAM VILLAGE, METTUPALAYAM TALUK, COIMBATORE DISTRICT, TAMILNADU.

(PREPARED UNDER RULE 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

## 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The Mining Plan and Environmental Management plan is prepared for Tmt.R.Poorni, W/o.R.Rajamani, No.85/54, Kondasamy Naidu Nagar, Karamadai Post, Mettupalayam Taluk, Coimbatore District.

The applicant has applied for Rough stone and Gravel quarry in the S.F.No.80/1 over an extent of 1.27.0ha Patta Land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District prepared under Rule 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the District Collector, Coimbatore and passed a letter vide **Rc.No.364/2017/Mines Dated: 05.07.2018** to submit Mining Plan for the approval in Department of Geology and Mining, Coimbatore to obtain Environmental Clearance from the District Level Environment Impact Assessment Authority, Coimbatore, Tamil Nadu.

In order to ensure compliance of the order of the Honorable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP(C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state DEIAA notified by MoEF as prescribed procedure prescribed under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the mining plan for approval and subsequent submission of Form-I and Pre feasibility report to obtain environmental clearance from the DEIAA, Coimbatore, Tamilnadu, Rough stone and Gravel quarry. This mining plan is prepared by considering the TNMMCR 1959 and as per the EIA Notification 2006 and it are subsequent Amended and judgments up till 01.05.2018.



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**Short Notes of Mining plan:**

a. Village Panchayat - Chikkarampalayam

b. Panchayat Union - Mettupalayam

c. The Geological Resources are **5,09,080m$^3$** of Roughstone and **25,454m$^3$** of Gravel in the entire area.

d. The Total Mineable Reserves are **77,355m$^3$** of Roughstone and **7,068m$^3$** of Gravel in the entire area.

e. The proposed quantity of reserves/ (level of production) to be mined and is about **77,355m$^3$** of Roughstone for a period of five years and **7,068m$^3$** of Gravel formation for a period of three years in the entire area.

f. Total extent of the lease applied area is about 1.27.0ha

g. Topography of the area = The area exhibits Plain topography.

h. Existing Depth of Mining = 20m (Max) below ground level.

i. Proposed Depth of mining = 42m below ground level.

j. This Mining Plan period = Five years

k. It is a fresh application, the area has been quarrying in earlier.

l. Method of mining/ level of mechanization.

Opencast mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.

m. Type of machineries proposed in the quarrying operation.

Excavators attached with rock breaker (Rental Basis).

Jack hammer, Compressor (Diesel drive) (4 Jack Hammer capacity) (Rental Basis).

n. No trees will be uprooted due to this quarrying operation.

o. The Approach road from the main road to quarry is in the good condition the same will be maintained and utilized for haulage.

p. There is no export of this Roughstone and Gravel.

q. Topo sketch covering 10km and 1km radius around the proposed area with markings of approved habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archeological importance, places of worships is marked and enclosed as Plate No.1A and 1B.



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r. The lease applied area is about 1.27.0ha bounded by four corners; the corners are designated as 1-4 Clock wise from the Southwestern corner the Co – ordinates for the all the corners are clearly marked in the Topography, Geological Plan and section enclosed as Plate No-III.

s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate No.III.

t. General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the,

ii) Interstate boundary

ii) Critically polluted areas as identified by CPCB,

*iii) Protected area under wild life protection ACT 1972,*

*iv) Eco sensitive area.*

u. There are no wastages anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

v. Around 18 employees are deploying in the quarrying operation.

w. Total Cost of the project is about **Rs.37,01,550/-**



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**2.0 GENERAL INFORMATION**

**2.1 a) Name of the Applicant : Tmt.R.Poorni,**

**b) Address of the Applicant (With Phone No and E-mail Address)**

| | | |
|---|---|---|
| Address | : | R.Poorni,<br>W/o.R.Rajamani,<br>No.85/54, Kondasamy Naidu Nagar,<br>Karamadai Post,<br>Mettupalayam Taluk,<br>Coimbatore District. |
| Pin Code | : | 641 104 |
| Mobile No | : | 98422 74641 |
| Aadhaar No | : | 5406 6481 8976 |

**c) Status of the Applicant (Individual/ Company/ Firm):**

The applicant is an individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough stone and Gravel only.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the District Collector, Coimbatore vide **Rc.No.364/2017/Mines Dated: 05.07.2018** to obtain approved mining plan and obtain Environmental Clearance from the District Level Environment Impact Assessment Authority, Coimbatore, Tamilnadu.

**c) Period of permission/ lease to be granted:**

The applicant applied permission to quarry Rough stone and Gravel for the period of Five years/ The District Collector considered for the Grant of quarry lease for the period of Five years for Roughstone and three years for Gravel.

**d) Name and address of the Qualified Person preparing the mining plan:**

| | | |
|---|---|---|
| Name | : | **Dr. P.Thangaraju, M.Sc., Ph.D.,** |
| Address | : | Regd.off.No.17,<br>Advaitha Ashram Road,<br>Alagapuram, Salem – 636 004. |
| Mobile | : | 94422 78601 & 94433 56539 |
| Tele Fax | : | 0427- 2431989 |
| Email | : | infogeoexploration@gmail.com |
| Website | : | www.gemssalem.com |



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## 3.0 LOCATION

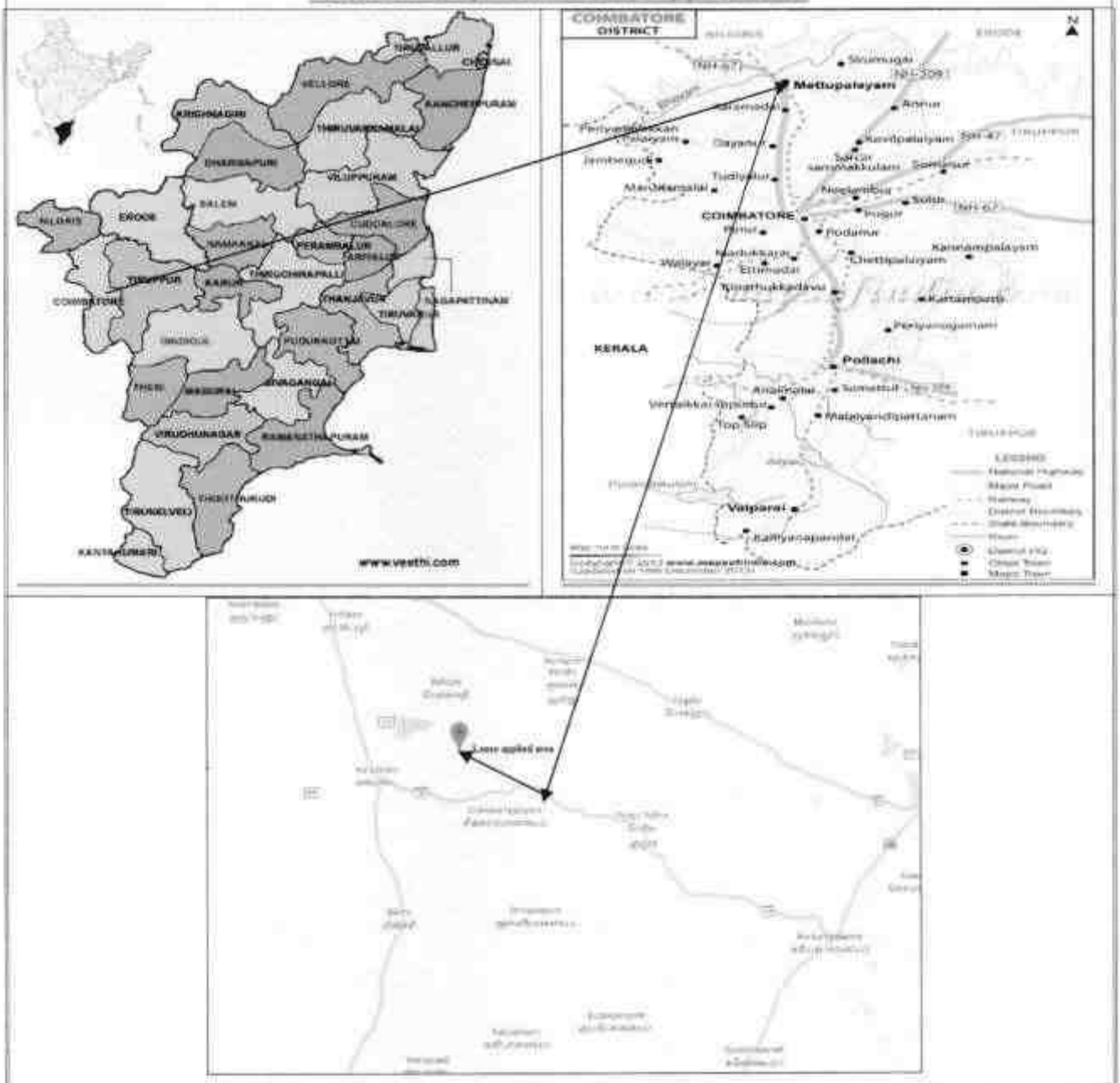
**a) Details of the area with location map:**

The lease applied area is about 25.0km Northeastern side of Coimbatore and 8.0km Southeastern side of Mettupalayam and the lease applied area located along Chikkarampalayam Village at a distance of 2.0km (NW).

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Coimbatore —25.0km, Northeast→ Mettupalayam —8.0km, Southeast→ Chikkarampalayam —2.0km, Northwest→ Lease applied area

**Location Map of the Lease Applied area**



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TABLE - 1

| District | Taluk | Village | S.F.No. | Area in ha |
|---|---|---|---|---|
| Coimbatore | Mettupalayam | Chikkarampalayam | 80/1 | 1.27.0 |
| **Total Extent** | | | | **1.27.0ha** |

**b) Classification of the area (Ryotwari/ Poramboke/ others):**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership/ Occupancy of the applied area (surface right):**

It is a Patta land, Registered in the Name of the Thiru.Rajamani vide Patta No.26. The applicant has been consent from Pattadhar. Refer the Patta copy as Annexure No.IV & VII.

**d) Toposheet No.with latitude and longitude:**

The lease applied area falls in the Toposheet No: **58 -A/16** Latitude between: **11°14'45.54"N** to **11°14'48.39"N** and Longitude between: **76°58'52.31"E** to **76°58'58.33"E** on WGS datum-1984. Refer the Plate No.I to II.

**e) Existence of public road/ Railway line, if any nearby and approximate distance:**

The approach metal road is situated on the Southern side of the applied area which connects the main road at a distance 300m.

Multiple road access is available from the quarry to state highways and National Highway, no villages are enrooted hence the traffic density is not much more due to the transportation of Rough stone.

The road from the quarry is already in existence, the same road will be maintained and utilized for haulage, besides trees will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Mettupalayam - Coimbatore which is about 2.5km on the Southwestern side of the area.

## PART – A

## 4.0 GEOLOGY AND MINERAL RESERVES

### 4.1 Brief description of the Topography and general Geology of the area (with plans):

The lease applied area is exhibits Plain Topography. The area has gentle sloping towards Northeastern side. The altitude of the area is 358m (Max) above Mean sea level. The area is covered by the Gravel which is about 2.0m thickness. Massive Charnockite is found after 2.0m (Gravel formation) which is clearly inferred from the existing quarry pit.

The Water level in the surrounding area is 50-55m below general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 850mm during SW monsoon.

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Topographical View of lease applied area

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body $N20^0E - S20^0W$ with dipping towards $NW80^0$.

The general geological sequences of the rocks in this area are given below,

| AGE | | FORMATION |
|---|---|---|
| Recent | - | Quaternary weathered Formation (Gravel) |
| ---------Unconformity---------- | | |
| Archaean | - | Charnockite Peninsular Gneiss complex |

**4.2 Details of exploration already carried out if any:**

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Coimbatore District. Besides, the Qualified Person and his team members made a detailed geological study of the area The Rough stone formation is clearly inferred from the existing quarry pit.



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**4.3 Estimation of Reserves:**

**a) Geological reserves with geological sections on a scale of 1:1000/ 1:2000**

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally three sections have been drawn, one section drawn Length wise as (X-Y) and another two sections drawn Width wise as (A-B) & (C-D) to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in 1:1000 and vertical as 1:500 scale (Refer the Geological plan and sections Plate No- III. As the sale of Rough stone are in terms of cubic metres (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No.III):**

Geological Resources of Roughstone and Gravel is calculated upto a maximum depth of 42m below ground Level.

TABLE-2

| GEOLOGICAL RESOURCES | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Section* | *Bench* | *Length in (m)* | *Width in (m)* | *Depth in (m)* | *Volume in $m^3$* | *Geological Resources of Roughstone in $m^3$* | *Gravel formation in $m^3$* |
| XY-AB | I | 66 | 68 | 2 | 8976 | - | 8976 |
| | II | 66 | 68 | 5 | 22440 | 22440 | |
| | III | 66 | 68 | 5 | 22440 | 22440 | |
| | IV | 66 | 68 | 5 | 22440 | 22440 | |
| | V | 66 | 68 | 5 | 22440 | 22440 | |
| | VI | 66 | 68 | 5 | 22440 | 22440 | |
| | VII | 66 | 68 | 5 | 22440 | 22440 | |
| | VIII | 66 | 68 | 5 | 22440 | 22440 | |
| | IX | 66 | 68 | 5 | 22440 | 22440 | |
| | **Total** | | | | | **179520** | **8976** |
| XY-CD | I | 107 | 77 | 2 | 16478 | | 16478 |
| | II | 107 | 77 | 5 | 41195 | 41195 | |
| | III | 107 | 77 | 5 | 41195 | 41195 | |
| | IV | 107 | 77 | 5 | 41195 | 41195 | |
| | V | 107 | 77 | 5 | 41195 | 41195 | |
| | VI | 107 | 77 | 5 | 41195 | 41195 | |
| | VII | 107 | 77 | 5 | 41195 | 41195 | |
| | VIII | 107 | 77 | 5 | 41195 | 41195 | |
| | IX | 107 | 77 | 5 | 41195 | 41195 | |
| | **Total** | | | | | **329560** | **16478** |
| **Grand Total** | | | | | | **509080** | **25454** |

Total Geological Resources of Roughstone : **5,09,080$m^3$**

Total Geological Resources of Gravel : **25,454$m^3$**



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**Existing Pit Dimension:**

The area has been quarried in earlier the existing pit dimensions are follow:

TABLE- 3

| Length in m (Max) | Width in m (Max) | Depth in m (Max) |
|---|---|---|
| 60m | 50m | 20m from below ground level |

**Available Mineable Reserves:**

The available mineable reserves are calculated after leaving 7.5m safety distance from the Patta Land, 10m safety distance maintained by Pathway, 50m safety distance maintained by E.B.line and Bench loss.

TABLE-4

| MINEABLE RESERVES | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Section* | *Bench* | *Length in (m)* | *Width in (m)* | *Depth in (m)* | *Volume in $m^3$* | *Mineable Reserves of Roughstone in ($m^3$)* | *Gravel formation in ($m^3$)* |
| XY-AB | V | 52 | 45 | 2 | 4680 | 4680 | |
| | VI | 47 | 35 | 5 | 8225 | 8225 | |
| | VII | 42 | 25 | 5 | 5250 | 5250 | |
| | VIII | 37 | 15 | 5 | 2775 | 2775 | |
| | IX | 27 | 5 | 5 | 675 | 675 | |
| | **Total** | | | | | **21605** | |
| XY-CD | I | 57 | 62 | 2 | 7068 | | 7068 |
| | II | 58 | 62 | 5 | 17980 | 17980 | |
| | III | 53 | 52 | 5 | 13780 | 13780 | |
| | IV | 49 | 42 | 5 | 10290 | 10290 | |
| | V | 45 | 32 | 5 | 7200 | 7200 | |
| | VI | 40 | 22 | 5 | 4400 | 4400 | |
| | VII | 35 | 12 | 5 | 2100 | 2100 | |
| | **Total** | | | | | **55750** | **7068** |
| **GRAND TOTAL** | | | | | | **77355** | **7068** |

The available mineable reserves have been computed as **77,355$m^3$** of Rough stone and **7,068$m^3$** of Gravel at the rate of 100% recovery upto a maximum depth of 42m below ground level for a period of five years.



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## 5.0 MINING

### 5.1 Method of mining (opencast/ underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.

### 5.2 Mode of working (mechanized, semi mechanized, manual):

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry explosives in blasting, excavation, Loading and transportation of Rough stone to the needy crusher.

The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

### 5.3 Proposed Bench Height and Width:

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

### 5.4 Indicate the overburden/ mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into tipper to the needy customers. The Composite plan, Development plan and section indicating the Pit lay out, Green belt development are shown in Plate No-III.



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## Year wise Development and Production Table

TABLE-5

| YEARWISE PRODUCATION DETAILS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Section* | *Year* | *Bench* | *Length in (m)* | *Width in (m)* | *Depth in (m)* | *Volume in $m^3$* | *Recoverable Reserves of Roughstone in $m^3$* | *Gravel formation in $m^3$* |
| XY-CD | I | I | 57 | 62 | 2 | 7068 | | 7068 |
| | | II | 58 | 62 | 5 | 17980 | 17980 | |
| | | **Total** | | | | | **17980** | **7068** |
| | II | III | 53 | 52 | 5 | 13780 | 13780 | |
| | | **Total** | | | | | **13780** | |
| | III | IV | 49 | 42 | 5 | 10290 | 10290 | |
| | | V | 45 | 32 | 5 | 7200 | 7200 | |
| | | **Total** | | | | | **17490** | |
| XY-AB | IV | VI | 40 | 22 | 5 | 4400 | 4400 | |
| | | V | 52 | 45 | 2 | 4680 | 4680 | |
| | | VI | 47 | 35 | 5 | 8225 | 8225 | |
| | | **Total** | | | | | **17305** | |
| XY-CD | V | VII | 42 | 25 | 5 | 5250 | 5250 | |
| | | VIII | 37 | 15 | 5 | 2775 | 2775 | |
| | | IX | 27 | 5 | 5 | 675 | 675 | |
| | | VII | 35 | 12 | 5 | 2100 | 2100 | |
| | | **Total** | | | | | **10800** | |
| | | **Grand Total** | | | | | **77355** | **7068** |

The Recoverable reserves have been computed as **77,355$m^3$** of Rough stone for a period of five years and **7,068$m^3$** of Gravel formation for a period of three years at the rate of 100% recovery upto depth of 42m below ground level.

The applicant ensures the total quantity proposed in the benches will not exceed during the Quarrying operation. Besides the rough stone locked up in benches will be exploited after obtaining necessary permission from the office of Director General of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

JOINT DIRECTOR AND
ASSISTANT DIRECTOR (I/c)
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE.



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| | | |
|---|---|---|
| One lorry load | = | $6m^3$ (approx.) |
| Total No of Working days | = | 260 Days per year |
| Total quantity to be removed in this five years plan period | = | $77,355m^3$ |
| Hence total Lorry loads per day | = | $77,355m^3/6m^3$ |
| | = | 12,892 Lorry loads |
| | = | 12892/5 years |
| | = | 2578/260 |
| | = | **10** Lorry loads per day |

Working hours = 8.00 am to 6.00 pm (with 1-2 pm lunch break)

## 5.5 Machineries to be used for Mining

The following machineries are utilized on rental basis for the development and production work at this quarry.

TABLE - 6

**I. DRILLING MACHINE**

| S.No. | Type | Nos | Dia Hole mm | Size Capacity | Motive power |
|---|---|---|---|---|---|
| 1 | Jack hammer | 3 | 30-35 | 1.2m to 2.0m | Compressed air |
| 2 | Compressor | 1 | - | 400 psi | Diesel Drive |

**II. EXCAVATION & LOADING EQUIPMENT**

| S.No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Excavator with Bucket and Rock Breaker | 1 | 300 | Diesel Drive |

**III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT**

| S.No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Dumpers | 1 | 20 tonnes | Diesel Drive |

## 5.6 Disposal of Overburden/Waste:

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas. The excavated Rough stone will be directly loaded into tipper to the needy customers.



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**5.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for Five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below.

TABLE-7

| Description | Length (Max) (m) | Width (Avg) (m) | Depth (Max) (m) |
|---|---|---|---|
| Conceptual | 118m | 58m | 42m from below ground level |

Afforestation has proposed on the 7.5m safety barrier and Panchayat roads by planting Neem/ Casuarina trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF Norms. Refer Plate No.III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

**6.0 BLASTING**

**6.1 Blasting pattern:**

The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting for shattering effect and loosen the Rough stone.

**Drilling and blasting parameters are as follows:**

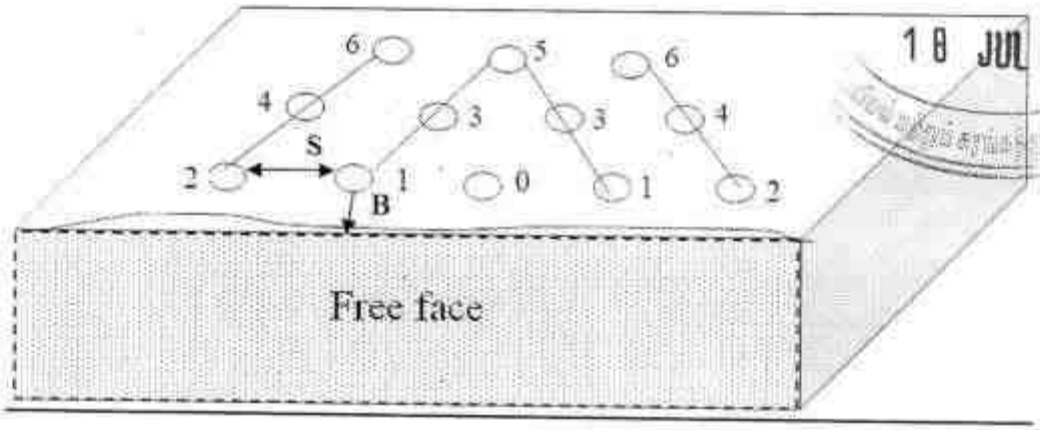
| | | |
|---|---|---|
| Depth of Each hole | : | 1.5m |
| Diameter of hole | : | 30-32mm |
| Spacing between holes | : | 1.2m |
| Burden for hole | : | 1.0m |
| Pattern of hole | : | Zigzag – Multi-rows |
| Inclination of holes | : | $80^{0}$ from horizontal |
| Use of delay detonators | : | 25millisecond relays |
| Detonating fuse | : | "Detonating" Cord |



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**BLASTING PATTERN DRAWING**




**Staggered "V" Pattern of Blasting Design**

| | | |
|---|---|---|
| **Spacing** | = | **1.2m** |
| **Burden** | = | **1.0m** |
| **Depth of the hole** | = | **1.5m** |
| **No of holes proposed per day** | = | **52Holes** |

**6.2 Type of explosives to be used:**

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.

**6.3 Measures proposed to minimize ground vibration due to blasting:**

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & 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 (millisecond delays) permits to divide the shot in 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.



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**Blasting program for the production per day:**

| | |
|---|---|
| No of Holes | = 52Holes |
| Yield | = 156Tons |
| Powder factor | = 6Tons/Kg of explosives |
| Total explosive required | = 26Kg-Slurry explosives |
| Charge/ hole | = 0.5Kg |
| Blasting at day time only | = 5-6p.m (whenever required) |

### 6.4 Storage and safety measures to be taken while blasting:

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be have the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the explosives Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.

## 7.0 MINE DRAINAGE

### 7.1 Depth of water table (based on nearby wells and water bodies):

The water table in the area is 55m below ground level in summer season and 50m in rainy season which is observed from the nearby wells and the data obtained from existing private boreholes.

TABLE - 8

| S.No | Type | Distance & Direction | Location |
|---|---|---|---|
| 1 | Well | 110m Southeastern side | 11°14'45.28"N 76°59'03.72"E |

Hence the ground water will not be affected in any manner due to the quarrying operation during the entire life period.

### 7.2 Arrangements and places where the mine water is finally proposed to be discharged:

Quarry operations are confined well above the water table during the entire lease period. If water is encountered at due to rain water and seepage, the same will be pumped out by 5HP water pumps to the afforestation and Green belt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.



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**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)**

**8.1 Habitations/ Villages natham:**

There is no approved habitation within 300m radius from the lease applied area.

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**8.2 Power Lines (HT/LT):**

E.B.Line is passing from the South to North direction of the lease applied area. 50m safety distance has been maintained.

**8.3 Water bodies (river, pond, lake, odai, canal, etc.,):**

Odai is situated within the radius of 500m of the lease applied area.

**8.4 Archaeological/ historical monuments:**

There is no Archaeological/ historical monuments within 500m radius from the lease applied area.

**8.5 Road (NH, SH others):**

The Nearest National Highway (NH-67) Gudalur - Coimbatore is about 2.5km from the Southwestern side of the lease applied area.

The State Highway (SH-168) Karamadai- Kariyampalayam is about 1.0km from the Southern side of the lease applied area area.

**8.6 Places of worships:**

There is no place of worships within the radius of 500m from the lease applied area.

**8.7 Reserved forest/ forest/ social forest/ wild life sanctuary etc.:**

There is no reserved forest/ forest/ social forest/ wild life sanctuary etc., within radius of 500m.



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## SALIENT FEATURES

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<table>
<tr><th>S. No.</th><th>Salient Futures Present around site</th><th>Prescribed safety distance</th><th>Actual Distance from the site</th></tr>
<tr><td>1.</td><td>Railways, Highways, Reservoirs or Canal</td><td>50m</td><td>Railway line – 2.5km (Mettupalayam - Coimbatore) Southwestern side.<br>National Highway (NH-67) – Gudalur - Coimbatore is about 2.5km from the Southwestern side of the lease applied area.<br>River is situated in 7.5km North eastern side of the lease applied area.<br>Reservoir – No reservoir within 10.0km radius.<br>Canal- No Canal within 1.0km radius.</td></tr>
<tr><td>2.</td><td>Village Road</td><td>10m</td><td>Village road is 300m from the Southern side of the lease applied area.</td></tr>
<tr><td>3.</td><td>Habitation / Village</td><td>300m</td><td>There is no approved habitation within 300m radius from the lease applied area. Actual distance is clearly marked in the Plate No I-B.
<table>
<tr><th>S. No</th><th>Name of the Village</th><th>Approximate distance & Direction from lease applied area</th></tr>
<tr><td>1.</td><td>Mongampalayam</td><td>2.0km – Northeast</td></tr>
<tr><td>2.</td><td>Chikkarampalayam</td><td>2.0km – Southeast</td></tr>
<tr><td>3.</td><td>Karamadai</td><td>2.0km – Southwest</td></tr>
<tr><td>4.</td><td>Chinna thottipalayam</td><td>2.0km – Northwest</td></tr>
</table></td></tr>
<tr><td>4.</td><td>Adjacent Patta Land</td><td>7.5m</td><td>North - S.F.No.77<br>South - S.F.No.80/2<br>West - S.F.No.79<br>7.5m safety distance has been maintained from the Patta land.</td></tr>
<tr><td>5.</td><td>Power House, EB line (HT & LT Line)</td><td>50m</td><td>There is no approved habitation within the 300m radius from the lease applied area.<br>HT/LT Line – E.B.Line is passing from the South to North direction of the lease applied area, 50m safety distance has been maintained.</td></tr>
<tr><td>6.</td><td>Boundaries of the permitted area</td><td>7.5m</td><td>The boundaries of the permitted areas is as follows:
<table>
<tr><th>Direction</th><th>S.F.Nos</th><th>Classification</th><th>Safety Distance</th></tr>
<tr><td>North</td><td>77</td><td>Patta land</td><td>7.5m</td></tr>
<tr><td>West</td><td>79</td><td>Patta land</td><td>7.5m</td></tr>
<tr><td>South</td><td>80/2</td><td>Patta land</td><td>7.5m</td></tr>
<tr><td>East</td><td>82</td><td>Cart track<br>E.B.Line</td><td>50m</td></tr>
</table></td></tr>
<tr><td>7.</td><td>Reserve forest/ protected area/ ECO sensitive area</td><td>50m</td><td>There is no reserve forest within 10.0km radius.</td></tr>
</table>



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| | | | |
|---|---|---|---|
| 8. | Protected area / ECO sensitive area/Wild Life Sanctuary | 10km | There is no Protected area/ ECO sensitive area/Wild Life Sanctuary within 10.0km radius. |

**9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES**

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**9.1 Employment potential (skilled, semi skilled, un skilled):**

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous mines regulations, 1961.

a. Skilled labour

| | | |
|---|---|---|
| Mine Foreman | : | 1 |
| Blaster/mate | : | 1 |
| Excavator – Operator & Driver | : | 2 |
| Jack hammer operator | : | 9 |

b. Semi-skilled

| | | |
|---|---|---|
| Watchman | : | 1 |

c. Unskilled

| | | |
|---|---|---|
| Labour & Helper | : | 3 |
| Cleaner | : | 1 |
| **Total** | : | **18** |

Allowing 10% absenteeism the man power would be around 16, the above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labor will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labors engaged for quarrying operations will be insured during the quarry lease period.

**9.2 Welfare Measures:**

**a) Drinking Water:**

Packaged drinking water is available from the nearby approved water vendors in Karamadai which is about 2.0km from the Southwestern side of the lease applied area.

**b) Sanitary Facilities:**

Hygienic modern Sanitary Facilities will be constructed with in the safety area as semi permanent structure and it will be maintained periodically.



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**e) First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 8.0km Northwestern side in Mettupalayam by a vehicle earmarked for the purpose the competent and statutory foreman/permit manager/mate will be in charge of first aid.

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**d) Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e) Precautionary safety measures to the labourers:**




- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets &

Safety Shoes as personal protective device as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men & machinery and to create awareness about conventional opencast quarrying operations.



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## PART – B

## 10.0 ENVIRONMENT MANAGEMENT PLAN

### 10.1 Existing Land use pattern:

The quarry lease applied area is Plain topography. The area is a dry barren land devoid of Agriculture and habitations. The land is not used for any specific vegetation.

LAND USE TABLE-9

| Description | Present area in (ha) | Area at the end of This quarrying period (ha) |
|---|---|---|
| Quarrying Pit | 0.30.0 | 0.68.4 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.02.0 | 0.02.0 |
| Green Belt | Nil | 0.20.0 |
| Unutilized | 0.95.0 | 0.35.6 |
| **Grand Total** | **1.27.0** | **1.27.0** |

### 10.2 Water Regime:

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climatic change.



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## 10.3 Flora and Fauna:

TABLE-10

**List of Flora**

| S.No | Name of the plant (Scientific) | Family Name | Common Name | Habit | Picture |
|---|---|---|---|---|---|
| 1 | Calotropis gigantea | Asclepiadaceae | Crown Flower, Erukku | Shrub |  |
| 2 | Borassus flabellifera | Arecaceae | Palmyra Palm | Tree |  |
| 3. | Azadirachta indica | Meliaceae | Neem, Vembu | Tree |  |
| 4. | Acacia nilotica | Mimosaceae | Babul, Karuvelam | Tree |  |
| 5. | Cocus nucifera | Arecaceae | Coconut, Thennai | Tree |  |

**List of Fauna**

| S.No. | Scientific Name | Common Name | Picture |
|---|---|---|---|
| 1. | Hieroglyphus sp | Grasshopper |  |
| 2. | Carausius sp | Stick insect |  |
| 3. | Hamitermes silvestri | Termite |  |
| 4. | Danaus plexipppus | Striped tiger |  |
| 5. | Mantis religiosa | Praying mantis |  |
| 6. | Agrion sp & Petalura sp | Dragon fly |  |



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**10.4 Climatic Conditions:**

The area receives rainfall of about 850/per annum and the rainy season is mainly from Oct - Jan during Southwest monsoon. The summer is hot with maximum temperature of 35°C and winter encounters a minimum temperature of 18°C.

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**10.5 Human settlement:**

There are few villages located in this area within 5kmradius; the approximate distance and population are given below.

TABLE – 11

| S.No | Name of the Village | Approximate distance & Direction from lease applied area | Approximate population |
|---|---|---|---|
| 1. | Mongampalayam | 2.0km – Northeast | 600 |
| 2. | Chikkarampalayam | 2.0km – Southeast | 300 |
| 3. | Karamadai | 2.0km – Southwest | 1000 |
| 4. | Chinna thottipalayam | 2.0km – Northwest | 500 |

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc are available at Mettupalayam located at a distance of 8.0km on the Northwestern side of the area.

**10.6 Plan for air, dust suppression:**

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, Loading and unloading during the Rough stone quarry operation.

The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigative measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000/year.**



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**10.7 Plan for Noise level control:**

The noise level increased due to the excavation, Drilling, Blasting and Transportation.

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**Engineering Noise control:**

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse will be used for rough stone. Hence, ground vibration and noise pollution ie., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000**/Year.

**10.8 Environmental impact assessment statement describing impact of mining on the next five years:**

In the mining plan proposed for a production of Rough stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF& CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-**

**10.9 Proposal for waste management:**

There is no waste anticipated in this Rough Stone and Gravel quarry operation. The entire quarried out materials will be utilized 100%.



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**10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling/ fencing etc.):**

In the mining plan only to a depth of 42m below ground level has been envisaged as workable depth for safe &economic mining during entire lease period. Hence, after quarry reaches the ultimate pit limit (for this period) of 42m depth below the ground level, fencing will be constructed around the quarried pits to prevent inadvertent entry of the public and cattle. There is no proposal for reclamation and rehabilitation. The barbed wire fencing cost would be around **Rs.1,00,000/-**

**10.11 Programme of afforestation (indicate extend, number, name of species to be afforested):**

7.5m safety barrier and Nearest Panchayat Roads has been identified to be utilized for afforestation appropriate native species of Neem/ Casuarina trees will be planted in a phased manner as described below.

TABLE – 12

| Year | No. of tress proposed to be planted | Survival % | Area to be covered sq.m | Name of the species | No. of trees expected to be grown |
|---|---|---|---|---|---|
| I | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| II | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| III | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| IV | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| V | 80 | 80% | 400 | Neem/ Casuarina | 64 |

Nearly 2,000sq.m area is proposed to use under afforestation by planting 80 Nos of Neem/ Casuarina trees every year with an anticipated survival rate of 80%. (Refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around **Rs.50,000/-** for the period of five years.

**10.12 Proposed financial estimate/ budget for (EMP) environment management:**

Budget Provision for the entire quarrying period:

TABLE -13

| S.No | Monitory and Analysis Description | Rate per location | No. of location | Total Charges/ six months | Total Charges/ year |
|---|---|---|---|---|---|
| 1 | Ambient air quality monitoring | 6500 | 4 | 26000 | 52000 |
| 2 | Noise level monitoring | 250 | 4 | 1000 | 2000 |
| 3 | Ground vibration monitoring | 1000 | 2 | 2000 | 4000 |
| 4 | Water sampling and analysis | 9000 | 1 | 9000 | 18000 |
| **Total EMP Cost/ year** | | | | | **76,000** |

The EMP cost would be around **Rs.3,80,000/-** for the period of five years.



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| A. Project cost / investment | | |
|---|---|---|
| i) Land cost | The Land value as per the Government Guideline land cost is calculated as follows, 1.27.0ha X Rs.8,65,000/- = Rs.10,98,550/- (source : https://tnreginet.gov.in/portal/) | = Rs.10,98,550/- |
| ii) Machinery to be used | The following machineries are proposed to meet out the productions. Excavator attached with rock breaker (Rental Basis) Dumper, Tractor mounted compressor With jack Hammer and loose tools (Rental Basis) | = Rs.15,00,000/- |
| iii) Refilling/ Fencing | Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around | = Rs.1,00,000/- |
| iv) Labourers shed | Labour sheds will be constructed as semi permanent structure. The cost would be around | = Rs. 50,000/- |
| v) Sanitary facility | Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around | = Rs. 50,000/- |
| vi) Others items | First aid room & accessories | = Rs. 50,000/- |
| vii) Drinking water facility for the labourers | Packaged drinking water will be provided for all the Labors. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around | = Rs.1,00,000/- |
| viii) Sanitary arrangement | The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around | = Rs.50,000/- |
| ix) Safety kit | All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around | = Rs.1,00,000/- |
| x) Water sprinkling | Water will be sprinkled in the haul roads by water sprinklers the cost would be around | = Rs.1,00,000/- |
| xi) Afforestation etc. | Afforestation program will be carried out in the boundary barrier the cost would be around | = Rs.50,000/- |
| | **Total Project Cost** | **= Rs.32,48,550/-** |

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**B. EMP Cost :- (Per year)**

| | | |
|---|---|---|
| Air Quality monitoring | = | Rs. 52,000/- |
| Water Quality Sampling | = | Rs. 18,000/- |
| Noise Monitoring | = | Rs. 2,000/- |
| Ground vibration test | = | Rs. 4,000/- |
| **Total Cost** | = | **Rs. 76,000/-** |

Total EMP Cost for the five years period is **Rs. 3,80,000/-**

**A+B+=**

| | | |
|---|---|---|
| A. Project cost | = | Rs. 32,48,550/- |
| B. EMP Cost | = | Rs. 3,80,000/- |
| **Total Project Cost (A+B)** | = | **Rs. 36,28,550/-** |

The applicant ensures to involve corporate environment responsibilities (CER) like providing note books to nearby school, providing drinking water facilities to the nearby villages etc., at around 2.0% from the total project cost the cost would be around **Rs.73,000/-**

| | |
|---|---|
| Total Project cost | = Rs. 36,28,550/- |
| CER Cost (2.0%) | = Rs. 73,000/- |
| **Total cost** | **= Rs. 37,01,550/-** |

(The Total cost of the project including EMP Cost is Rupees Thirty seven lakhs one thousand five hundred and fifty only).

## 11.0 MINE CLOSURE PLAN

### 11.1 Steps proposed for phased restoration, reclamation of already mined out areas:

There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of the life of lease will be fenced to prevent inadvertent entry of public and cattles. After treating the water the same will be utilized for agriculture purpose of the agriculture lands.

### 11.2 Measures to be under taken on mine closure as per Act & Rules:

Measure will be taken as per Act & Rules. There is no proposal for back filling, reclamation and rehabilitation. The quarry pit will be fenced by barbed wire to prevent inadvertent entry of public and cattle.

The quarried out pit will be allowed to collect rain and seepage water which will act as a temporary reservoir for storage. This water storage will enhance the static level and ground water and to recharge the nearby wells and also it will be used for irrigating the nearby agriculture lands.



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**11.3 Mitigation measure to be undertaken for safety and restoration/ reclamation of the already mined out area:**

**Air quality: (Air quality will be degrade due to the drilling, blasting, mining operation and transportation)**

**Mitigation measures:**

Drilling will be carried out by wet drilling mode to control the dust propagation into the air. Blasting will be carried out on limited scale. Mist Water spraying on haul road is proposed to prevent the dust propagation into the air. Air quality will be monitored periodically as per norms.

**NOISE AND VIBRATION: (The noise will be formed due to the drilling, blasting, loading and movement of Machineries**

**Mitigation measures:**

The applicant proposed to carry out the plantation all along the boundary to prevent Noise besides wet drilling will be practiced to prevent dust. All the machineries will be maintained in good conditions as per RTO and TNPCB Norms to prevent Noise, Smoke and vibration.

**WATER REGIME:**

**Mitigation Measures:**

The quarry operation proposed upto a depth of 42m below ground level for the five year period, the proposed depth is well above the water table (summer in 55m and rainy seasons in 50m), hence the water table will not be affected in any.

The seepage and rain water will be drained out from the pit by the 5H.P motor pump and discharged through filter media to the afforestation area in the boundary barrier. The excess water will be sprayed on haul roads to prevent dust propagation in to the atmosphere. The Rough stone quarry will not produce any harmful toxic effluents.

**HUMAN HEALTH & SAFETY: Dust will be limited due to the mine operation:**

All the labours have been provided with safety equipments like helmet, Safety Goggles, Ear muff, Hand Gloves, safety jacket, safety belt, Mine boots etc., by the Applicant's own cost as per Director of mines safety. The foreman/Permit Mines Manager will provide first aid for small & minor injuries. In case of any eventualities, the victim will be taken to the nearby hospital by the Applicant's vehicle which is always available in the mines office. The hospital is about 8.0km in Mettupalayam (NW).



330670 A

## 12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT:

This Mining plan for Rough stone (Charnockite) and Gravel is under Rule 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the concerned Department.

18 JUL 2018

Prepared by

**Dr. P.Thangaraju, M.Sc., Ph.D.,**
Qualified person

Place : Salem
Date : 12.07.2018

This Mining Plan is Approved subject to the incorporation of the particulars specified in the letter of the commissioner of Geology and Mining, Chennai ref No: 3063/LC/2012 Dated 19.11.2012 and subjected to further fulfillment of the condition laid down under Tamilnadu Minor Mineral Concession Rules 1959.

This Mining Plan is Approved subject to ... stipulation & indicated in the ... Approval Letter No: 364/mines/2017 dt 18-7-18 office of the A.D. Geology & Mining Coimbatore

18.7.2018
JOINT DIRECTOR AND
ASSISTANT DIRECTOR (I/c)
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE.

18/7/18

ANNEXURE - I

ந.க.எண். 364/2017/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
கோயம்புத்தூர்.
நாள்: 05.07.2018.

18 JUL 2018

## குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - கோயம்புத்தூர் மாவட்டம் - மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம் - புல எண். 80/1-ல் 1.27.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் சாதாரண கற்கள் மற்றும் கிராவல் குவாரி செய்ய திருமதி.ஆர்.பூரணி என்பவர் - குவாரி குத்தகை அனுமதி வழங்குவது – தொடர்பாக.

பார்வை:
1. திருமதி.ஆர்.பூரணி, க.பெ.ஆர் ராஜாமணி, 85/54, கொண்டசாமி நாயுடு நகர், காரமடை அஞ்சல், மேட்டுப்பாளையம் வட்டம், கோயம்புத்தூர் என்பவரது மனு நாள் 13.04.2017
2. இவ்வலுவலக இதே ந.க.எண் மற்றும் நாள். 19.04.2017.
3. கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியரது கடித ந.க.எண். 1565/2017/அ3 நாள் 06.06.2017
4. இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ), புவியியல் மற்றும் சுரங்கத்துறை, கோயம்புத்தூர் தனிக்கை அறிக்கை நாள் 26.06.2018

*****

பார்வை 1-ல் கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், காரமடை அஞ்சல், 85/54, கொண்டசாமி நாயுடு நகர், என்ற முகவரியில் வசிக்கும் திருமதி.ஆர் பூரணி என்பவர் மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண். 80/1-ல் 1.27.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா நிலத்தில் சாதாரணகற்கள் மற்றும் கிராவல் குவாரி செய்ய, குத்தகை உரிமம் கோரி விண்ணப்பித்துள்ளார்.

மேற்படி மனு தொடர்பாக, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் கோயம்புத்தூர், புவியியல் மற்றும் சுரங்கத்துறை இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ), ஆகியோர் புலத்தணிக்கை மேற்கொண்டு மேட்டுப்பாளையம் வட்டம்,

சிக்காரம்பாளையம் கிராமம், புல எண். 80/1-ல் 1.27.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் சாதாரணகற்கள் மற்றும் கிராவல் குவாரி செய்ய கீழ்கண்ட நிபந்தனைகளுடன் பரிந்துரை செய்துள்ளார்கள்.

**நிபந்தனைகள்**

1. அருகிலுள்ள பட்டா நிலங்களுக்கும் மற்றும் பொது மக்களுக்கும், எவ்வித இடையூறும் இன்றி சாதாரண கல் குவாரி மேற்கொள்ள வேண்டும்.
2. அருகில் உள்ள பட்டா நிலத்திற்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு கால்பாதைக்கு 10 மீட்டர் மற்றும் மின்கம்பிக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப்பணி மேற்கொள்ள வேண்டும்.
3. விண்ணப்ப புலத்திற்கு அருகில் உள்ள பட்டா மற்றும் புறம்போக்கு நிலங்களுக்கு முள்வேலி அமைக்கப்பட வேண்டும
4. மெருகேற்றக்கூடிய கிரானைட் கற்கள் வெட்டியெடுக்க கூடாது.
5. குழந்தை தொழிலாளர்களை வேலைக்கு அமர்த்தல் கூடாது.

அனுமதி கோரும், புல எண். 80/1 பட்டா எண். 26-ன் படி திரு. ரங்கைய கவுடர் மகன் திரு. ராஜாமணி என்பவர் பெயரில் தனிப் பட்டாவாக கிராம கணக்கில் தாக்கலாகியுள்ளது. மனுதாரர் மாவட்ட ஆட்சியர் அனுமதி அளித்த நாளிலிருந்து 5 ஆண்டுகளுக்கு மேற்கண்ட புலத்தில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க பட்டாதாரரான திரு.R.ராஜாமணி என்பவர் சம்மத கடிதம் அளித்துள்ளார். எனவே மனுதாரர் மேற்படி நிலத்தில் கல் குவாரி செய்ய தகுதியுடையவர் ஆவார்.

எனவே, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் கோயம்புத்தூர், புவியியல் மற்றும் சுரங்கத்துறை இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ) ஆகியோரது புலத்தணிக்கை அறிக்கையின் அடிப்படையில் மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண். 80/1-ல் 1.27.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் 5 (ஐந்து) ஆண்டுகளுக்கு சாதாரண கல் வெட்டியெடுக்கவும் மற்றும் 3 (மூன்று) ஆண்டுகளுக்கு கிராவல் வெட்டியெடுக்கவும் மேல் கண்ட நிபந்தனைகளுக்குட்பட்டு குவாரி குத்தகை வழங்குவதற்குரிய நிலப்பரப்பாக (Precise Area Communication) கருதப்படுகிறது.

மேலும், தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண். 41 மற்றும் 42-ன் படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறும், மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையகத்தின் சுற்றுச்சூழல் அனுமதி பெறவும் மனுதாரரை கேட்டுக் கொள்ளப்படுகிறது.

18 JUL 2018

ஒம்.XXX
மாவட்ட ஆட்சியர்
கோயம்புத்தூர்

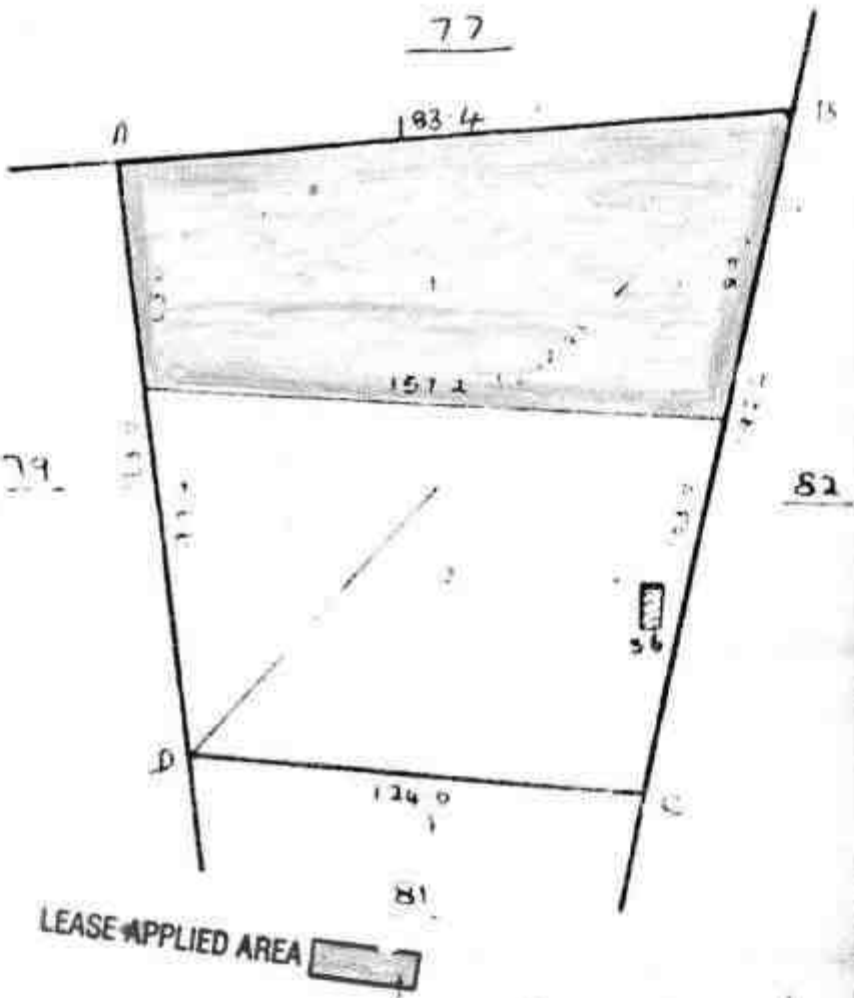
பெறுதல்:
திருமதி.ஆர்.பூரணி,
க.பெ.ஆர் ராஜாமணி,
85/54, கொண்டசாமி நாயுடு நகர்,
காரமடை அஞ்சல்,
மேட்டுப்பாளையம்,
கோயம்புத்தூர்.

//உண்மை நகல் / உத்திரவுப்படி//

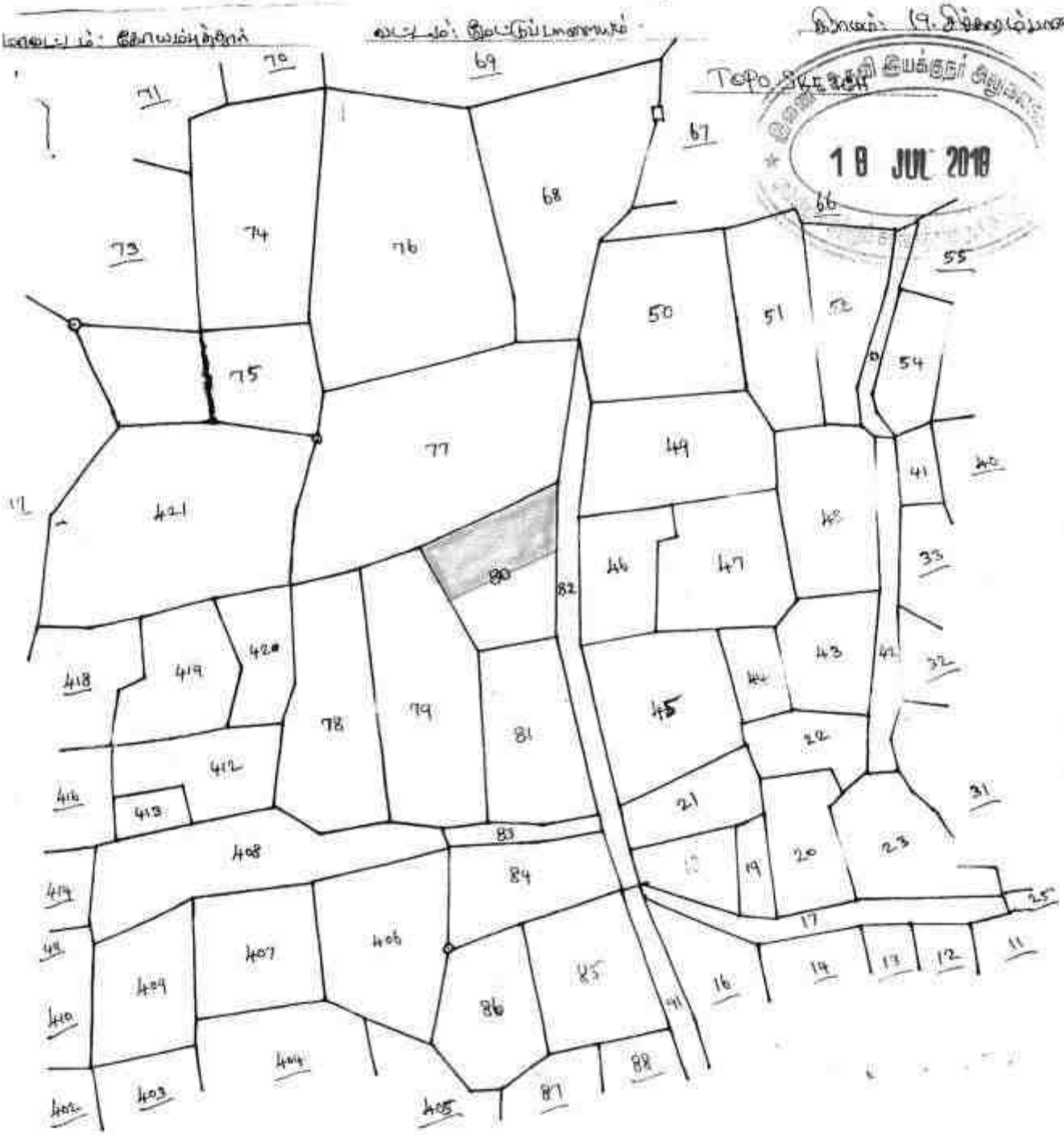
மாவட்ட ஆட்சியருக்காக
கோயம்புத்தூர்.

ANNEXURE - II

18 JUN 2018



ANNEXURE - III




18 JUL 2018

LEASE APPLIED AREA

ANNEXURE - IV

தமிழக அரசு

வருவாய்த் துறை

18 JUL 2019

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் :

மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 26

உரிமையாளர்கள் பெயர்

1. ரங்கைய கவுடர் மகன் ராஜாமணி

| | | நனசெய | | புனசெய | | மற்றவை | |
|---|---|---|---|---|---|---|---|
| | | பரப்பு | தீர்வை | பரப்பு | தீர்வை | பரப்பு | தீர்வை |
| புல எண் | உட்பிரிவு | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை |
| 80 | 1 | -- | -- | 1 - 27.00 | 3.52 | -- | -- |
| | | | | 1 - 27.00 | 3.52 | | |

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **12/04/019/00026/20908** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 24-03-2017 அன்று 06:18:30 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைபேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

For K. 1642 Karamadai Primary Agricultural Co-operative Credit Society

Secretary

| நில அளவை எண் | உட்பிரிவு எண் | ஏர் | மா | குழி | கைமாறு தாருடைய பெயரும் எண்ணும் அல்லது அனுபோக தாருடைய பெயர் | சாகுபடி பயனின் வகை. | முதல் போகம். | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | நிலத்தின் எந்த பருதி மானது சாகுபடியானது பயிரிடப்பட்டுள்ளது. | எந்த மாதத்தில் பயிர் செய்யப்பட்டு எந்த மாதத்தில் அறுவடை செய்யப்பட்டது. | பயிரின் பெயர். | பயிரை / அறுவடை செய்த பரப்பு | உரிமையாளர் அல்லது குத்தகைதாரர் | விளைச்சல் ஆகாது விழுக்காடு |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 10 | 1 | 1.27.0 | 3.60 | 26 | ஐகாவேல் | | | | | | |

உரிமை நகல்.

G. [illegible]
24.3.17
The Village Administrative Officer,
No 19 Chikkarampalayam Village,
Mettupalayam (Taluk)

| நிலவரி கோவை | | | | | |

ANNEXURE - VI

## அ-பதிவேடு விவரங்கள்

மாவட்டம் : கோயம்புத்தூர்

வட்டம் : மேட்டுப்பாளையம்

கிராமம் : சிக்காரம்பாளையம்

18 JUL 2018

| | | | |
|---|---|---|---|
| 1. புல எண் | 80 | 9. மண் வயனமும் ரகமும் | 8 - 2 |
| 2. உட்பிரிவு எண் | 1 | 10. மண் தரம் | 4 |
| 3. பழைய புல உட்பிரிவு எண் | 80-P | 11. தீர்வை (ரூ - ஹெ) | 2.77 |
| 4. பகுதி | - | 12. பரப்பு (ஹெகடோ - ஏர்) | 1 - 27.00 |
| 5. அரசு / ரயத்துவாரி | ரயத்துவாரி | 13. மொத்த தீர்வை (ரூ - பை) | 3.52 |
| 6. நிலத்தின் வகை | புஞ்சை | 14. பட்டா எண் | 26 |
| 7. பாசன ஆதாரம் | - | 15. குறிப்பு | - |
| 8. இரு போகமா | - | 16. பெயர் | 1.ராஜாமணி |

குறிப்பு 1:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **80908** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

For K. 1642 Karamadai Primary Agricultural Co-operative Credit Society

Secretary

ANNEXURE VII

भारतीय गैर न्यायिक

भारत

दस रुपये

TEN RUPEES

रु.10

Rs.10

सत्यमेव जयते

INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMIL NADU

50AA 695014

S. MURUGANANTHA...
STAMP VENDOR,
R.O. PARTY SHED,
CBE-18. TAMIL NA...
REF NO: ...

Rajamani
Karamadai

சம்மதக் கடிதம்

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், காரமடை அஞ்சல், கதவு எண் 85/54-கொண்டசாமி நாயுடு என்ற முகவரியில் வசிக்கும் திரு. ரங்கையன் கவுடர் அவர்களின் மகள் R. ராஜாமணி ஆகிய நான் மனுதாரரும் எனது ...வியுமான திருமதி. R. பூரணி என்பவருக்கு எழுதிக்கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்,

NOTARY
R. MATHESWARY
COIMBATORE DIST
TAMIL NADU
Reg. No. 6455/2007
GOVT OF INDIA

340680 A




தமிழ்நாடு तमिलनाडु TAMIL NADU

50AA 695015

S. MURUGANANTHAM
STAMP VENDOR,
R.O. PARTY SHED,
CBE-18. TAMIL NADU
REF NO. 81/14

-2-

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், பட்டா எண் 26-ன் படி க.ச.எண் 80/1 காலையில் மொத்தம் 1.27.0 ஹெக்டேர் பரப்பானது எனக்கு பாத்தியப்பட்டது. மேற்படி காலைகளில் சாதாரணக்கல் மற்றும் மண் வெட்டி எடுக்க கோவை மாவட்ட ஆட்சியர் அவர்களால் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றப்படும் நாளிலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரணக்கல் மற்றும் மண் வெட்டி எடுக்க எனது மனைவியும், மனுதாரருமான திரு. R. [illegible] என்பவருக்கு குத்தகை உரிமம் வழங்க எவ்வித ஆட்சேபணையும் இல்லை என்பதை இச்சம்மதக் கடிதத்தின் மூலம் தெரிவித்துக் கொள்கிறேன்.

இப்படிக்கு

R. MUTHUSAMY, B.A., B.L.,
ADVOCATE & NOTARY PUBLIC
217, Law Chambers, 1st Floor,
District Court Campus,
COIMBATORE-641 018.

3416881 A

ANNEXURE - VIII

இந்திய அரசாங்கம்
Government of India

Ponnu Rajeman



Female

5406 6481 8976

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

18 JUL 2018

Unique Identification Authority of India

5406 6481 8976

ANNEXURE IX

18 JUL 2018

2121010

# சென்னைப் பல்கலைக் கழகம்

University of Madras

அறிவியல் புலம்

## FACULTY OF SCIENCE

சென்னைப் பல்கலைக் கழகப் பரவை 1994 ஆம் ஆண்டு ஏப்ரல் மாதம் நடந்த புவிமணியல் தேர்வில் பெ.தங்கராசு என்பவர் முதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி அறிவியல் நிறைஞர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக் கழக இலச்சினையுடன் வழங்குகிறது.

The Senate of the UNIVERSITY OF MADRAS hereby makes known that P. Thangaraju has been admitted to the Degree of Master of Science, he/she having been certified by duly appointed Examiners to be qualified to receive the same in Geology and was placed in the First Class, at the Examination held in April 1994

Given under the seal of the University

சேப்பாக்கம், Chepauk,
சென்னை, Madras,
25-01-1999

பதிவாளர்
Registrar

P.T. [illegible]
துணை வேந்தர்
Vice-Chancellor

343683 A

GOVERNMENT OF INDIA
MINISTRY OF LABOUR AND REHABILITATION
OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY

18 JUL 2018

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I **T.VENKATARAJAGOPALAN** being the Mines Agent of **M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine)** do hereby certify that Thiru. **P.THANGARAJU**, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved 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 candidate to be examined for Certificate of Competency.

THENMALAI LIME STONE MINES
10/6/96
Agent (Mines)

**(Signature with date and official Seal)**
**[T.VENKATARAJAGOPALAN]**

Mines Agent:

P.O. : **ARUKANGULAM**

District : **TIRUNELVELI**

State : **TAMIL NADU**

**(Signature of Candidate)**

**(State name of Mineral) : LIMESTONE**

| S.No | Particulars of practical Expereince (a) | Place of Experience (b) | Period of practical experience(c) | | Total Experience (e) | | |
|---|---|---|---|---|---|---|---|
| | | | From | To | Yr. | Month | Day |
| 01. | As a Trainee in Drilling Operation | Semi Mechanised Opencast working | 02.05.1994 | 15.07.1995 | 01 | 02 | 14 |
| 02. | As a Trainee in Blasting Operation | | 16.07.1995 | 10.12.1996 | 01 | 04 | 25 |
| 03. | Exploration | | 11.12.1996 | 31.01.1998 | 01 | 01 | 20 |
| 04. | Surveying | | 01.02.1998 | 25.06.1998 | 00 | 04 | 25 |
| 05. | Sampling Quality control and | | 26.06.1998 | 20.07.1999 | 01 | 00 | 24 |
| 06. | Supervision in HEMM Operation | | 21.07.1999 | 30.12.1999 | 00 | 05 | 10 |
| **GRAND TOTAL** | | | | | **05** | **07** | **28** |
| **(Five Years Seven Months Twenty Eight Days Only)** | | | | | | | |

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<br>Nil | 35 | 35 |

Signature of Candidate

OF THENMALAI LIME STONE MINES

Signature of Manager with Date & Seal (Agent/Mines)
[T.VENKATARAJAGOPALAN]

Name of the Mine :

**Instructions :-**

01. State clearly the nature of duties

02. State whether on surface, in open cast workings or below ground

03. State specifically the period spent by the applicant in different mining operations, or surveying operations, as the case may be. If the employment has not been such as to involve continuous attendance of the applicant at the mine,it must be stated how many days a week he was employed at the mine, whether underground or above ground and in what capacity.

04. Delete if the mine is a Metalliferous mine.

05. Delete if the mine is a Coal mine

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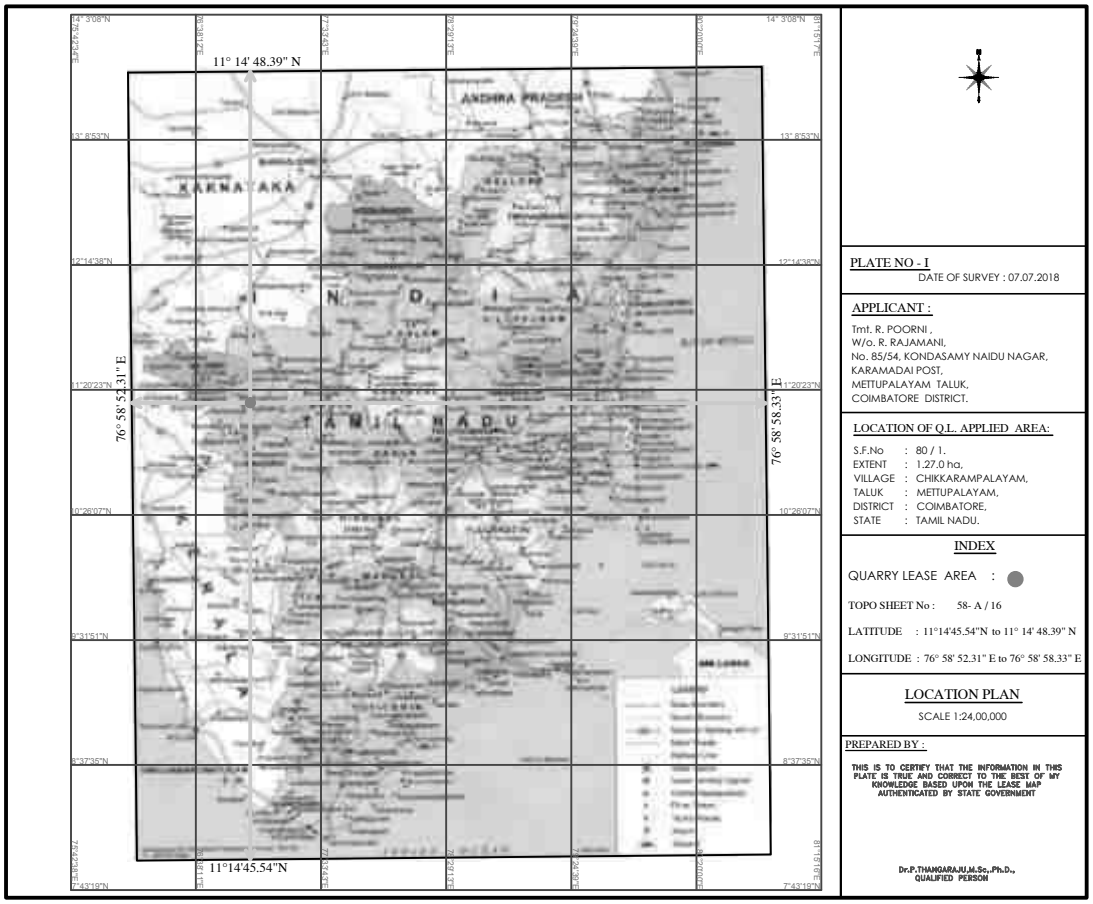



PLATE NO - I

DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. R. POORNI ,
W/o. R. RAJAMANI,
No. 85/54, KONDASAMY NAIDU NAGAR,
KARAMADAI POST,
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 80 / 1.
EXTENT : 1.27.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE AREA :

TOPO SHEET No : 58- A / 16

LATITUDE : 11°14'45.54"N to 11° 14' 48.39" N

LONGITUDE : 76° 58' 52.31" E to 76° 58' 58.33" E

LOCATION PLAN

SCALE 1:24,00,000

PREPARED BY :

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

Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

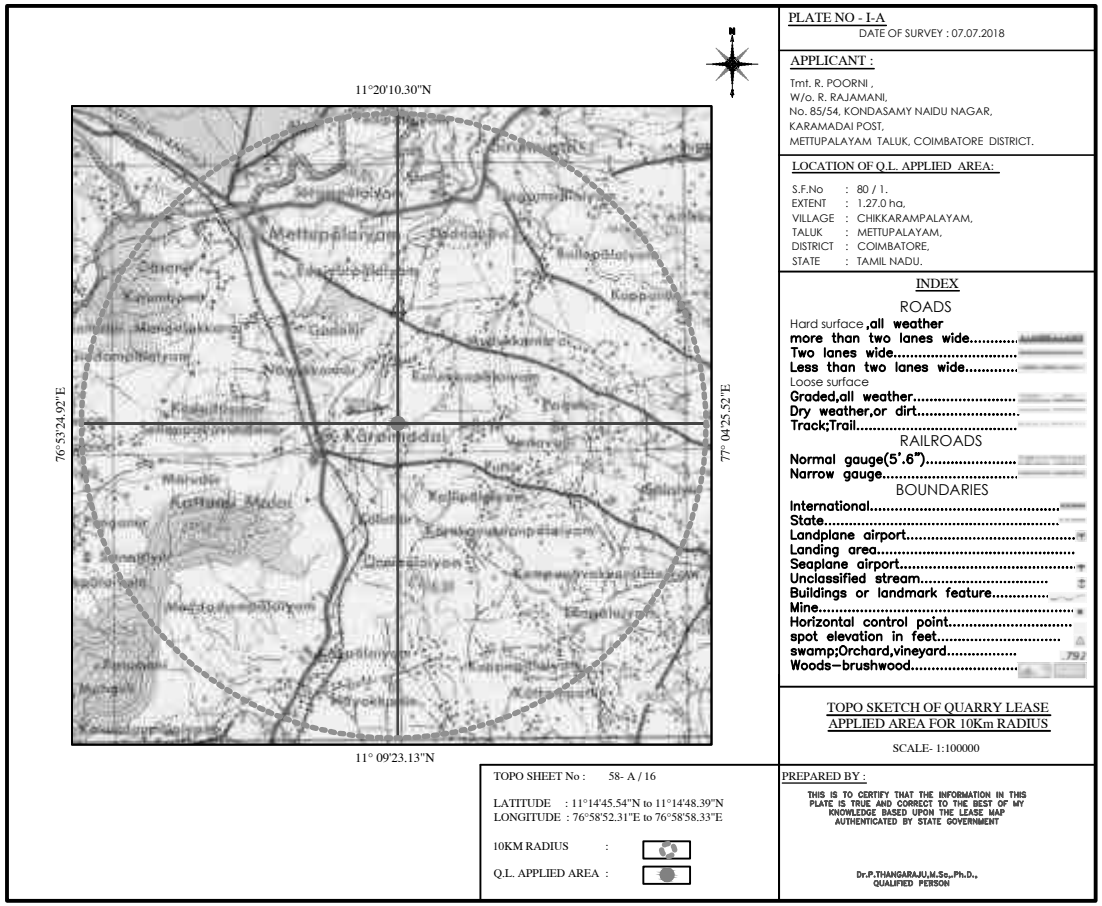



PLATE NO - I-A

DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. R. POORNI ,
W/o. R. RAJAMANI,
No. 85/54, KONDASAMY NAIDU NAGAR,
KARAMADAI POST,
METTUPALAYAM TALUK, COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 80 / 1.
EXTENT : 1.27.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

ROADS

Hard surface ,all weather
more than two lanes wide.....
Two lanes wide.....
Less than two lanes wide.....
Loose surface
Graded,all weather.....
Dry weather,or dirt.....
Track;Trail.....

RAILROADS

Normal gauge(5'.6").....
Narrow gauge.....

BOUNDARIES

International.....
State.....
Landplane airport.....
Landing area.....
Seaplane airport.....
Unclassified stream.....
Buildings or landmark feature.....
Mine.....
Horizontal control point.....
spot elevation in feet.....
swamp;Orchard,vineyard.....
Woods—brushwood.....

TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

SCALE- 1:100000

TOPO SHEET No : 58- A / 16

LATITUDE : 11°14'45.54"N to 11°14'48.39"N
LONGITUDE : 76°58'52.31"E to 76°58'58.33"E

10KM RADIUS :

Q.L. APPLIED AREA :

PREPARED BY :

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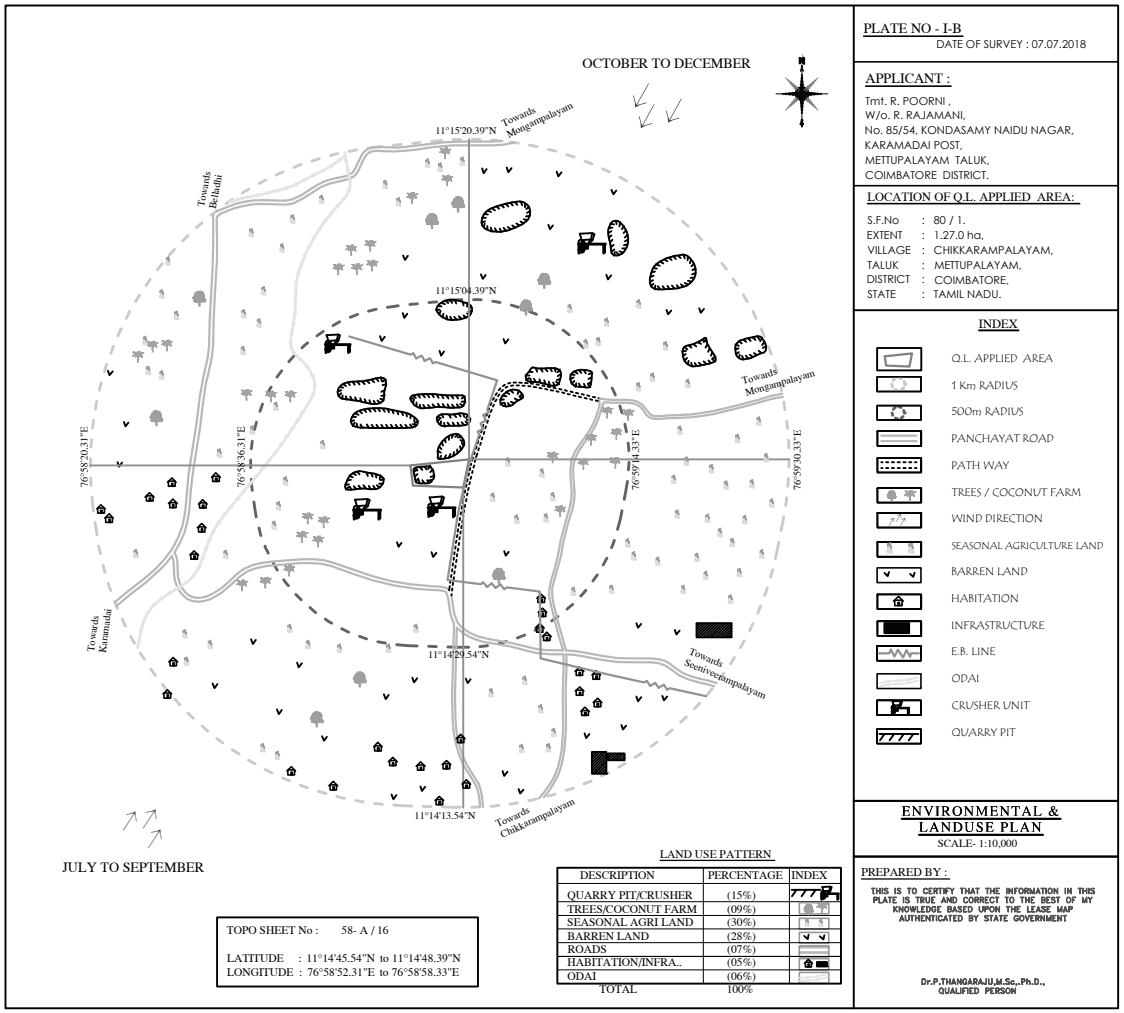
Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT




TOPO SHEET No : 58- A / 16

LATITUDE : 11°14'45.54"N to 11°14'48.39"N
LONGITUDE : 76°58'52.31"E to 76°58'58.33"E

LAND USE PATTERN

| DESCRIPTION | PERCENTAGE | INDEX |
|---|---|---|
| QUARRY PIT/CRUSHER | (15%) | |
| TREES/COCONUT FARM | (09%) | |
| SEASONAL AGRI LAND | (30%) | |
| BARREN LAND | (28%) | |
| ROADS | (07%) | |
| HABITATION/INFRA.. | (05%) | |
| ODAI | (06%) | |
| TOTAL | 100% | |

PLATE NO - I-B

DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. R. POORNI ,
W/o. R. RAJAMANI,
No. 85/54, KONDASAMY NAIDU NAGAR,
KARAMADAI POST,
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 80 / 1.
EXTENT : 1.27.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

- Q.L. APPLIED AREA
- 1 Km RADIUS
- 500m RADIUS
- PANCHAYAT ROAD
- PATH WAY
- TREES / COCONUT FARM
- WIND DIRECTION
- SEASONAL AGRICULTURE LAND
- BARREN LAND
- HABITATION
- INFRASTRUCTURE
- E.B. LINE
- ODAI
- CRUSHER UNIT
- QUARRY PIT

ENVIRONMENTAL & LANDUSE PLAN

SCALE- 1:10,000

PREPARED BY :

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Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



PLATE NO - I-C

DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. R. POORNI ,
W/o. R. RAJAMANI,
No. 85/54, KONDASAMY NAIDU NAGAR,
KARAMADAI POST,
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 80 / 1.
EXTENT : 1.27.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

Q.L. APPLIED AREA

SH-ROAD

PANCHAYAT ROAD

NH - ROAD

KEY PLAN

Not To Scale

PREPARED BY :

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

Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

| Corner | LATITUDE | LONGITUDE |
|---|---|---|
| 1 | 11° 14' 45.76" N | 76° 58' 52.57" E |
| 2 | 11° 14' 47.81" N | 76° 58' 52.31" E |
| 3 | 11° 14' 48.39" N | 76° 58' 58.33" E |
| 4 | 11° 14' 45.54" N | 76° 58' 57.73" E |

Existing Pit Dimension (max)
= 60mX50mX20m(d)

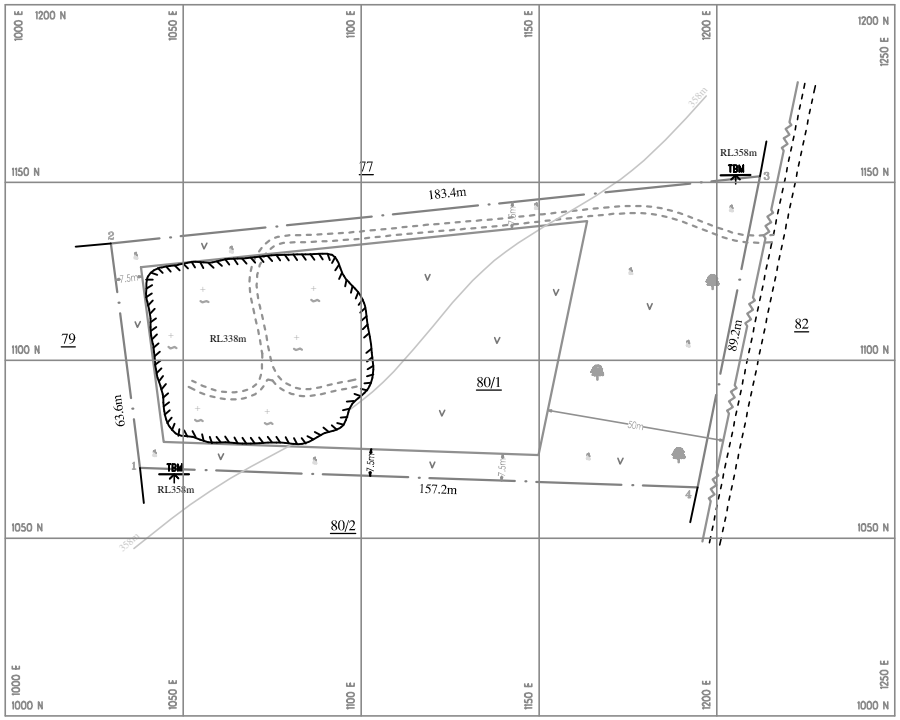



PLATE NO - II
DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. R. POORNI ,
W/o. R. RAJAMANI,
No. 85/54, KONDASAMY NAIDU NAGAR,
KARAMADAI POST,
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 80 / 1.
EXTENT : 1.27.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 50m,10m & 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGH STONE
- QUARRY PIT
- CONTOUR
- SHRUBS / TREES
- QUARRY ROAD
- PATH WAY
- E.B. LINE

QUARRY LEASE & SURFACE PLAN

SCALE 1 : 1000

PREPARED BY :

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

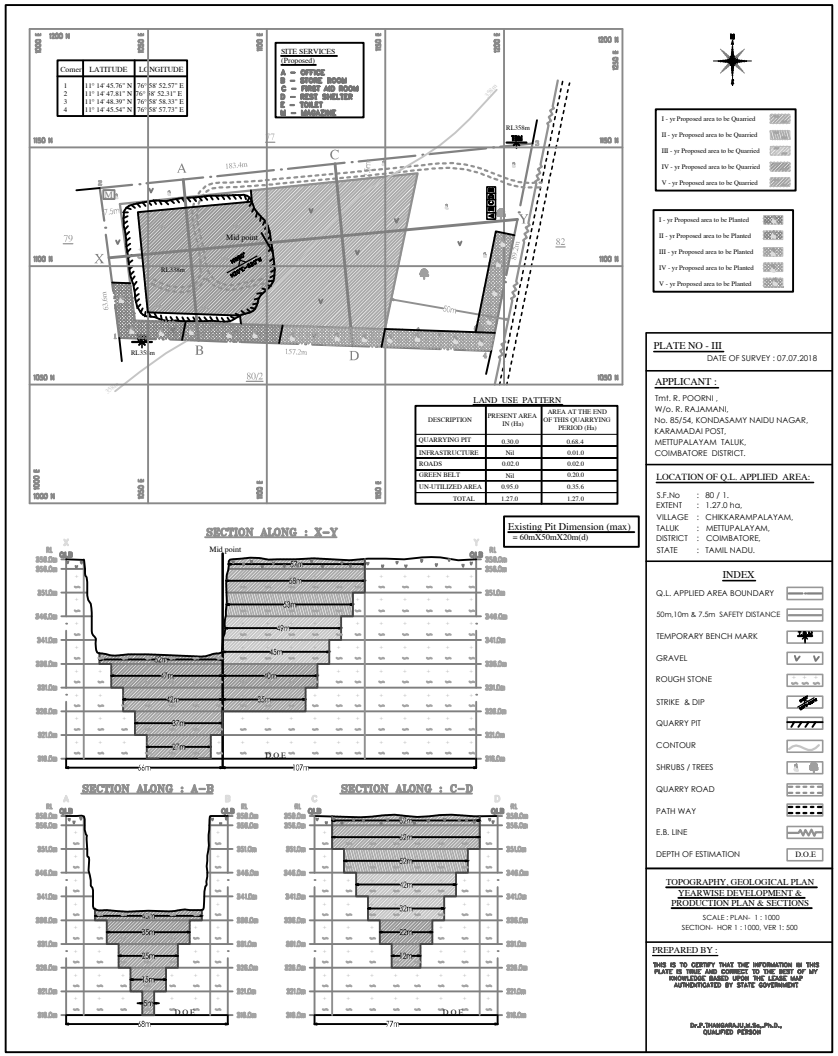
Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

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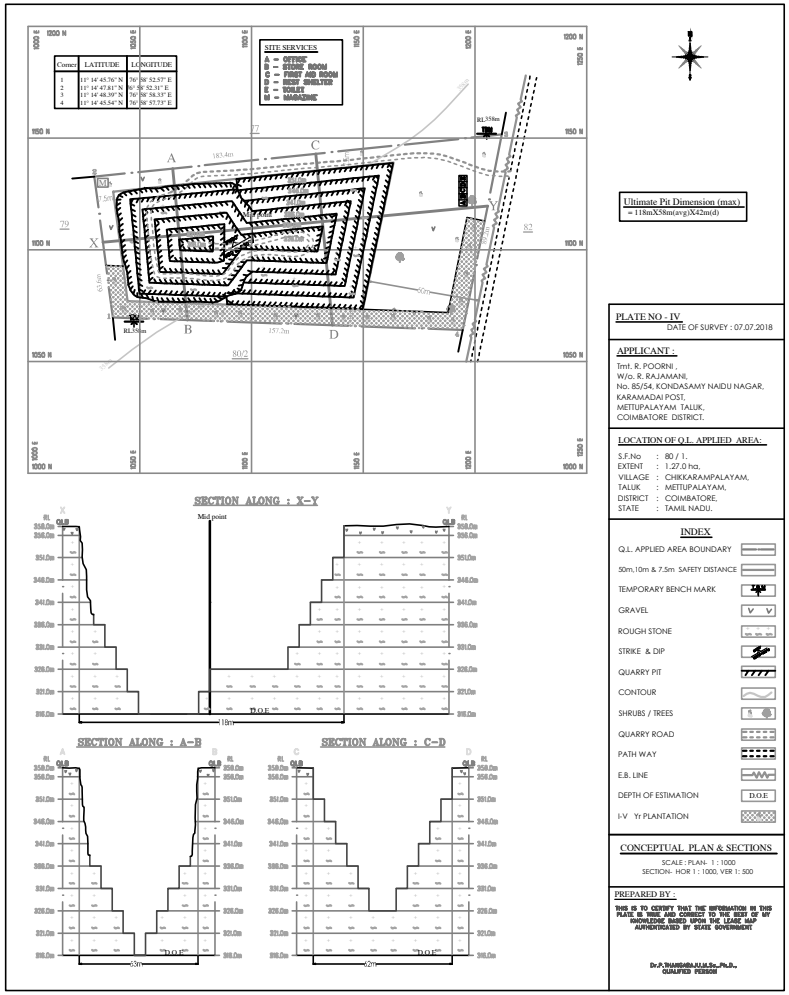



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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT




PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

18 JUL 2018

(PREPARED UNDER RULE 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

***Lease period = Five years***

*IN*

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

| | | |
|---|---|---|
| EXTENT | : | 0.99.0ha |
| S.F.NO | : | 77/2B(P) |
| VILLAGE | : | CHIKKARAMPALAYAM |
| TALUK | : | METTUPALAYAM |
| DISTRICT | : | COIMBATORE |
| STATE | : | TAMIL NADU |

*FOR*

**APPLICANT**

**Tmt.T.Kaveriyammal Thangavelu,**
**W/o.Thangavelu,**
No.24/11, Belladhi road,
Karamadai,
Coimbatore District.

*PREPARED BY*

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Qualified Person

**M/s.Geo Exploration and Mining Solutions,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.
E-Mail: infogeoexploration@gmail.com
Website: www.gemssalem.com

353693 A

**T.Kaveriyammal Thangavelu,**
W/o.Thangavelu,
No.24/11, Belladhi road,
Karamadai,
Coimbatore District.

18 JUL 2018

## CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.77/2B(P) over an extent of 0.99.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared by

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Qualified Person

I request the District Collector, Coimbatore to make further correspondence regarding the modification of the Mining Plan with the said qualified person at his following address.

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

I hereby undertake that all the modifications, if any 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.

Signature of the Applicant

T.Kaveriyammal Thangavelu

Place: Coimbatore
Date: 06.07.2018

**T.Kaveriyammal Thangavelu,**
W/o.Thangavelu,
No.24/11, Belladhi road,
Karamadai,
Coimbatore District.

18 JUL 2018

## DECLARATION OF THE APPLICANT

The Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.77/2B(P) over an extent of 0.99.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

T.Kaveriyammal Thangavelu

Place : Coimbatore
Date : 06.07.2018




## CERTIFICATE

Certified that I, **Dr.P.THANGARAJU, M.Sc., Ph.D.,** having an office at M/s.Geo Exploration and Mining Solutions, Regd.off.No.17, Advaitha Ashram Road, Alagapuram, Salem – 636 004, am a Post Graduate in Geology (M.Sc.Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

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

Accordingly, I prepare this Mining Plan in respect of Rough stone and Gravel Quarry lease applied area in S.F.No.77/2B(P) over an extent of 0.99.0ha Patta Land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State for **Tmt.T.Kaveriyammal Thangavelu,** W/o.Thangavelu, No.24/11, Belladhi road, Karamadai, Coimbatore District., Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 13.07.2018

**Dr.P.Thangaraju, M.Sc., Ph.D.,**
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

18 JUL 2018

## CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of under Rule 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan for Rough stone and Gravel Quarry lease applied area in S.F.No.77/2B(P) over an extent of 0.99.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Tmt.T.Kaveriyammal Thangavelu,**
W/o.Thangavelu,
No.24/11, Belladhi road,
Karamadai,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the District Collectorate, Coimbatore, Tamilnadu for such permissions/ exemptions / relaxations and approvals.

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

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem
Date: 13.07.2018

**Dr.P.Thangaraju,** M.Sc., Ph.D.,
Regd.off.No.17,
Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: 94433 56539.

18 JUL 2018

## CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan for Rough stone and Gravel Quarry lease applied area in S.F.No.77/2B(P) over an extent of 0.99.0ha Patta land in Chikkarampalayam village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Tmt.T.Kaveriyammal Thangavelu,**
W/o.Thangavelu,
No.24/11, Belladhi road,
Karamadai,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director General of Mines Safety (DGMS), No. 5, IInd Street, Block – AA, Anna Nagar, Chennai-40, Tamilnadu for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the mining plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem
Date: 13.07.2018

18 JUL 2018

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18 JUL 2018

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 0.99.0ha IN CHIKKARAMPALAYAM VILLAGE, METTUPALAYAM TALUK, COIMBATORE DISTRICT, TAMILNADU.

(PREPARED UNDER RULE 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL CONCESSION RULES, 1959)

## 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The Mining Plan and Environmental Management plan is prepared for Tmt.T.Kaveriyammal Thangavelu, W/o.Thangavelu, No.24/11, Belladhi road, Karamadai, Coimbatore District.

The applicant has applied for Rough stone and Gravel quarry in the S.F.No.77/2B(P) over an extent of 0.99.0ha Patta Land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District prepared under Rule 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the District Collector, Coimbatore and passed a letter vide **Rc.No.1544/2017/Mines Dated: 05.07.2018** to submit Mining Plan for the approval in Department of Geology and Mining, Coimbatore to obtain Environmental Clearance from the District Level Environment Impact Assessment Authority, Coimbatore, Tamil Nadu.

In order to ensure compliance of the order of the Honorable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP(C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state DEIAA notified by MoEF as prescribed procedure prescribed under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the mining plan for approval and subsequent submission of Form-1 and Pre feasibility report to obtain environmental clearance from the DEIAA, Coimbatore, Tamilnadu, Rough stone and Gravel quarry. This mining plan is prepared by considering the TNMMCR 1959 and as per the EIA Notification 2006 and it are subsequent Amended and judgments up till 01.05.2018.



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**Short Notes of Mining plan:**

a. Village Panchayat - Chikkarampalayam

b. Panchayat Union - Mettupalayam

c. The Geological Resources are **3,96,000m$^3$** of Roughstone and **19,800m$^3$** of Gravel in the entire area.

d. The Total Mineable Reserves are **71,075m$^3$** of Roughstone in the entire area.

e. The proposed quantity of reserves/ (level of production) to be mined and is about **71,075m$^3$** of Roughstone for a period of five years in the entire area.

f. Total extent of the lease applied area is about 0.99.0ha

g. Topography of the area = The area exhibits Plain topography.

h. Existing Depth of Mining = 19m (Max) below ground level.

i. Proposed Depth of mining = Upto 42m below ground level.

j. This Mining Plan period = Five years

k. It is a fresh application, the area has been quarrying in earlier.

l. Method of mining/ level of mechanization.

Opencast mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.

m. Type of machineries proposed in the quarrying operation.

Excavators attached with rock breaker (Rental Basis).

Jack hammer, Compressor (Diesel drive) (4 Jack Hammer capacity) (Rental Basis).

n. No trees will be uprooted due to this quarrying operation.

o. The Approach road from the main road to quarry is in the good condition the same will be maintained and utilized for haulage.

p. There is no export of this Roughstone and Gravel.

q. Topo sketch covering 10km and 1km radius around the proposed area with markings of approved habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archeological importance, places of worships is marked and enclosed as Plate No.IA and IB.

r. The lease applied area is about 0.99.0ha bounded by seven corners; the corners are designated as 1-7 Clock wise from the Southwestern corner the Co – ordinates for the all the corners are clearly marked in the Topography, Geological Plan and section enclosed as Plate No-III.

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s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate No.III.

t. General conditions will not be applicable for the proposed area. The area applied for lease is 10km away from the,

- *ii) Interstate boundary*
- *ii) Critically polluted areas as identified by CPCB.*
- *iii) Protected area under wild life protection ACT 1972.*
- *iv) Eco sensitive area.*

u. There are no wastages anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

v. Around 18 employees are deploying in the quarrying operation.

w. Total Cost of the project is about **Rs.33,31,085/-**

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**2.0 GENERAL INFORMATION**

**2.1 a) Name of the Applicant : Tmt.T.Kaveriyammal Thangavelu,**

**b) Address of the Applicant (With Phone No and E-mail Address)**

| | | |
|---|---|---|
| Address | : | T.Kaveriyammal Thangavelu,<br>W/o.Thangavelu,<br>No.24/11, Belladhi road,<br>Karamadai,<br>Coimbatore District. |
| Pin Code | : | 641 104 |
| Mobile No | : | 99423 62828 |
| Aadhaar No | : | 7315 2522 2247 |

**c) Status of the Applicant (Individual/ Company/ Firm):**

The applicant is an individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough stone and Gravel only.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the District Collector, Coimbatore vide **Rc.No.1544/2017/Mines Dated: 05.07.2018** to obtain approved mining plan and obtain Environmental Clearance from the District Level Environment Impact Assessment Authority, Coimbatore, Tamilnadu.

**c) Period of permission/ lease to be granted:**

The applicant applied permission to quarry Rough stone and Gravel for the period of Five years/ The District Collector considered for the Grant of quarry lease for the period of Five years for Roughstone and three years for Gravel.

**d) Name and address of the Qualified Person preparing the mining plan:**

| | | |
|---|---|---|
| Name | : | **Dr. P.Thangaraju, M.Sc., Ph.D.,** |
| Address | : | Regd.off.No.17,<br>Advaitha Ashram Road,<br>Alagapuram, Salem – 636 004. |
| Mobile | : | 94422 78601 & 94433 56539 |
| Tele Fax | : | 0427- 2431989 |
| Email | : | infogeoexploration@gmail.com |
| Website | : | www.gemssalem.com |



364704 A

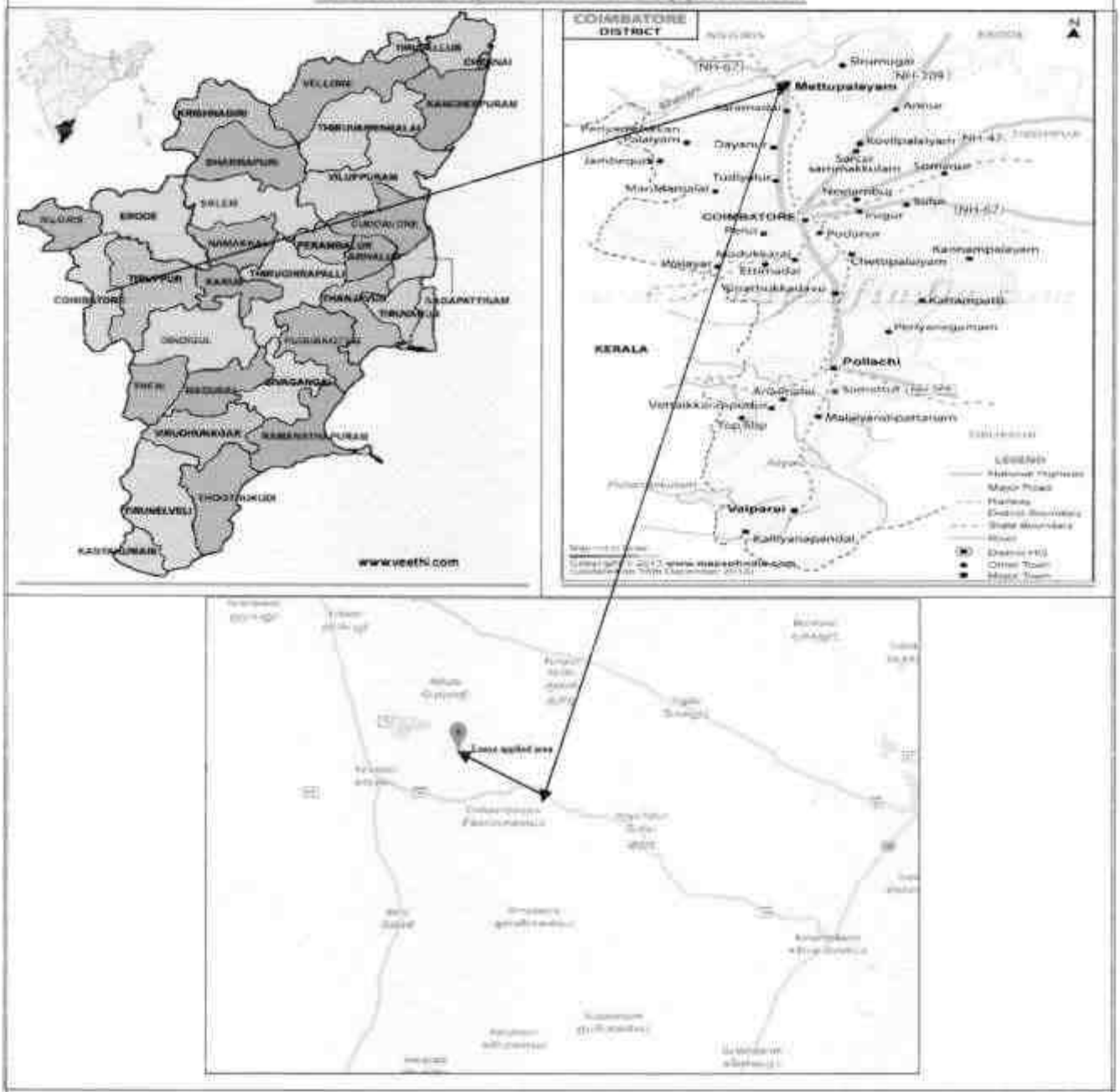
## 3.0 LOCATION

### a) Details of the area with location map:

The lease applied area is about 25.5km Northeastern side of Coimbatore and 8.0km Southeastern side of Mettupalayam and the lease applied area located along Chikkarampalayam Village at a distance of 2.0km (NW).

Coimbatore —25.5km (Northeast)→ Mettupalayam —8.0km (Southeast)→ Chikkarampalayam —2.0km (Northwest)→ Lease applied area

Location Map of the Lease applied area






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TABLE - 1

| District | Taluk | Village | S.F.No. | Total area in ha. | Proposal area in ha. |
|---|---|---|---|---|---|
| Coimbatore | Mettupalayam | Chikkarampalayam | 77/2B | 1.01.0ha | 0.99.0 |
| **Total Extent** | | | | | **0.99.0ha** |

**b) Classification of the area (Ryotwari/ Poramboke/ others):**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership/ Occupancy of the applied area (surface right):**

It is a Patta land, Registered in the Name of the Applicant Tmt.Kaveriyammal vide Patta No.488. Refer the Patta copy as Annexure No.IV.

**d) Toposheet No.with latitude and longitude:**

The lease applied area falls in the Toposheet No: **58 -A/16** Latitude between: **11°14'51.16"N** to **11°14'53.59"N** and Longitude between: **76°58'54.62"E** to **76°58'59.82"E** on WGS datum-1984. Refer the Plate No.I to II.

**e) Existence of public road/ Railway line, if any nearby and approximate distance:**

The approach metal road is situated on the Southern side of the applied area which connects the main road at a distance 500m.

Multiple road access is available from the quarry to state highways and National Highway, no villages are enrooted hence the traffic density is not much more due to the transportation of Rough stone.

The road from the quarry is already in existence, the same road will be maintained and utilized for haulage. besides trees will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Mettupalayam - Coimbatore which is about 2.5km on the Southwestern side of the area.

## PART – A

## 4.0 GEOLOGY AND MINERAL RESERVES

### 4.1 Brief description of the Topography and general Geology of the area (with plans):

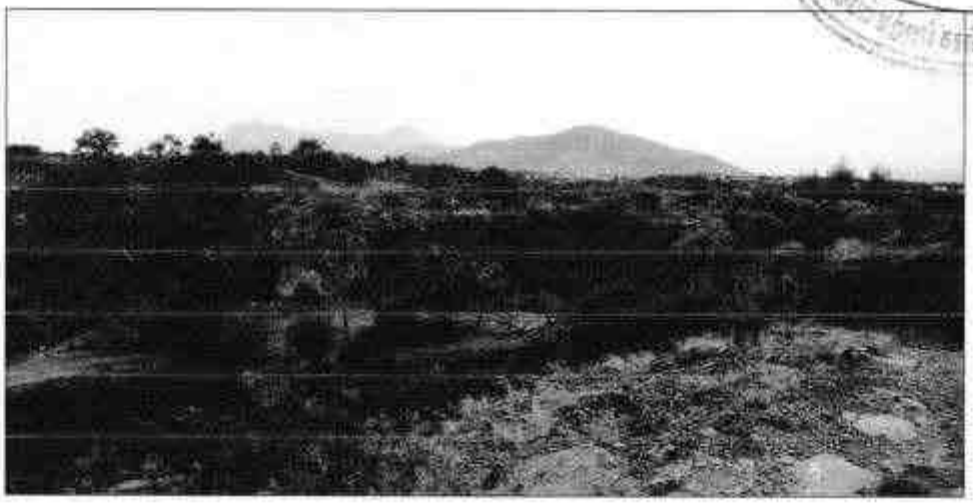
The lease applied area is exhibits Plain Topography. The area has gentle sloping towards Northeastern side. The altitude of the area is 358m (Max) above Mean sea level. The area is covered by the Gravel which is about 2.0m thickness. Massive Charnockite is found after 2.0m (Gravel formation) which is clearly inferred from the existing quarry pit.



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The Water level in the surrounding area is 50-55m below general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 850mm during SW monsoon.



Topographical View of lease applied area

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body $N20^0E - S20^0W$ with dipping towards $NW80^0$.

The general geological sequences of the rocks in this area are given below,

| AGE | | FORMATION |
|---|---|---|
| Recent | - | Quaternary weathered Formation (Gravel) |
| ---------Unconformity---------- | | |
| Archaean | - | Charnockite Peninsular Gneiss complex |

**4.2 Details of exploration already carried out if any:**

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Coimbatore District. Besides, the Qualified Person and his team members made a detailed geological study of the area. The Rough stone formation is clearly inferred from the existing quarry pit.



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18 JUN 2018

**4.3 Estimation of Reserves:**

**a) Geological reserves with geological sections on a scale of 1:1000/ 1:2000**

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally two sections have been drawn, one section drawn Length wise as (X-Y) and another one section are drawn Width wise as (A-B) to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in 1:1000 and vertical as 1:500 scale (Refer the Geological plan and sections Plate No- III. As the sale of Rough stone are in terms of cubic metres (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No.III):**

Geological Resources of Roughstone and Gravel is calculated upto a maximum depth of 42m below ground Level.

| | | |
|---|---|---|
| Total Extent of the area | = | 0.99.0ha |
| Area in sq.m | = | 0.99.0hax 10,000 |
| | = | 9,900sq.m |
| Total volume of Gravel | = | Area in sq.m X Depth of Gravel |
| | = | 9,900 X 2m |
| | = | 19,800$m^3$ |
| Total Volume of Roughstone | = | Area in sq.m X Depth of Roughstone |
| | = | 9,900 X 40m |
| | = | 3,96,000$m^3$ |
| The Geological Resources of Roughstone | = | **3,96,000$m^3$** |
| The Geological Resources of Gravel | = | **19,800$m^3$** |

**Existing Pit Dimension:**

The area has been quarried in earlier the existing pit dimensions are follow:

TABLE- 2

| Length in m (Max) | Width in m (Max) | Depth in m (Max) |
|---|---|---|
| 85m | 60 m | 19m from below ground level |



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10 JUL 2016

**Available Mineable Reserves:**

The available mineable reserves are calculated after leaving 7.5m safety distance from the Patta Land, 10m safety distance maintained by Pathway, 50m safety distance maintained by E.B.line and Bench loss.

TABLE-3

| MINEABLE RESERVES | | | | | | |
|---|---|---|---|---|---|---|
| ***Section*** | ***Bench*** | ***Length in (m)*** | ***Width in (m)*** | ***Depth in (m)*** | ***Volume in $m^3$*** | ***Mineable Reserves of Roughstone in ($m^3$)*** |
| **XY-AB** | **IV** | 43 | 55 | 5 | 11825 | 11825 |
| | **V** | 82 | 55 | 5 | 22550 | 22550 |
| | **VI** | 72 | 45 | 5 | 16200 | 16200 |
| | **VII** | 62 | 35 | 5 | 10850 | 10850 |
| | **VIII** | 52 | 25 | 5 | 6500 | 6500 |
| | **IX** | 42 | 15 | 5 | 3150 | 3150 |
| | **Total** | | | | | **71075** |

The available mineable reserves have been computed as **71,075$m^3$** of Rough stone at the rate of 100% recovery upto a maximum depth of 42m below ground level for a period of five years.

## 5.0 MINING

### 5.1 Method of mining (opencast/ underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.



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18 JUL 2016

**5.2 Mode of working (mechanized, semi mechanized, manual):**

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry explosives in blasting, excavation, Loading and transportation of Rough stone to the needy crusher.

The production of Rough stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

**5.3 Proposed Bench Height and Width:**

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

**5.4 Indicate the overburden/ mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):**

The overburden in this form of Gravel formation, the Gravel has been removed during previous quarrying operation. Hence there is no proposal for removal of Gravel during the present plan period. The excavated rough stone will be directly loaded into tipper to the needy crusher. The Year wise production Development plan and section indicating the Pit lay out, Green belt development are shown in Plate No-III.

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## Year wise Development and Production Table

TABLE-4

| YEARWISE PRODUCATION DETAILS | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Section* | *Year* | *Bench* | *Length in (m)* | *Width in (m)* | *Depth in (m)* | *Volume in $m^3$* | *Recoverable Reserves of Roughstone in $m^3$* |
| XY-AB | I | IV | 43 | 55 | 5 | 11825 | 11825 |
| | | **Total** | | | | | **11825** |
| | II | V | 55 | 55 | 5 | 15125 | 15125 |
| | | **Total** | | | | | **15125** |
| | III | V | 27 | 55 | 5 | 7425 | 7425 |
| | | VI | 32 | 45 | 5 | 7200 | 7200 |
| | | **Total** | | | | | **14625** |
| | IV | VI | 40 | 45 | 5 | 9000 | 9000 |
| | | VII | 32 | 35 | 5 | 5600 | 5600 |
| | | **Total** | | | | | **14600** |
| | V | VII | 30 | 35 | 5 | 5250 | 5250 |
| | | VIII | 52 | 25 | 5 | 6500 | 6500 |
| | | IX | 42 | 15 | 5 | 3150 | 3150 |
| | | **Total** | | | | | **14900** |
| | | **Grand Total** | | | | | **71075** |

The Recoverable reserves have been computed as **71,075$m^3$** of Roughstone for a period of five years at the rate of 100% recovery upto a maximum depth of 42m below ground level.

The applicant ensures the total quantity proposed in the benches will not exceed during the Quarrying operation. Besides the rough stone locked up in benches will be exploited after obtaining necessary permission from the office of Director General of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.

| | | |
|---|---|---|
| One lorry load | = | 6$m^3$ (approx.) |
| Total No of Working days | = | 260 Days per year |
| Total quantity to be removed in this five years plan period | = | 71,075$m^3$ |
| Hence total Lorry loads per day | = | 71,075$m^3$/6$m^3$ |
| | = | 11,846 Lorry loads |
| | = | 11846/5 years |
| | = | 2369/260 |
| | = | **9** Lorry loads per day |

Working hours = 8.00 am to 6.00 pm (with 1-2 pm lunch break)

JOINT DIRECTOR AND
ASSISTANT DIRECTOR (i/c)
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE.



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**5.5 Machineries to be used for Mining**

The following machineries are utilized on rental basis for the development and production work at this quarry.

TABLE - 5

**I. DRILLING MACHINE**

| S.No. | Type | Nos | Dia Hole mm | Size Capacity | Motive power |
|---|---|---|---|---|---|
| 1 | Jack hammer | 3 | 30-35 | 1.2m to 2.0m | Compressed air |
| 2 | Compressor | 1 | - | 400 psi | Diesel Drive |

**II. EXCAVATION & LOADING EQUIPMENT**

| S.No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Excavator with Bucket and Rock Breaker | 1 | 300 | Diesel Drive |

**III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT**

| S.No. | Type | Nos | Capacity | Motive Power |
|---|---|---|---|---|
| 1 | Dumpers | 1 | 20 tonnes | Diesel Drive |

**5.6 Disposal of Overburden/Waste:**

The overburden in this form of Gravel formation, the Gravel has been removed during previous quarrying operation. Hence there is no proposal for removal of Gravel during the present plan period. The excavated rough stone will be directly loaded into tipper to the needy crusher.

**5.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for Five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below.



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TABLE-6

| Description | Length (Max) (m) | Width (Max) (m) | Depth (Max) (m) |
|---|---|---|---|
| Conceptual | 85m | 60m | 42m from below ground level |

Afforestation has proposed on the 50m safety barrier and Panchayat roads by planting Neem/ Casuarina trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF Norms. Refer Plate No.III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

## 6.0 BLASTING

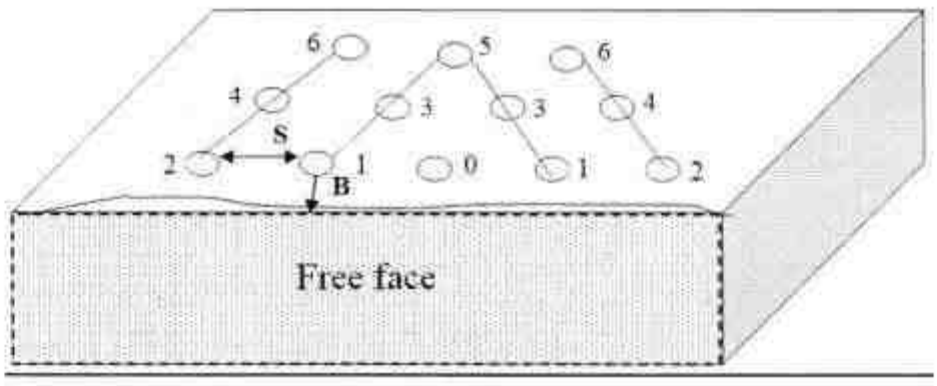
### 6.1 Blasting pattern:

The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting for shattering effect and loosen the Rough stone.

**Drilling and blasting parameters are as follows:**

| | | |
|---|---|---|
| Depth of Each hole | : | 1.5m |
| Diameter of hole | : | 30-32mm |
| Spacing between holes | : | 1.2m |
| Burden for hole | : | 1.0m |
| Pattern of hole | : | Zigzag – Multi-rows |
| Inclination of holes | : | $80^{0}$ from horizontal |
| Use of delay detonators | : | 25millisecond relays |
| Detonating fuse | : | "Detonating" Cord |

**BLASTING PATTERN DRAWING**






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**Staggered "V" Pattern of Blasting Design**

| | | |
|---|---|---|
| **Spacing** | = | **1.2m** |
| **Burden** | = | **1.0m** |
| **Depth of the hole** | = | **1.5m** |
| **No of holes proposed per day** | = | **48Holes** |

**6.2 Type of explosives to be used:**

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.

**6.3 Measures proposed to minimize ground vibration due to blasting:**

The quarry is situated more than 300m from the nearby villages. Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & 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 (millisecond delays) permits to divide the shot in 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 | = 48Holes |
| Yield | = 144Tons |
| Powder factor | = 6Tons/Kg of explosives |
| Total explosive required | = 24Kg-Slurry explosives |
| Charge/ hole | = 0.5Kg |
| Blasting at day time only | = 5-6p.m (whenever required) |

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**6.4 Storage and safety measures to be taken while blasting:**

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be have the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the explosives Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.

## 7.0 MINE DRAINAGE

**7.1 Depth of water table (based on nearby wells and water bodies):**

The water table in the area is 55m below ground level in summer season and 50m in rainy season which is observed from the nearby wells and the data obtained from existing private boreholes.

TABLE - 7

| S.No | Type | Distance & Direction | Location |
|---|---|---|---|
| 1 | Well | 430m Southeastern side | 11°14'40.88"N 76°59'06.38"E |

Hence the ground water will not be affected in any manner due to the quarrying operation during the entire life period.

**7.2 Arrangements and places where the mine water is finally proposed to be discharged:**

Quarry operations are confined well above the water table during the entire lease period. If water is encountered at due to rain water and seepage, the same will be pumped out by 5HP water pumps to the afforestation and Green belt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

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**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)**

**8.1 Habitations/ Villages natham:**

There is no approved habitation within 300m radius from the lease applied area.

**8.2 Power Lines (HT/LT):**

E.B.Line is passing from the South to North direction of the lease applied area. 50m safety distance has been maintained.

**8.3 Water bodies (river, pond, lake, odai, canal, etc.,):**

Odai is situated within the radius of 500m of the lease applied area.

**8.4 Archaeological/ historical monuments:**

There is no Archaeological/ historical monuments within 500m radius from the lease applied area.

**8.5 Road (NH, SH others):**

The Nearest National Highway (NH-67) Gudalur - Coimbatore is about 2.5km from the Southwestern side of the lease applied area.

The State Highway (SH-168) Karamadai- Kariyampalayam is about 1.0km from the Southern side of the lease applied area area.

**8.6 Places of worships:**

There is no place of worships within the radius of 500m from the lease applied area.

**8.7 Reserved forest/ forest/ social forest/ wild life sanctuary etc.:**

There is no reserved forest/ forest/ social forest/ wild life sanctuary etc., within radius of 500m.



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**SALIENT FEATURES**

| S. No. | Salient Futures Present around site | Prescribed safety distance | Actual Distance from the site |
|---|---|---|---|
| 1. | Railways, Highways, Reservoirs or Canal | 50m | Railway line – 2.5km (Mettupalayam - Coimbatore) Southwestern side.<br>National Highway (NH-67) Gudalur - Coimbatore is about 2.5km from the Southwestern side of the lease applied area.<br>River is situated in 7.5km North eastern side of the lease applied area.<br>Reservoir – No reservoir within 10.0km radius.<br>Canal- No Canal within 1.0km radius. |
| 2. | Village Road | 10m | Village road is 500m from the Southern side of the lease applied area. |
| 3. | Habitation / Village | 300m | There is no approved habitation within 300m radius from the lease applied area. Actual distance is clearly marked in the Plate No I-B. |

| S. No | Name of the Village | Approximate distance & Direction from lease applied area |
|---|---|---|
| 1. | Mongampalayam | 2.0km – Northeast |
| 2. | Chikkarampalayam | 2.0km – Southeast |
| 3. | Karamadai | 2.0km – Southwest |
| 4. | Chinna thottipalayam | 2.0km – Northwest |

| | | | |
|---|---|---|---|
| 4. | Adjacent Patta Land | 7.5m | North - S.F.No.77/2A<br>South - S.F.No.77/2C<br>West - S.F.No.77/2D<br>7.5m safety distance has been maintained from the Patta land. |
| 5. | Power House, EB line (HT & LT Line) | 50m | There is no approved habitation within the 300m radius from the lease applied area.<br>HT/LT Line – E.B.Line is passing from the South to North direction of the lease applied area. 50m safety distance has been maintained. |
| 6. | Boundaries of the permitted area | 7.5m | The boundaries of the permitted areas is as follows: |

| Direction | S.F.Nos | Classification | Safety Distance |
|---|---|---|---|
| North | 77/2A | Patta land | 7.5m |
| West | 77/2B | Patta land | 7.5m |
| South | 77/2D | Patta land | 7.5m |
| East | 82 | Cart track<br>E.B.Line | 50m |

| | | | |
|---|---|---|---|
| 7. | Reserve forest/ protected area/ ECO sensitive area | 50m | There is no reserve forest within 10.0km radius. |



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| | | | |
|---|---|---|---|
| 8. | Protected area / ECO sensitive area/Wild Life Sanctuary | 10km | There is no Protected area/ ECO sensitive area/Wild Life Sanctuary within 10.0km radius. |

**9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES**

**9.1 Employment potential (skilled, semi skilled, un skilled):**

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous mines regulations, 1961.

a. Skilled labour

| | | |
|---|---|---|
| Mine Foreman | : | 1 |
| Blaster/mate | : | 1 |
| Excavator – Operator & Driver | : | 2 |
| Jack hammer operator | : | 9 |

b. Semi-skilled

| | | |
|---|---|---|
| Watchman | : | 1 |

c. Unskilled

| | | |
|---|---|---|
| Labour & Helper | : | 3 |
| Cleaner | : | 1 |
| **Total** | **:** | **18** |

Allowing 10% absenteeism the man power would be around 16, the above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labor will not be employed less than 18 years. **No child labour** will engaged or entertained for any kind of quarrying operations. All the labors engaged for quarrying operations will be insured during the quarry lease period.

**9.2 Welfare Measures:**

**a) Drinking Water:**

Packaged drinking water is available from the nearby approved water vendors in Karamadai which is about 2.0km from the Southwestern side of the lease applied area.

**b) Sanitary Facilities:**

Hygienic modern Sanitary Facilities will be constructed with in the safety area as semi permanent structure and it will be maintained periodically.



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**c) First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 8.0km Northwestern side in Mettupalayam by a vehicle earmarked for the purpose the competent and statutory foreman/permit manager/mate will be in charge of first aid.

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**d) Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e) Precautionary safety measures to the labourers:**




- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets &

Safety Shoes as personal protective device as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men & machinery and to create awareness about conventional opencast quarrying operations.



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## PART – B

## 10.0 ENVIRONMENT MANAGEMENT PLAN

### 10.1 Existing Land use pattern:

The quarry lease applied area is Plain topography. The area is a dry barren land devoid of Agriculture and habitations. The land is not used for any specific vegetation.

LAND USE TABLE-8

| Description | Present area in (ha) | Area at the end of This quarrying period (ha) |
|---|---|---|
| Quarrying Pit | 0.51.0 | 0.51.0 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.02.0 | 0.02.0 |
| Green Belt | Nil | 0.20.0 |
| Unutilized | 0.46.0 | 0.25.0 |
| **Grand Total** | **0.99.0** | **0.99.0** |

### 10.2 Water Regime:

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climatic change.

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## 10.3 Flora and Fauna:

TABLE-9

| List of Flora | | | | | |
|---|---|---|---|---|---|
| **S.No** | **Name of the plant (Scientific)** | **Family Name** | **Common Name** | **Habit** | **Picture** |
| 1 | Calotropis gigantea | Asclepiadaceae | Crown Flower, Erukku | Shrub |  |
| 2 | Borassus flabellifera | Arecaceae | Palmyra Palm | Tree |  |
| 3. | Azadirachta indica | Meliaceae | Neem, Vembu | Tree |  |
| 4. | Acacia nilotica | Mimosaceae | Babul, Karuvelam | Tree |  |
| 5. | Cocus nucifera | Arecaceae | Coconut, Thennai | Tree |  |

| List of Fauna | | | |
|---|---|---|---|
| **S.No.** | **Scientific Name** | **Common Name** | **Picture** |
| 1. | Hieroglyphus sp | Grasshopper |  |
| 2. | Carausius sp | Stick insect |  |
| 3. | Hamitermes silvestri | Termite |  |
| 4. | Danaus plexipppus | Striped tiger |  |
| 5. | Mantis religiosa | Praying mantis |  |
| 6. | Agrion sp & Petalura sp | Dragon fly |  |

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**10.4 Climatic Conditions:**

The area receives rainfall of about 850/per annum and the rainy season is mainly from Oct - Jan during Southwest monsoon. The summer is hot with maximum temperature of 35°C and winter encounters a minimum temperature of 18°C.

**10.5 Human settlement:**

There are few villages located in this area within 5km radius; the approximate distance and population are given below.

TABLE – 10

| S.No | Name of the Village | Approximate distance & Direction from lease applied area | Approximate population |
|---|---|---|---|
| 1. | Mongampalayam | 2.0km – Northeast | 600 |
| 2. | Chikkarampalayam | 2.0km – Southeast | 300 |
| 3. | Karamadai | 2.0km – Southwest | 1000 |
| 4. | Chinna thottipalayam | 2.0km – Northwest | 500 |

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc are available at Mettupalayam located at a distance of 8.0km on the Northwestern side of the area.

**10.6 Plan for air, dust suppression:**

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, Loading and unloading during the Rough stone quarry operation.

The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigative measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000**/year.



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**10.7 Plan for Noise level control:**

The noise level increased due to the excavation, Drilling, Blasting and Transportation.

**Engineering Noise control:**

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse will be used for rough stone. Hence, ground vibration and noise pollution ie., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000**/Year.

**10.8 Environmental impact assessment statement describing impact of mining on the next five years:**

In the mining plan proposed for a production of Rough stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF& CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-**

**10.9 Proposal for waste management:**

There is no waste anticipated in this Rough Stone and Gravel quarry operation. The entire quarried out materials will be utilized 100%.



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**10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling/ fencing etc.):**

In the mining plan only to a maximum depth of 42m below ground level has been envisaged as workable depth for safe &economic mining during entire lease period. Hence, after quarry reaches the ultimate pit limit (for this period) of a maximum 42m depth below the ground level, fencing will be constructed around the quarried pits to prevent inadvertent entry of the public and cattle. There is no proposal for reclamation and rehabilitation. The barbed wire fencing cost would be around **Rs.1,00,000/-**

**10.11 Programme of afforestation (indicate extend, number, name of species to be afforested):**

50m safety barrier and Nearest Panchayat Roads has been identified to be utilized for afforestation appropriate native species of Neem/ Casuarina trees will be planted in a phased manner as described below.

TABLE – 11

| Year | No. of tress proposed to be planted | Survival % | Area to be covered sq.m | Name of the species | No. of trees expected to be grown |
|---|---|---|---|---|---|
| I | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| II | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| III | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| IV | 80 | 80% | 400 | Neem/ Casuarina | 64 |
| V | 80 | 80% | 400 | Neem/ Casuarina | 64 |

Nearly 2,000sq.m area is proposed to use under afforestation by planting 80 Nos of Neem/ Casuarina trees every year with an anticipated survival rate of 80%. (Refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around **Rs.50,000/-** for the period of five years.

**10.12 Proposed financial estimate/ budget for (EMP) environment management:**

Budget Provision for the entire quarrying period:

TABLE -12

| S.No | Monitory and Analysis Description | Rate per location | No. of location | Total Charges/ six months | Total Charges/ year |
|---|---|---|---|---|---|
| 1 | Ambient air quality monitoring | 6500 | 4 | 26000 | 52000 |
| 2 | Noise level monitoring | 250 | 4 | 1000 | 2000 |
| 3 | Ground vibration monitoring | 1000 | 2 | 2000 | 4000 |
| 4 | Water sampling and analysis | 9000 | 1 | 9000 | 18000 |
| **Total EMP Cost/ year** | | | | | **76,000** |

The EMP cost would be around **Rs.3,80,000/-** for the period of five years.

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| A. Project cost / investment | | |
|---|---|---|
| i) Land cost | The Land value as per the Government Guideline land cost is calculated as follows,<br>0.99.0ha X Rs.7,41,500/- = Rs.7,34,085/-<br>(source : https://tnreginet.gov.in/portal/) | = Rs.7,34,085/- |
| ii) Machinery to be used | The following machineries are proposed to meet out the productions. Excavator attached with rock breaker (Rental Basis) Dumper, Tractor mounted compressor With jack Hammer and loose tools (Rental Basis) | = Rs.15,00,000/- |
| iii) Refilling/ Fencing | Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around | = Rs.1,00,000/- |
| iv) Labourers shed | Labour sheds will be constructed as semi permanent structure. The cost would be around | = Rs. 50,000/- |
| v) Sanitary facility | Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around | = Rs. 50,000/- |
| vi) Others items | First aid room & accessories | = Rs. 50,000/- |
| vii) Drinking water facility for the labourers | Packaged drinking water will be provided for all the Labors. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around | = Rs.1,00,000/- |
| viii) Sanitary arrangement | The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around | = Rs.50,000/- |
| ix) Safety kit | All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around | = Rs.1,00,000/- |
| x) Water sprinkling | Water will be sprinkled in the haul roads by water sprinklers the cost would be around | = Rs.1,00,000/- |
| xi) Afforestation etc. | Afforestation program will be carried out in the boundary barrier the cost would be around | = Rs.50,000/- |
| | **Total Project Cost** | **= Rs.28,84,085/-** |



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| | |
|---|---|
| | **B. EMP Cost :- (Per year)**<br>Air Quality monitoring = Rs. 52,000/-<br>Water Quality Sampling = Rs. 18,000/-<br>Noise Monitoring = Rs. 2,000/-<br>Ground vibration test = Rs. 4,000/-<br>**Total Cost = Rs. 76,000/-**<br>Total EMP Cost for the five years period is **Rs. 3,80,000/-**<br>**A+B+=**<br>A. Project cost = Rs. 28,84,085/-<br>B. EMP Cost = Rs. 3,80,000/-<br>**Total Project Cost (A+B) = Rs. 32,64,085/-**<br>The applicant ensures to involve corporate environment responsibilities (CER) like providing note books to nearby school, providing drinking water facilities to the nearby villages etc., at around 2.0% from the total project cost the cost would be around **Rs.67,000/-**<br>Total Project cost = Rs. 32,64,085/-<br>CER Cost (2.0%) = Rs. 67,000/-<br>**Total cost = Rs. 33,31,085/-**<br>(The Total cost of the project including EMP Cost is Rupees Thirty three lakhs thirty one thousand and eighty five only). |

## 11.0 MINE CLOSURE PLAN

### 11.1 Steps proposed for phased restoration, reclamation of already mined out areas:

There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of the life of lease will be fenced to prevent inadvertent entry of public and cattles. After treating the water the same will be utilized for agriculture purpose of the agriculture lands.

### 11.2 Measures to be under taken on mine closure as per Act & Rules:

Measure will be taken as per Act & Rules. There is no proposal for back filling, reclamation and rehabilitation. The quarry pit will be fenced by barbed wire to prevent inadvertent entry of public and cattle.

The quarried out pit will be allowed to collect rain and seepage water which will act as a temporary reservoir for storage. This water storage will enhance the static level and ground water and to recharge the nearby wells and also it will be used for irrigating the nearby agriculture lands.

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**11.3 Mitigation measure to be undertaken for safety and restoration/ reclamation of the already mined out area:**

**Air quality: (Air quality will be degrade due to the drilling, blasting, mining operation and transportation)**

**Mitigation measures:**

Drilling will be carried out by wet drilling mode to control the dust propagation into the air. Blasting will be carried out on limited scale. Mist Water spraying on haul road is proposed to prevent the dust propagation into the air. Air quality will be monitored periodically as per norms.

**NOISE AND VIBRATION: (The noise will be formed due to the drilling, blasting, loading and movement of Machineries**

**Mitigation measures:**

The applicant proposed to carry out the plantation all along the boundary to prevent Noise besides wet drilling will be practiced to prevent dust. All the machineries will be maintained in good conditions as per RTO and TNPCB Norms to prevent Noise, Smoke and vibration.

**WATER REGIME:**

**Mitigation Measures:**

The quarry operation proposed upto a maximum depth of 42m below ground level for the five year period, the proposed depth is well above the water table (summer in 55m and rainy seasons in 50m), hence the water table will not be affected in any.

The seepage and rain water will be drained out from the pit by the 5H.P motor pump and discharged through filter media to the afforestation area in the boundary barrier. The excess water will be sprayed on haul roads to prevent dust propagation in to the atmosphere. The Rough stone quarry will not produce any harmful toxic effluents.

**HUMAN HEALTH & SAFETY: Dust will be limited due to the mine operation:**

All the labours have been provided with safety equipments like helmet, Safety Goggles, Ear muff, Hand Gloves, safety jacket, safety belt, Mine boots etc., by the Applicant's own cost as per Director of mines safety. The foreman/Permit Mines Manager will provide first aid for small & minor injuries. In case of any eventualities, the victim will be taken to the nearby hospital by the Applicant's vehicle which is always available in the mines office. The hospital is about 8.0km in Mettupalayam (NW).

## 12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT:

This Mining plan for Rough stone (Charnockite) and Gravel is under Rule 10 & 10A as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the concerned Department.

Prepared by

**Dr. P.Thangaraju, M.Sc., Ph.D.,**
Qualified person

Place : Salem

Date : 13.07.2018

This Mining Plan is Approved subject to the conditions / stipulation & indicated in the Mining Plan Approval Letter No:15444/Mines/2017 dt 18-7-18 office of the A.D, Geology & Mining Coimbatore

This Mining Plan is Approved based on the incorporation of the particulars specified in the letter of the commissioner and Mining, Chennai ref No: 3 Dated 19.11.2012 and subjected fulfillment of the condition laid Tamilnadu Minor Mineral Concession Rules

**JOINT DIRECTOR AND**
**ASSISTANT DIRECTOR (i/c)**
**DEPARTMENT OF GEOLOGY & MINING**
**COIMBATORE.**

ANNEXURE - T

ந.க.எண். 1544/2017/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
கோயம்புத்தூர்.
நாள்: 05.07.2018.

18 JUL 2018

**குறிப்பாணை**

பொருள்: கனிமங்களும் குவாரிகளும் - கோயம்புத்தூர் மாவட்டம் - மேட்டுப்பாளையம் வட்டம் - சிக்காரம்பாளையம் கிராமம் - புல எண். 77/2B-ல் மொத்தம் 1.01.1 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் 0.99.0 ஹெக்டேர் பரப்பளவு பட்டா பூமியில் மட்டும் சாதாரண கற்கள் மற்றும் கிராவல் குவாரி செய்ய திருமதி.T.காவேரியம்மாள் தங்கவேலு என்பவர் - குவாரி குத்தகை அனுமதி வழங்குவது – தொடர்பாக.

பார்வை:
1. திருமதி.T.காவேரியம்மாள், 24/11, பெள்ளாதி ரோடு, காரமடை, கோயம்புத்தூர் என்பவரது மனு நாள் 28.12.2017
2. இவ்வலுவலக இதே ந.க.எண் மற்றும் நாள். 09.01.2018.
3. கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியரது கடித ந.க.எண். 133/2018/து3 நாள் 16.04.2018
4. இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ), புவியியல் மற்றும் சுரங்கத்துறை, கோயம்புத்தூர் தணிக்கை அறிக்கை நாள் 26.06.2018

*****

பார்வை 1-ல் கோயம்புத்தூர் மாவட்டம், காரமடை, 24/11 பெள்ளாதி ரோடு என்ற முகவரியில் வசிக்கும் திருமதி. T. காவேரியம்மாள் தங்கவேலு என்பவர் மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண். 77/2B-ல் மொத்தம் 1.01.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா நிலத்தில் 0.99.0 ஹெக்டேர் பட்டா நிலத்தில் மட்டும் சாதாரணகற்கள் மற்றும் கிராவல் குவாரி செய்ய, குத்தகை உரிமம் கோரி விண்ணப்பித்துள்ளார்.

மேற்படி மனு தொடர்பாக, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் கோயம்புத்தூர், புவியியல் மற்றும் சுரங்கத்துறை இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ), ஆகியோர் புலத்தணிக்கை மேற்கொண்டு மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண். 77/2B-ல் மொத்தம் 1.01.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் 0.99.0 ஹெக்டேர் பரப்பளவுள்ள பட்டா நிலத்தில் மட்டும் சாதாரணகற்கள் மற்றும் கிராவல் குவாரி செய்ய கீழ்கண்ட நிபந்தனைகளுடன் பரிந்துரை செய்துள்ளார்கள்.

**நிபந்தனைகள்**

1. அருகிலுள்ள பட்டா நிலங்களுக்கும் மற்றும் பொது மக்களுக்கும், எவ்வித இடையூறும் இன்றி சாதாரண கல் குவாரி மேற்கொள்ள வேண்டும்.
2. அருகில் உள்ள பட்டா நிலத்திற்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு கால்பாதைக்கு 10 மீட்டர் மற்றும் மின்கம்பிக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப்பணி மேற்கொள்ள வேண்டும்.
3. விண்ணப்ப புலத்திற்கு அருகில் உள்ள பட்டா மற்றும் புறம்போக்கு நிலங்களுக்கு முள்வேலி அமைக்கப்பட வேண்டும
4. மெருகேற்றக்கூடிய கிரானைட் கற்கள் வெட்டியெடுக்க கூடாது.
5. குழந்தை தொழிலாளர்களை வேலைக்கு அமர்த்தல் கூடாது.

அனுமதி கோரும், புல எண். 77/2B பட்டா எண். 488-ன் படி திரு. தங்கவேல் (லேட்) என்பவர் மனைவி திருமதி. காவேரியம்மாள் என்பவர் பெயரில் தனிப் பட்டாவாக கிராம கணக்கில் தாக்கலாகியுள்ளது. எனவே மனுதாரர் மேற்படி நிலத்தில் கல் குவாரி செய்ய தகுதியுடையவர் ஆவார்.

எனவே, கோயம்புத்தூர் வடக்கு வருவாய் கோட்டாட்சியர் மற்றும் கோயம்புத்தூர், புவியியல் மற்றும் சுரங்கத்துறை இணை இயக்குநர் மற்றும் உதவி இயக்குநர்(பொ) ஆகியோரது புலத்தணிக்கை அறிக்கையின் அடிப்படையில் மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், புல எண். 77/2B-ல் மொத்தம் 1.01.1 ஹெக்டேர் பரப்பளவுள்ள பட்டா பூமியில் 0.99.0 ஹெக்டேர் பரப்பளவு பட்டா பூமியில் மட்டும் 5 (ஐந்து) ஆண்டுகளுக்கு சாதாரண கல் வெட்டியெடுக்கவும் மற்றும் 3 (மூன்று) ஆண்டுகளுக்கு கிராவல் வெட்டியெடுக்கவும் மேல் கண்ட நிபந்தனைகளுக்குட்பட்டு குவாரி குத்தகை வழங்குவதற்குரிய நிலப்பரப்பாக (Precise Area Communication) கருதப்படுகிறது.

மேலும், தமிழ்நாடு சிறுகனிம சலுகை விதிகள்-1959 விதி எண். 41 மற்றும் 42- ன் படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு கரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்காமல், மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையகத்தின் சுற்றுச்சூழல் அனுமதி பெறவும் மனுதாரரை கேட்டுக் கொள்ளப்படுகிறது.

18 JUL 2018

ஒ/.XXX
மாவட்ட ஆட்சியர்
கோயம்புத்தூர்

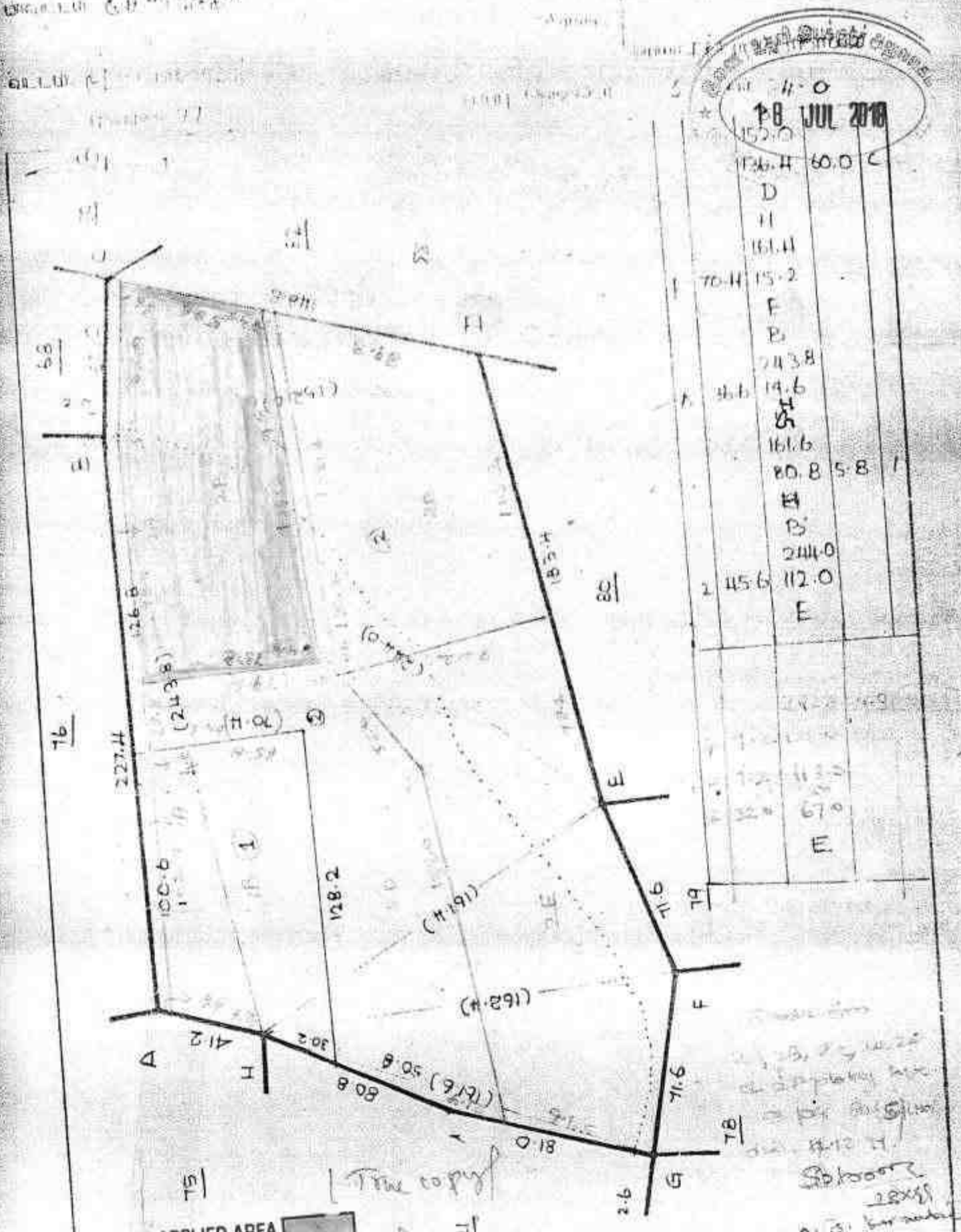
பெறுதல்:
திருமதி.T.காவேரியம்மாள் தங்கவேலு,
க/பெ. தங்கவேலு,
24/11, பெள்ளாதி ரோடு,
காரமடை,
கோயம்புத்தூர்.

//உண்மை நகல் / உத்திரவுப்படி//

மாவட்ட ஆட்சியருக்காக
கோயம்புத்தூர்.

ANNEXURE - II

18 JUL 2018




The Village Administrative Officer,
No.19. Chikkarampalayam Village,
Mettupalayam (Taluk)

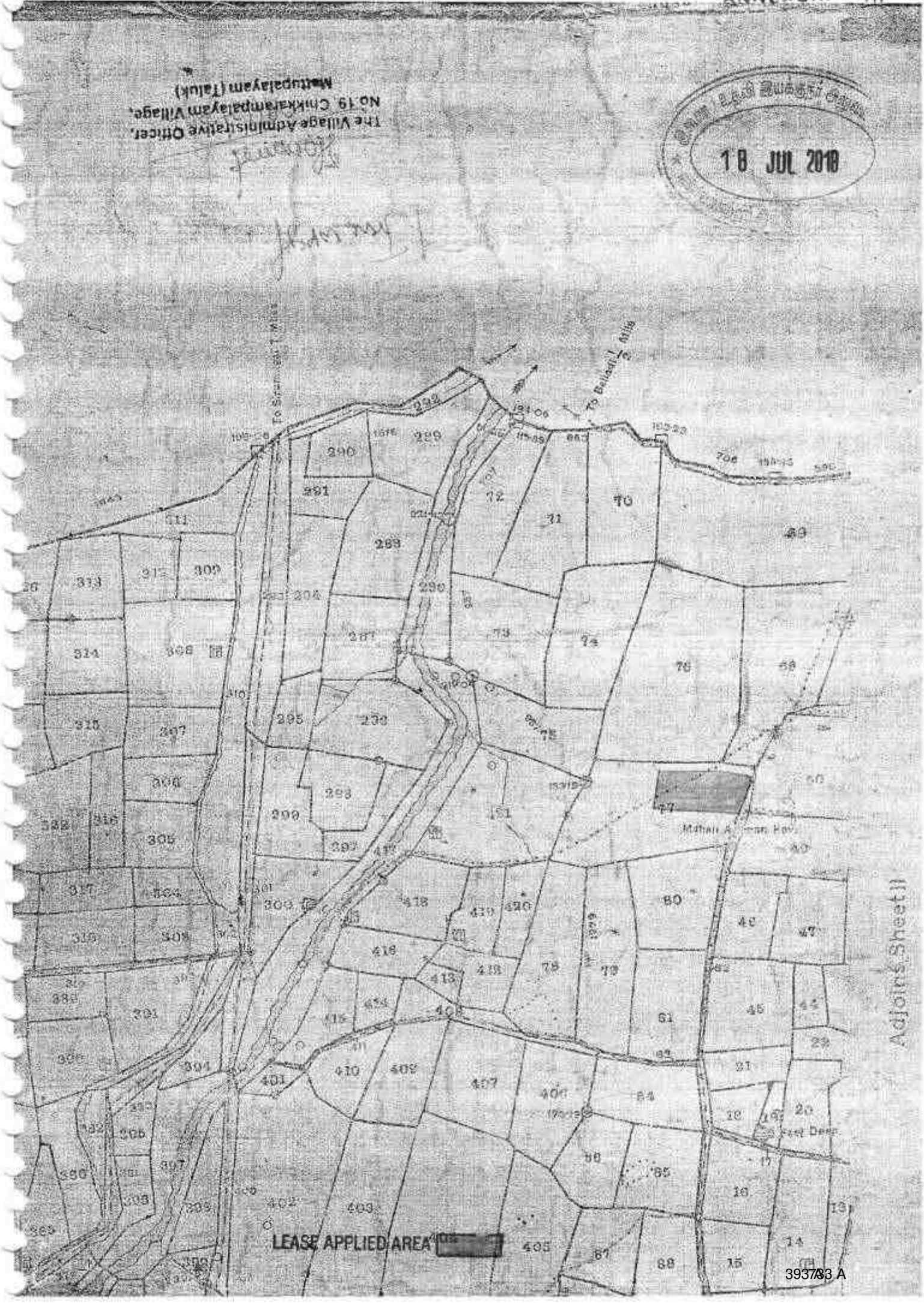
True copy

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ANNEXURE - III

The Village Administrative Officer,
No.19 Chikkarampalayam Village,
Mettupalayam (Taluk)

18 JUL 2018




393783 A

ANNEXURE - IV




தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் : மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 488

உரிமையாளர்கள் பெயர்

1. தங்கவேல் மனைவி காவேரியம்மாள்

| | | நன்செய் | | புன்செய் | | மற்றவை | |
|---|---|---|---|---|---|---|---|
| | | பரப்பு | தீர்வை | பரப்பு | தீர்வை | பரப்பு | தீர்வை |
| புல எண் | உட்பிரிவு | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை |
| 77 | 2B | -- | -- | 1 - 1.00 | 2.02 | -- | -- |
| | | | | 1 - 1.00 | 2.02 | | |

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **12/04/019/00488/40920** என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 09-07-2018 அன்று 09:48:02 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

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RF III A-10 - 5,00,000 - GBP-Mdu-2009

Tile Village Administrative Officer,
No.19, Chikkarampalayam Village,
Madupalayam (Taluk)

18 JUL 2018

ANNEXURE - V

3957/85 A

ANNEXURE VI

# அ-பதிவேடு விவரங்கள்




**மாவட்டம் : கோயம்புத்தூர்**

**வட்டம் : மேட்டுப்பாளையம்**

**கிராமம் : சிக்காரம்பாளையம்**

| | | | |
|---|---|---|---|
| 1. புல எண் | **77** | 9. மண் வயனமும் ரகமும் | **8 - 3** |
| 2. உட்பிரிவு எண் | **2B** | 10. மண் தரம் | **5** |
| 3. பழைய புல உட்பிரிவு எண் | **77/2** | 11. தீர்வை (ரூ - ஹெ) | **2.00** |
| 4. பகுதி | **P** | 12. பரப்பு (ஹெக்டேர் - ஏர்) | **1 - 1.00** |
| 5. அரசு / ரயத்துவாரி | **ரயத்துவாரி** | 13. மொத்த தீர்வை (ரூ - பை) | **2.02** |
| 6. நிலத்தின் வகை | **புஞ்சை** | 14. பட்டா எண் | **488** |
| 7. பாசன ஆதாரம் | - | 15. குறிப்பு | - |
| 8. இரு போகமா | - | 16. பெயர் | **1.காவேரியம்மாள்** |

**குறிப்பு 1:**

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **http://eservices.tn.gov.in** என்ற இணைய தளத்தில் **70920** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

ANNEXURE - VII









ANNEXURE - VIII

2121010

18 JUL 2019

# சென்னைப் பல்கலைக் கழகம்

University of Madras

அறிவியல் புலம்

FACULTY OF SCIENCE

சென்னைப் பல்கலைக் கழகப் பேரவை 1994 ஆம் ஆண்டு ஏப்ரல் மாதம் நடந்த கணிமையியல் தேர்வில் P. தங்கூராசு என்பவர் முதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி அறிவியல் நிறைஞர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக் கழக துணைவேந்தரின் வழங்குகிறது.

*The Senate of the* UNIVERSITY OF MADRAS *hereby makes known that* P. Thangaraju *has been admitted to the Degree of Master of Science, he/she having been certified by duly appointed Examiners to be qualified to receive the same in* Geology *and was placed in the* First Class, *at the Examination held in* April 1994.

*Given under the seal of the University*

சேப்பாக்கம், Chepauk

சென்னை, Madras

25-01-1999

பதிவாளர்

Registrar

P.T. [illegible]

துணை வேந்தர்

Vice-Chancellor

398788 A

GOVERNMENT OF INDIA
MINISTRY OF LABOUR AND REHABILITATION
OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY




Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I **T.VENKATARAJAGOPALAN** being the Mines Agent of **M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine)** do hereby certify that Thiru. **P.THANGARAJU**, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved 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 candidate to be examined for Certificate of Competency.

: THIRUMALAI LIME STONE MINES

10/6/06

Agent (Mines)

**(Signature with date and official Seal)**
**[T.VENKATARAJAGOPALAN]**

Mines Agent:

P.O. : **ARUKANGULAM**

District : **TIRUNELVELI**

State : **TAMIL NADU**

**(Signature of Candidate)**

**(State name of Mineral) : LIMESTONE**

| S.No | Particulars of practical Expereince (a) | Place of Experience (b) | Period of practical experience(c) | | Total Experience (e) | | |
|---|---|---|---|---|---|---|---|
| | | | From | To | Yr. | Month | Day |
| 01. | As a Trainee in Drilling Operation | Semi Mechanised Openeast working | 02.05.1994 | 15.07.1995 | 01 | 02 | 14 |
| 02. | As a Trainee in Blasting Operation | | 16.07.1995 | 10.12.1996 | 01 | 04 | 25 |
| 03. | Exploration | | 11.12.1996 | 31.01.1998 | 01 | 01 | 20 |
| 04. | Surveying | | 01.02.1998 | 25.06.1998 | 00 | 04 | 25 |
| 05. | Sampling Quality control and | | 26.06.1998 | 20.07.1999 | 01 | 00 | 24 |
| 06. | Supervision in HEMM Operation | | 21.07.1999 | 30.12.1999 | 00 | 05 | 10 |
| **GRAND TOTAL** | | | | | **05** | **07** | **28** |
| **(Five Years Seven Months Twenty Eight Days Only)** | | | | | | | |

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<br>Nil | 35 | 35 |

of THANMALAI LIME STONE MINES

Signature of Candidate

Signature of Manager with Date & Seal
[T.VENKATARAJAGOPALAN]

Name of the Mine

**Instructions :-**

01. State clearly the nature of duties

02. State whether on surface, in open cast workings or below ground

03. State specifically the period spent by the applicant in different mining operations, or surveying operations, as the case may be. If the employment has not been such as to involve continuous attendance of the applicant at the mine,it must be stated how many days a week he was employed at the mine, whether underground or above ground and in what capacity.

04. Delete if the mine is a Metalliferous mine

05. Delete if the mine is a Coal mine

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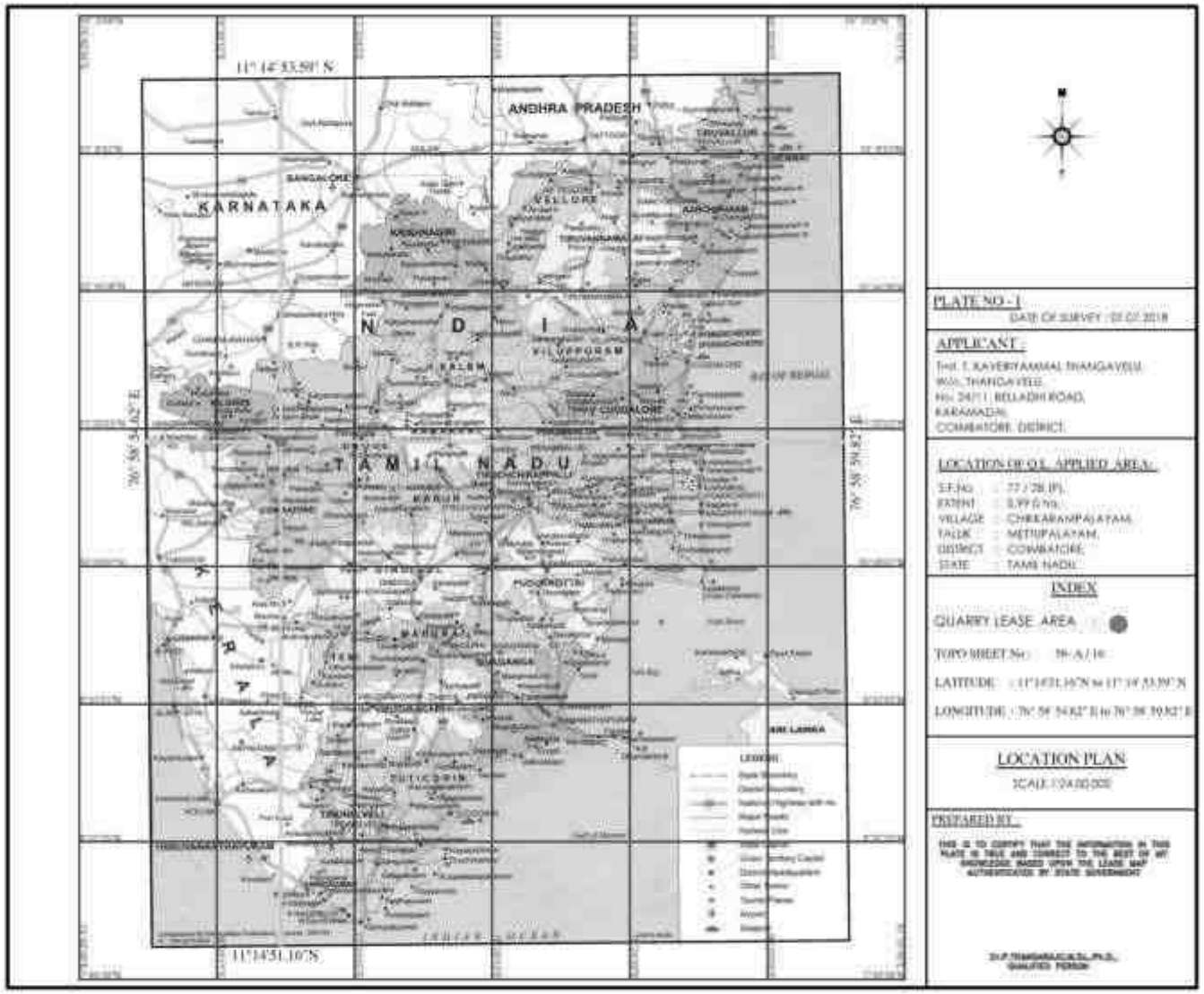



PLATE NO - I

DATE OF SURVEY : 02.07.2018

APPLICANT :

Thiru. T. KAVERIYAMMAL THANGAVELU,
W/o. THANGAVELU,
No. 24/1 ( BELLADH ROAD,
KARAMADAI,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No. : 77 / 2B (P),
EXTENT : 0.99.0 hs.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE AREA :

TOPO SHEET No. : 58- A / 16

LATITUDE : 11°14'51.16"N to 11°14'33.59"N

LONGITUDE : 76° 58' 54.62" E to 76° 59' 59.82" E

LOCATION PLAN

SCALE 1:25,000

PREPARED BY :

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

Dr.P.THANGARAJ,M.Sc., Ph.D.,
QUALIFIED PERSON

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

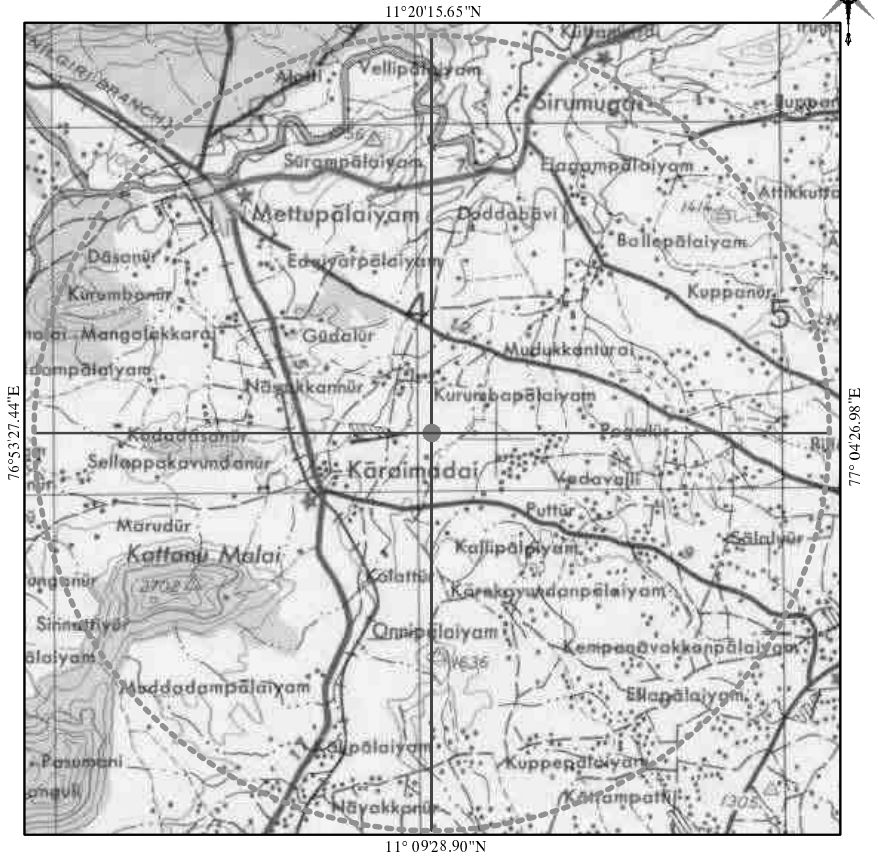



PLATE NO - I-A

DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. T. KAVERIYAMMAL THANGAVELU,
W/o. THANGAVELU,
No. 24/11, BELLADHI ROAD,
KARAMADAI,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 77 / 2B (P).
EXTENT : 0.99.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

ROADS

Hard surface,all weather
more than two lanes wide.....
Two lanes wide.....
Less than two lanes wide.....
Loose surface
Graded,all weather.....
Dry weather,or dirt.....
Track;Trail.....

RAILROADS

Normal gauge(5'.6")
Narrow gauge.....

BOUNDARIES

International.....
State.....
Landplane airport.....
Landing area.....
Seaplane airport.....
Unclassified stream.....
Buildings or landmark feature.....
Mine.....
Horizontal control point.....
spot elevation in feet.....
swamp;Orchard,vineyard.....
Woods—brushwood.....

TOPO SKETCH OF QUARRY LEASE
APPLIED AREA FOR 10Km RADIUS

SCALE- 1:100000

TOPO SHEET No : 58- A / 16

LATITUDE : 11°14'51.16"N to 11°14'53.59"N
LONGITUDE : 76°58'54.62"E to 76°58'59.82"E

10KM RADIUS:

Q.L. APPLIED AREA :

PREPARED BY :

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Dr.P.THANGARAJU,M.Sc,.Ph.D.,
QUALIFIED PERSON

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TOPO SHEET No : 58- A / 16

LATITUDE : 11°14'51.16"N to 11°14'53.59"N
LONGITUDE : 76°58'54.62"E to 76°58'59.82"E

LAND USE PATTERN

| DESCRIPTION | PERCENTAGE | INDEX |
|---|---|---|
| QUARRY PIT/CRUSHER | (15%) | |
| TREES/COCONUT FARM | (09%) | |
| SEASONAL AGRI LAND | (30%) | |
| BARREN LAND | (28%) | |
| ROADS | (07%) | |
| HABITATION/INFRA.. | (05%) | |
| ODAI | (06%) | |
| TOTAL | 100% | |

PLATE NO - I-B
DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. T. KAVERIYAMMAL THANGAVELU,
W/o. THANGAVELU,
No. 24/11, BELLADHI ROAD,
KARAMADAI,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 77 / 2B (P).
EXTENT : 0.99.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

- QUARRY LEASE APPLIED AREA
- 1 Km RADIUS
- 500m RADIUS
- PANCHAYAT ROAD
- PATH WAY
- TREES / COCONUT FARM
- WIND DIRECTION
- SEASONAL AGRICULTURE LAND
- BARREN LAND
- HABITATION
- INFRASTRUCTURE
- E.B. LINE
- ODAI
- CRUSHER UNIT
- QUARRY PIT

ENVIRONMENTAL & LANDUSE PLAN
SCALE:- 1:10,000

PREPARED BY :

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

Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

| Corner | LATITUDE | LONGITUDE |
|---|---|---|
| 1 | 11° 14' 51.16"N | 76° 58' 54.90"E |
| 2 | 11° 14' 53.59"N | 76° 58' 54.62"E |
| 3 | 11° 14' 53.50"N | 76° 58' 57.85"E |
| 4 | 11° 14' 53.19"N | 76° 58' 59.64"E |
| 5 | 11° 14' 53.09"N | 76° 58' 59.60"E |
| 6 | 11° 14' 53.05"N | 76° 58' 59.82"E |
| 7 | 11° 14' 51.35"N | 76° 58' 59.25"E |

Existing Pit Dimension (max)
= 85mX60mX19m(d)

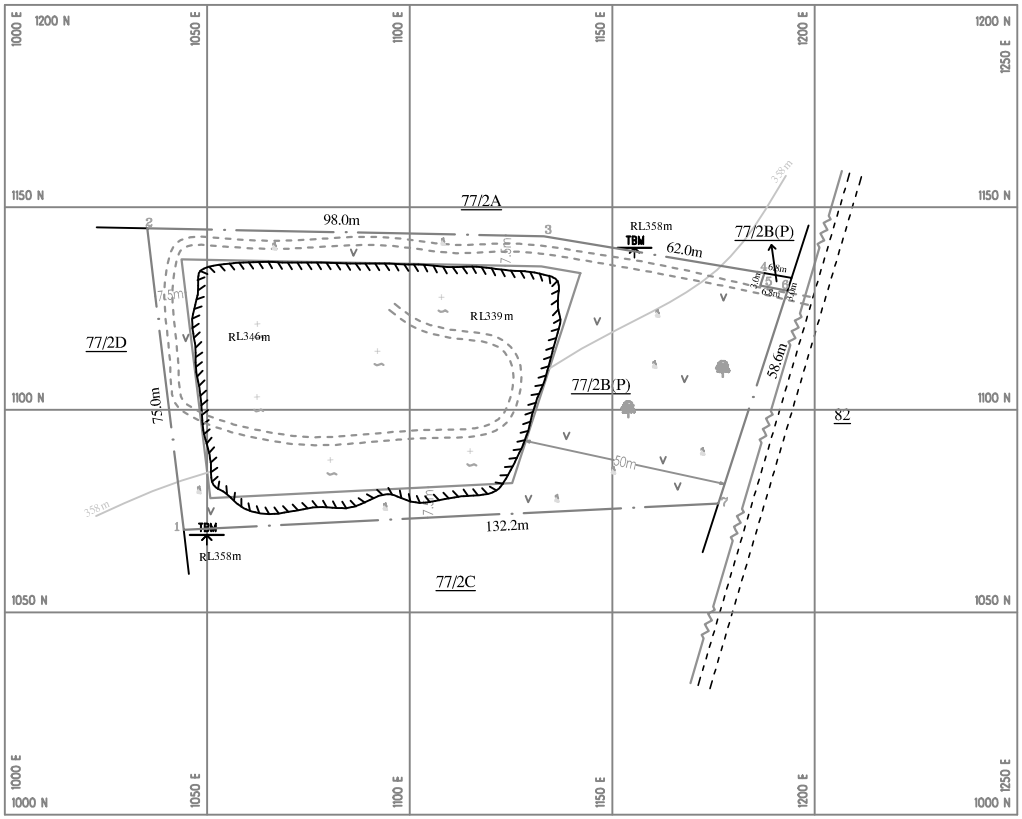



PLATE NO - II
DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. T. KAVERIYAMMAL THANGAVELU,
W/o. THANGAVELU,
No. 24/11, BELLADHI ROAD,
KARAMADAI,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 77 / 2B (P).
EXTENT : 0.99.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 50m,10m & 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGH STONE
- QUARRY PIT
- CONTOUR
- SHRUBS / TREES
- QUARRY ROAD
- PATH WAY
- E.B. LINE

QUARRY LEASE & SURFACE PLAN

SCALE 1 : 1000

PREPARED BY :

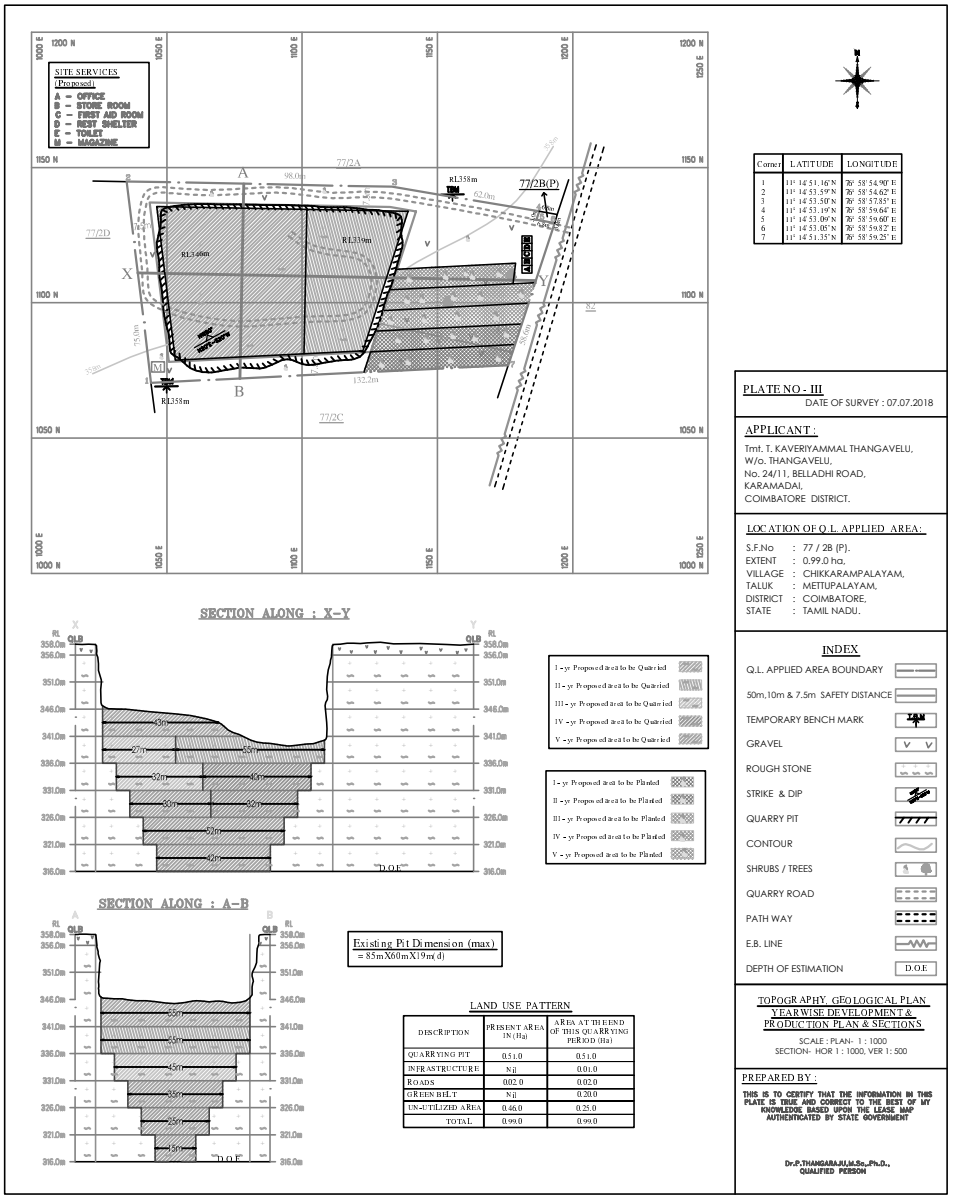
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

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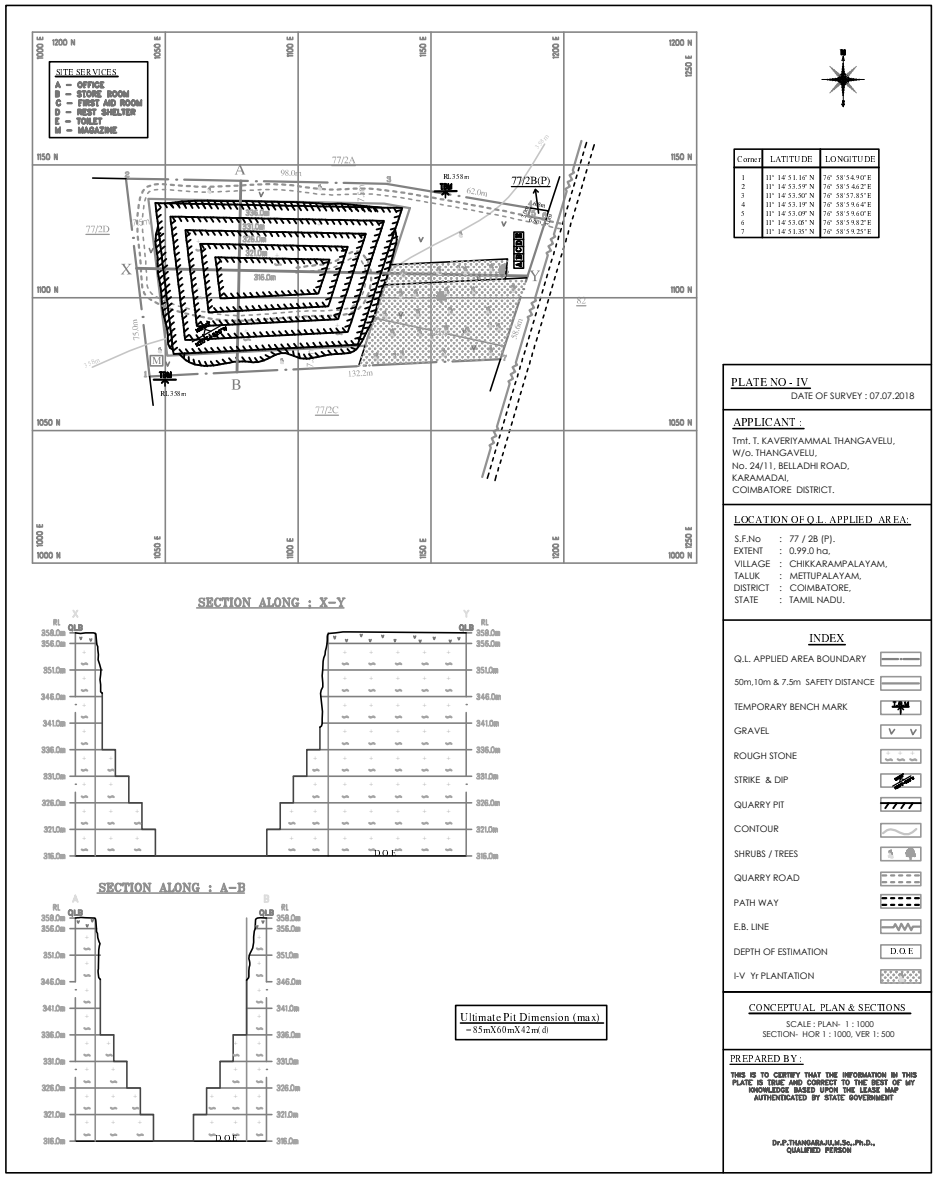
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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT




| Corner | LATITUDE | LONGITUDE |
|---|---|---|
| 1 | 11° 14' 53.16" N | 76° 58' 54.90" E |
| 2 | 11° 14' 53.59" N | 76° 58' 5.46.2" E |
| 3 | 11° 14' 53.50" N | 76° 58' 57.85" E |
| 4 | 11° 14' 53.19" N | 76° 58' 5 9.64" E |
| 5 | 11° 14' 53.09" N | 76° 58' 5 9.60" E |
| 6 | 11° 14' 53.05" N | 76° 58' 5 9.82" E |
| 7 | 11° 14' 51.35" N | 76° 58' 5 9.25" E |

PLATE NO - IV
DATE OF SURVEY : 07.07.2018

APPLICANT :

Tmt. T. KAVERIYAMMAL THANGAVELU,
W/o. THANGAVELU,
No. 24/11, BELLADHI ROAD,
KARAMADAI,
COIMBATORE DISTRICT.

LOCATION OF Q.L. APPLIED AREA:

S.F.No : 77 / 2B (P).
EXTENT : 0.99.0 ha,
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 50m,10m & 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGH STONE
- STRIKE & DIP
- QUARRY PIT
- CONTOUR
- SHRUBS / TREES
- QUARRY ROAD
- PATH WAY
- E.B. LINE
- DEPTH OF ESTIMATION (D.O.E)
- I-V Yr PLANTATION

CONCEPTUAL PLAN & SECTIONS
SCALE : PLAN- 1 : 1000
SECTION- HOR 1 : 1000, VER 1: 500

PREPARED BY :

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

Dr.P.THANGARAJU,M.Sc.,Ph.D.,
QUALIFIED PERSON

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

- 1 DEC 2016

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULE 12 OF DRAFT MINOR MINERAL CONSERVATION AND DEVELOPMENT RULES, 2010 & AS PER RULE 41 & 42 AMENDMENTUNDER TAMILNADU MINOR MINERAL CONCESSION RULES, 1959)
(Lease Period = Five years)

*IN*

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

| | | |
|---|---|---|
| EXTENT | : | 2.19.0Ha |
| S.F.NOs | : | 69(P) |
| VILLAGE | : | CHIKKARAMPALAYAM |
| TALUK | : | METTUPALAYAM |
| DISTRICT | : | COIMBATORE |
| STATE | : | TAMILNADU |

*FOR*

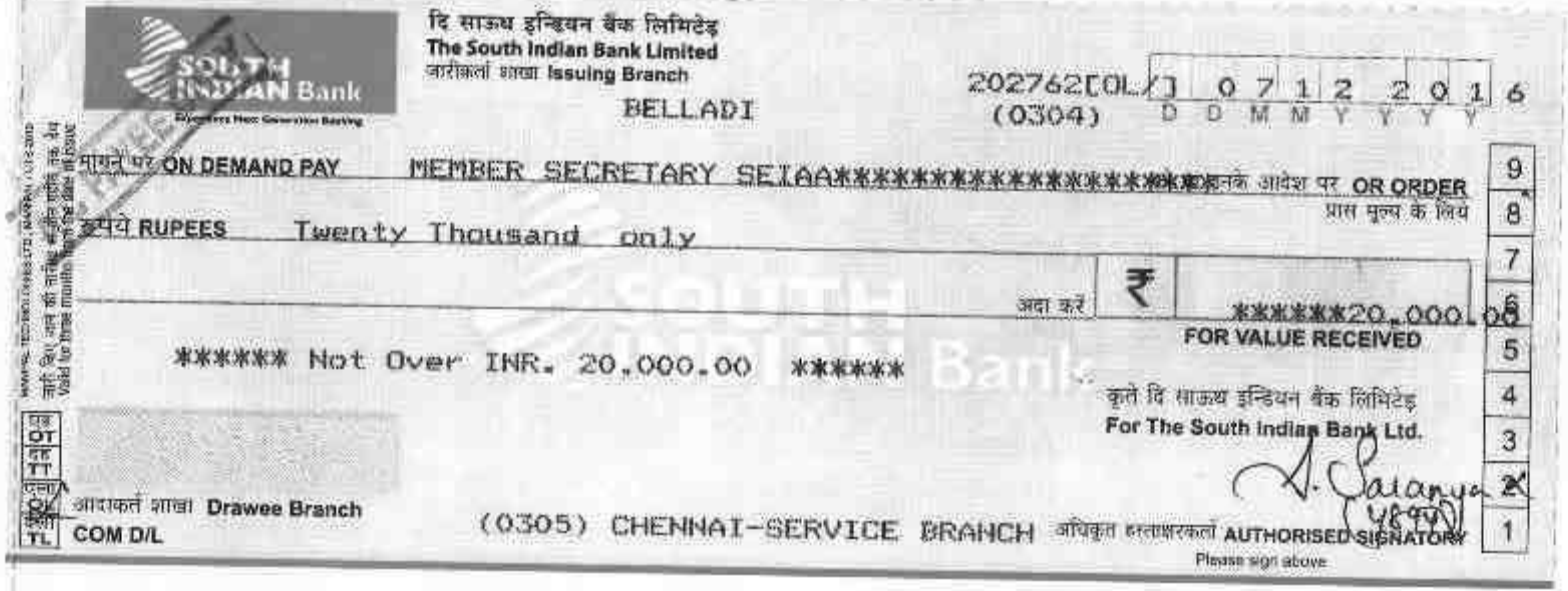
**APPLICANT**

**Thiru.R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

***PREPARED BY***

**M.Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A.,**
Recognized Qualified Person
RQP/MAS/183/2004/A
Valid upto: 10.01.2024

Old.No.260-B, New No: 17,
Advaitha Ashram Road,Alagapuram Post,
Salem – 636 004.
Cell: 94433 56539, 94422 78601.
E-mail: geothangam@gmail.com,
ifthiahmed@gmail.com



दि साऊथ इन्डियन बैंक लिमिटेड
The South Indian Bank Limited
जारीकर्ता शाखा Issuing Branch
BELLADI

202762[OL] 07 12 2016
(0304) D D M M Y Y Y Y

मांगने पर ON DEMAND PAY MEMBER SECRETARY SEIAA********** के आदेश पर OR ORDER
प्राप्त मूल्य के लिये

रुपये RUPEES Twenty Thousand only

अदा करें ₹ *******20,000.00
FOR VALUE RECEIVED

****** Not Over INR. 20,000.00 ******

कृते दि साऊथ इन्डियन बैंक लिमिटेड
For The South Indian Bank Ltd.

आहरित शाखा Drawee Branch
COM D/L

(0305) CHENNAI-SERVICE BRANCH अधिकृत हस्ताक्षरकर्ता AUTHORISED SIGNATORY
Please sign above

OT TT TL

9 8 7 6 5 4 3 2 1

"202762" 000059000: 16

40874/8 A

From

Dr.S.Lakshmi Priya, M.Sc.,Ph.D.,
The Assistant Director.,
Assistant Director,
Dept Geology and Mining,
Coimbatore.

To

Thiru.R.K.Selvakumar,
S/o.T.Karivaradhan,
4/51- Ramampalayam,
Jadayampalayam (po),
Mettupalayam Taluk,
Coimbatore District

**Rc.No.240/Mincs/2016, Dated: .12.2016**

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village – Patta land in Survey No. 69 (part) - over an extent of 2.19.0 hectares -Quarry lease application preferred by Thiru.R.K.Selvakumar – Submission of mining plan for approval – Approved – Regarding.

Ref:
1. Application dated 23.03.2016 received from Thiru.R.K.Selvakumar, S/o.Karivaradhan, 4/51, Ramampalayam, Jadayampalayam (Post), Mettupalayam Taluk, Coimbatore District.
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. District Collector, Coimbatore Letter Rc.No.240/Mines/2016, Dated: 26.08.2016.
7. Mining Plan submitted by Thiru.R.K.Selvakumar, Dated: Nil, Received on 22.09.2016

********

In response to the precise area communicated by the District Collector, Coimbatore, the applicant Thiru.R.K.Selvakumar vide

reference 7th cited has submitted three copies of mining plan for the area applied for the grant of quarry lease for Roughstone & Gravel over an extent of 2.19.0 hectares out of 7.51.50 hectares of patta land in Survey No. 69 (part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

2. The mining plan submitted for the grant of quarry lease for Roughstone & Gravel over an extent of 2.19.0 hectares out of 7.51.50 hectares of patta land in Survey No. 69(part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District has been verified in detail.

3. As per the guidelines/ instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Rc.No.3868/LC/2012, dated 19.11.2012, the mining plan 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) Amended Act, 2015, 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) 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) While carrying out quarry operation, no hindrance shall be caused to the adjoining patta lands.

(v) The applicant should fence the area with barbed wire before execution of lease deed.

(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.

1/12/16

Assistant Director,
Geology and Mining,
Coimbatore.

Encl: Two copy of Approved Mining Plan.

Copy to:

1/12/16

1). The Commissioner of Geology and Mining, Chennai-32. (with AMP).

2) The Chairman, State Level Environmental Impact Assessment Authority, Tamil Nadu, 3rd Floor, Panagal Maaligai, Saidapet, Chennai-15.

From

Dr.S.Lakshmi Priya, M.Sc.,Ph.D.,
Assistant Director,
Department of Geology & Mining,
Coimbatore.

To

The Chairman,
State Level Environment
Impact Assessment Authority,
Tamil Nadu,
3rd Floor, Panagal Maligai,
No.1 Jeenis Road,
Saidapet, Chennai - 15.

**Rc. 240/Mines / 2016 dated: .11.2016.**

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Coimbatore District – Mettupalayam Taluk – Chikkarampalayam Village – Patta land in Survey No. 69 (part) - over an extent of 2.19.0 hectares - Quarry lease application preferred by Thiru.R.K.Selvakumar – Precise area communicated – Details of quarries situated within 500 meter radial distance – furnished - reg.

Ref : 1. District Collector, Coimbatore letter RC. No.240/Mines/2016 dated : 26.08.2016

2. Assistant Director of Geology and Mining letter RC. No. 240/ Mines/2016 dated: 01.12.2016

********

I invite kind attention to the reference cited.

Thiru.R.K.Selvakumar, S/o.Karivaradhan, 4/51, Ramampalayam, Jadayampalayam (Post), Mettupalayam Taluk, Coimbatore District has been issued precise area for the grant of quarry lease for Rough Stone and Gravel over an extent of 2.19.0 hectares out of 7.51.5 hectares of Patta land in S.F.No.69 (Part) of Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District vide the District Collector, Coimbatore in the reference 1st cited.

In this connection the details of other quarries situated within 500 meters radial distance from the proposed quarry is furnished below.

| Sl. No | Name of the lessee | Taluk & Village | S.F.No | Extent | Lease Status |
|---|---|---|---|---|---|
| 1. | Thiru.C.N.Mani,<br>S/o.Nanjunda Gowder,<br>1/40, Chinnakkaranur,<br>Bellathi(Post),<br>Chikkarampalayam Panchayat,<br>Mettupalayam Taluk,<br>Coimbatore District. | Mettupalayam<br>Chikkarampalayam | 75 | 2.47.5 | Operative quarry |
| 2. | M.Muthammal,<br>W/o.R.Mahendran,<br>64G, Sirumugai Road,<br>Sivanagar,<br>Karamadai,<br>Coimbatore | Mettupalayam<br>Chikkarampalayam | 77/2E<br>77/2F<br>79/1A | 1.38.0<br>0.99.0<br>0.96.0<br>---<br>3.73.0 | Operative quarry |
| 3. | C.N.Mani,<br>S/o. Nanjundagowder,<br>1/40, Chinnakaranur,<br>Bellathi, Karamadai,<br>Coimbatore | Mettupalayam<br>Chikkarampalayam | 77/1B<br>421/2B(P) | 0.74.0<br>2.37.0<br>---<br>3.11.0 | Operative quarry |
| 4. | Thiru.A.Nandakumar,<br>S/o.Arukutty gounder,<br>79-D, Avinashi road,<br>Annur. | Mettupalayam<br>Chikkarampalayam | 78/1 (p)<br>420 (p) | 0.87.0<br>0.30.0<br>---<br>1.17.0 | Operative quarry |
| | **Total** | | | **10.48.5** | |

1/12/16

Assistant Director,
Geology and Mining,
Coimbatore.

1/12/16 1/12/16

Copy to
Thiru.R.K.Selvakumar,
S/o.Karivaradhan,
4/51, Ramampalayam,
Jadayampalayam (Post),
Mettupalayam Taluk,
Coimbatore District.

## TOPOGRAPHICAL VIEW OF CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA.



## LOCATION DETAILS

| | | |
|---|---|---|
| Name and Address of the Applicant | : | R.K.Selvakumar,<br>S/o.T.Karivaradhan,<br>No.4/51, Ramampalayam,<br>Jadayampalayam(Po),<br>Mettupalayam Taluk,<br>Coimbatore District. |
| S.F.No | : | 69(P) |
| Extent | : | 2.19.0Ha |
| Village | : | Chikkarampalayam |
| Taluk | : | Mettupalayam |
| District | : | Coimbatore |
| State | : | Tamilnadu |

5-12-2016

Attestation of the Village Administrative officer

Signature of the Applicant




தமிழ்நாடு தமிலநாடு TAMILNADU ரூ 50/-

AL 112832

ஜி. சாந்தா
மு. தாள் விற்பனையாளர்
R.K.S. பில்டிங், பங்களாமேடு
மேட்டுப்பாளையம் – 641 301.
உரிமம். எண்: 7333/பி1/97/எ4

எண் 507/K
நாள் 2.12.14

R.K செல்வகுமார்
S/o T கரிவரதன்
ராமம்பாளையம்

AUG 2015 COIMBATORE

## AFFIDAVIT TO SEIAA - TAMIL NADU

I, R.K.Selvakumar, S/o.T.Karivaradhan, No.4/51, Ramampalayam, Jadayampalayam (po), Mettupalayam Taluk, Coimbatore District, Solemnly declare and sincerely affirm that:

I have applied for getting Environmental Clearance to SEIAA, Tamil Nadu for quarry lease for quarrying of **Rough Stone and Gravel** over an extent of 2.19.0Ha in S.F.No.69(P) Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

NOTARY
A. THANGAVELU
M.A., B.L.,
Coimbatore Dist.
Regd. No. G.O.M.S
65/12
GOVT OF TAMILNADU

Rk.

I will not deploy and child labors below 18 years for any type of quarrying operation. All labours engaged for quarrying operation will be insured till the end of life of quarry period.

1. All type of safety/ protective equipment's will be provided to all the labourers working in my quarry site.
2. I will sincerely follow and execute the afforestation and Green belt during the course of quarrying operation and maintain afforestation after the expiry of quarrying lease.
3. I ensure to involve and participate in the corporate social responsibilities of the local community as declared in the report.
4. The quarry operation has not been commenced and will likely to operate after grant of Environmental clearance and grant of quarry lease.
5. I solemnly declare & affirm that there is few following quarries within 500m redius from the periphery of the quarry site.

| S.No | Name of the Lessee | Taluk & Village | S.F.No | Extent | Lease Status |
|---|---|---|---|---|---|
| 1. | Thiru.C.N.Mani<br>S/o. Nanjunda Gowder<br>1/40 Chinnakaranur,<br>Bellathi (po)<br>Chikkarampalayam Panchayat,<br>Mettupalayam Taluk,<br>Coimbatore District. | Mettupalayam<br>Chikkarampalayam | 75 | 2.47.5 | Operative quarry |
| 2. | M.Muthammal<br>W/o. R.Mahendran<br>64G, Sirumugai Road,<br>Sivanagar,<br>Karamadai,<br>Coimbatore. | Mettupalayam<br>Chikkarampalayam | 77/2E<br>77/2F<br>79/1A | 1.38.0<br>0.99.0<br>3.73.0 | Operative quarry |
| 3. | C.N.Mani,<br>S/o. Nanjundagowder<br>1/40, Chinnakaranur,<br>Bellathi, Karamadai,<br>Coimbatore. | Mettupalayam<br>Chikkarampalayam | 77/1B<br>421/2B (p) | 0.74.0<br>2.37.0<br>3.11.0 | Operative quarry |
| 4. | Thiru.A.Nandakumar,<br>S/o. Arukutty Gounder,<br>79-D, Avinashi Road,<br>Annur. | Mettupalayam<br>Chikkarampalayam | 78/1 (p)<br>420(p) | 0.87.0<br>0.30.0<br>1.17.0 | Operative quarry |
| | | **TOTAL** | | **10.48.5** | |

GOVT OF TAMILNADU Coimbatore Regd.No.G.O.Ms 658/12

6. Besides I wish to state that the approach roads belong to me only and no other patta roads are encountered.
7. There is no Habitation within the radius of 500m.
8. The quarrying operation will not cause any hindrance to the nearby public and also it will not cause any hindrance to nearby villagers and human settlements during transportation of mineral.
9. I wish to state there is not protected areas notified within the radius of 10km from the proposed quarry site under the Wildlife (protection) Act. 1972.
10. No critically polluted areas as indentified within the radius of 10km from the quarry site by CPCB constituted under water (prevention and control of pollution) Act. 1974.
11. No Eco Sensitive areas as identified within the radius of 10km from the proposed quarry site.
12. There is no Interstate and International boundary within 5km radius from the boundary of the quarry site.

I ensure to do all the social and Environmental commitment as mentioned in the Mining plan to the best of my knowledge.

NOTARY
NOTARIAL
TAMILNADU

Rk.

R.K.Selvakumar
(Deponent)

5/12/16

A. THANGAVELU M.A., B.L.,
ADVOCATE & NOTARY
705-A, Sathy Main Road, Gandhipuram,
COIMBATORE - 641 012. INDIA
G.O.M.S No. 658/12.
Cell: 98422 67534

41775/7 A

படிவம் 1

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம்,
அன்னூர் பிர்கா, சர்வே எண்: 4/5, ரங்கசமுத்திரம்
என்ற பிரதேசத்தில் இதற்கு முன் அரசு புறம்போக்கு மண்
என்பதை என்பதற்கு மாற்றி மேற்படி வட்டம், சிக்காரம்பாளையம்
கிராமத்தில் வசிக்கும் எண்: 1380/2006, நாள் 2.3.2006ன்படி.
க.ச. எண்: 69 ல் 0.81ஏக்கர் உள்ள நிலத்தை மாற்றுவதற்கு
தடையில்லா சான்றிதழ் பெற்றுள்ளது. மேற்கண்ட நிலத்தின் எல்லைகள் 2.19.0
சான்றளிக்க நிலத்தை மேலும் கீழ்கண்ட புலங்கள் உரிமை கோரியுள்ளன.
மேற்கு. கிழக்கு எல்லை சுமார். 300m அளவிற்கு அரசுக்கு
சொந்தமான, புறம்போக்கு நிலங்களாகவும், மண், மரங்களாகவும்.
உள்ளதால் எல்லை ஏதும் இல்லை என்று ஒரு மனதாக பஞ்சாயத்
தலைவர்கள் தெரிவித்தனர்.

ஒப்: திருத்தப்பட்டது
நாள்: 5.12.2016.

5.12.2016
கிராம நிர்வாக அலுவலர்
எண்.19. சிக்காரம்பாளையம்
மேட்டுப்பாளையம் வட்டம்

Licence No. : E/SC/TN/22/643 (E 76862)

Cell : 98650 37191
98422 78697

# SS EXPLOSIVES

2/381, Pethikuttai Post, Puliyampatty Via, Mettupalayam Taluk, Coimbatore District - 638 459

Date. 5-12-16

To

R.K.Selvakumar
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam (po)
Mettupalayam Taluk, Coimbatore Dist.

Sub: Regarding Blasting Work using explosives in your proposed quarry.

***

Sir,

We are having explosive License No.in Form E/SC/TN/22/643 (E76862), Situated at 2/381, Pethikuttai post, Puliyampatty Via, Mettupalayam Taluk, Coimbatore District - 638 459.

We are having Six Explosive Vans for Transporting detonators and class 2 explosives separately from our magazine to work sites and we have well Experienced and licensed blasters and short firers for safety blasting works for the last seven years without any untoward incidents.

We are willing to undertake blasting work on contract basis at your site S.F.No. 69(P) Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore Dist.

Thanking you,

Yours faithfully,

For SS Explosives

Partner / Managing Partner

Enclosed: License Copy

# LICENCE FORM LE-3

(See article 3(a) to (d) of Part I of Schedule IV of Explosives Rules, 2(



**Licence to possess : (c) for use,explosives of class 1, 2,3,4,5,6 or 7 in a n**

Lice : E/SC/TN/22/643(E76862)
Ann: s:3000/-

1. ence is hereby granted to : **S S explosives (Occupier : S.Sakthivel)**
**2/381,Pethikuttai Post,Irumborai Village,Mettupalayam**
**, Town/Village - Irumborai**
**District-COIMBATORE, State-Tamil Nadu, Pincode - 638459**

2. of licensee : **Partnership Firm**

3. e is valid only for the following purpose : possess for use of **Nitrate Mixture, Safety Detonating Fuse, Electric and/or Ordinary Detonators,**

4. cence is valid for the following kinds and quantity of explosives:

| lo. | Name and Description | Class & Division | Sub-division (If any) | Quantity at any one time |
|---|---|---|---|---|
| . | Nitrate Mixture | 2 ,0 | 0 | 450 Kg. |
| . | Safety Fuse | 6 ,1 | 0 | 5000 Mtrs |
| . | Detonating Fuse | 6 ,2 | 0 | 5000 Mtrs |
| . | Electric and/or Ordinary Detonators | 6 ,3 | 0 | 4000 Nos. |

ntity of explosives to be purchased in a calendar month[applicable for licence under article d (c)] : **10 times as above.**

5. ensed premises shall conform to the following drawing(s):
No : **E/SC/TN/22/643(E76862) dated : 28/01/2016**

6. ensed premises are situated at following address:
**No. 283/2 Irumborai** , Town/Village : **Sirumugai**
lation : **Sirumugai** District : **COIMBATORE** State : **Tamil Nad**
e : **638459** Phone : **9842278697** E-Mail : Fax :

7. ensed premises consist of following facilities : **A and B type Portable magazine**

8. nce is granted subject to the provision of Explosives Act 1884 as amended from time to d the Explosives Rules, 2008 framed there under and the conditions, additional conditions following Annexures.
vings (showing site, constructional and other details) as stated in serial No. 5 above.
ditions and Additional Conditions of this licence signed by the licensing authority.
ce Form DE-2

9. ce shall remain valid till **31st day of March 2017**



420760 A

Th[illegible] ble to be suspended or revoked for any violation of the Act or Rules framed there u[illegible] tions of this licence as set forth under Set VIII, wherever applicable, referred to in Part [illegible] or if the licensed premises are not found conforming to the description shown in the plans [illegible] attached hereto.

The Date[illegible]

**Joint Chief Controller of Explosives**
**South Circle, Chennai**

**Amend[illegible]**

- **Am[illegible] of Explosives/Monthly Purchase Limit dated : 22/01/2016**
- **Amen[illegible] of Explosives/Monthly Purchase Limit dated : 28/01/2016**

**renewal of licence:**

| val | Date of Expiry | Signature of licensing authority |
|---|---|---|
| | | |

**Sta[illegible] handling and misuse of explosives shall constitute serious criminal offence under the law.**

உதவி இயக்குநர் அலுவலகம்
- 1 DEC 2016

# MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULE 12 OF DRAFT MINOR MINERAL CONSERVATION AND DEVELOPMENT RULES, 2010 & AS PER RULE 41 & 42 AMENDMENTUNDER TAMILNADU MINOR MINERAL CONCESSION RULES, 1959)
(Lease Period = Five years)

*IN*

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

EXTENT : 2.19.0Ha
S.F.NOs : 69(P)
VILLAGE : CHIKKARAMPALAYAM
TALUK : METTUPALAYAM
DISTRICT : COIMBATORE
STATE : TAMILNADU

*FOR*

**APPLICANT**

**Thiru.R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

***PREPARED BY***

**M.Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A.,**
Recognized Qualified Person
RQP/MAS/183/2004/A
Valid upto: 10.01.2024

Old.No.260-B, New No: 17,
Advaitha Ashram Road,Alagapuram Post,
Salem – 636 004.
Cell: 94433 56539, 94422 78601.
E-mail: geothangam@gmail.com,
ifthiahmed@gmail.com

42276/2 A




**R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

## CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of Rough Stone and Gravel Quarry lease Applied area in S.F.No.69(P) over an extent of 2.19.0Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared by

**M.Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A**

RQP/MAS/183/2004/A

I request the District Collector, Coimbatore to make further correspondence regarding the modification of the Mining Plan with the said recognized qualified person at his following address.

**M. Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A,**
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram post,
Salem – 636 004.
Cell: 94433 56539, 94422 78601.

I hereby undertake that all the modifications, if any made in the mining plan by the Recognized 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.

Signature of Applicant

R.K.Selvakumar

Place: Coimbatore
Date: 29.08.2016

- 1 DEC 2016

**R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

## DECLARATION OF THE APPLICANT

The Mining Plan in respect of Rough Stone and Gravel Quarry lease Applied area in S.F.No.69(P) over an extent of 2.19.0Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of Applicant

Rk.

R.K.Selvakumar

Place: Coimbatore
Date: 29.08.2016




**M. Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A,**
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram Post,
Salem – 636 004.
Cell: 94433 56539, 94422 78601.

## CERTIFICATE FROM THE RECOGNIZED QUALIFIED PERSON

This is to certify that the Provisions of Rule 12 of Draft Minor Mineral Conservation and Development Rules, 2010 & as per Amendment Rules under Tamilnadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan for Rough Stone and Gravel Quarry lease Applied area in S.F.No.69(P) over an extent of 2.19.0Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Thiru.R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions / exemptions / relaxations and approvals are required, the Applicant will approach the concerned authorities of the District Collectorate, Coimbatore, Tamilnadu for such permissions/ exemptions / relaxations and approvals.

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

RQP SIGNATURE

M.Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A
RQP/MAS/183/2004/A

Place: Salem
Date: 17.09.2016

உதவி இயக்குநர் அலுவலகம்
- 1 DEC 2016

**M. Ifthikhar Ahmed,** M.Sc., F.G.S., M.B.A., M.M.E.A,
Old.No.260-B, New No: 17,
Advaitha Ashram Road,
Alagapuram Post,
Salem – 636 004.
Cell: 94433 56539, 94422 78601.

## CERTIFICATE FROM THE RECOGNIZED QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan for Rough Stone and Gravel Quarry lease Applied area in S.F.No.69(P) over an extent of 2.19.0Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District, Tamilnadu State has been prepared for

**Thiru.R.K.Selvakumar,**
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of Director General of Mines Safety (DGMS), No. 5, II[nd] Street, Block – AA, Anna Nagar, Chennai-40, Tamilnadu for such permissions/exemptions/relaxations and approvals.

It is also certified that information furnished in the mining plan are true and correct to the best of my knowledge.

RQP SIGNATURE

M.Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A
RQP/MAS/183/2004/A

Place: Salem
Date: 17.09.2016

- 1 DEC 2016

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உதவி இயக்குநர் அலுவலகம்
- 1 DEC 2016
புதுக்கோட்டை மாவட்டம்

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| 1. | LOCATION PLAN | I |
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- 1 DEC 2016

**MINING PLAN FOR CHIKKARAMPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 2.19.0HA IN CHIKKARAMPALAYAM VILLAGE, METTUPALAYAM TALUK, COIMBATORE DISTRICT, TAMILNADU**

(Prepared Under Rule 12 of Draft Minor Mineral Conservation and Development Rules, 2010 and as per Rule 41& 42 Amendment under Tamilnadu Minor Mineral Concession Rules, 1959)

## INTRODUCTION AND EXECUTIVE SUMMARY

The present Mining Plan and Environmental Management plan is prepared for Thiru.R.K.Selvakumar, S/o.T.Karivaradhan, No.4/51, Ramampalayam, Jadayampalayam (Po), Mettupalayam Taluk, Coimbatore District.

The applicant applied to quarry Rough stone and Gravel in the S.F.Nos.69(P) over an extent of 2.19.0Ha in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

The application was processed by the District Collector Coimbatore and passed a letter vide **Rc.No. 240/ Mines/2016 dated 26.08.2016** to submit Mining Plan for the approval in Department of Geology and Mining, Coimbatore, Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu.

**Short Notes of Mining plan**

a. Village Panchayat - Chikkarampalayam

b. Panchayat Union - Mettupalayam

c. The Total Mineable Reserves are **1,27,480m³** of Rough stone and **6,360m³** of Gravel in the entire area.

d. The proposed quantity of reserves/ (level of production) for Five year plan period is to be mined is **47,390m³** of Rough stone and **6,360m³** of Gravel.

e. Total extent of the lease applied area = 2.19.0Ha.

f. Topography of the area = The area exhibits almost plain topography (quarried out pits is observed).

g. Existing Depth = 7m Depth below ground level.

h. Proposed Depth of mining = 7m Depth below ground level.

I. Lease period = Five years.

j. It is a fresh lease (the area has been quarrying earlier during previous lease period)

- 1 DEC 2016



k. Method of mining / level of mechanization.

Opencast semi mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.

l. Type of machineries proposed in the quarrying operation.

Jack hammers 30-32mm dia

Tractor mounted compressor (2 jack hammer capacity).

m. No trees will be uprooted due to this quarrying operation.

n. The existing road from the main road to quarry is in good condition and the same will be maintained and utilized for Transportation of Rough stone and Gravel.

o. There is No Export of this Rough stone and Gravel.

p. Topo sketch covering 10Km and 1Km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archeological importance, places of worships is marked and enclosed as Plate No IA and IB.

q. The lease applied area is about 2.19.0Ha bounded by Five corners; the corners are designated as 1-5 Clock wise from the South Western corner the Co – ordinates for the all the corners are clearly marked in the Topography, Geological Plan and section enclosed as (Plate No-III)

r. The diagram showing the Mining area, dimensions of the pit, its proposed depth of mining for the lease period are enclosed as Plate No III.

s. The lease applied area is 10Km away from the interstate boundary, protected area under wild life protection ACT 1972, critically polluted areas as identified by CPCB and notified Eco sensitive areas.

t. There are no wastages anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.

u. Around 14 employees are deploying in the quarrying operation.

v. Total Cost of the project is about **Rs 35,85,000/-**

உதவி இயக்குநர் அலுவலகம் - 1 DEC 2016

## 1. GENERAL INFORMATION

**1.1 a) Name of the Applicant : Thiru.R.K.Selvakumar**

**b) Address of the Applicant (With Phone No and E-mail Address)**

Address : R.K.Selvakumar,
S/o.T.Karivaradhan,
No.4/51, Ramampalayam,
Jadayampalayam(Po),
Mettupalayam Taluk,
Coimbatore District.

Mobile No : 98940 59898, 99422 25251

Pin Code :

**c) Status of the Applicant (Individual / Company / Firm).**

The Applicant is an individual.

**1.2 a) Mineral which the Applicant intends to mine**

The Applicant intends to quarry Rough stone and Gravel only. No other Minerals observed in the lease applied area.

**b) Precise area communication letter details received from the Competent authority of the Government.**

The precise area communication letter was received from the District Collector Coimbatore vide **Rc.No. 240/ Mines/2016 dated 26.08.2016** to obtain mining plan and obtain Environmental Clearance from the SEIAA, Tamilnadu.

**C) Period of permission / lease to be granted.**

The applicant applied permission to quarry Rough stone and Gravel for the period of five years/ The District Collector considered for the Grant of quarry lease for the period of five years.

**d) Name and address of the RQP / Authorized person preparing the mining plan.**


| | | |
|---|---|---|
| Name | : | M. Ifthikhat Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A., Recognized Qualified Person |
| Address | : | Regd.off.Old No.260-B, New No. 17, Advaitha Ashram Road, Alagapuram, Salem. |
| Mobile | : | 94422 78601 & 94433 56539. |
| Tele Fax | : | 0427- 2431989 |
| Registration No | : | RQP/MAS/183/2004/A |
| Valid up to | : | 10.01.2024 |
| Email | : | ifthiahmed@gmail.com, geothangam@gmail.com |


## 2.0 Location

### a) Details of the area with location map

The lease applied area is about 3Km North Eastern Side of Karamadai and 26Km North Eastern of Coimbatore, the lease applied area located along Kumaran Kundru Temple Road at the distance of 350m.

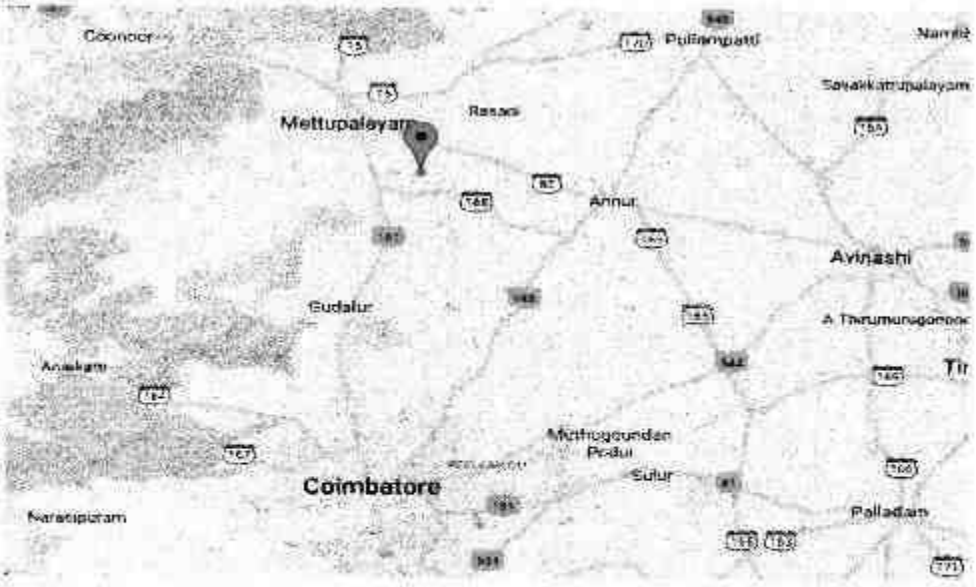



Fig. 1.0 Location Map of the Lease applied area

TABLE - 1

| District | Taluk | Village | S.F.No. | Area in Ha. |
|---|---|---|---|---|
| Coimbatore | Mettupalayam | Chikkarampalayam | 69 (P) | 2.19.0Ha |
| Total Extent | | | | 2.19.0Ha |

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**b) Classification of the area (Ryotwari/ Poramboke /others).**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right).**

It is a Patta land Registered in the name applicant (Thiru.R.K.Selvakumar)and Name of the Consent Palanisamy, Chandirakala, Ashvin Kumar, Thirummammal, vide patta No.1278. The Applicant has obtain consent from the pattadhars. (Refer Annexture No.IV)

**d) Toposheet No. with latitude and longitude.**

The lease applied area falls in the Toposheet No.58 A/15 Latitude between 11°15'05.65"N to 11°15'10.63"N and Longitude between 76°59'00.09"E to 76°59'06.30"E on WGS datum-1984. Please refer the Plate No (Plate No I to II).

**e) Existence of public road / Railway line, if any nearby and approximate distance.**

There is an existing metal road is on the Northern side, this metal road connecting in the Kumaran Kundru Temple village road at a distance of 350m.

The road from the quarry to main road is already in exists, the same road will be maintained and utilized for transportation besides trees will be planted on the either side of the road to prevent dust and noise to the nearby areas. The area in and around the quarry is devoid of Vegetation and plantation.

The Nearest Railway line is Coimbatore- Mettupalayam which is about 3Km from the South Western side of the area.

**PART - A**

## 3. GEOLOGY AND MINERAL RESERVES.

### 3.1 Brief description of the Topography and general Geology of the area (with plans).

The Topography of the area is almost plain terrain covered by the Gravel , the thickness of the Gravel Formation is about 2m, Charnockite formation is noticed followed by the Gravel formation.

The crystalline rocks of the district are derived through a complex evolutionary history during Archaean and Proterozoic times with multiple deformations, anatexis, intrusions and polyphase metamorphic events.

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Fig.2.0. Topographical View of lease applied area

The massive Charnockite formation is clearly inferred from the existing pit. The slope is gentle towards Eastern side. The altitude of the area is above 355m (Maximum) from MSL.

Water table is found at a depth of 60m in summer and at 57m in rainy seasons. Average annual rainfall is about 900mm during NE monsoon. Archaean forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body trends N65°E- S65°W with dipping towards SE85°.

The general geological sequences of the rocks in this area are given below.

| AGE | | FORMATION |
|---|---|---|
| Recent | - | Quaternary weathered formation (Gravel ) |
| --------Unconformity---------- | | |
| Archaean | - | Charnockite |
| | | Peninsular Gneiss complex |



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### 3.2 Details of exploration already carried out if any

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Coimbatore District. Besides, the RQP and his team members made a detailed geological study of the area The Rough stone formation is clearly inferred from the existing quarry pit.

### 3.3 Estimation of Reserves

**a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000.**

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally Three sections have been drawn, one section drawn Length wise as (X-Y) and another Two sections drawn Width wise as (A-B) & (C-D) to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in 1:1000 and vertical as 1:500 scale (please refer the Geological plan and sections Plate No- III. As the sale of Rough stone are in terms of cubic metres (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No. III)**

Geological Resources of Rough stone is calculated upto a depth of 12m below the ground level.

Geological Resources are calculated in area method.

| | | |
|---|---|---|
| Total Extent of the area | = | 2.19.0Ha |
| Area in square meter | = | 2.19.0X 10,000 = 21900Sqm |
| Gravel | = | 2m below the ground level |
| | = | 21,900Sqm X 2m Depth |
| | = | **43,800m$^3$** of Gravel. |
| Rough Stone formation | = | 10m below the ground level. |
| | = | 21900Sqm X 10m Depth below the Ground level. |
| | = | **2,19,000m$^3$** of Rough stone upto a depth of 10m. |

| | | |
|---|---|---|
| Total Geological Resources of Rough Stone | : | 2,19,000m$^3$ |
| Total Geological Resources of Gravel | : | 43,800m$^3$ |

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**Already Excavated.**

The area has been quarried in earlier the existing pit dimensions are follow

Table-2

| Pit.No | Length Avg in (m) | Width Max in (m) | Depth Max In (m) |
|---|---|---|---|
| I | 115m | 108m | 7m |

**Available Mineable Reserves.**

The available mineable reserves are calculated after leaving 7.5m safety distance to the adjacent patta lands, and Bench loss.

**Table-3**

| MINEABLE RESERVES | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Section** | **Bench** | **Length in m** | **Width in m** | **Depth in m** | **Volume in $m^3$** | **Mineable Reserves of Rough Stone in $m^3$** | **Gravel in $m^3$** |
| **XY-AB** | I | 53 | 60 | 2 | | | 6360 |
| | II | 50 | 59 | 5 | 14750 | 14750 | |
| | III | 45 | 106 | 5 | 23850 | 23850 | |
| | **TOTAL** | | | | | **38600** | **6360** |
| **XY-CD** | II | 94 | 102 | 5 | 47940 | 47940 | |
| | III | 89 | 92 | 5 | 40940 | 40940 | |
| | **TOTAL** | | | | | **88880** | |
| **GRAND TOTAL** | | | | | | **127480** | **6360** |

The available mineable reserves have been computed as **1,27,480$m^3$** of Rough stone and **6,360$m^3$** of Gravel Formation at the rate of 100% recovery upto depth of 12m below the ground level for a period of Five years.

## 4.0 Mining.

### 4.1 Method of mining (opencast / underground).

Open cast Semi-Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.



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**4.2 Mode of working (mechanized, semi mechanized, manual).**

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Semi- Mechanized Method.

The Rough stone Quarry Specifically Used for Basement Stones. The Quarry operation involves manual Jackhammer Drilling, Slurry Explosives Blasting, and transportation of rough stone to the needy Residential & Industrial Customers.

The Removed mass is manually dressed into small building stones for foundation purpose and then loaded manually into tippers for transportation to the needy customers.

**4.3 Proposed Bench Height and Width.**

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

**4.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.)**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and leveling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into tipper to the needy customers.

The Composite plan, Development plan and section indicating the Pit lay out, Green belt development are shown in Plate No-III.

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## Year wise development and Production table

Table-4

| YEARWISE RESERVES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Section** | **Year** | **Bench** | **Length in m** | **Width in m** | **Depth in m** | **Volume in $m^3$** | **Recoverable Reserves of Rough stone in $m^3$** | **Gravel in $m^3$** |
| **XY-AB** | **I** | I | 35 | 60 | 2 | 4200 | | 4200 |
| | | II | 32 | 59 | 5 | 9440 | 9440 | |
| | | **TOTAL** | | | | | **9440** | **4200** |
| | **II** | I | 18 | 60 | 2 | 2160 | | 2160 |
| | | II | 18 | 59 | 5 | 5310 | 5310 | |
| | | II | 10 | 102 | 5 | 5100 | 5100 | |
| | | **TOTAL** | | | | | **10410** | 2160 |
| **XY-CD** | **III** | II | 18 | 102 | 5 | 9180 | 9180 | |
| | | **TOTAL** | | | | | **9180** | |
| | **IV** | II | 18 | 102 | 5 | 9180 | 9180 | |
| | | **TOTAL** | | | | | **9180** | |
| | **V** | II | 18 | 102 | 5 | 9180 | 9180 | |
| | | **TOTAL** | | | | | **9180** | |
| | | **GRAND TOTAL** | | | | | **47390** | **6360** |

The Recoverable Reserves have been computed as **47,390$m^3$** of Rough stone and **6,360$m^3$** of Gravel.

### 4.5 Machineries to be used.

**a) For Mining**

It is a fresh lease (the area has been quarrying earlier during previous lease period),

1. Tractor mounted compressor attached with Jackhammer (2 jack hammer capacity).

**b) Loading Equipment**

Rough stone will be loaded manually.

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**c) Transportation (includes within the mine and mine to destination).**

The Rough stone will be transported from the quarry pit to needy customer sites/Crushing unit by the 10/20Tons capacity tippers.

**4.6 Disposal of Overburden/Waste**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated rough stone will be directly loaded into tipper to the needy customers.

**4.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations.**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for five years, the ultimate pit limit (dimension) at the end of lease period is given below.

Table-5

| Description | Length (Max) (m) | Width (Avg) (m) | Depth (Max) (m) |
|---|---|---|---|
| Conceptual | 152 | 117 | 7 |

Afforestation has proposed on the 7.5m safety barrier by planting neem trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MOEF Norms. Please refer plat No.III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.



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## 5.0 BLASTING

### 5.1 Blasting pattern

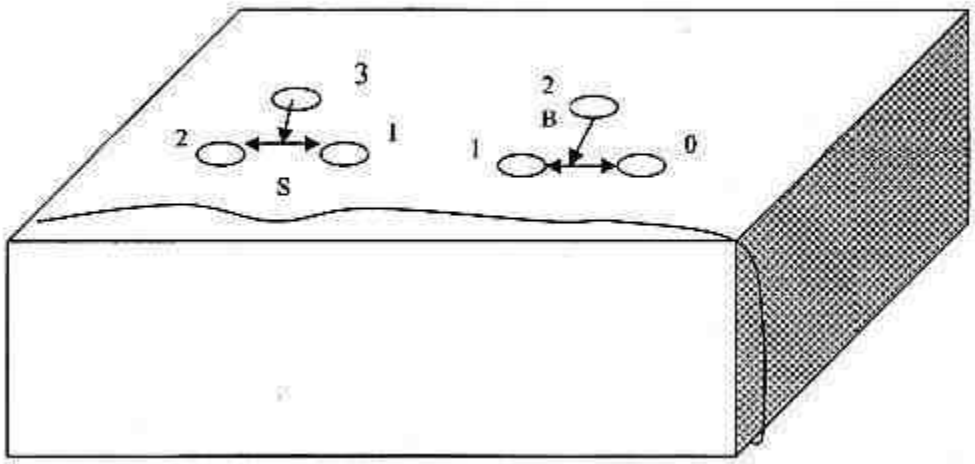
The quarrying operation is proposed to carried out by Semi Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting for shattering effect and loosen the Rough stone.

**Drilling and Blasting pattern**

Drilling and blasting parameters are as follows

| | | |
|---|---|---|
| Depth of Each hole | : | 1.2m-1.5m |
| Diameter of hole | : | 30-32mm |
| Spacing between holes | : | 0.5m |
| Burden for hole | : | 0.5m |
| Pattern of hole | : | Zigzag |
| Inclination of holes | : | $80^0$from horizontal |
| Use of delay detonators | : | 25millisecond delays. |
| Detonating fuse | : | "Detonating" Cord |
| Hole pattern | : | Staggered in two to three rows |

**BLASTING PATTERN DRAWING**




| | | |
|---|---|---|
| Spacing (S) | : | 0.5m |
| Burden (B) | : | 0.5m |
| Delay Detonators | : | 0,1,2 ... |

### 5.2 Type of explosives to be used

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.

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## 5.3 Measures proposed to minimize ground vibration due to blasting

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly rock.

**Delay detonators**

Delay blasting (milli second delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantage 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 | = 32Holes |
| Yield | = 96Tons |
| Powder factor | = 6 tons/Kg of explosives |
| Total explosive required | = 16Kg-Slurryexplosives |
| Charge/ hole | = 0.5 Kg |
| Blasted at day time | = 5-6p.m(whenever required) |

## 5.4 Storage and safety measures to be taken while blasting

They will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies will have experienced blaster. He will explode in the quarry site. After the completion of Blasting the explosives Agencies will take it out back the remaining quantity of Explosives. Magazine is available at the quarry site to temporarily store the explosives.

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## 6.0 Mine Drainage

### 6.1 Depth of water table (based on nearby wells and water bodies).

The water table in the area is 60m BGL in summer season and 57m in Rainy season which is observed from the nearby wells and the data obtained from existing Government and private boreholes.

Table -6

| S.No | Type | Distance & Direction | Location |
|---|---|---|---|
| 1 | Bore Well | 270m N side | 11°15'19.05"N 76°59'02.62"E |

Hence the ground water will not be affected in any manner due to the quarrying operation during the entire life period.

### 6.2 Arrangements and places where the mine water is finally proposed to be discharged.

Quarry operations are confined well above the water table during the entire lease period.

If water is encountered at due to rain water and seepage, the same will be pumped out by 5HP water pumps to the afforestation and Green belt development areas. Besides the water will also be used for dust suppression on haul roads during Haulage of machineries.

## 7.0 OTHER PERMANENT STRUCTURES (also shown in the map)

### 7.1 Habitations/ Villages natham.

There is no houses within the radius of 500m from the periphery of the lease applied area. The Applicant ensures the quarrying operation will be carried out without any hindrance to the habitants.

### 7.2 Power Lines (HT/LT)

There is no LT/ HT line within the radius of 100m from the periphery of the quarry site.

### 7.3 Water bodies (river, pond, lake, odai, canal,etc.,).

No major water bodies like river, pond, lake odai etc., water bodies within the radius of 500m.

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**7.4 Archaeological / historical monuments.**

There is no Archaeological / historical monuments within 500m radius from the area.

**7.5 Road (NH, SH others)**

The nearest National Highway (NH - 67) Coimbatore- Nagapattinam is about 3Km from the South Western side of the area.

The State Highway (SH-168) Karamadai- Kariampalayam is 2Km from the South Western side of the area.

**7.6 Places of worships.**

There is no places of worships within the radius of 500m.

**7.7 Reserved forest / forest / social forest / wild life sanctuary etc.**

There is no Reserved forest / forest / social forest / wild life sanctuary etc., within radius of 500m.

**SALIENT FEATURES**

<table>
<tr><th>S. No.</th><th>Salient Futures Present around site</th><th>Prescribed safety distance</th><th>Actual Distance from the site</th></tr>
<tr><td>1.</td><td>Railways, Highways, Reservoirs or Canal</td><td>50m</td><td>Railway line – 3Km ( Coimbatore- Mettupalayam) South Western side.<br>Highways-<br>National Highway (NH-67) Coimbatore-Nagapattinam 3Km from South Western side of area.<br>Reservoir – No reservoir within 10Km radius.<br>Canal- No canals within 1Km Radius.</td></tr>
<tr><td>2.</td><td>Village Road</td><td>10m</td><td>Kumaran Kundru Temple village road is 350m from the Northern side of the area.</td></tr>
<tr><td>3.</td><td>Habitation / Village</td><td>300m</td><td>There is no houses within the radius of 500m. Actual distance are clearly marked in the Plate No I-B.
<table>
<tr><th>S.No</th><th>Name of the Village</th><th>Approximate distance & Direction from lease applied area</th></tr>
<tr><td>1.</td><td>Mongampalayam</td><td>1.5Km – NE</td></tr>
<tr><td>2.</td><td>Chikkarampalayam</td><td>2.5Km – SE</td></tr>
<tr><td>3.</td><td>Karamadai</td><td>3Km - SW</td></tr>
<tr><td>4.</td><td>Chinna Thottipalayam</td><td>2Km - NW</td></tr>
</table></td></tr>
<tr><td>4.</td><td>Adjacent Patta Land</td><td>7.5m</td><td>North -S.F.No Village No.18 Pollathi<br>East -S.F.No 69(P)<br>South - S.F.No 69(P)<br>West -S.F.No 69(P)</td></tr>
</table>

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| | | | |
|---|---|---|---|
| | | | 7.5m safety distance has been maintained from the patta land. |
| 5. | Housing area, EB line (HT & LT Line) | 50m | There is no houses within the radius of 500m. LT Line – There is no LT Line within the radius of 100m. |
| 6. | Boundaries of the permitted area | 7.5m & 10m | The boundaries of the permitted areas is as follows |
| 7. | Reserve forest / protected area / ECO sensitive area | 10Km | No reserved forest within the radius of 10Km. |

| Direction | S.F.No | Classification |
|---|---|---|
| North | No.18 | Pollathi Village |
| East | 69(P) | Patta land |
| South | 69(P) | Patta land |
| West | 69(P) | Patta land |

**8. EMPLOYMENT POTENTIAL & WELFARE MEASURES**

**8.1 Employment potential (skilled, semi skilled, un skilled).**

The following manpower are proposed to carry out the day-to-day quarrying activities aimed at the proposed production target and also to comply with the statutory provisions of the metalliferous mines regulations, 1961.

| | | | |
|---|---|---|---|
| a. | <u>Skilled labour</u> | | |
| | Mine Foreman/ Permit Mines Manager | : | 1 |
| | Jack hammer operator | : | 4 |
| | Blaster/ mate | : | 1 |
| b. | Semi-skilled | : | |
| | watchman | : | 1 |
| c. | Unskilled- helper | : | 7 |
| | **Total** | : | **14** |

Allowing 10% absenteeism the man power would be around 13, The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations.

It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

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**8.2 Welfare Measures**

**a) Drinking Water**

Packaged drinking water is available from the nearby approved water vendors in Karamadai which is about 3Km from the South Western side of the area. Drinking water shall be readily available at conveniently accessible points during the whole of the working shift.

**b) Sanitary Facilities**

Hygienic modern Sanitary facilities will be constructed with in the quarrying area as permanent structure and it will be maintained periodically.

**C) First aid facility**

First aid kits are kept in Mines office room, in case of such eventualities the victim will be given first aid immediately at the site and injured person will be taken to the hospital. Hospital is available at distance of 3Km South Western in Karamadai the competent and Statutory foreman/ permit manager will be in charge of first aid.

**d) Labour Health**

Periodically medical check up related to occupational health safety will be conducted to all the workers in Applicant own cost.

**e) Precautionary safety measures to the labourers.**

All the quarry workers will be provided with safety equipments like helmets, Mine Goggles, Ear plugs, Ear muffs, Dust mask, reflector jackets and Safety Shoes as personal protective device as per the specification approved by Director of mines safety. Periodically medical check up will be conducted for all workers for any mine health related problems. Proper training and induction will be given by qualified and experienced safety officer to all employees about the safe and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically to carry out the quarrying operations scientifically to safe guard the men machinery and mineral and to create awareness of conventional opencast quarrying operations.

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PART - B

## 9. ENVIRONMENT MANAGEMENT PLAN

### 9.1 Existing Land use pattern

The quarry lease applied area is exhibits almost plain topography. The area is a dry barren land devoid of Agriculture and Habitations. The land is not used for any specific vegetation.

LAND USE TABLE-7

| Description | Present area in (Ha) | Area at the end of Lease period (Ha.) |
|---|---|---|
| Area under quarrying | 1.24.2 | 1.77.8 |
| Infrastructure | Nil | 0.01.0 |
| Roads | 0.03.0 | 0.03.0 |
| Green Belt | Nil | 0.10.0 |
| Unutilized | 0.91.8 | 0.27.2 |
| Grand Total | 2.19.0 | 2.19.0 |

### 9.2 Water Regime

Ground water occurrence in this area is 60m depth. The quarrying operation is proposed upto a depth of 7m below the ground level, Hence the quarry operation will not be affected by the ground water.

### 9.3 Flora and Fauna:

There are no trees observed in the area. Thorny bushes, Neem and Palm are found in around the area. No plants of botanical interest or animals of zoological interest are noticed. There are no cultivation, plantation or agriculture found within the vicinity of the area.

### 9.4 Climatic Conditions

The area receives rainfall of about 900/per annum and the rainy season is mainly from Oct - Jan during North East, monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 23°C.

### 9.5 Human settlement

There is no houses within the radius of 500m, There are few villages located in this area within 5km radius, the approximate distance and population are given below.



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Table - 8

| S.No | Name of the Village | Approximate distance & Direction from lease applied area | Approximate population |
|---|---|---|---|
| 1. | Mongampalayam | 1.5Km – NE | 500 |
| 2. | Chikkarampalayam | 2.5Km – SE | 200 |
| 3. | Karamadai | 3Km - SW | 1500 |
| 4. | Chinna Thottipalayam | 2Km - NW | 400 |

Basic human welfare Amenities such as Health Center, Schools, Communication Facilities, and Commercial Centers etc are available at Karamadai located at a distance of 3km on the South Western side of the area.

## 9.6 Plan for air, dust suppression

The air quality will be affected by the Suspended Particulate Matter (SPM) this will be generated by the blasting, jack hammer drilling, Loading and unloading during the quarrying Rough stone quarry operation.

The following Mitigations measures will be carried out

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be planted on the exposed surface.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigation Measures will be carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs 52,000/year.**

### 9.7 Plan for Noise level control.

The noise level increased due to the excavation, Drilling, Blasting, Transportation and Blasting.

**Engineering Noise control:**

Noise will be created due to the usage of Machinaries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.

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- The drivers will be strictly inducted to move the vehicle during the transportation not exceed 40 km per hour.
- Sentries with flags & whistle will posted in village junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and 1.5m depth will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse only will be used for rough stone. Hence, ground vibration and noise pollution will be minimal and restricted within the quarry workings.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs 2,000/Year.**

**9.8 Environmental impact assessment statement describing impact of mining on the next five years.**

The mining plan proposed is for a small production of Rough stone without involving deep hole drilling and heavy blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and noise is concerned, anyhow environmental impact studies will be conducted as per EIA notification issued by MoEF. It is B2 Category mine. The estimated budget would be around **Rs. 7,10,000/-**

**9.9 Proposal for waste management**

There is no waste in this Rough stone and gravel quarry operation.

**9.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.)**

In the mining plan only a maximum depth of 7m has been envisaged as workable depth for safe & economic mining during the lease period. After quarry reaches the ultimate depth 7m and the end of the lease period fencing will be constructed around the quarried pits to prevent inherent entry of the public and cattle. There is no proposal for reclamation and rehabilitation. the barbed wire fencing cost would be around **Rs 1,00,000/-**

**9.11 Programme of afforestation (indicate extend, number, name of species to be afforestated).**

The 7.5m safety distance along the lease boundary has been identified to be utilized for afforestation Appropriate native species of neem trees will be planted in a phased manner as described below.

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Table -9

| Year | No. of tress proposed to be planted | Survival % | Area to be covered Sq.m | Name of the species | No. of trees expected to be grown |
|---|---|---|---|---|---|
| I | 30 | 80% | 200 | Neem/ Casuarina | 24 |
| II | 30 | 80% | 200 | Neem/ Casuarina | 24 |
| III | 30 | 80% | 200 | Neem/ Casuarina | 24 |
| IV | 30 | 80% | 200 | Neem/ Casuarina | 24 |
| V | 30 | 80% | 200 | Neem/ Casuarina | 24 |

Nearly 1000Sqm area is proposed to use under afforestation by planting 30 Nos of neem/ Casuarina trees every year with an anticipated survival rate of 80%. (Please refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around **Rs. 30,000/-** for the period of five years.

**9.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the entire quarrying period.

Table -10

| S. No | Monitory and Analysis Description | Rate per location | No. of location | Total Charges/ six months | Total Charges/ year |
|---|---|---|---|---|---|
| 1 | Ambient air quality monitoring | 6500 | 4 | 26000 | 52000 |
| 2 | Noise level monitoring | 250 | 4 | 1000 | 2000 |
| 3 | Ground vibration monitoring | 1000 | 2 | 2000 | 4000 |
| 4 | Water sampling and analysis | 9000 | 1 | 9000 | 18000 |
| **Total EMP Cost/ year** | | | | | **76,000** |

The EMP cost would be around **Rs 3,80,000/-** for the period of five years.

| | **Project cost / investment** | |
|---|---|---|
| | i) Land cost | It is patta land, the present land cost is about Rs.2,00,000/ Ha, hence the total land cost is calculated about **Rs 4,38,000/-** |
| | ii) Machinery to be used | Tractor mounted compressor with jack Hammer and loose tools. **= Rs 6,00,000/-**<br>Tippers (10/20Tons Capacity) 1No **= Rs 15,00,000/-** |
| | iii) Refilling / Fencing | Fencing will be constructed around the quarry pit to prevent the inherent entry of public and cattles cost would be around **Rs.1,00,000/-** |
| | iv) Laboureres shed | Labour sheds will be constructed as semi permenant structure. The cost would be around **Rs 50,000/-** |



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| | | |
|---|---|---|
| | v) Sanitary facility | Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around **Rs. 50,000/-** |
| | vi) Others items | First aid room & accessories = **Rs. 50,000/-** |
| | vii) | **A. Fixed asset :-**<br>Land cost = Rs 4,38,000/-<br>Labour shed = Rs 50,000/-<br>First aid room and accessories = Rs 50,000/-<br>Sanitary facilities = Rs 50,000/-<br>**Total Fixed asset = Rs 5,88,000/-**<br>**B. Operational Cost :-**<br>Machinaries to be used = Rs 21,00,000/-<br>Fencing cost = Rs 1,00,000/-<br>**Total operational cost =Rs. 22,00,000/-** |
| | **(a) Expenditure** | |
| | i) Drinking water facility for the laborers | Packaged drinking water is being provided for all the labours. Drinking water is readily available at conveniently accessible points during the whole of the working shift the cost would be around **Rs.1,00,000/-** |
| | ii) Sanitary arrangement, | The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around **Rs.50,000/-** for the entire period. |
| | iii) Safety kits | All the Safety kits such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided by the applicant own cost the cost would be around **Rs. 50,000/-** |
| | iv) Water sprinkling | Water will be sprinkled in the haul roads by water sprinklers the cost would be around **Rs.1,00,000/-** |
| | v) Afforestation etc. | Afforestation program will be carried out in the boundary barrier the cost would be around **Rs.30,000/-** for the five year plan period. |
| | | **Total Cost = RS. 3,30,000/-** |

உதவி இயக்குநர் அலுவலகம்
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**C. EMP Cost :- (Per Year)**

| | | |
|---|---|---|
| Air Quality monitoring | = | Rs. 52,000/- |
| Water Quality Sampling | = | Rs. 18,000/- |
| Noise Monitoring | = | Rs. 2,000/- |
| Ground vibration test | = | Rs. 4,000/- |
| **Total Cost** | **=** | **Rs. 76,000/-** |

Total EMP Cost for the five year period is **Rs. 3,80,000/-**

Total Expenditure and EMP cost (Including EMP Studies) **= Rs. 7,10,000/-**

**A+B+C=**

| | |
|---|---|
| A. Fixed asset cost | = Rs 5,88,000/- |
| B. Operational cost | = Rs 22,00,000/- |
| C. EMP Cost | = Rs 7,10,000/- |
| **Total Project Cost (A+B+C)** | **= Rs 34,98,000/-** |

The applicant ensures to involve corporate social responsibilities (CSR) like providing note books to nearby school, providing drinking water facilities to the nearby villages etc., at around 2.5% from the total project cost the cost would be around **Rs 87,000/-**

| | | |
|---|---|---|
| Total Project cost | = Rs. | 34,98,000/- |
| CSR Cost (2.5%) | = Rs. | 87,000/- |
| **Total cost** | **= Rs.** | **35,85,000/-** |

(The Total cost of the project including EMP Cost is Rupees Thirty Five lakhs and Eighty Five Thousand only)



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## 10. MINE CLOSURE PLAN

### 10.1 Steps proposed for phased restoration, reclamation of already mined out areas.

There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of the life of lease will be fenced to prevent inherent entry of public and cattles. After treating the water the same will be utilized for nearby agriculture purpose to the nearby agriculture lands.

### 10.2 Measures to be under taken on mine closure as per Act & Rules.

Measure will be taken as per Act & Rules, There is no proposal for back filling, reclamation and rehabilitation. The quarry pit will be fenced by barbed wire to prevent inherent entry of public and cattle.

The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture lands.

### 10.3 Mitigation Measure To Be Undertaken For Safety And Restoration / Reclamation Of The Already Mined Out Area.

**Air quality: (Air quality will be degrade due to the drilling, blasting, mining operation and transportation).**

**Mitigation measures:**

Drilling will be carried out by wet drilling mode to control the dust propagation into the air. Blasting will be carried out on limited scale. Mist Water spraying on haul road is proposed to prevent the dust propagation into the air. Air quality will be monitored periodically as per norms.

**NOISE AND VIBRATION: (The noise will be formed due to the drilling, blasting, loading and movement of Machineries.**

**Mitigation measures :**

The applicant proposed to carry out the plantation all along the boundary to prevent Noise besides wet drilling will be practiced to prevent dust. All the machineries will be maintained in good conditions as per RTO and TNPCB Norms to prevent Noise, Smoke and vibration.



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**WATER REGIME :**

**Mitigation Masures :**

The quarry operation proposed upto a depth of 7m below the ground level for the five year period, the proposed depth is well above the water table (Summer in 60m and rainy seasons in 57m), hence the water table will not be affected in any.

The seepage and rain water will be drained out from the pit by the 5H.P motor pump and will be discharged through filter media to boundary barrier for afforestation and excess water will be sprayed on haul roads to prevent dust propagation in to the atmosphere. The rough stone quarry will not produce any harmful toxic effluence in the form of solid liquid or gas.

**HUMAN HEALTH & SAFETY: Dust will be limited due to the mine operation.**

All the labours has been provided with safety equipment's like helmet, Safety Goggles, Ear muff, Hand Glouse, safety jacket, safety belt, and Mine boots etc., at Applicant own cost, As per the specifications of Director of mines safety. The competent qualified person foreman/Permit Mines Manager will provide first aid and will take care of small & minor injuries. If any accident happens, the victim will be taken to the nearby hospital by the Applicant van which is always kept in the mines office. The hospital is about 3Km in Karamadai (SW).

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**11. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT:**

This Mining plan for Rough stone (Charnockite) and Gravel is prepared as per the Draft Minor Mineral conservation and Development Rules, 2010 and amendment by the Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied with, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

Prepared by

M. Ifthikhar Ahmed, M.Sc., F.G.S., M.B.A., M.M.E.A
RQP/MAS/183/2004/A

Place : Salem
Date : 17.09.2016

ASSISTANT DIRECTOR
DEPARTMENT OF GEOLOGY & MINING
COIMBATORE DISTRICT



4547/94 A

ANNEXURE- I




From

Thiru.T.N.Hariharan, I.A.S.,
District Collector,
Coimbatore District,
Coimbatore – 18.

To

Thiru.R.K.Selvakumar,
S/o. T.Karivaradhan,
4/51, Ramampalayam
Jadayampalayam (Po),
Mettupalayam Taluk,
Coimbatore District.

**R.C. 240 / Mines/2016 Dated 26 .08.2016**

Sir,

Sub Mines & Minerals – Minor Mineral – RoughStone and Gravel – Application preferred by Thiru. R.K.Selvakumar for quarrying Roughstone and Gravel – Survey No. 69(Part) over an extent of 2.19.0 hectares out of 7.51.50 hectares – patta land - in Chikkarampalayam Village – Mettupalayam Taluk – application processed – precise area communicated – for preparing Mining Plan – Reg.

Ref
1. Application dated 23.03.2016 received from Thiru.R.K.Selvakumar, S/o.Karivaradhan, 4/51, Ramampalayam, Jadayampalayam (Post), Mettupalayam Taluk, Coimbatore District.
2. This office letter even number dated 29.03.2016 (addressed to the Revenue Divisional Officer, Coimbatore).
3. The Revenue Divisional Officer, Coimbatore letter Ref.No.546 / 2016 / A3 dated 08.07.2016.
4. Inspection report of the Assistant Director, Geology and Mining, Coimbatore dated 18.08.2016.
5. G.O.Ms.No.79, Industries (MMC-1) Department dated 06.04.2015.

***********

In the reference 1st cited above, Thiru.R.K.Selvakumar, S/o. Karivaradhan, 4/51, Ramampalayam, Jadayampalayam (Po), Mettupalayam Taluk, Coimbatore District has applied for Roughstone and Gravel quarry lease in Survey No. 69(Part) over an extent of 2.19.0 hectares out of 7.51.50 hectares patta land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.

He has requested to grant quarry lease for roughstone and gravel for a period of 5 years. The applicant Thiru.R.K.Selvakumar has remitted Rs.1,500/- towards application fees and enclosed the original amount remitted challan along with all the required documents to grant lease in his favour.

In order to grant quarry lease, the applied area has been inspected by the Revenue Divisional Officer, Coimbatore and the Assistant Director, Geology and Mining, Coimbatore on land availability point of view and technical point of view.

In this regard, in the reference 3rd and 4th cited above, the Revenue Divisional Officer, Coimbatore and the Assistant Director, Geology and Mining, Coimbatore finally recommended for grant of quarry lease for quarrying Roughstone and Gravel in the above applied area for a period of 5 years subject to certain conditions.

Based on the above recommendations, it is decided to grant quarry lease to the applicant Thiru.R.K.Selvakumar for quarrying roughstone and gravel in Survey No. 69(Part) over an extent of 2.19.0 hectares out of 7.51.50 hectares patta land in Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District. Therefore, the applicant Thiru.R.K.Selvakumar is requested to prepare Mining Plan for the above applied area through the help of Recognized Qualified Person (RQP) and to submit the same before the Assistant Director for getting approval within in a period of 90 days from the date of receipt of this letter as per rule 41 of Tamil Nadu Minor Mineral Concession rules, 1959.

Sd.xxx
District Collector,
Coimbatore.

True Copy / By order

12/9/16

Assistant Director,
Dept. of Geology and Mining,
Coimbatore.

12/9/16

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ANNEXURE-II

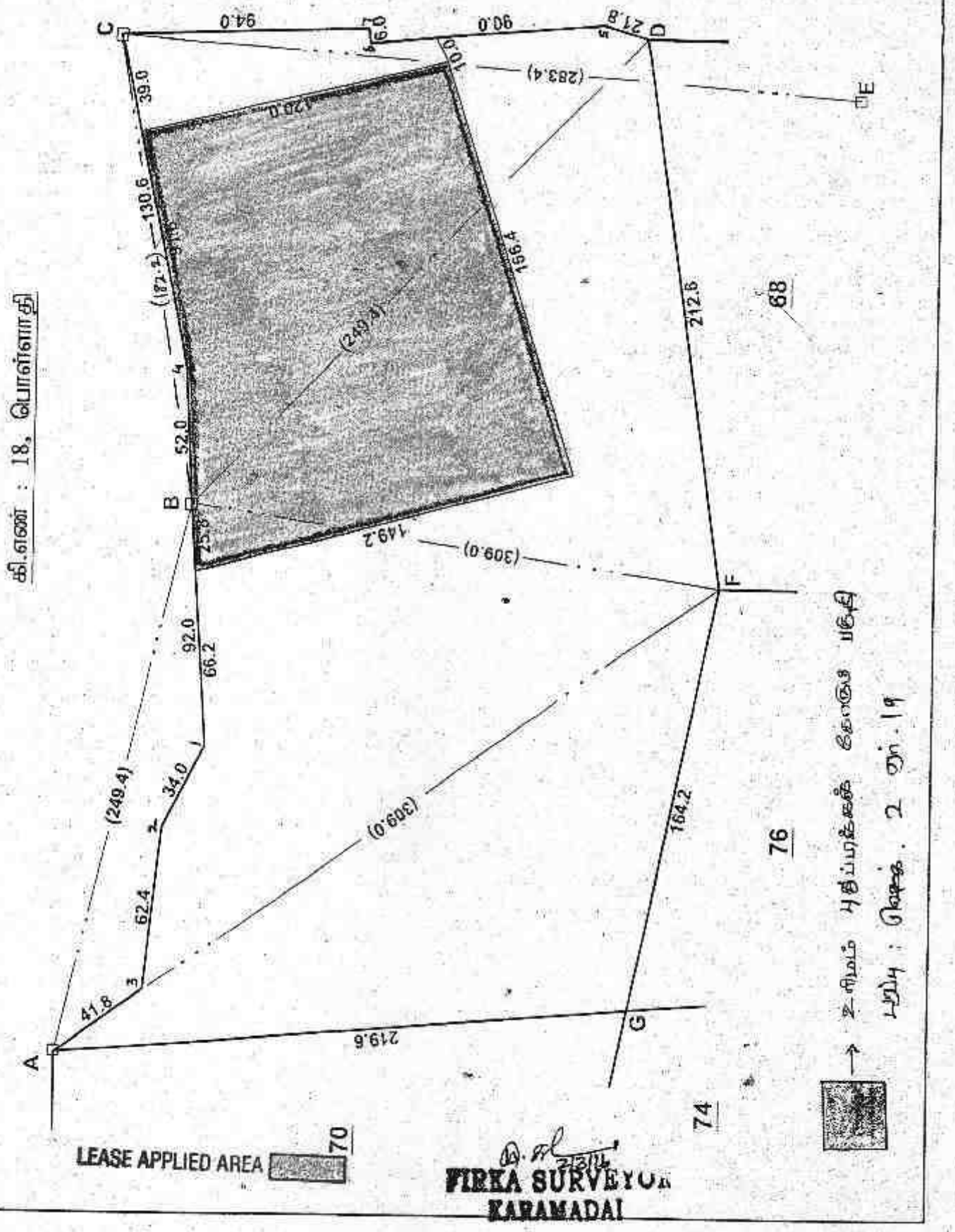
மாவட்டம் - கோயம்புத்தூர்
வட்டம் - மேட்டுப்பாளையம்

எண் - 19

புல எண் - 69

- 1 DEC 2016

பரப்பு : ஹெக் 7 ஏர் 51.0




FIRKA SURVEYOR
KARAMADAI

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ANNEXURE-III




458798 A

ANNEXURE- IV






தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : கோயம்புத்தூர் வட்டம் : மேட்டுப்பாளையம்

வருவாய் கிராமம் : சிக்காரம்பாளையம் பட்டா எண் : 1278

உரிமையாளர்கள் பெயர்

| | | | |
|---|---|---|---|
| 1. | கரிவரதன் | மகன் | பழனிசாமி |
| 2. | கரிவரதன் | மகன் | செல்வகுமார் |
| 3. | வேலுச்சாமி[லேட்] | மனைவி | சந்திரகலா |
| 4. | வேலுச்சாமி[லேட்] | மகன் | அஸ்வின்குமார் |
| 5. | வேலுச்சாமி[லேட்] | தாய் | திரும்மம்மாள் |

| | நன்செய் | | புன்செய் | | மற்றவை | |
|---|---|---|---|---|---|---|
| | பரப்பு | தீர்வை | பரப்பு | தீர்வை | பரப்பு | தீர்வை |
| புல எண் | உட்பிரிவு | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை | ஹெக் - ஏர் | ரூ - பை |
| 69 | - | -- | -- | 7 - 51.50 | 15.03 | -- | -- |
| | | | | 7 - 51.50 | 15.03 | | |

குறிப்பு :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 12/04/2016/01278/10428 என்ற குறிப்பு எண்ணை உள்ளிட்டு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 16-09-2016 அன்று 03:33:35 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



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1434 – ஆம் பக்கம்

கிராமக் கணக்கு

மலைட்டப் கோட்டைப்பாளையம் வட்டம் ஆ. திக்கி

| நில வரித் திட்டத்தின்படி புலன்களின் விபரம். | | | | | கைப்பற்று தாருடைய பெயரும் எண்ணும் அல்லது அனுபோக தாருடைய பெயர். | சாகுபடி பருவின் பெயர். | முதல் போகம். | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| நில அளவை எண். | உட்பிரிவு எண். | பரப்பு. | தீர்வை. | ஒரு போகம் அல்லது இரு போகம். | | நிலத்தின் சர்வே பகுதி பாகம் சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதாக. | எந்த பாகத்தில் பயிர் செய்யப்பட்டது எந்த பாகத்தில் தரிசுவைட்டு செய்யப்பட்டது. | பயிரின் பெயர். | பயிரை / தரிசுவை யார் பார்த்து. | உண்மையான பார்வை ஆதாரம். | விவசாயத்தில் ஈடுபட்டுள்ள நிலவுடைமை விபரம். |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 69 | | 1.51.5 | 15.03 | 1278K. வெள்ளாமி | | | | | | | |

| இரண்டாம் போகம். | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| எந்த பாகத்தில் பயிர் செய்யப்பட்டது அல்லது எந்த பாகத்தில் தரிசுவைட்டு செய்யப்பட்டது. | பயிரின் பெயர். | பயிரை / தரிசுவை யார் பார்த்து. | உண்மையான பார்வை ஆதாரம். | விவசாயத்தில் ஈடுபட்டுள்ள நிலவுடைமை விபரம். | (1) புலன்களின் பகுதிகளில் பயிரிடப்பட்ட நிலங்களில் விற்கப்பட்ட அளவில். (2) வைப்பதில் இவரை கணக்கில் காண்பிக்கப்பட்ட நிலங்களில் (3) குறைந்த பரப்பில் உள்ளதில் பயிரிடப்பட்டவை மற்றும் விவசாயிகளின் நிலங்களில் பயிரிடப்பட்ட விவரங்கள். | தற்போது அனுபவத்தில் உள்ள நிலத்தின் தன்மை மற்றும் பரப்பின் விவரங்கள் (ஒவ்வொரு நில அளவை எண் அல்லது குழுன் பகுதியில். (அ) வகை, (ஆ) பயன்தரு பயிர் தன்மையை நிலம். (இ) விவசாய மற்றும் இதர காரியங்களுக்கு பயன் படுத்தப் படும் நிலம். (ஈ) பயிரிடத்தக்க தரிசு (உ) நிலையான புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும் (ஊ) விலக்கப்பட்ட நிலப் பரப்பில் சேர்க்கப்படாத மலைகள் பயிர்களும் தொடர்பானவும். (எ) நடப்புத் தரிசுகள் (ஏ) இதர ஜரிப நிலங்கள். | பயிர் பாகுபாடும் அலுவலர். |
| (13) | (14) | (15) | (16) | (17) | (18) | (18.a) | (19) |
| | | | | | கூலிவசாரி | | |

மலைட்டப் கோட்டைப்பாளையம் வட்டம்

செயல்முறைகளின் படி நகல் எண்

330/2016 எண்.1/6 நில்.தொ.

31-05-2016 வரை மேற்கண்ட

விவரங்கள் கைவசம் வைத்துக் கொள்ளப்படுகிறது

மண்டல அலுவலர்

1 DEC 2016

ANNEXURE-IV

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எண் 2

RF IIIA-10 - 5,00,000.-GBP-Mdu-2009.

கிராமத்தில் வரு வளரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

ANNEXURE-VI






## அ-பதிவேடு விவரங்கள்

**மாவட்டம் : கோயம்புத்தூர்**

**வட்டம் : மேட்டுப்பாளையம்**

**கிராமம் : சிக்காரம்பாளையம்**

| | | | | |
|---|---|---|---|---|
| 1. புல எண் | 69 | 9. மண் வயனமும் ரகமும் | 8 - 3 | |
| 2. உட்பிரிவு எண் | - | 10. மண் தரம் | 5 | |
| 3. பழைய புல உட்பிரிவு எண் | 69 | 11. தீர்வை (ரூ - ஹெ) | 2.00 | |
| 4. பகுதி | - | 12. பரப்பு (ஹெக்டேர் - ஏர்) | 7 - 51.50 | |
| 5. அரசு / ரயத்துவாரி | ரயத்துவாரி | 13. மொத்த தீர்வை (ரூ - பை) | 15.03 | |
| 6. நிலத்தின் வகை | புஞ்சை | 14. பட்டா எண் | 1278 | |
| 7. பாசன ஆதாரம் | - | 15. குறிப்பு | - | |
| 8. இரு போகமா | - | 16. பெயர் | பழனிசாமிமற்றும | 4பேர் |

ANNEXURE- VII




Rs 20/-

25AB 179259

5591
1.03.16

P.K. Palani Samy
Mela Pallyam

M. MANICKAM
STAMP VENDOR
8/7 1st Floor 1st Street
Gopalapuram, Coimbatore - 641 018
Lic.No. 7571/81/93.

சம்மதக் கடிதம்

கோயம்புத்தூர் மாவட்டம், மேட்டுப்பாளையம் வட்டம், ஜடையாம்பாளையம் அஞ்சல், 4/51-ராமம்பாளையம் என்ற முகவரியில் வசிக்கும் திரு. (லேட்) R.K. வேலுச்சாமி மனைவி V. சந்திரகலா (1), மைனர் அஸ்வின்குமார் (2), திருமதி. திருமம்மாள் (3), R.K. பழனிச்சாமி (4), R.K. செல்வக்குமார் (5) ஆகிய எங்களுக்கு மேட்டுப்பாளையம் வட்டம், சிக்காரம்பாளையம் கிராமம், பட்டா எண் 1278-ன் படி க.ச.எண் 69 காலையில் மொத்தம் 7.51.5 ஹெக்டேர் எங்களுக்கு கூட்டாக பாத்தியப்பட்டது. மேற்படி காலையில் சாதாரணக்கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க அனுமதி கோரி மனுதாரரும் எனது சகோதரருமான R.K. செல்வக்குமார் என்பவர் விண்ணப்பம் செய்துள்ளார். மேலும் அவரது பெயரில் கல்குவாரி குத்தகை உரிமம் வழங்குவதில் எங்களுக்கு எவ்வித ஆட்சேபனையும் இல்லை. அவர் பெயரில் மாவட்ட ஆட்சியர் அவர்களால் மேற்படி காலையில் சாதாரணக்கற்கள் மற்றும் கிராவல் மண் எடுக்க அனுமதி வழங்க ஒப்புதல் அளிக்கப்பட்ட நாளிலிருந்து ஐந்து வருடத்திற்கு மேற்படி காலையில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுத்துச் செல்ல சம்மதம் தெரிவிக்கிறோம்.

இப்படிக்கு

1.

2. V. Chandra kala

3. திருமம்மாள்

NOTARY
A. THANGAVELU M.A., B.L.
Coimbatore (Dist.)
Regn. No. 658/12
TAMILNADU

A. THANGAVELU M.A., B.L.,
ADVOCATE & NOTARY
905-A, Sathy Main Road, Gandhipuram,
COIMBATORE - 641 012, INDIA
G.O.M.S No. 658/12.
Cell: 98422 67534

462802 A

ANNEXURE-

- 1 DEC

TN-40192000000244
SELVAKUMAR R E
KARUPARAJAN





463803 A

ANNEXURE-IX

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES



M Ifthikhar Ahmed

अर्हताप्राप्त व्यक्ति के रूप में मान्यता प्रमाण पत्र
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)

## CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एम. इफ्तिकार अहमथ, 129/8, 11वी क्रॉस, सिवया नगर, अलधापुरम–पी.आ., सेलम – 636 004, तमिल नाडू, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोने अपनी अर्हता और अनुभव का संतोषजनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हताप्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri M. Ifthikhar Ahmed, 129/8, 11th Cross, Sivaya Nagar, Alagapuram (PO), Salem – 636 004, Tamilnadu whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

उनकी पंजीयन संख्या है
His registration number is **RQP /MAS/183/2004/A**

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 10.01.2024 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 10.01.2024

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिती में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।
This certificate will be liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान / Place : Chennai
दिनांक / Date : 02.01.2014

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines
भारतीय खान ब्यूरो / Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region

464804 A

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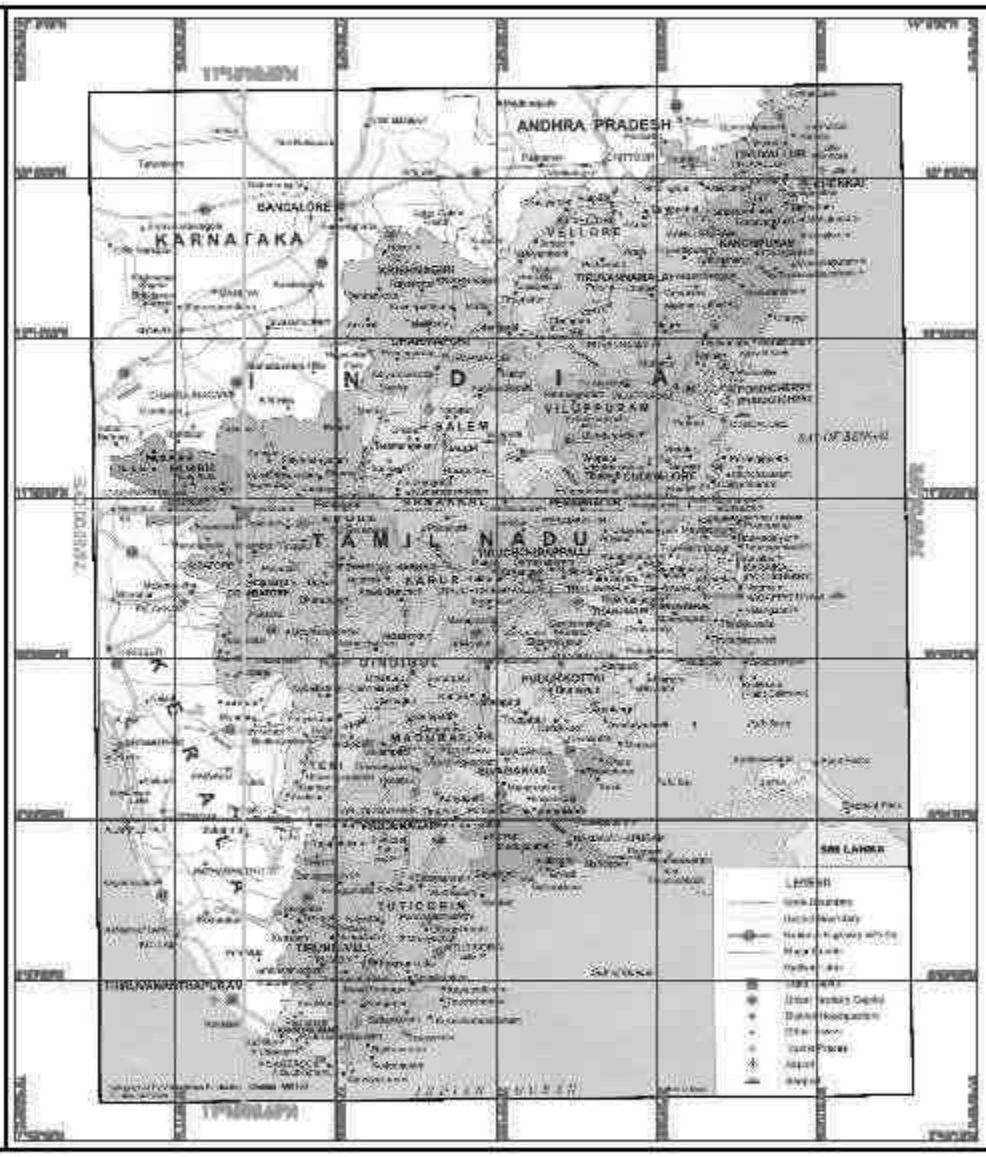



PLATE NO : 1

DATE OF SURVEY : 14.09.2014

**APPLICANT :**

Thiru.R.K. SELVAKUMAR,
S/o. T. KARTAVARADHAN,
1 / 51, RAMANIPALAYAM,
JADAYAMPALAYAM [POST],
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

**LOCATION OF Q.L. APPLIED AREA:**

S.F.Nos : 69 (Part).
EXTENT : 2.19.0 Hs.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMILNADU.

**INDEX**

Q. L. APPLIED AREA:

TOPO SHEET No. : 58-A/15

LATITUDE : 11°15'05.68"N to 11°15'10.68"N
LONGITUDE : 76°59'00.02"E to 76°59'04.32"E

**LOCATION PLAN**

SCALE 1:24,00,000

**PREPARED BY :**

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLAN IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE BASED UPON THE PLAN SURVEY AUTHORITY TREATED BY STATE GOVERNMENT

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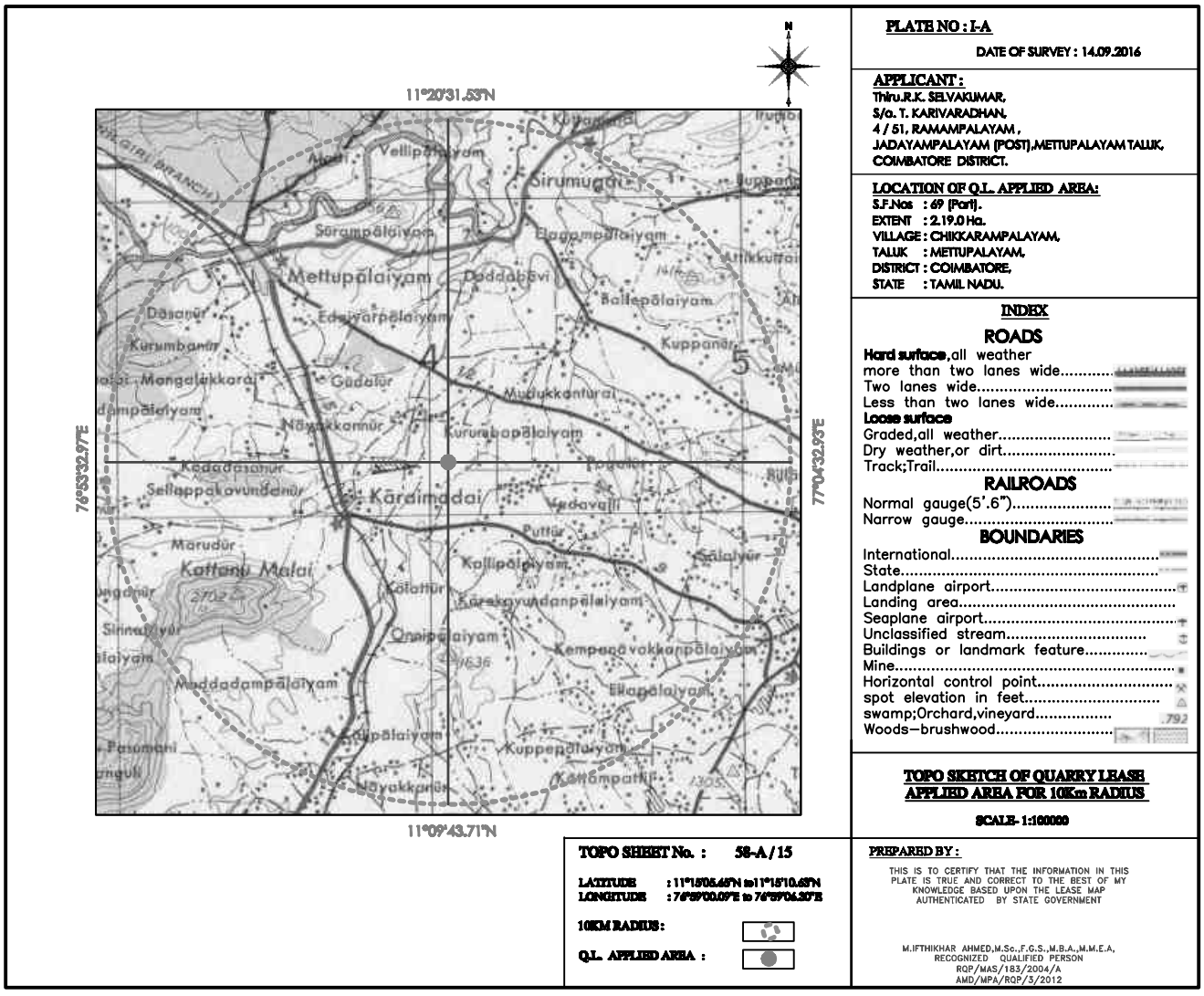



**PLATE NO : I-A**

DATE OF SURVEY : 14.09.2016

**APPLICANT :**

Thiru.R.K. SELVAKUMAR,
S/o. T. KARIVARADHAN,
4 / 51, RAMAMPALAYAM,
JADAYAMPALAYAM (POST),METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

**LOCATION OF Q.L. APPLIED AREA:**

S.F.Nos : 69 (Part).
EXTENT : 2.19.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

**INDEX**

**ROADS**

Hard surface,all weather
more than two lanes wide.....
Two lanes wide.....
Less than two lanes wide.....
Loose surface
Graded,all weather.....
Dry weather,or dirt.....
Track;Trail.....

**RAILROADS**

Normal gauge(5'.6").....
Narrow gauge.....

**BOUNDARIES**

International.....
State.....
Landplane airport.....
Landing area.....
Seaplane airport.....
Unclassified stream.....
Buildings or landmark feature.....
Mine.....
Horizontal control point.....
spot elevation in feet.....
swamp;Orchard,vineyard.....
Woods—brushwood.....

**TOPO SKETCH OF QUARRY LEASH APPLIED AREA FOR 10Km RADIUS**

SCALE- 1:100000

**TOPO SHEET No. : 58-A / 15**

LATITUDE : 11°15'08.45"N to 11°15'10.65"N
LONGITUDE : 76°59'00.09"E to 76°59'06.20"E

10KM RADIUS :

Q.L. APPLIED AREA :

**PREPARED BY :**

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

M.IFTHIKHAR AHMED,M.Sc.,F.G.S.,M.B.A.,M.M.E.A,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/183/2004/A
AMD/MPA/RQP/3/2012

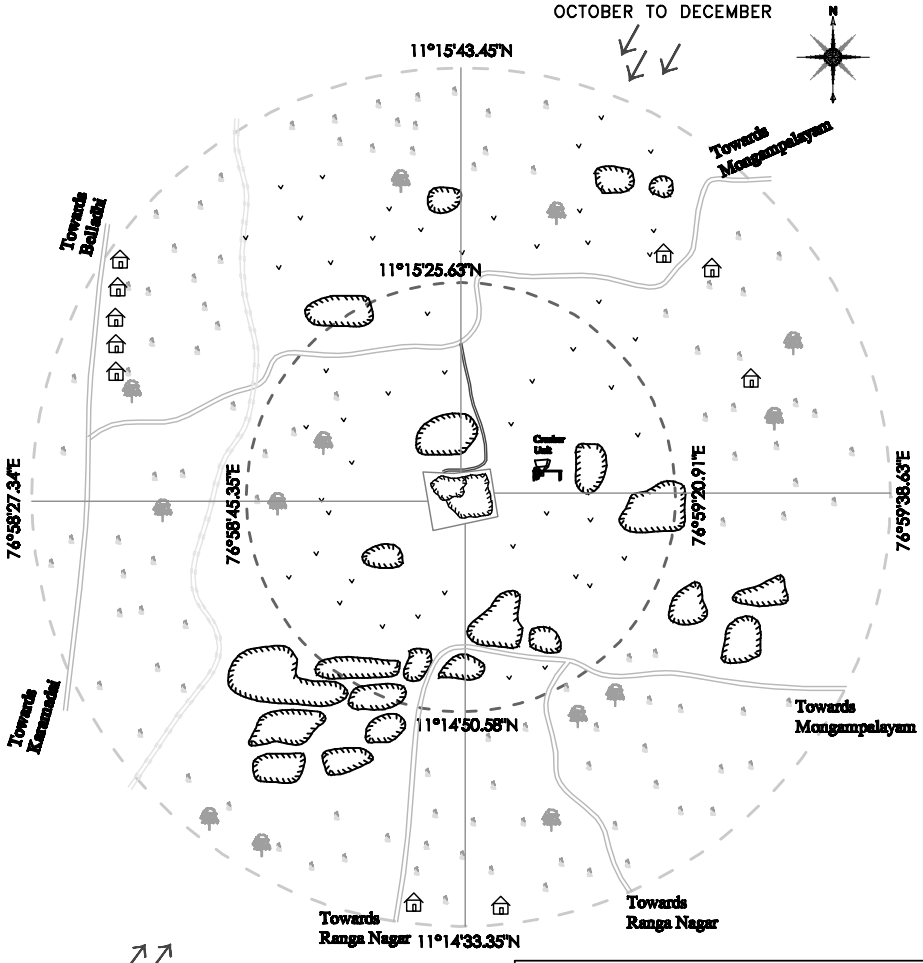
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| LAND USE PATTERN | | |
|---|---|---|
| DESCRIPTION | PERCENTAGE | INDEX |
| TREES | (06%) | |
| SEASONAL AGRICULTURE LAND | (49%) | |
| BARREN LAND | (14%) | |
| ROADS | (04%) | |
| HABITATION | (03%) | |
| QUARRY PIT | (18%) | |
| ODAI | (6%) | |
| TOTAL | (100) | |

PLATE NO - I-B

DATE OF SURVEY : 14.09.2016

**APPLICANT :**

Thiru.R.K. SELVAKUMAR,
S/o. T. KARIVARADHAN,
4 / 51, RAMAMPALAYAM,
JADAYAMPALAYAM (POST),
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

**LOCATION OF Q.L. APPLIED AREA:**

S.F.Nos : 69 (Part).
EXTENT : 2.19.0 Ha.
VILLAGE : CHIKKARAMPALAYAM.
TALUK : METTUPALAYAM.
DISTRICT : COIMBATORE.
STATE : TAMIL NADU.

TOPO SHEET No. : 58-A / 15
LATITUDE : 11°15'05.65"N to 11°15'10.63"N
LONGITUDE : 76°59'00.09"E to 76°59'06.30"E

**INDEX**

- Q.L. APPLIED AREA
- 1 Km RADIUS
- 500m RADIUS
- PANCHAYAT ROAD
- APPROACH ROAD
- TREES
- WIND DIRECTION
- SEASONAL AGRICULTURE LAND
- BARREN LAND
- HABITATION
- QUARRY PIT
- ODAI
- CRUSHER UNIT

**ENVIRONMENTAL & LANDUSE PLAN**

SCALE- 1:10,000

PREPARED BY :

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

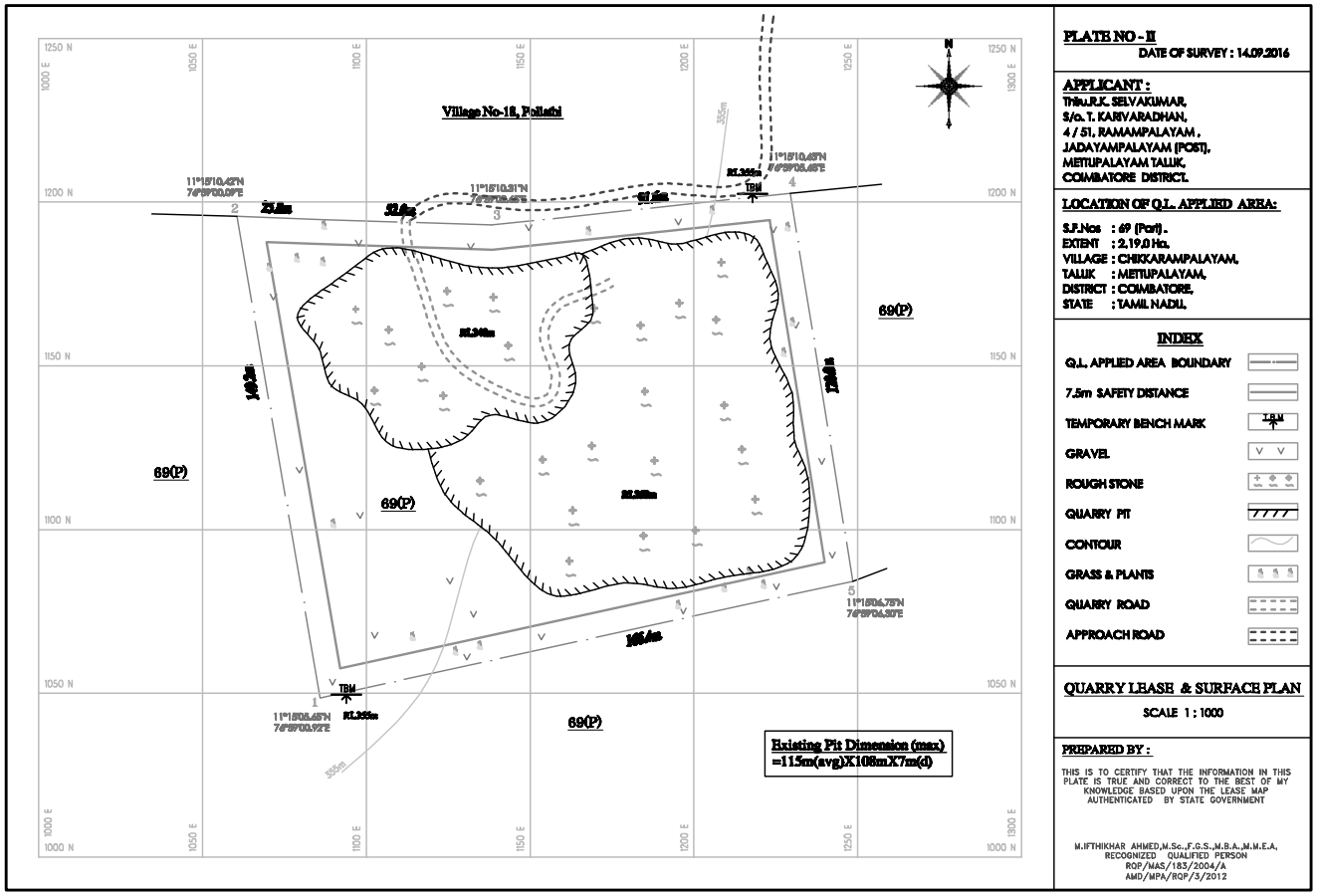
M.IFTHIKHAR AHMED,M.Sc.,F.G.S.,M.B.A.,M.M.E.A,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/183/2004/A
AMD/MPA/RQP/3/2012

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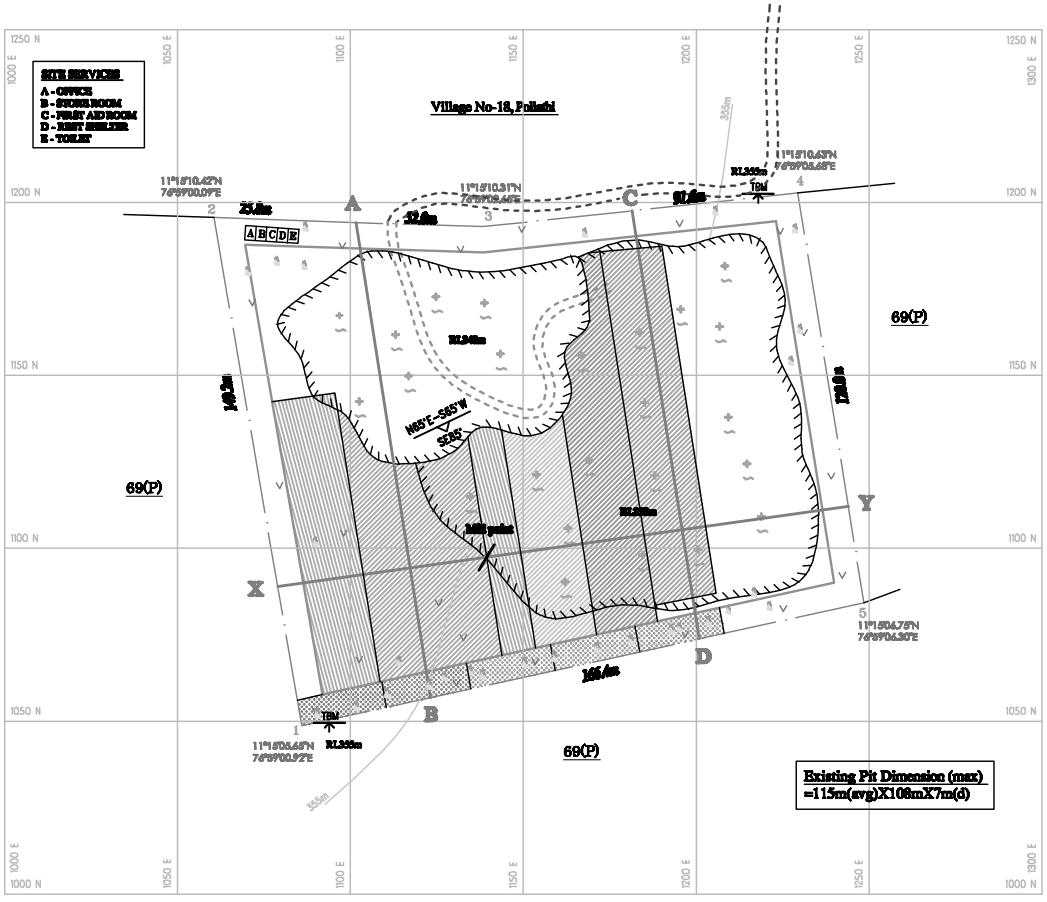



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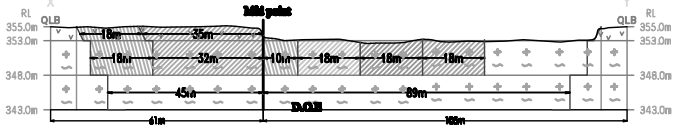
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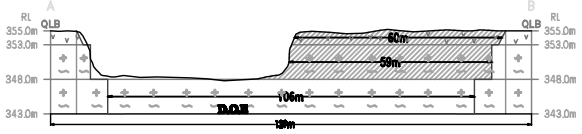
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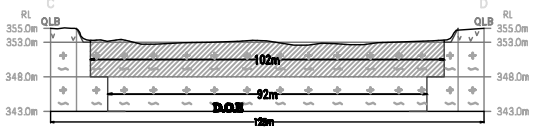

SECTION ALONG : X-Y




SECTION ALONG : A-B




SECTION ALONG : C-D




**LAND USE PATTERN**

| DESCRIPTION | PRESENT AREA IN (Ha) | AREA AT THE END OF THIS QUARRYING PERIOD (Ha) |
|---|---|---|
| QUARRYING PIT | 1.24.2 | 1.77.8 |
| INFRASTRUCTURE | Nil | 0.01.0 |
| ROADS | 0.03.0 | 0.03.0 |
| GREEN BELT | Nil | 0.10.0 |
| UN-UTILIZED AREA | 0.91.8 | 0.27.2 |
| TOTAL | 2.19.0 | 2.19.0 |

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

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

**PLATE NO - III**
DATE OF SURVEY : 14.09.2016

**APPLICANT :**
Thiru.R.K. SELVAKUMAR,
S/o. T. KARIVARADHAN,
4 / 51, RAMAMPALAYAM,
JADAYAMPALAYAM (POST),
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

**LOCATION OF Q.L. APPLIED AREA:**

S.F.Nos : 69 (Part).
EXTENT : 2.19.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

**INDEX**

- Q.L. APPLIED AREA BOUNDARY
- 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK (TBM)
- GRAVEL
- ROUGH STONE
- STRIKE & DIP
- QUARRY PIT
- CONTOUR
- GRASS & PLANTS
- QUARRY ROAD
- APPROACH ROAD
- DEPTH OF ESTIMATION (D.O.E)

**TOPOGRAPHY, GEOLOGICAL PLAN YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS**

SCALE: PLAN- 1 : 1000
SECTION- HOR 1 : 1000, VER 1: 500

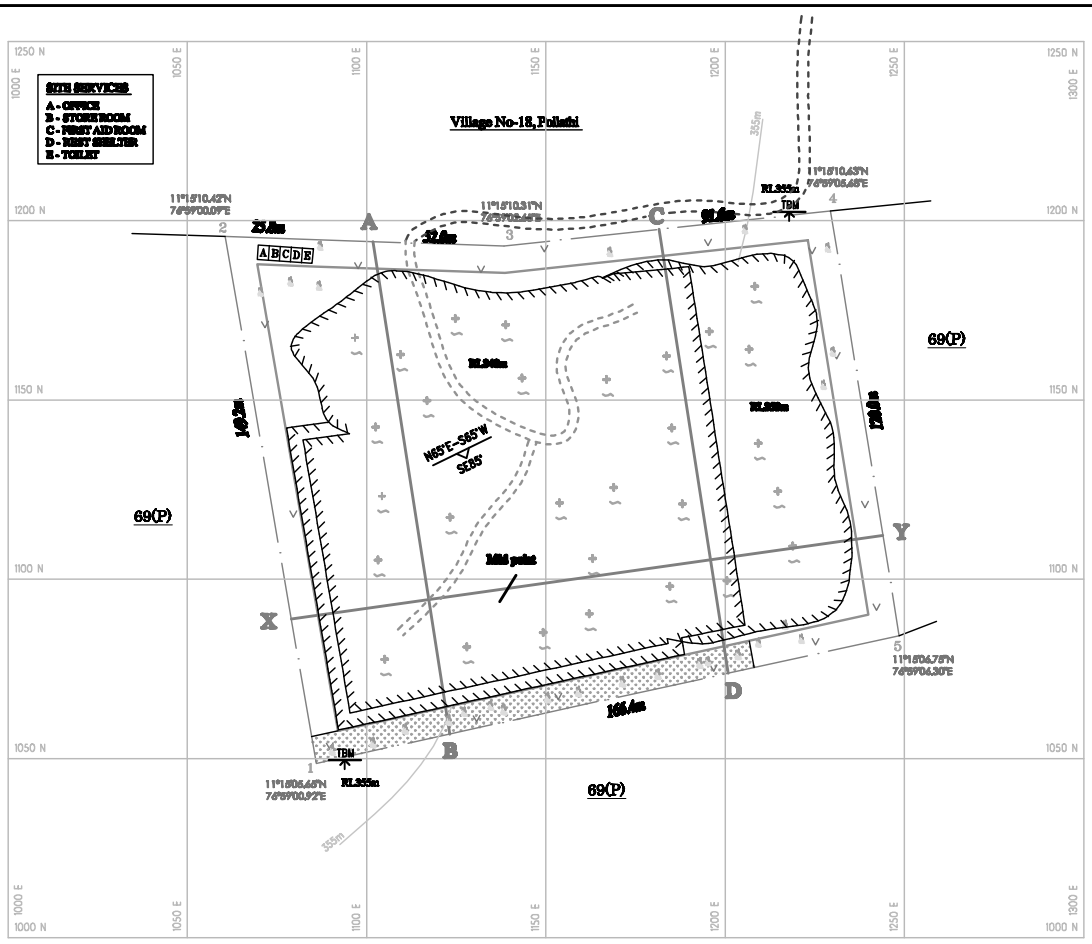
**PREPARED BY :**

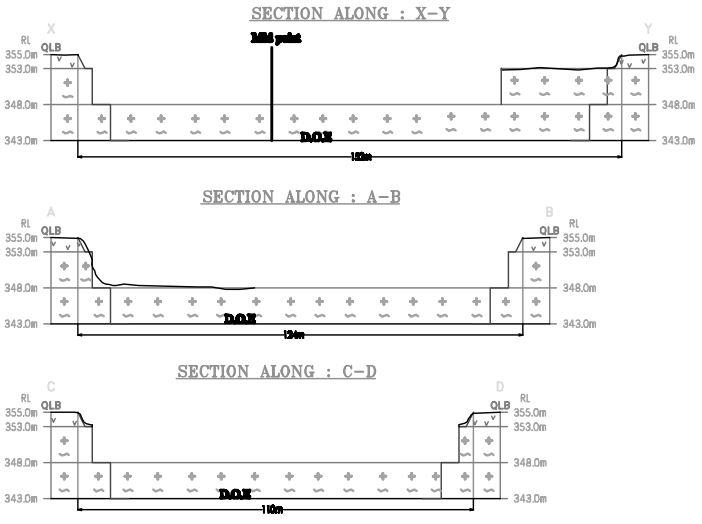
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

M.IFTHIKHAR AHMED,M.Sc.,F.G.S.,M.B.A.,M.M.E.A,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/183/2004/A
AMD/MPA/RQP/3/2012

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**Ultimate Pit Dimension (max)**
**=152mX117m(avg)X7m(d)**

**PLATE NO - IV**
DATE OF SURVEY : 14.09.2016

**APPLICANT :**
Thiru.R.K. SELVAKUMAR,
S/o. T. KARIVARADHAN,
4 / 51, RAMAMPALAYAM ,
JADAYAMPALAYAM (POST),
METTUPALAYAM TALUK,
COIMBATORE DISTRICT.

**LOCATION OF Q.L. APPLIED AREA:**

S.F.Nos : 69 (Part).
EXTENT : 2.19.0 Ha.
VILLAGE : CHIKKARAMPALAYAM,
TALUK : METTUPALAYAM,
DISTRICT : COIMBATORE,
STATE : TAMIL NADU.

**INDEX**

- Q.L. APPLIED AREA BOUNDARY
- 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK (T.B.M)
- GRAVEL
- ROUGH STONE
- STRIKE & DIP
- QUARRY PIT
- CONTOUR
- GRASS & PLANTS
- QUARRY ROAD
- APPROACH ROAD
- DEPTH OF ESTIMATION (D.O.E)
- V-Yr PLANTATION

**CONCEPTUAL PLAN & SECTIONS**
SCALE : PLAN- 1 : 1000
SECTION- HOR 1 : 1000, VER 1: 500

**PREPARED BY :**

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

M.IFTHIKHAR AHMED,M.Sc.,F.G.S.,M.B.A.,M.M.E.A,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/183/2004/A
AMD/MPA/RQP/3/2012

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/001 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/001 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ1 Project Area** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 44.2 | 19.9 | 7.1 | 19.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 44.5 | 19.7 | 6.9 | 18.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 43.2 | 19.6 | 6.2 | 19.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 43.8 | 19.4 | 6.4 | 19.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 43.5 | 19.3 | 6.5 | 18.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 43.2 | 19.9 | 6.9 | 19.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 43.8 | 19.5 | 6.7 | 18.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 43.5 | 19.2 | 6.0 | 19.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 43.2 | 18.7 | 7.2 | 18.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 42.9 | 18.3 | 7.6 | 18.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 42.2 | 20.2 | 6.6 | 18.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 43.2 | 19.5 | 7.5 | 19.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 42.8 | 18.9 | 6.5 | 19.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 43.5 | 19.1 | 6.1 | 19.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 43.1 | 19.6 | 6.5 | 19.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 44.8 | 19.7 | 6.3 | 20.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 43.2 | 19.9 | 6.5 | 18.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 45.6 | 19.5 | 6.9 | 19.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 45.5 | 19.6 | 6.7 | 20.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 45.1 | 19.3 | 6.4 | 18.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 44.5 | 19.2 | 6.1 | 19.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 44.0 | 19.3 | 6.5 | 19.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 44.3 | 19.4 | 6.6 | 18.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 43.6 | 19.6 | 6.2 | 19.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit

**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/001 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/001 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ1 Project Area** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 62.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 62.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 62.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 64.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 65.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 64.0 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 64.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 64.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 65.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 64.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 62.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 65.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 66.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 64.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 64.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/002 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/002 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ 2 – Near Existing Quarry (East)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 39.3 | 19.8 | 7.3 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 41.5 | 20.1 | 7.1 | 21.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 39.6 | 20.3 | 7.6 | 21.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 40.7 | 18.5 | 7.2 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 41.3 | 18.8 | 7.5 | 22.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 39.8 | 18.7 | 7.6 | 21.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 38.9 | 18.2 | 7.3 | 21.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 40.4 | 20.7 | 7.5 | 21.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 42.6 | 20.0 | 7.6 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 41.2 | 20.3 | 7.4 | 22.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 40.2 | 19.9 | 7.8 | 21.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 41.5 | 19.3 | 7.3 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 42.2 | 19.5 | 7.2 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 41.9 | 20.6 | 7.2 | 21.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 41.3 | 20.5 | 7.4 | 22.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 40.2 | 20.7 | 7.6 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 40.5 | 19.2 | 7.7 | 21.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 41.7 | 20.3 | 7.3 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 41.3 | 21.9 | 7.5 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 41.5 | 20.1 | 7.6 | 21.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 41.5 | 20.7 | 7.9 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 40.2 | 21.2 | 8.2 | 20.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 40.3 | 20.3 | 7.7 | 20.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 40.7 | 19.9 | 7.6 | 20.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/002 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/002 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ 2 – Near Existing Quarry (East)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 57.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 58.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 58.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 58.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 58.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 57.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 57.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 57.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 58.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 58.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 58.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 59.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 56.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 56.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 56.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 56.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 56.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 55.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 55.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 56.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 56.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 56.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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Ashok Nagar, Chennai - 600083.

EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/003 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/003 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ – 3 Therampalayam (NE)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| ` | 7:00-7:00 | 43.2 | 19.7 | 5.3 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 41.8 | 19.6 | 5.7 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 42.6 | 18.4 | 5.9 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 43.5 | 21.6 | 6.3 | 23.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 40.9 | 19.6 | 6.8 | 22.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 41.6 | 20.4 | 6.4 | 22.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 40.1 | 21.6 | 6.9 | 22.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 41.7 | 18.6 | 6.8 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 42.5 | 18.5 | 6.7 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 41.8 | 19.7 | 6.2 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 41.9 | 20.5 | 7.3 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 42.4 | 21.6 | 7.5 | 22.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 40.6 | 21.8 | 7.6 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 40.3 | 19.6 | 7.9 | 24.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 40.7 | 19.7 | 7.1 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 41.8 | 21.5 | 6.6 | 23.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 42.2 | 20.4 | 6.8 | 22.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 42.4 | 18.8 | 6.9 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 41.6 | 19.7 | 6.1 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 41.8 | 21.5 | 6.7 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 40.7 | 20.9 | 5.9 | 22.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 43.3 | 22.1 | 6.8 | 23.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 42.7 | 21.7 | 7.3 | 24.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 40.8 | 20.8 | 7.5 | 24.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/003 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/003 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ – 3 Therampalayam (NE)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 65.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 65.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 65.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 65.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 66.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 66.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 67.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 66.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 66.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 65.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 64.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 65.0 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 63.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 64.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 64.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 65.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 66.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 66.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 66.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/004 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/004 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ4 – Karamadai (SW)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 40.5 | 19.6 | 5.3 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 39.2 | 18.9 | 5.5 | 21.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 40.6 | 18.5 | 5.6 | 21.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 41.0 | 18.2 | 5.8 | 21.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 40.8 | 18.1 | 5.1 | 22.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 41.5 | 18.9 | 5.9 | 22.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 40.1 | 19.1 | 5.3 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 41.7 | 19.5 | 5.2 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 40.0 | 19.8 | 5.2 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 40.1 | 19.5 | 5.8 | 22.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 40.9 | 18.3 | 5.2 | 21.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 40.4 | 18.8 | 5.4 | 21.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 40.6 | 19.6 | 5.6 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 40.9 | 18.1 | 5.4 | 20.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 40.2 | 19.9 | 5.3 | 20.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 41.7 | 18.5 | 5.1 | 20.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 40.1 | 18.3 | 5.8 | 22.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 41.6 | 18.8 | 5.6 | 22.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 41.5 | 19.2 | 5.1 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 40.8 | 18.5 | 5.5 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 41.1 | 19.8 | 5.6 | 21.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 41.5 | 19.6 | 5.4 | 23.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 40.3 | 19.2 | 5.2 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 40.9 | 18.6 | 5.7 | 24.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/004 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/004 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ4 – Karamadai (SW)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 62.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 62.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 62.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 62.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 62.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 63.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 63.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 63.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 63.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 62.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 62.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 62.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 62.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 61.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 61.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 61.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 64.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 64.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 63.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 63.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 63.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/005 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/005 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ5 – Onnipalayam (SE)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 41.3 | 20.7 | 8.3 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 42.4 | 20.4 | 8.5 | 22.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 41.8 | 21.5 | 8.7 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 42.4 | 20.9 | 8.1 | 24.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 44.3 | 20.5 | 8.6 | 24.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 43.7 | 21.9 | 8.7 | 22.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 40.6 | 21.7 | 7.3 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 42.5 | 21.5 | 8.5 | 24.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 43.6 | 20.6 | 7.2 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 42.7 | 20.8 | 7.1 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 41.6 | 20.4 | 7.6 | 23.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 42.9 | 21.3 | 7.8 | 22.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 43.8 | 20.8 | 7.1 | 24.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 42.5 | 21.7 | 7.8 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 41.9 | 21.6 | 6.6 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 41.3 | 22.8 | 6.3 | 25.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 42.7 | 21.2 | 6.1 | 23.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 41.3 | 21.3 | 6.5 | 24.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 43.6 | 20.5 | 6.8 | 23.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 42.5 | 20.3 | 6.5 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 44.8 | 21.7 | 7.6 | 23.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 42.5 | 21.3 | 7.1 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 41.3 | 20.8 | 7.8 | 22.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 42.7 | 21.5 | 7.1 | 24.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********
Page 1 of 1

Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory
Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/005 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/005 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ5 – Onnipalayam (SE)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 66.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 66.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 63.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 64.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 64.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 64.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 63.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 63.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 64.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 64.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 63.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 63.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 64.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 63.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 65.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

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TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/006 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/006 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ 6 – Bellaipalayam (NE)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 39.5 | 18.3 | 6.2 | 22.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 39.2 | 18.8 | 6.5 | 23.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 38.5 | 19.4 | 6.4 | 22.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 38.8 | 18.9 | 6.8 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 38.6 | 18.3 | 6.8 | 24.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 38.7 | 19.7 | 7.2 | 21.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 39.6 | 19.7 | 7.5 | 21.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 39.8 | 18.2 | 7.4 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 38.6 | 19.8 | 7.5 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 38.1 | 20.3 | 7.7 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 38.5 | 19.3 | 7.4 | 22.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 38.4 | 20.1 | 7.1 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 39.2 | 20.2 | 6.8 | 21.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 39.3 | 20.4 | 6.5 | 22.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 39.2 | 20.9 | 6.6 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 39.6 | 20.3 | 7.2 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 39.7 | 19.5 | 7.6 | 23.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 38.2 | 19.7 | 7.9 | 22.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 39.5 | 19.4 | 7.2 | 23.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 38.3 | 19.5 | 7.1 | 22.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 38.5 | 20.3 | 6.2 | 23.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 39.5 | 20.7 | 6.5 | 22.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 39.3 | 20.2 | 6.5 | 21.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 40.5 | 18.3 | 6.8 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********


Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory
Name : Santhosh Kumar A
Designation : Quality Manager

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10/2, Ground Floor, 50th Street, 7th Avenue
Ashok Nagar, Chennai - 600083.

EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/006 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/006 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ 6 – Bellaipalayam (NE)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 65.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 65.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 65.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 65.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 66.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 66.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 66.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 66.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 65.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 65.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 66.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 66.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 67.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 67.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 67.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 66.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 66.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 67.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 67.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 67.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 67.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/007 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/007 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ7 – Bodithimmampalayam (S)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 41.7 | 20.4 | 6.9 | 20.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 40.9 | 20.9 | 6.4 | 20.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 40.3 | 20.3 | 6.3 | 20.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 41.7 | 20.5 | 6.8 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 42.3 | 20.7 | 6.6 | 21.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 41.7 | 20.6 | 7.2 | 21.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 40.2 | 21.3 | 7.7 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 42.6 | 21.4 | 7.5 | 21.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 40.5 | 21.8 | 7.8 | 21.0 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 41.3 | 21.5 | 7.5 | 20.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 41.7 | 21.9 | 7.8 | 20.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 42.3 | 21.3 | 6.3 | 20.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 41.3 | 20.9 | 6.8 | 20.0 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 42.7 | 20.1 | 6.7 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 42.9 | 22.5 | 6.9 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 41.6 | 21.9 | 7.9 | 21.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 43.5 | 23.3 | 7.3 | 21.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 42.3 | 24.6 | 7.2 | 21.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 41.9 | 22.8 | 6.8 | 20.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 43.3 | 21.8 | 7.5 | 21.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 42.5 | 25.3 | 7.6 | 20.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 44.7 | 23.9 | 7.7 | 21.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 43.6 | 23.4 | 7.8 | 20.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 42.8 | 21.6 | 7.9 | 21.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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Ashok Nagar, Chennai - 600083.

EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/007 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/007 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ7 – Bodithimmampalayam (S)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 60.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 60.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 61.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 61.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 61.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 61.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 60.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 68.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 69.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 69.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 69.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 69.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 69.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 60.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 60.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 61.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 61.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 61.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 61.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 62.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 62.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 62.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 62.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 61.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/008 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/008 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ8 – Bettadapuram (SW)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 40.3 | 18.7 | 6.3 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 39.6 | 19.6 | 6.4 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 39.7 | 19.7 | 6.5 | 25.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 39.5 | 19.5 | 6.1 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 38.3 | 19.2 | 6.7 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 38.4 | 19.3 | 6.8 | 25.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 38.2 | 19.1 | 6.7 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 38.1 | 18.6 | 5.3 | 26.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 40.6 | 18.7 | 5.8 | 26.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 40.5 | 18.3 | 5.9 | 26.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 40.7 | 20.7 | 5.7 | 26.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 40.5 | 20.7 | 5.6 | 26.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 40.6 | 19.3 | 5.1 | 26.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 40.8 | 19.7 | 6.2 | 26.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 39.7 | 19.6 | 6.7 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 39.5 | 19.8 | 6.8 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 39.1 | 20.3 | 6.5 | 24.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 40.2 | 20.4 | 6.6 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 40.3 | 20.9 | 6.1 | 24.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 40.7 | 19.6 | 5.7 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 40.5 | 19.8 | 5.3 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 41.6 | 18.3 | 5.8 | 25.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 41.7 | 18.2 | 5.9 | 25.6 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 41.3 | 18.7 | 5.1 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/008 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/008 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ8 – Bettadapuram (SW)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 59.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 58.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 57.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 57.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 57.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 57.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 57.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 58.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 58.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 56.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 56.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 56.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 56.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 58.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 58.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 57.3 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 57.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 57.1 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 56.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 56.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 56.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/009 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/009 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ9 – Bargur (NE)** | | |

| Date | Period. hrs | PM10(µg/m3) | PM2.5(µg/m3) | SO2 (µg/m3) | NO2 (µg/m3) | O3 (µg/m3) | NH3 (µg/m3) | CO (mg/ m3) |
|---|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 48.2 | 23.8 | 7.6 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.12.2022 | 7:15-7:15 | 47.6 | 24.6 | 7.4 | 24.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 12.12.2022 | 7:00-7:00 | 45.7 | 25.7 | 7.5 | 25.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.12.2022 | 7:15-7:15 | 45.5 | 23.6 | 6.8 | 25.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 19.12.2022 | 7:00-7:00 | 42.8 | 23.1 | 7.2 | 23.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.12.2022 | 7:15-7:15 | 44.9 | 24.7 | 7.1 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 26.12.2022 | 7:00-7:00 | 46.5 | 25.9 | 8.2 | 24.5 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 27.12.2022 | 7:15-7:15 | 44.4 | 23.9 | 8.8 | 24.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 02.01.2023 | 7:00-7:00 | 45.7 | 24.3 | 7.6 | 23.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 03.01.2023 | 7:15-7:15 | 43.6 | 25.1 | 7.7 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 09.01.2023 | 7:00-7:00 | 42.8 | 25.3 | 7.2 | 23.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 10.01.2023 | 7:15-7:15 | 45.4 | 24.7 | 7.1 | 22.4 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 16.01.2023 | 7:00-7:00 | 46.7 | 23.2 | 7.9 | 24.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 17.01.2023 | 7:15-7:15 | 46.9 | 25.8 | 6.6 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 23.01.2023 | 7:00-7:00 | 45.7 | 23.6 | 6.4 | 24.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 24.01.2023 | 7:15-7:15 | 45.9 | 24.9 | 6.2 | 25.1 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 30.01.2023 | 7:00-7:00 | 42.7 | 22.8 | 6.3 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 31.01.2023 | 7:15-7:15 | 43.6 | 23.7 | 6.9 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 06.02.2023 | 7:00-7:00 | 43.5 | 21.6 | 6.6 | 25.3 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 07.02.2023 | 7:15-7:15 | 43.6 | 22.5 | 7.7 | 24.7 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 13.02.2023 | 7:00-7:00 | 42.5 | 23.6 | 6.6 | 25.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 25.02.2023 | 7:15-7:15 | 44.6 | 25.4 | 7.1 | 23.9 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 20.02.2023 | 7:00-7:00 | 46.8 | 25.8 | 7.0 | 25.8 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| 21.02.2023 | 7:15-7:15 | 46.7 | 22.9 | 7.5 | 24.2 | BDL(DL:5.0) | BDL(DL:1.0) | BDL(DL:1.14) |
| NAAQ* Standard | | <100 | <60 | <80 | <80 | <100 | <400 | <4 |

**Note: BDL**: Below Detection Limit ;**DL**: Detection Limit
**Remarks:** The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/009 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 5182 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Air | **Sample Code** | EHS360/009 |
| **Sample Description** | Ambient Air Quality Monitoring | **Sample Condition** | Good |
| **Sampling Location** | **AAQ9 – Bargur (NE)** | | |

| Date | Period. hrs | SPM (µg/m³) | As (ng/m³) | C6H6 (µg/m³) | BaP (ng/m³) | Pb (µg/m³) | Ni (ng/m³) |
|---|---|---|---|---|---|---|---|
| 05.12.2022 | 7:00-7:00 | 65.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.12.2022 | 7:15-7:15 | 66.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 12.12.2022 | 7:00-7:00 | 62.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.12.2022 | 7:15-7:15 | 62.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 19.12.2022 | 7:00-7:00 | 63.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.12.2022 | 7:15-7:15 | 63.6 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 26.12.2022 | 7:00-7:00 | 62.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 27.12.2022 | 7:15-7:15 | 63.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 02.01.2023 | 7:00-7:00 | 66.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 03.01.2023 | 7:15-7:15 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 09.01.2023 | 7:00-7:00 | 65.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 10.01.2023 | 7:15-7:15 | 64.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 16.01.2023 | 7:00-7:00 | 63.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 17.01.2023 | 7:15-7:15 | 64.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 23.01.2023 | 7:00-7:00 | 62.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 24.01.2023 | 7:15-7:15 | 63.5 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 30.01.2023 | 7:00-7:00 | 64.7 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 31.01.2023 | 7:15-7:15 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 06.02.2023 | 7:00-7:00 | 65.9 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 07.02.2023 | 7:15-7:15 | 64.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 13.02.2023 | 7:00-7:00 | 63.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 25.02.2023 | 7:15-7:15 | 65.8 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 20.02.2023 | 7:00-7:00 | 65.2 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| 21.02.2023 | 7:15-7:15 | 63.4 | BDL (DL:0.1) | BDL (DL:1.0) | BDL (DL:1.0) | BDL (DL:0.1) | BDL (DL:0.1) |
| NAAQ* Standard | | <200 | 6 | 5 | 1 | 1 | 20 |

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 010 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 9989 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Noise Level Monitoring | **Sample Code** | EHS360/ 010 |
| **Sample Description** | Ambient Noise | **Sample Collected Date** | 21.02.2023 |

| Location | N1 – Near Project Area | | | N2 – Near Project Area (NE) | | |
|---|---|---|---|---|---|---|
| Parameter | Min | Max | Result | Min | Max | Result |
| Time | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) |
| 06:00-07:00 | 37.9 | 41.6 | **40.1** | 31.5 | 38.1 | **35.9** |
| 07:00-08:00 | 38.9 | 42.8 | **41.3** | 32.6 | 40.7 | **38.3** |
| 08:00-09:00 | 39.6 | 42.6 | **41.4** | 33.9 | 41.4 | **39.1** |
| 09:00-10:00 | 38.9 | 45.5 | **43.3** | 31.4 | 39.5 | **37.1** |
| 10:00-11:00 | 38.5 | 47.3 | **44.8** | 32.5 | 40.2 | **37.9** |
| 11:00-12:00 | 38.1 | 48.7 | **46.1** | 33.8 | 41.4 | **39.1** |
| 12:00-13:00 | 37.6 | 43.1 | **41.2** | 35.6 | 43.6 | **41.2** |
| 13:00-14:00 | 37.6 | 39.2 | **38.5** | 31.8 | 38.4 | **36.2** |
| 14:00-15:00 | 37.2 | 45.2 | **42.8** | 33.9 | 41.7 | **39.4** |
| 15:00-16:00 | 38.5 | 49.5 | **46.8** | 32.5 | 40.9 | **38.5** |
| 16:00-17:00 | 39.2 | 46.3 | **44.1** | 34.8 | 43.6 | **41.1** |
| 17:00-18:00 | 41.6 | 41.7 | **41.7** | 32.6 | 40.4 | **38.1** |
| 18:00-19:00 | 41.8 | 39.1 | **40.7** | 35.1 | 43.1 | **40.7** |
| 19:00-20:00 | 42.5 | 40.7 | **41.7** | 36.1 | 40.2 | **38.6** |
| 20:00-21:00 | 33.7 | 41.3 | **39.0** | 34.2 | 43.6 | **41.1** |
| 21:00-22:00 | 38.2 | 44.7 | **42.6** | 36.5 | 47.1 | **44.5** |
| 22:00-23:00 | 34.4 | 36.2 | **35.4** | 33.8 | 41.2 | **38.9** |
| 23:00-00:00 | 34.6 | 36.1 | **35.4** | 33.9 | 42.1 | **39.7** |
| 00:00-01:00 | 35.8 | 37.8 | **36.9** | 31.5 | 39.4 | **37.0** |
| 01:00-02:00 | 36.2 | 39.9 | **38.4** | 32.9 | 40.2 | **37.9** |
| 02:00-03:00 | 35.6 | 39.4 | **37.9** | 33.4 | 41.7 | **39.3** |
| 03:00-04:00 | 34.8 | 38.5 | **37.0** | 31.7 | 38.5 | **36.3** |
| 04:00-05:00 | 35.5 | 36.9 | **36.3** | 32.6 | 40.8 | **38.4** |
| 05:00-06:00 | 36.4 | 38.4 | **37.5** | 31.3 | 38.6 | **36.3** |
| Result | Day Means | | **41.8** | Day Means | | **39.2** |
| | Night Means | | **37.1** | Night Means | | **37.9** |

Note: CPCB Norms Industrial Area Day Time:75 dB(A); Night Time:70 dB(A)
The Noise level in the above location exists within the permissible limits of CPCB.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 011 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 9989 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Noise Level Monitoring | **Sample Code** | EHS360/ 011 |
| **Sample Description** | Ambient Noise | **Sample Collected Date** | 21.02.2023 |

| Location | N3 - Near Existing Quarry (E) | | | N4 – Therampalayam (NE) | | |
|---|---|---|---|---|---|---|
| Parameter | Min | Max | Result | Min | Max | Result |
| Time | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) |
| 06:00-07:00 | 31.9 | 38.4 | **36.3** | 34.5 | 38.6 | **37.0** |
| 07:00-08:00 | 33.5 | 31.6 | **32.7** | 35.6 | 38.6 | **37.4** |
| 08:00-09:00 | 31.6 | 38.4 | **36.2** | 34.2 | 40.5 | **38.4** |
| 09:00-10:00 | 32.7 | 41.2 | **38.8** | 35.5 | 41.5 | **39.5** |
| 10:00-11:00 | 34.9 | 43.4 | **41.0** | 31.5 | 41.5 | **38.9** |
| 11:00-12:00 | 36.2 | 45.7 | **43.2** | 32.2 | 35.5 | **34.2** |
| 12:00-13:00 | 34.1 | 43.9 | **41.3** | 34.5 | 38.5 | **36.9** |
| 13:00-14:00 | 32.9 | 40.4 | **38.1** | 33.9 | 38.1 | **36.5** |
| 14:00-15:00 | 38.4 | 46.1 | **43.8** | 31.4 | 32.2 | **31.8** |
| 15:00-16:00 | 34.6 | 43.3 | **40.8** | 36.8 | 40.2 | **38.8** |
| 16:00-17:00 | 32.9 | 40.8 | **38.4** | 35.7 | 40.4 | **38.7** |
| 17:00-18:00 | 34.1 | 43.4 | **40.9** | 32.3 | 38.2 | **36.2** |
| 18:00-19:00 | 33.6 | 41.6 | **39.2** | 33.4 | 40.5 | **38.3** |
| 19:00-20:00 | 32.8 | 40.8 | **38.4** | 31.9 | 42.2 | **39.6** |
| 20:00-21:00 | 34.1 | 43.4 | **40.9** | 35.7 | 40.3 | **38.6** |
| 21:00-22:00 | 36.9 | 45.5 | **43.1** | 33.4 | 42.5 | **40.0** |
| 22:00-23:00 | 32.7 | 41.9 | **39.4** | 38.4 | 40.2 | **39.4** |
| 23:00-00:00 | 34.2 | 39.7 | **37.8** | 32.9 | 37.8 | **36.0** |
| 00:00-01:00 | 32.6 | 35.1 | **34.0** | 34.6 | 39.8 | **37.9** |
| 01:00-02:00 | 31.3 | 35.5 | **33.9** | 35.5 | 36.7 | **36.1** |
| 02:00-03:00 | 32.3 | 38.7 | **36.6** | 31.5 | 35.6 | **34.0** |
| 03:00-04:00 | 33.4 | 36.9 | **35.5** | 32.2 | 35.8 | **34.4** |
| 04:00-05:00 | 31.2 | 36.7 | **34.8** | 35.5 | 36.8 | **36.2** |
| 05:00-06:00 | 32.6 | 35.8 | **34.5** | 34.5 | 35.5 | **35.0** |
| Result | Day Means | | **39.5** | Day Means | | **37.6** |
| | Night Means | | **35.3** | Night Means | | **35.7** |

Note: CPCB Norms Industrial Area Day Time:75 dB(A); Night Time:70 dB(A)
The Noise level in the above location exists within the permissible limits of CPCB.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 012 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 9989 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Noise Level Monitoring | **Sample Code** | EHS360/ 012 |
| **Sample Description** | Ambient Noise | **Sample Collected Date** | 21.02.2023 |

| Location | N5 – Bellaipalayam (NE) | | | N6 – Karamadai (SW) | | |
|---|---|---|---|---|---|---|
| Parameter | Min | Max | Result | Min | Max | Result |
| Time | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) | dB(A) |
| 06:00-07:00 | 32.6 | 38.8 | **36.7** | 31.5 | 38.1 | **35.9** |
| 07:00-08:00 | 34.9 | 37.6 | **36.5** | 32.6 | 40.7 | **38.3** |
| 08:00-09:00 | 32.6 | 34.5 | **33.7** | 33.9 | 41.4 | **39.1** |
| 09:00-10:00 | 33.6 | 36.8 | **35.5** | 31.4 | 39.5 | **37.1** |
| 10:00-11:00 | 32.8 | 40.2 | **37.9** | 32.5 | 40.2 | **37.9** |
| 11:00-12:00 | 31.2 | 41.5 | **38.9** | 33.8 | 41.4 | **39.1** |
| 12:00-13:00 | 36.4 | 43.5 | **41.3** | 35.6 | 43.6 | **41.2** |
| 13:00-14:00 | 33.9 | 41.4 | **39.1** | 31.8 | 38.4 | **36.2** |
| 14:00-15:00 | 32.7 | 43.9 | **41.2** | 33.9 | 41.7 | **39.4** |
| 15:00-16:00 | 36.5 | 42.2 | **40.2** | 32.5 | 40.9 | **38.5** |
| 16:00-17:00 | 32.3 | 40.9 | **38.5** | 34.8 | 43.6 | **41.1** |
| 17:00-18:00 | 34.2 | 43.2 | **40.7** | 32.6 | 40.4 | **38.1** |
| 18:00-19:00 | 34.7 | 44.9 | **42.3** | 35.1 | 43.1 | **40.7** |
| 19:00-20:00 | 31.6 | 40.7 | **38.2** | 36.1 | 40.2 | **38.6** |
| 20:00-21:00 | 32.8 | 40.3 | **38.0** | 34.2 | 43.6 | **41.1** |
| 21:00-22:00 | 33.6 | 41.4 | **39.1** | 36.5 | 47.1 | **44.5** |
| 22:00-23:00 | 32.5 | 40.3 | **38.0** | 33.8 | 41.2 | **38.9** |
| 23:00-00:00 | 36.4 | 45.2 | **42.7** | 33.9 | 42.1 | **39.7** |
| 00:00-01:00 | 33.6 | 35 | **34.4** | 31.5 | 39.4 | **37.0** |
| 01:00-02:00 | 34.9 | 35.8 | **35.4** | 32.9 | 40.2 | **37.9** |
| 02:00-03:00 | 31.5 | 34.2 | **33.1** | 33.4 | 41.7 | **39.3** |
| 03:00-04:00 | 32.3 | 35.5 | **34.2** | 31.7 | 38.5 | **36.3** |
| 04:00-05:00 | 31.7 | 34.8 | **33.5** | 32.6 | 40.8 | **38.4** |
| 05:00-06:00 | 32.2 | 34.5 | **33.5** | 31.3 | 38.6 | **36.3** |
| Result | Day Means | | **38.6** | Day Means | | **39.4** |
| | Night Means | | **35.2** | Night Means | | **39.2** |

Note: CPCB Norms Industrial Area Day Time:75 dB(A); Night Time:70 dB(A)
The Noise level in the above location exists within the permissible limits of CPCB.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 013 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | IS 9989 | **Sample Drawn by** | Laboratory |
| **Sample Name** | Noise Level Monitoring | **Sample Code** | EHS360/ 013 |
| **Sample Description** | Ambient Noise | **Sample Collected Date** | 21.02.2023 |

| Location | N7 – Onnipalayam (SE) | | |
|---|---|---|---|
| Parameter | Min | Max | Result |
| Time | dB(A) | dB(A) | dB(A) |
| 06:00-07:00 | 32.6 | 36.6 | **35.0** |
| 07:00-08:00 | 34.5 | 40.2 | **38.2** |
| 08:00-09:00 | 35.2 | 39.5 | **37.9** |
| 09:00-10:00 | 36.8 | 38.4 | **37.7** |
| 10:00-11:00 | 36.9 | 37.6 | **37.3** |
| 11:00-12:00 | 38.1 | 45.5 | **43.2** |
| 12:00-13:00 | 34.9 | 40.5 | **38.5** |
| 13:00-14:00 | 37.2 | 41.3 | **39.7** |
| 14:00-15:00 | 36.2 | 43.6 | **41.3** |
| 15:00-16:00 | 35.9 | 44.8 | **42.3** |
| 16:00-17:00 | 36.5 | 38.4 | **37.6** |
| 17:00-18:00 | 32.5 | 40.9 | **38.5** |
| 18:00-19:00 | 34.4 | 43.4 | **40.9** |
| 19:00-20:00 | 31.2 | 39.7 | **37.3** |
| 20:00-21:00 | 36.9 | 46.5 | **43.9** |
| 21:00-22:00 | 32.5 | 40.8 | **38.4** |
| 22:00-23:00 | 36.1 | 44.3 | **41.9** |
| 23:00-00:00 | 34.1 | 39.9 | **37.9** |
| 00:00-01:00 | 32.9 | 37.8 | **36.0** |
| 01:00-02:00 | 33.5 | 36.9 | **35.5** |
| 02:00-03:00 | 33.7 | 35.8 | **34.9** |
| 03:00-04:00 | 32.5 | 34.5 | **33.6** |
| 04:00-05:00 | 33.4 | 36.6 | **35.3** |
| 05:00-06:00 | 33.5 | 35.5 | **34.6** |
| Result | Day Means | | **39.4** |
| | Night Means | | **35.4** |

**Note:** CPCB Norms Industrial Area Day Time:75 dB(A); Night Time:70 dB(A)

The Noise level in the above location exists within the permissible limits of CPCB.

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 014 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 014 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 1 – Near Project Area** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 1. | pH @ 25°C | IS 2720 Part 26 - 1987 (Reaff:2019) | 8.10 |
| 2. | Conductivity @ 25°C | IS 14767 - 2000 (Reaff : 2019) | 547 µmhos/cm |
| 3. | Water Holding Capacity | By Gravimetric Method | 38.5 % |
| 4. | Bulk Density | By Cylindrical Method | 1.02 g/cm3 |
| 5. | Porosity | By Gravimetric Method | 21.3 % |
| 6. | Calcium as Ca | Food and Agriculture organization of the united Nation Rome 2007 : 2018 | 144.1 mg/kg |
| 7. | Magnesium as Mg | | 20.5 mg/kg |
| 8. | Chloride as Cl | | 142 mg/kg |
| 9. | Soluble Sulphate as SO4 | | 124.1 % |
| 10. | Total Phosphorus as P | | 42.5 mg/kg |
| 11. | Available Nitrogen as N | IS 14684 : 1999 (Reaff:2019) | 188 mg/kg |
| 12. | Organic Matter | IS : 2720 Part 22: 1972 (Reaff: 2015) | 1.27 % |
| 13. | Organic Carbon | IS : 2720 Part 22: 1972 (Reaff: 2015) | 0.74 % |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 014 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 014 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 1 – Near Project Area** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 14 | **Texture :** | | |
| | Clay | Gravimetric Method | 42.4 % |
| | Sand | | 42.1 % |
| | Silt | | 15.5 % |
| 15 | Manganese as Mn | USEPA 3050 B – 1996 & USEPA 6010 C - 2000 | 27.3 mg/kg |
| 16 | Zinc as Zn | | 0.30 mg/kg |
| 17 | Boron as B | | 0.51 mg/kg |
| 18 | Potassium as K | | 40.1 mg/kg |
| 19 | Cadmium as Cd | | BDL (DL : 0.003 mg/kg) |
| 20 | Total Chromium as Cr | | BDL (DL : 0.05 mg/kg) |
| 21 | Copper as Cu | | BDL (DL : 0.05 mg/kg) |
| 22 | Lead as Pb | | 0.56 mg/kg |
| 23 | Iron as Fe | | 1.99 mg/kg |
| 24 | Cation Exchange Capacity | USEPA 9080 – 1986 | 40.1 meq/100g of soil |

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 015 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 015 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 2 – Bettadapuram** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 01 | pH @ 25°C | IS 2720 Part 26 - 1987 (Reaff:2019) | 7.46 |
| 02 | Conductivity @ 25°C | IS 14767 - 2000 (Reaff : 2019) | 410 µmhos/cm |
| 03 | Water Holding Capacity | By Gravimetric Method | 38.5 % |
| 04 | Bulk Density | By Cylindrical Method | 1.02 g/cm3 |
| 05 | Porosity | By Gravimetric Method | 21.3 % |
| 06 | Calcium as Ca | Food and Agriculture organization of the united Nation Rome 2007 : 2018 | 144.1 mg/kg |
| 07 | Magnesium as Mg | | 20.5 mg/kg |
| 08 | Chloride as Cl | | 142 mg/kg |
| 09 | Soluble Sulphate as $SO_4$ | | 124.1 % |
| 10 | Total Phosphorus as P | | 42.5 mg/kg |
| 11 | Available Nitrogen as N | IS 14684 : 1999 (Reaff:2019) | 188 mg/kg |
| 12 | Organic Matter | IS : 2720 Part 22: 1972 (Reaff: 2015) | 1.27 % |
| 13 | Organic Carbon | IS : 2720 Part 22: 1972 (Reaff: 2015) | 0.74 % |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 015 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 015 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 2 – Bettadapuram** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 14 | **Texture :** | | |
| | Clay | Gravimetric Method | 37.7 % |
| | Sand | | 43.5 % |
| | Silt | | 18.8 % |
| 15 | Manganese as Mn | USEPA 3050 B – 1996 & USEPA 6010 C - 2000 | 25.5 mg/kg |
| 16 | Zinc as Zn | | 0.31 mg/kg |
| 17 | Boron as B | | 0.73 mg/kg |
| 18 | Potassium as K | | 28.8 mg/kg |
| 19 | Cadmium as Cd | | BDL (DL : 0.003 mg/kg) |
| 20 | Total Chromium as Cr | | BDL (DL : 0.05mg/kg) |
| 21 | Copper as Cu | | BDL (DL : 0.05 mg/kg) |
| 22 | Lead as Pb | | 0.33 mg/kg |
| 23 | Iron as Fe | | 1.59mg/kg |
| 24 | Cation Exchange Capacity | USEPA 9080 – 1986 | 34.7 meq/100g of soil |

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 019 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 019 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 3 – Therampalayam** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 01 | pH @ 25°C | IS 2720 Part 26 - 1987 (Reaff:2019) | 7.10 |
| 02 | Conductivity @ 25°C | IS 14767 - 2000 (Reaff : 2019) | 488 µmhos/cm |
| 03 | Water Holding Capacity | By Gravimetric Method | 47.4 % |
| 04 | Bulk Density | By Cylindrical Method | 1.37 g/cm3 |
| 05 | Porosity | By Gravimetric Method | 26.9 % |
| 06 | Calcium as Ca | Food and Agriculture organization of the united Nation Rome 2007 : 2018 | 108.3 mg/kg |
| 07 | Magnesium as Mg | | 25.5 mg/kg |
| 08 | Chloride as Cl | | 154 mg/kg |
| 09 | Soluble Sulphate as $SO_4$ | | 111 % |
| 10 | Total Phosphorus as P | | 37.7 mg/kg |
| 11 | Available Nitrogen as N | IS 14684 : 1999 (Reaff:2019) | 350.1 mg/kg |
| 12 | Organic Matter | IS : 2720 Part 22: 1972 (Reaff: 2015) | 2.10 % |
| 13 | Organic Carbon | IS : 2720 Part 22: 1972 (Reaff: 2015) | 1.22 % |

**********End of Report**********



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Verified by

Authorised Signatory

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Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 019 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 019 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 3 – Therampalayam** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 14 | **Texture :** | | |
| | Clay | Gravimetric Method | 54.8 % |
| | Sand | | 37.7% |
| | Silt | | 7.5 % |
| 15 | Manganese as Mn | USEPA 3050 B – 1996 & USEPA 6010 C - 2000 | 31.9 mg/kg |
| 16 | Zinc as Zn | | 0.52 mg/kg |
| 17 | Boron as B | | 0.64 mg/kg |
| 18 | Potassium as K | | 30.0 mg/kg |
| 19 | Cadmium as Cd | | BDL (DL : 0.003 mg/kg) |
| 20 | Total Chromium as Cr | | BDL (DL : 0.05 mg/kg) |
| 21 | Copper as Cu | | BDL (DL : 0.05 mg/kg) |
| 22 | Lead as Pb | | 0.67 mg/kg |
| 23 | Iron as Fe | | 2.64 mg/kg |
| 24 | Cation Exchange Capacity | USEPA 9080 – 1986 | 37.5 meq/100g of soil |

**********End of Report**********



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Authorised Signatory

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Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 017 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 017 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 4 – Onnipalayam** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 01 | pH @ 25°C | IS 2720 Part 26 - 1987 (Reaff:2019) | 8.27 |
| 02 | Conductivity @ 25°C | IS 14767 - 2000 (Reaff : 2019) | 607 µmhos/cm |
| 03 | Water Holding Capacity | By Gravimetric Method | 47.2 % |
| 04 | Bulk Density | By Cylindrical Method | 1.26 g/cm3 |
| 05 | Porosity | By Gravimetric Method | 28.9 % |
| 06 | Calcium as Ca | Food and Agriculture organization of the united Nation Rome 2007 : 2018 | 138 mg/kg |
| 07 | Magnesium as Mg | | 28.8 mg/kg |
| 08 | Chloride as Cl | | 146 mg/kg |
| 09 | Soluble Sulphate as $SO_4$ | | 117 % |
| 10 | Total Phosphorus as P | | 41.4 mg/kg |
| 11 | Available Nitrogen as N | IS 14684 : 1999 (Reaff:2019) | 366.7 mg/kg |
| 12 | Organic Matter | IS : 2720 Part 22: 1972 (Reaff: 2015) | 2.74 % |
| 13 | Organic Carbon | IS : 2720 Part 22: 1972 (Reaff: 2015) | 1.59 % |

**********End of Report**********



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Authorised Signatory

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Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 017 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 017 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 4 – Onnipalayam** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 14 | **Texture :** | | |
| | Clay | Gravimetric Method | 53.5 % |
| | Sand | | 37.7 % |
| | Silt | | 8.8 % |
| 15 | Manganese as Mn | USEPA 3050 B – 1996 & USEPA 6010 C - 2000 | 41.1 mg/kg |
| 16 | Zinc as Zn | | 0.43 mg/kg |
| 17 | Boron as B | | 0.80 mg/kg |
| 18 | Potassium as K | | 41.3 mg/kg |
| 19 | Cadmium as Cd | | BDL (DL : 0.003 mg/kg) |
| 20 | Total Chromium as Cr | | BDL (DL : 0.05 mg/kg) |
| 21 | Copper as Cu | | BDL (DL : 0.05mg/kg) |
| 22 | Lead as Pb | | 0.51 mg/kg |
| 23 | Iron as Fe | | 2.84 mg/kg |
| 24 | Cation Exchange Capacity | USEPA 9080 – 1986 | 42.2 meq/100g of soil |

**********End of Report**********



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Authorised Signatory

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 018 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 018 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 5 –Bargur** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 01 | pH @ 25°C | IS 2720 Part 26 - 1987 (Reaff:2019) | 7.89 |
| 02 | Conductivity @ 25°C | IS 14767 - 2000 (Reaff : 2019) | 710 µmhos/cm |
| 03 | Water Holding Capacity | By Gravimetric Method | 40.2 % |
| 04 | Bulk Density | By Cylindrical Method | 1.02 g/cm3 |
| 05 | Porosity | By Gravimetric Method | 26.6 % |
| 06 | Calcium as Ca | Food and Agriculture organization of the united Nation Rome 2007 : 2018 | 121.4 mg/kg |
| 07 | Magnesium as Mg | | 27 mg/kg |
| 08 | Chloride as Cl | | 161.2 mg/kg |
| 09 | Soluble Sulphate as $SO_4$ | | 102 % |
| 10 | Total Phosphorus as P | | 37.5 mg/kg |
| 11 | Available Nitrogen as N | IS 14684 : 1999 (Reaff:2019) | 250.8 mg/kg |
| 12 | Organic Matter | IS : 2720 Part 22: 1972 (Reaff: 2015) | 1.05 % |
| 13 | Organic Carbon | IS : 2720 Part 22: 1972 (Reaff: 2015) | 0.61 % |

**********End of Report**********



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Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/ 018 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Soil | **Sample Code** | EHS360/ 018 |
| **Sample Description** | Soil 2 | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 KG | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Good | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Soil – 5 –Bargur** | | |

| S. No | Test Parameters | Protocols | Results |
|---|---|---|---|
| 14 | **Texture :** | | |
| | Clay | Gravimetric Method | 18.5 % |
| | Sand | | 68.8 % |
| | Silt | | 12.7 % |
| 15 | Manganese as Mn | USEPA 3050 B – 1996 & USEPA 6010 C - 2000 | 38.7 mg/kg |
| 16 | Zinc as Zn | | 0.31 mg/kg |
| 17 | Boron as B | | 0.66 mg/kg |
| 18 | Potassium as K | | 37.6 mg/kg |
| 19 | Cadmium as Cd | | BDL (DL : 0.003 mg/kg) |
| 20 | Total Chromium as Cr | | BDL (DL : 0.05 mg/kg) |
| 21 | Copper as Cu | | BDL (DL : 0.05 mg/kg) |
| 22 | Lead as Pb | | 0.47 mg/kg |
| 23 | Iron as Fe | | 1.66 mg/kg |
| 24 | Cation Exchange Capacity | USEPA 9080 – 1986 | 33.0 meq/100g of soil |

**********End of Report**********



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Authorised Signatory

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/019 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/019 |
| **Sample Description** | **Surface Water (SW-1)** | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Near Project Area** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | | |
| 1 | Colour | IS 3025 Part 4:1983 | 10 Hazen |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 | 7.40 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 | 539 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 | 5.1 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 | 318 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 | 197 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 | 33.2 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 | 27.9 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 | 163 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 | 69.5 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 | 24.1 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 | 0.27 mg/l |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 | BDL (DL:2.0 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.34 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 | 12 mg/l |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/019 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/019 |
| **Sample Description** | **Surface Water (SW-1)** | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Near Project Area** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 23 | Lead as Pb | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 24 | Zinc as Zn | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 25 | Total Chromium as Cr | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.02 mg/l) |
| 26 | Boron as B | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 27 | Mineral Oil | IS 3025 Part 39-1991 (Reaff. 2019) | BDL(DL : 0.01 mg/l) |
| 28 | Phenolic compounds as $C_6H_5OH$ | IS 3025 Part 43-1992(Reaff: 2019) | BDL (DL:0.0005 mg/l) |
| 29 | Anionic Detergents (as MBAS) | IS 13428 – 2005 (Reaff:2019)( Annex K) | BDL (DL:0.01 mg/l) |
| 30 | Cyanide as CN | IS 3025 Part 27-1986 (Reaff. 2019) | BDL (DL:0.01 mg/l) |
| 31 | BOD @ 27°C for 3 days | IS 3025 Part 44:1993 (Reaff:2019) | 6.2 mg/l |
| 32 | Chemical Oxygen Demand | IS 3025 Part 58:2006 (Reaff:2017) | 24 mg/l |
| 33 | Dissolved Oxygen | IS 3025 Part 38:1989 (Reaff:2019) | 7.5 mg/l |
| 34 | Barium as Ba | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL:0.05 mg/l) |
| 35 | Ammonia (as total ammonia-N) | IS 3025 Part 34-1988 (Reaff. 2019) | BDL (DL:0.1 mg/l) |
| 36 | Sulphide as $H_2S$ | IS 3025 Part 29-1986 (Reaff: 2019) | BDL (DL:0.01 mg/l) |
| 37 | Molybdenum as Mo | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 38 | Total Arsenic as As | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 39 | Total Suspended Solids | IS 3025 Part 17 -1984 (Reaff:2017) | 5.7 mg/l |
| | Discipline: Biological | Group: Water | |
| 40 | Total Coliform | APHA 23rd Edn. 2017:9221B | 100 MPN/100ml |
| 41 | Escherichia coli | APHA 23rd Edn. 2017:9221F | 20 MPN/100ml |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

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Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/020 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/020 |
| **Sample Description** | **Surface Water (SW-2)** | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Belladhi Lake** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | | |
| 1 | Colour | IS 3025 Part 4:1983 | 5 Hazen |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 | 7.83 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 | 758 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 | 5.8 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 | 440 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 | 145.9 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 | 30 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 | 17.3 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 | 161.2 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 | 101.2 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 | 32.2 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 | 0.19 mg/l |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 | BDL (DL:2.0 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.12 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 | 5.1 mg/l |

**********End of Report**********



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Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/020 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/020 |
| **Sample Description** | **Surface Water (SW-2)** | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Belladhi Lake** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 23 | Lead as Pb | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 24 | Zinc as Zn | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 25 | Total Chromium as Cr | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.02 mg/l) |
| 26 | Boron as B | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 27 | Mineral Oil | IS 3025 Part 39-1991 (Reaff. 2019) | BDL(DL : 0.01 mg/l) |
| 28 | Phenolic compounds as $C_6H_5OH$ | IS 3025 Part 43-1992(Reaff: 2019) | BDL (DL:0.0005 mg/l) |
| 29 | Anionic Detergents (as MBAS) | IS 13428 – 2005 (Reaff:2019)( Annex K) | BDL (DL:0.01 mg/l) |
| 30 | Cyanide as CN | IS 3025 Part 27-1986 (Reaff. 2019) | BDL (DL:0.01 mg/l) |
| 31 | BOD @ 27°C for 3 days | IS 3025 Part 44:1993 (Reaff:2019) | 7.2 mg/l |
| 32 | Chemical Oxygen Demand | IS 3025 Part 58:2006 (Reaff:2017) | 32 mg/l |
| 33 | Dissolved Oxygen | IS 3025 Part 38:1989 (Reaff:2019) | 6.1 mg/l |
| 34 | Barium as Ba | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL:0.05 mg/l) |
| 35 | Ammonia (as total ammonia-N) | IS 3025 Part 34-1988 (Reaff. 2019) | 2.3 mg/l |
| 36 | Sulphide as $H_2S$ | IS 3025 Part 29-1986 (Reaff: 2019) | BDL (DL:0.01 mg/l) |
| 37 | Molybdenum as Mo | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 38 | Total Arsenic as As | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 39 | Total Suspended Solids | IS 3025 Part 17 -1984 (Reaff:2017) | 6.6 mg/l |
| | **Discipline:** Biological | **Group:** Water | |
| 40 | Total Coliform | APHA 23rd Edn. 2017:9221B | Present |
| 41 | Escherichia coli | APHA 23rd Edn. 2017:9221F | Present |

**********End of Report**********



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Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/021 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/021 |
| **Sample Description** | Ground Water (WW-1) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Therampalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | **Group:** Water | |
| 1 | Colour | IS 3025 Part 4:1983 (Reaff:2017) | <5 |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 (Reaff:2017) | 7.44 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 (Reaff:2019) | 568 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 (Reaff:2017) | <1 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 (Reaff:2017) | 335 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 (Reaff:2019) | 192.88 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 (Reaff:2019) | 33.8 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 (Reaff:2019) | 26.4 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 (Reaff:2019) | 135 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 (Reaff:2019) | 72.7 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 (Reaff:2019) | 25.7 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.20 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 (Reaff:2019) | 8.3 mg/l |

**********End of Report**********



Verified by

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Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/021 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/021 |
| **Sample Description** | Ground Water (WW-1) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Therampalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 23 | Lead as Pb | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 24 | Zinc as Zn | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 25 | Total Chromium as Cr | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.02 mg/l) |
| 26 | Boron as B | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 27 | Mineral Oil | IS 3025 Part 39-1991 (Reaff. 2019) | BDL(DL : 0.01 mg/l) |
| 28 | Phenolic compounds as $C_6H_5OH$ | IS 3025 Part 43-1992(Reaff: 2019) | BDL (DL:0.0005 mg/l) |
| 29 | Anionic Detergents (as MBAS) | IS 13428 – 2005 (Reaff:2019) (Annex K) | BDL (DL:0.01 mg/l) |
| 30 | Cyanide as CN | IS 3025 Part 27-1986 (Reaff. 2019) | BDL (DL:0.01 mg/l) |
| 31 | Barium as Ba | IS 3025 Part 44:1993 (Reaff:2019) | BDL(DL:0.05 mg/l) |
| 32 | Ammonia (as total ammonia-N) | IS 3025 Part 58:2006 (Reaff:2017) | BDL (DL:0.01 mg/l) |
| 33 | Sulphide as $H_2S$ | IS 3025 Part 38:1989 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 34 | Molybdenum as Mo | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 35 | Total Arsenic as As | IS 3025 Part 34-1988 (Reaff. 2019) | BDL (DL:0.005 mg/l) |
| 36 | Total Suspended Solids | IS 3025 Part 29-1986 (Reaff: 2019) | BDL (DL:1.0 mg/l) |
| | **Discipline:** Biological | **Group:** Water | |
| 37 | Total Coliform | APHA 23rd Edn. 2017:9221B | <2 MPN/100ml |
| 38 | *Escherichia coli* | APHA 23rd Edn. 2017:9221F | < 2MPN/100ml |

**********End of Report**********



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Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/022 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/022 |
| **Sample Description** | Ground Water (WW-2) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Bellaipalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | **Group:** Water | |
| 1 | Colour | IS 3025 Part 4:1983 (Reaff:2017) | <5 Hazen |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 (Reaff:2017) | 7.54 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 (Reaff:2019) | 613 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 (Reaff:2017) | <1 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 (Reaff:2017) | 362 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 (Reaff:2019) | 172.59 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 (Reaff:2019) | 31.6 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 (Reaff:2019) | 22.8 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 (Reaff:2019) | 142 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 (Reaff:2019) | 75.8 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 (Reaff:2019) | 26.7 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.25 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 (Reaff:2019) | 7.6 mg/l |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/022 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/022 |
| **Sample Description** | Ground Water (WW-2) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Bellaipalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 23 | Lead as Pb | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 24 | Zinc as Zn | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 25 | Total Chromium as Cr | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.02 mg/l) |
| 26 | Boron as B | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 27 | Mineral Oil | IS 3025 Part 39-1991 (Reaff. 2019) | BDL(DL : 0.01 mg/l) |
| 28 | Phenolic compounds as $C_6H_5OH$ | IS 3025 Part 43-1992(Reaff: 2019) | BDL (DL:0.0005 mg/l) |
| 29 | Anionic Detergents (as MBAS) | IS 13428 – 2005 (Reaff:2019) (Annex K) | BDL (DL:0.01 mg/l) |
| 30 | Cyanide as CN | IS 3025 Part 27-1986 (Reaff. 2019) | BDL (DL:0.01 mg/l) |
| 31 | Barium as Ba | IS 3025 Part 44:1993 (Reaff:2019) | BDL(DL:0.05 mg/l) |
| 32 | Ammonia (as total ammonia-N) | IS 3025 Part 58:2006 (Reaff:2017) | BDL (DL:0.01 mg/l) |
| 33 | Sulphide as $H_2S$ | IS 3025 Part 38:1989 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 34 | Molybdenum as Mo | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 35 | Total Arsenic as As | IS 3025 Part 34-1988 (Reaff. 2019) | BDL (DL:0.005 mg/l) |
| 36 | Total Suspended Solids | IS 3025 Part 29-1986 (Reaff: 2019) | BDL (DL:1.0 mg/l) |
| | **Discipline:** Biological | **Group:** Water | |
| 37 | Total Coliform | APHA 23rd Edn. 2017:9221B | <2 MPN/100ml |
| 38 | *Escherichia coli* | APHA 23rd Edn. 2017:9221F | < 2MPN/100ml |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/023 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/023 |
| **Sample Description** | Ground Water (BW -1 ) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Onnipalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | **Group:** Water | |
| 1 | Colour | IS 3025 Part 4:1983 (Reaff:2017) | <5 Hazen |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 (Reaff:2017) | 7.59 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 (Reaff:2019) | 725 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 (Reaff:2017) | <1 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 (Reaff:2017) | 428 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 (Reaff:2019) | 213.62 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 (Reaff:2019) | 37.5 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 (Reaff:2019) | 29.2 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 (Reaff:2019) | 164 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 (Reaff:2019) | 90.1 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 (Reaff:2019) | 29.2 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 (Reaff:2019) | 0.22 mg/l |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.46 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 (Reaff:2019) | 11.9 mg/l |

**********End of Report**********



Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/023 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/023 |
| **Sample Description** | Ground Water (BW -1 ) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Onnipalayam** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 23 | Lead as Pb | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 24 | Zinc as Zn | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 25 | Total Chromium as Cr | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.02 mg/l) |
| 26 | Boron as B | IS 3025 Part 65:2014 (Reaff:2019) | BDL(DL : 0.05 mg/l) |
| 27 | Mineral Oil | IS 3025 Part 39-1991 (Reaff. 2019) | BDL(DL : 0.01 mg/l) |
| 28 | Phenolic compounds as $C_6H_5OH$ | IS 3025 Part 43-1992(Reaff: 2019) | BDL (DL:0.0005 mg/l) |
| 29 | Anionic Detergents (as MBAS) | IS 13428 – 2005 (Reaff:2019) (Annex K) | BDL (DL:0.01 mg/l) |
| 30 | Cyanide as CN | IS 3025 Part 27-1986 (Reaff. 2019) | BDL (DL:0.01 mg/l) |
| 31 | Barium as Ba | IS 3025 Part 44:1993 (Reaff:2019) | BDL(DL:0.05 mg/l) |
| 32 | Ammonia (as total ammonia-N) | IS 3025 Part 58:2006 (Reaff:2017) | BDL (DL:0.01 mg/l) |
| 33 | Sulphide as $H_2S$ | IS 3025 Part 38:1989 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 34 | Molybdenum as Mo | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 35 | Total Arsenic as As | IS 3025 Part 34-1988 (Reaff. 2019) | BDL (DL:0.005 mg/l) |
| 36 | Total Suspended Solids | IS 3025 Part 29-1986 (Reaff: 2019) | BDL (DL:1.0 mg/l) |
| | **Discipline:** Biological | **Group:** Water | |
| 37 | Total Coliform | APHA 23rd Edn. 2017:9221B | <2 MPN/100ml |
| 38 | *Escherichia coli* | APHA 23rd Edn. 2017:9221F | < 2MPN/100ml |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9583

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/024 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/024 |
| **Sample Description** | Ground Water (BW -2 ) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Suravilandur** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| | **Discipline:** Chemical | **Group:** Water | |
| 1 | Colour | IS 3025 Part 4:1983 (Reaff:2017) | <5 Hazen |
| 2 | Odour | IS 3025 Part 5:2018 | Agreeable |
| 3 | pH at 25°C | IS 3025 Part 11:1983 (Reaff:2017) | 7.10 |
| 4 | Conductivity @ 25°C | IS 3025 Part 14:2013 (Reaff:2019) | 682 µmhos/cm |
| 5 | Turbidity | IS 3025 Part 10:1984 (Reaff:2017) | <1 NTU |
| 6 | Total Dissolved Solids | IS 3025 Part 16:1984 (Reaff:2017) | 402 mg/l |
| 7 | Total Hardness as $CaCO_3$ | IS 3025 Part 21:2009 (Reaff:2019) | 259.14 mg/l |
| 8 | Calcium as Ca | IS 3025 Part 40:1991 (Reaff:2019) | 41.9 mg/l |
| 9 | Magnesium as Mg | IS 3025 Part 46:1994 (Reaff:2019) | 37.6 mg/l |
| 10 | Total Alkalinity as $CaCO_3$ | IS 3025 Part 23:1986 (Reaff:2019) | 177 mg/l |
| 11 | Chloride as Cl | IS 3025 Part 32:1988 (Reaff:2019) | 85.3 mg/l |
| 12 | Sulphate as $SO_4$ | IS 3025 Part 24:1986 (Reaff:2019) | 28.3 mg/l |
| 13 | Iron as Fe | IS 3025 Part 53:2003 (Reaff:2019) | 0.17 mg/l |
| 14 | Residual Free Chlorine | IS 3025 Part 26:1986 (Reaff:2019) | BDL (DL:0.1 mg/l) |
| 15 | Fluoride as F | APHA 23rd Edn. 2017:4500 F,D | 0.39 mg/l |
| 16 | Nitrate as $NO_3$ | IS 3025 Part 34:1988 (Reaff:2019) | 9.5 mg/l |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

# TEST REPORT

| | | | |
|---|---|---|---|
| **Report No** | EHS360/TR/2022-23/024 | **Report Date** | 25.02.2023 |
| **Site Location** | **M/s. Belladhi & Chikkarampalayam Rough Stone & Gravel Quarries, Belladhi & Chikkarampalayam Village, Mettupalayam Taluk, Coimbatore District.** | | |
| **Sampling Method** | SOP Method | **Sample Drawn by** | Laboratory |
| **Sample Name** | Water | **Sample Code** | EHS360/024 |
| **Sample Description** | Ground Water (BW -2 ) | **Sample Collected Date** | 21.02.2023 |
| **Qty. of Sample Received** | 2 Litres | **Sample Received On** | 22.02.2023 |
| **Sample Condition** | Fit for Analysis | **Test Commenced On** | 22.02.2023 |
| **Sampling Location** | **Suravilandur** | | |

| S.No. | Parameters | Test Method | RESULTS |
|---|---|---|---|
| 17 | Copper as Cu | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.01 mg/l) |
| 18 | Manganese as Mn | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.02 mg/l) |
| 19 | Mercury as Hg | USEPA 200.8 | BDL (DL:0.0005 mg/l) |
| 20 | Cadmium as Cd | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.001 mg/l) |
| 21 | Selenium as Se | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
| 22 | Aluminium as Al | IS 3025 Part 65:2014 (Reaff:2019) | BDL (DL:0.005 mg/l) |
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| 38 | *Escherichia coli* | APHA 23rd Edn. 2017:9221F | < 2MPN/100ml |

**********End of Report**********



EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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# National Accreditation Board for Education and Training

# Certificate of Accreditation

## Geo Exploration & Mining Solutions, Salem

95/1, Brindavan Road, 4th Cross East, Fairlands, Salem – 636 016 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 opencast only | 1 | 1 (a) (i) | A |
| 2 | Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes | 31 | 7 (c) | B |
| 3 | Building and construction projects | 38 | 8(a) | B |

***Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Jan 06, 2023 and 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/23/2684 dated Feb 20, 2023. The accreditation needs to be renewed before the expiry date by Geo Exploration & Mining Solutions, Salem following due process of assessment.*

**Sr. Director, NABET**
**Dated: Feb 20, 2023**

**Certificate No.**
**NABET/EIA/2225/RA 0276**

**Valid up to**
**August 06, 2025**

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