DRAFT ENVIRONMENTAL IMPACT ASSESSMENT
&
ENVIRONMENT MANAGEMENT PLAN

For Obtaining
Environmental Clearance under EIA Notification – 2006 Schedule Sl. No. 1 (a) (i):
Mining Project

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

Total Extent of Cluster – 7.14.50 Ha

THIRU.B. SHARATH BLACK (DOLERITE) GRANITE QUARRY

PROJECT PROPONENT	PROPOSED PROJECT	PRODUCTION DETAIL
Thiru. B. Sharath, S/o. K. Bage Gowda, Proprietor of M/s. Sharath Granites, No. 108, 13th Main, Jayanagar 4th Block East, Bangalore – 560 011	**Extent: 4.37.0 ha** S.F. No: 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.	Mineable ROM – 3,36,825m^3 Black Granite: 67,365m^3 @ 20% Recovery 2,69,460 m^3@ 80% Granite Waste Peak Production – 19,385m^3 of ROM Ultimate Depth – 45m bgl

File No.: 13422 ToR Identification No.: TO26B0108TN5195700N Dated:18/05/2026

Environmental Consultant
GEO EXPLORATION AND MINING SOLUTIONS
Old No. 260-B, New No. 17,
Advaitha Ashram Road, Alagapuram,
Salem – 636 004, Tamil Nadu, India
Accredited for sector 1,7,31 Cat 'A' & 38 Cat 'B'
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Web: www.gemssalem.com

Laboratory
GLOBAL LAB AND CONSULTANCY SERVICES
Approved by ISO:9001:2015, NABL, FSSAI,
Experts in QHSE
S.F No:92/3A2, Geetha Nagar, Alagapuram
Pudur, Salem-636016.

Baseline Monitoring Period

MARCH TO MAY 2026

JUNE 2026

For easy represantation of Proposed and Existing Quarries in the Cluster are given unique codes and identifies and studied in this EIA/EMP Report.

PROPOSED QUARRY				
CODE	**Name of the Owner**	**S.F. Nos & Village**	**Extent**	**Status**
P1	Thiru. B. Sharath	S.F. No: 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State	**4.37.0 Ha**	File No.: 13422 ToR Identification No.: TO26B0108TN5195700N Dated:18/05/2026
EXISTING QUARRY				
E1	M/s Imperial Granites (P) Ltd.	540/1 Puligunda Village	**2.77.50 Ha**	24.04.2007 to 23.04.2027
TOTAL EXTENT			**7.14.50 Ha**	

Note: -

- **Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016**

As per above notification S.O.2269(E) dated : 01.07.2016 in para (b) in Appendix XI,- (ii) (5): The lease not operative for three years or more and leases which have got environmental clearance as on 15th January, 2016 shall not be counted for calculating the area of cluster, but shall be included in the Environment Management Plan and the Regional Environmental Management Plan"

DECLARATION BY THE PROJECT PROPONENT

I, Thiru.B. Sharath– Authorized Signatory of **Thiru.B. Sharath Black (Dolerite) Granite Quarry** hereby declare that this EIA & EMP report prepared by **M/s. Geo Exploration and Mining Solutions** for our **Black (Dolerite) Granite Quarry** situated in S.F.No . 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 Puligunda Village, Bargur Taluk, Krishnagiri District based on the ToR issued by the State Level Environmental Impact Assessment Authority (SEIAA), Tamil Nadu vide File No.: 13422 ToR Identification No.: TO26B0108TN5195700N Dated:18/05/2026

I hereby assured that the Data's submitted and information given by me is true and correct to the best of my knowledge.

Signature of the Project Proponent



B. Sharath

Place : Krishnagiri

Dated :

UNDERTAKING BY THE EIA COORDINATOR

I, S. Nagamani, EIA Coordinator given undertaking that, this EIA & EMP report prepared for **Thiru.B. Sharath Black (Dolerite) Granite Quarry** situated in S.F.No . 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 Puligunda Village, Bargur Taluk, Krishnagiri District based on the ToR issued by the State Level Environmental Impact Assessment Authority (SEIAA), Tamil Nadu vide. File No.: 13422 ToR Identification No.: TO26B0108TN5195700N Dated:18/05/2026

I hereby assured that the Data's submitted and information given by me is true and correct to the best of my knowledge

Signature of the EIA Co Ordinator



S. Nagamani EIA Co Ordinator

M/s. Geo Exploration and Mining Solutions

Place : Salem
Dated :

TERMS OF REFERENCE (ToR) COMPLIANCE

Letter No. SEIAA-TN/F.No. 10476/SEAC/ToR-1638/2023 Dated :12/12/2023

SEIAA SPECIFIC CONDITIONS		
1.	After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 2,62,338 MT of RoM, 52,468 MT of Recoverable Reserves@20%, 2,09,870 MT of Granite Waste@80% up to the depth of 40m BGL (including the existing depth of 16m BGL) and the annual peak production should not exceed 12,019 MT of Recoverable Reserves@20% as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & SEIAA Specific & Standard conditions.	Noted and Agreed
SEAC SPECIFIC CONDITIONS		
2	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of required statutory personnel, appropriate environmental management, system of maintaining the haul roads and village/panchayat roads, authorized blasting operation, Monitoring system of the environmental & other statutory compliances & its reporting status, etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organisation chart of the Committee with defining the role of the members (iii) The 'Standard Operating Procedures' (SoP) executing the planned activities.	Noted and Agreed It has been detailed in Chapter - 7
3	The PP Shall ensure the installation of CCTV at the proposed quarry site and ensure its inclusion during the EIA Presentation	Noted and Agreed CCTV has been installed in the quarry site

Annexure-1		
1	ln the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	It is a fresh lease application but, the applied area has been consideration under quarrying operation earlier. Previous Lessee: M/s.BM Continental Granites and Minerals Limited, Lease Period – 14.12.2011 to 02.02.2016.
2	Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.	VAO letter stating the details of habitations, temples etc., is encloses as Annexure
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories. sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Structure Map details with map included in the Chapter-3 Socio economic environment Report.
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the Waterbodies like lake, water tanks, etc. are located within 1 km of the proposed quarry.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 4 ➢ Tank - 250m – South East
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	Biodiversity study has been carried out by Functional Area Expert by the NABET accredited consultant. The detailed study is given in the Chapter No.3
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas. Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	Togarappalli R.F. – 3.3 km – North West
7	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the pp shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research	Fresh Lease

<table>
<tr><td></td><td>/ Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.</td><td></td></tr>
<tr><td>8</td><td>However, in case of the fresh/virgin quarries, The Proponent shall submit a conceptual 'Slope Stability Assessment' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the proposed working is extended beyond 30 m below ground level.</td><td>For period the mining operation is proposed to carry out up to the depth of 45m bgl.
It is ensured that the slope stability will be carried out after 30m bgl.</td></tr>
<tr><td>9</td><td>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 196l such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.</td><td>Proponent given affidavit stating that the blasting will be carried out under the supervision of Competent person.</td></tr>
<tr><td>10</td><td>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 30m from the blast site.</td><td>Noted and agreed</td></tr>
<tr><td>11</td><td>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.</td><td>Noted and agreed.</td></tr>
<tr><td>12</td><td>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</td><td>Fresh Lease</td></tr>
<tr><td>13</td><td>What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?</td><td>Fresh Lease</td></tr>
<tr><td>14</td><td>Quantify of minerals mined out
A. Highest production achieved in any one year
B. Detail of approved depth of mining.
C. Actual depth of the mining achieved earlier.
D. Name of the person already mined in that leases area.
E. lf EC and CTO already obtained, the copy of the same shall be submitted.
F. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</td><td>Depth of mining 45m
Ultimate Depth
<table>
<tr><th colspan="4">Maximum Dimensions in meters</th></tr>
<tr><td>Block No.</td><td>Length</td><td>Width</td><td>Depth</td></tr>
<tr><td></td><td>180</td><td>90</td><td>9</td></tr>
</table>
The Previous operation was carried out by
Spell - 1Thiru.R.K.Ramesh – 4.37.0 Ha – 14.12.2011 – 13.12.2031
Spell -2 M/s.B.M.Continental – 4.37.0 Ha – 14.12.2011 – 13.12.2031
It is a fresh lease application</td></tr>
<tr><td>15</td><td>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</td><td>Satellite imagery of the project area along with boundary coordinates is given in the Chapter No 2, Figure No.2.2, Page No.11.
Geomorphology of the area is given in Chapter No 2, Figure No.2.9, Page No.21</td></tr>
</table>

	proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Land use pattern of the project area is tabulated in the Chapter No.2. Table no 2.3, Pg.No.18 Land use pattern of the Study area is tabulated in the Chapter No.2, Table no 2.3, Pg.No.17.
16	The PP shall carry out Drone video survey covering the cluster. green belt, fencing, etc..	It will submit on final EIA presention.
17	The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	The area has been fenced and plantation activities carried out within the project site.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	The details of mineral reserves have been provided in Chapter No 1, Mineable reserves ROM – 3,36,825 m^3 Ultimate Depth 193m(L) x 145m (W) x 45m (D) Year wise production for first five years ROM – 84,625 m^3 Black Granite – 16,925m^3 @ 20% Recovery Peak Production – 19,385 m^3 of ROM Depth – 45m bgl
19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act 1952 and the MMR, 196l for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Total Employment is 30 Nos inclusive of Competent persons. Mines Manager & Foreman Details are given in the Chapter No.2. Page No.28.
20	The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 3,
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic vehicular movement study.	Baseline Data were collected for One Season (Winter season) March 2026 – May 2026 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. 3
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts-Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	The Cumulative impact study due to mining operations is explained in chapter - 7

23	Rain water harvesting management with recharging details along with water balance (both) monsoon & non-monsoon) be submitted.	Noted and agreed
24	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use and land cover of the study area is discussed in Chapter No. 3. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2, Table No 2.3, Page No. 17.
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use. R&R issues, if any. should be provided.	The details of Dump and disposal of Granite waste is discussed in the Chapter No.4 Page No. 96.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required. clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Part of the working pit will be allowed to collect rain water during the spell of rain will be used for greenbelt development and dust suppression. The Mine Closure Plan is prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
28	Impact on local transport infrastructure due to the Project should be indicated.	Transportation details mentioned in Chapter -2
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc..) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	Details of the trees in the buffer zone given in Chapter No.3&4
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	After the completion of mining operation, the part of the quarried-out land will be utilized as temporary storage reservoir. The details are given in the Chapter No.4
31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	The Flora and Fauna study around the vicinity of the site is carried out by the Functional area experts along with Local School Students.
32	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, & Tamil Nadu 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.	Noted & agreed. It is proposed to plant a 2300 nos of trees in the 7.5m safety barrier and village roads.

33	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the 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.	It is a Existing quarry No trees within the project site. it is proposed to plant 2300 Nos of Trees in the safety barrier and Village roads.
34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	Disaster management Plan details in Chapter-7
35	A Risk Assessment and management Plan shall be prepared and included in the ELA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	A Risk Assessment and management Plan Chapter- 7
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts chapter- 10
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No Public Health Implications anticipated due to this project. Details of CER are discussed under Chapter 8, Page No. 148-149.
38	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	It is explained in Chapter -3
39	Details of litigation pending against the project, if any, with direction /Order passed by any Court of Law against the Project should be given.	No, Litigation against the project
40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Chapter-8 discussed about benefits of projects.
41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC. Regional Office, Chennai (or) the concerned DEE/TNPCB.	It is a Existing lease
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	The EMP prepared for the life of the mine in chapter-10
43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result	Noted & agreed.

	in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	
NORMAL CONDITIONS-Annexure-B		
Cluster Management committee		
1.	Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	Noted and Agreed Cluster management committee has been formed with mutual agreement with the proponents including Proposed quarry at present are framed.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling. tree plantation, blasting etc..	Noted and Agreed As per the committee agreement proponents will coordinates for the Greenbelt development, Water sprinkling and tree plantation activities combinedly.
3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Noted and Agreed The formation of committee with list of members has been submitted to the AD mines office, Krishnagiri and the same will be update in every year.
4	Detailed operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Noted and Agreed As per the committee agreement the blasting frequency will be discussed and carryout by the Mines Manager appointed by the proponents and the same will be updated in the committee minutes. Transport details in chapter-2
5	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.	Noted and Agreed Details discussed in chapter 7 of Draft EIA report
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Noted and Agreed Details discussed in chapter-6 of Draft EIA report
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	Noted & agreed A proper action plan regarding the restoration will be followed by the committee.
8	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	Noted and Agreed Details discussed in chapter 10.
Agriculture & Agro-Biodiversity		
13	Impact on surrounding agricultural fields around the proposed mining Area.	Noted and Agreed As the proposed lease area is dominantly surrounded by mining land, barren land, and fallow land, the impact on the surrounding agricultural fields if present will be low. With proper mitigation measures, the project will be carried out to reduce the impact further to the level of negligence.
14	Impact on soil flora & vegetation around the project site.	Noted and Agreed

		The vegetation details have been provided in chapter 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area
15	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Noted and Agreed The vegetation details have been provided in Chapter No 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area
16	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora. fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Noted and agreed The EIA study has been carried out as per this ToR Condition. The details are given in the EIA report Chapter No.
17	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	Noted and agreed The Eco System of the area will be retained during the mining operation by the way of planting trees in the boundary barrier and un utilized areas. After completion of mining operation, the quarried-out pit will be facilitated to collect the rainwater to pit act as temporary reservoir.
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	Noted and agreed
Forest		
19	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	Noted and agreed Nearest Reserve Forest is Togarappalli R.F. – 3.3 km – North West. The mining operation will not cause any significant impact to the Reserve Forest and Wild Life Sanctuaries.
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	Noted and agreed The area is surrounded by Barren land. Details of flora and fauna studies given in the Chapter No.3.
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	Noted and agreed No major trees within the project area.
22	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Noted and agreed Cauvery North wildlife sanctuary-44.6km-SW Cauvery South wildlife sanctuary-48.5km-SW
Water Environment		
23	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks. canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be	Noted and agreed The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on

	shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	the water bodies around the project area. Details are discussed under Chapter No. 3.
24	Erosion Control measures.	Noted & agreed Garland drainage structures will be constructed around the lease area to control the erosion, as discussed in Section 4.3 under Chapter 4.
25	Detailed study shalt 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.	Noted and agreed Details in Chapter 2 Detailed EIA study has been carried out considering the impact to the water bodies and eco system of the area. Details are covered in the Chapter No.3 and 4.
26	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Noted & agreed Food webs describe who eats whom in an ecological community. Made of interconnected food chains, food webs help us understand how changes to ecosystems — say, removing a top predator or adding nutrients — affect many different species, both directly and indirectly. Whereas in this proposed project is for quarrying Granite and is on a hard batholith formation where no diversion of any water bodies is proposed of there is no intersection of ground water table anticipated
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment by the activities.	Noted & agreed Details are given in the Chapter No 4.
28	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Noted and agreed No Archaeological site near the project area, no proposal for the disposal of mine pit water in the nearby water bodies.
29	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil, physical, chemical components and microbial components.	Noted and agreed Details in Chapter 3 Soil environment.
30	The Environmental impact Assessment should study on wetlands, water bodies, rivers, streams, lakes and farmer sites.	Noted and agreed Discussed in the Draft EIA/EMP Report in Chapter No.3.
27	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress.	Noted & agreed
Energy		
31	The measures taken to control Noise. Air, Water. Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.	Noted and agreed The mitigation measures to control the Noise, Air, Water and dust is given in the Chapter No.4.
Climate Change		
32	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature	Noted and agreed Details of carbon emission and mitigation activities are given int the Chapter No.4

	reduction including control of other emission and climate mitigation activities.	
33	The Environmental impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Noted and agreed Discussed in the Draft EIA/EMP Report in Chapter No.3. .
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	Noted and agreed A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3) Carbon dioxide (CO_2): Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and other biological materials. Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Methane (CH_4): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, land use and by the decay of organic waste in municipal solid waste landfills. Nitrous oxide (N_2O): Nitrous oxide is emitted during agricultural, land use, and industrial activities; combustion of fossil fuels and solid waste; as well as during treatment of wastewater.
Mine Closure Plan		
34	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Noted and agreed Progressive Mine closure plan has been prepared considering the entire lease period in the mining plan and the same has been approved.
EMP		
35	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Noted and agreed Detailed EMP discussed in chapter 10.
36	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	Noted and agreed Detailed EMP discussed in chapter 10.
Risk Assessment		
37	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	Noted and agreed Risk Assessment and management Plan explicated in chapter 7.
Disaster Management Plan		

38	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/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.	Noted and agreed Disaster management Plan details given in Chapter-7
Others		
39	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures. railway lines, roads. Water bodies such as streams, odai, vaari, canal, channel. river, lake pond, tank etc.	Noted and agreed VAO certificate is attached as Annexure There is no habitation 300m radius attached Structure map in chapter-3 Socioeconomic environment
40	As per the MoEF& CC office memorandum F.No.22-65/2017-lA.lll dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and agreed
41	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	Noted and agreed Plastic waste management of the proposed project explicated in chapter 7

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.	Not applicable. This is Not a violation category project. This proposal falls under B1 Category (Cluster Condition).
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The applied land for quarrying is a Patta Land. Document is enclosed along with Approved Mining Plan as Annexure Volume 1.
3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	Noted & agreed.
4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Map showing – Project area is superimposed on Satellite imagery is enclosed in Figure No. 2.1 Project area boundary coordinates superimposed on Toposheet – Figure No. 1.3 Surface Features around the project area covering 10km radius – Figure No. 2.2

		Geology map of the project area covering 10km radius - Figure No. 2.7. Geomorphology Map of the Study Area covering 10 km radius – Figure No. 2.8.
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Map showing – Geology map of the project area covering 10km radius - Figure No. 2.7. Geomorphology Map of the Study Area covering 10 km radius – Figure No. 2.8.
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The applied area was inspected by the officers of Department of Geology along with revenue officials and found that the land is fit for quarrying under the policy of State Government.
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.	The proponent has framed their Environmental Policy and the same is discussed in the Chapter No 10.1.
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90^0 bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate. Necessary permissions will be obtained from DGMS after obtaining Environmental Clearance.
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.	Noted & agreed. The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is 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	Land use and land cover of the study area is discussed in Chapter No. 3.

	other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2, Table No 2.3.
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	Not Applicable. There is no waste anticipated during this quarry operation. The entire quarried out rough stone will be transported to the needy customers. No Dumps is proposed outside the lease area.
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.	Not Applicable. There is no Forest Land involved in the proposed project area. The proposed project area is a patta land. Approved Mining Plan is enclosed as Annexure Volume 1.
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	Not Applicable. The proposed project area does not involve any Forest Land.
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Togarappalli R.F. – 3.3 km – North West
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.	Not Applicable. There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 KM of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained	Not Applicable. There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area. Togarappalli R.F. – 3.3 km – North West

	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.	Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	Not Applicable. The project doesn't attract The C. R. Z. Notification, 2018.
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.	Not Applicable. There are no approved habitations within a radius of 300 meters. Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.

22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.	Baseline Data were collected for Winter Season March 2026 – May 2026 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. 3.
23	Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.	Air Quality Modelling for prediction of incremental GLC's of pollutant was carried out using AERMOD view Model. Details in Chapter No. 4.
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.	Cumulatively total Water Requirement: 5.3 KLD Discussed under Chapter 2, Table No 2.15.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Not Applicable. Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Part of the working pit will be allowed to collect rain water during the spell of rain will be used for greenbelt development and dust suppression. The Mine Closure Plan is prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.

27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Impact Studies and Mitigation Measures of Water Environment including Surface Water and Ground Water are discussed in Chapter 4.
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.	Not Applicable. The ground water table inferred 72-77 m below ground level. The ultimate depth of quarry is 45m This proposal of 30 m below ground level will not intersect the ground water table, which is inferred from the hydro-geological carried out at the project site. Discussed under Chapter 3.
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	Not Applicable. There is no stream, seasonal or other water bodies passing within the project area. Therefore, no modification/ diversion of water bodies is anticipated.
30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and Bgl. A schematic diagram may also be provided for the same.	The ground water table inferred 72-77 m below ground level. The ultimate depth of quarry is 45m
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.	Greenbelt Development Plan is discussed under Chapter 4.
32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Traffic density survey was carried out to analyse the impact of Transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details in Chapter 2.

33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Infrastructure & other facilities will be provided to the Mine Workers after the grant of quarry lease and the same has been discussed in the Chapter No.2.
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.	Discussed under Chapter 2. Mine Closure Plan is a part of Approved Mining Plan enclosed as Annexure Volume – 1.
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health Impacts of the project and preventive measures are detailed under Chapter 4, Page No.127.
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No Public Health Implications anticipated due to this project. Details of CER and CSR are discussed under Chapter 8.
37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	No Negative Impact on Socio Economic Environment on the Study Area is anticipated and this project shall benefit the Socio-Economic Environment by ways of employment for 30 people directly and 50 people indirectly. Details in Chapter 2.
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.	Detailed Environment Management Plan for the project to mitigate the anticipated impacts described under Chapter 4 is discussed under Chapter 10.
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.	The outcome of public hearing will be updated in the final EIA/AMP report.
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation is pending in any court against this project.
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Project Cost is Rs. 2,84,46,000/- CER Cost is Rs 5,00,000/-
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Details in Chapter 7.
43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate	Details in Chapter 8.

	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	Enclosed as separate booklet.
b	All documents to be properly referenced with index and continuous page numbering.	All the documents are 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.	List of Tables and source of the data collected are 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	Baseline monitoring reports are enclosed with This report in Chapter 3. Original Baseline monitoring reports will be submitted in the final EIA report during appraisal.
e	Where the documents provided are in a language other than English, an English translation should be provided.	Not Applicable.
f	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	Will be enclosed along with Final EIA EMP Report.
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.	Noted & agreed. Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) Dated: 4th August, 2009 are 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	Noted & agreed.
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.	Not 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)	Surface Plan – Figure No. 2.2. Geological Plan – Figure No 2.9. Working Plan – Figure No 2.9.

	sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	Closure Plan – Figure No.2.10.

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CHAPTER – 1: INTRODUCTION

1.0 Preamble

The project proponent Thiru. B. Sharath applied for Black Dolerite Granite Quarry over an extent of 4.37.0Ha in S.F. No 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8, Puligunda Village, Bargur Taluk, Krishnagiri District. As per the EIA Notification, 2006 and subsequent amendments and OM The proposal falls in the B1 Category (Cluster quarries - 1 Proposal & 1 Existing Quarry in the 500m Radius forming Cluster Category - Cluster area calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016).

Hence proponent applied for the Terms of Reference and the ToR obtained vide File No.: 13422 TOR Identification No.: TO26B0108TN5195700N Dated:18.05.2026.

The Baseline Monitoring study has been carried out during the period of **March to May 2026** and this EIA and EMP report is prepared for considering cumulative impacts arising out of this project, the Cumulative Environmental Impact Assessment study is undertaken, which is followed by preparation of a detailed Environmental Management Plan (EMP) individually to minimize those adverse impacts.

Environmental Impact Assessment (EIA) is the management tool to ensure the sustainable development and it is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision-making tool, which guides the decision makers in taking appropriate decisions for any project. EIA systematically examines both beneficial and adverse consequences of the project and ensures that these impacts are taken into account during the project designing. It also reduces conflicts by promoting community participation, information, decision makers, and helps in developing the base for environmentally sound project.

1.1 Purpose of the Report

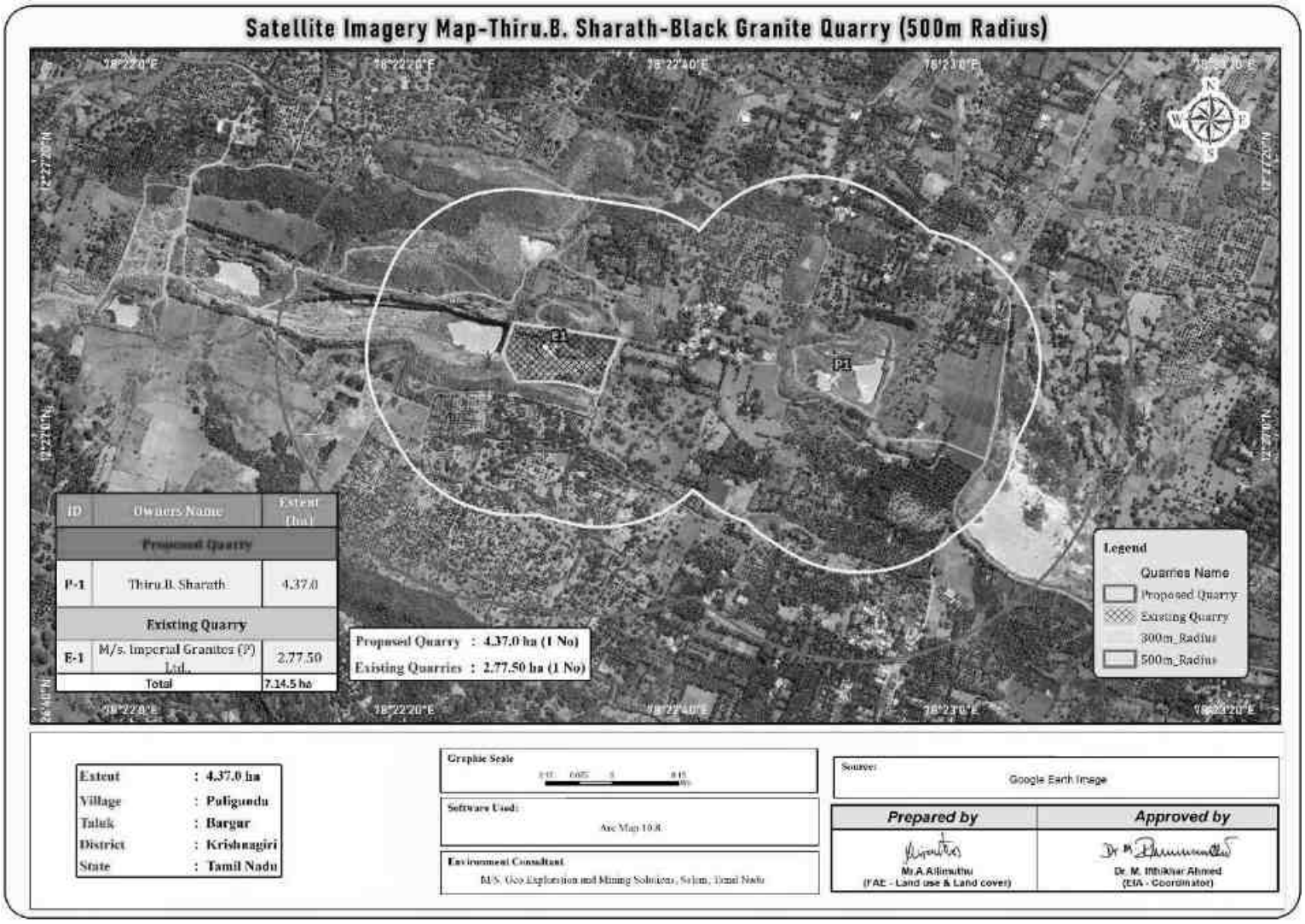
The Ministry of Environment and Forests, Govt. of India, through its EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 1886 of 20thApril 2022, Mining Projects are classified under two categories i.e. A (>250 Ha) and B (≤ 250 Ha), and Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation in Appendix–XI.

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF& CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B1 and appraised by SEAC/ SEIAA as well as for cluster situation.

The proposed project is categorized under category "B1" Activity 1(a) (mining lease area in cluster situation) and will be considered at SEIAA – TN after conducting Public Hearing and Submission of EIA/EMP Report for Grant of Environmental Clearance.

"Draft EIA report prepared on the basis of ToR Issued for carrying out public hearing for the grant of Environmental Clearance from SEIAA, Tamil Nadu"

Figure1.0: Satellite Imagery of the Cluster Quarries



1.2 Identification of Project and Project Proponent

1.2.1 Identification of Project –

Table 1.1: Salient Features of the proposed project

PROPOSAL	
Name of the Project	Black Granite (Dolerite) Quarry project belongs to Thiru. B. Sharath
S.F. No.	579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8
Extent	4.37.0 Ha
Land Type	Own patta Land
Village Taluk and District	Puligunda Village, Bargur Taluk, Krishnagiri District

Source: Approved Mining plan

1.2.2 Identification of Project Proponent

Table 1.2: Details of Project Proponent

PROPOSAL	
Name of the Project proponent	**Thiru.B. Sharath**
Address	S/o. K. Bage Gowda, Proprietor of M/s. Sharath Granites, No. 108, 13th Main, Jayanagar 4th Block East, Bangalore – 560 011.
Mobile	+91 78999 99596
Email	sharathgranites@gmail.com
Status	Individual

1.3 Brief Description of the Project

1.3.1 Nature and Size of the Project

The quarrying operation is proposed to be carried out by Opencast Mechanized Mining method with 5.0m bench height and 5.0m bench width by deploying Hydraulic Excavator, Eco-friendly Diamond Wire Saw Cutting and minor amount of blasting only for removal of overburden and weathered portions.

On the basis of available reserves the life of the mine is computed and approved as 20 Years.

Proposed production for the Mining Plan Period (5 years) is described below–

Proposed Project

Mineable ROM	=	**10,44,158 MT**
Total Mineable Recoverable Reserves of Granite @ 20%	=	2,08,832 MT
Average Production per year @ 20%	=	52468 MT/5 Years = 10494 MT
Estimated Life of the quarry	=	208832 MT/10494 MT
Life of the quarry	=	20 Years

Table 1.3: Resources and Reserves of Project

Description	ROM in MT	Granite recovery @20% in MT	Granite waste @80% recovery in MT	Top Soil in MT	Side Burden in MT	Weathered rock in MT
Geological Resources	19,06,925	3,81,385	15,25,540	31,222	26,21,689	1,38,528
Mineable Reserves	10,44,158	2,08,832	8,35,326	11,022	2,67,257	53,968

Year wise Production for Five years	2,62,338	52,468	2,09,870	12,400	-	-

Source: Approved Mining Plan

Table 1.4: Salient features of the proposed project

Name of the Quarry	**Thiru B.Sharath**
Lease period	20 years
Mining Lease area	4.37.0Ha
Type of Land	Proponent own patta Land
Location	S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8, Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.
Mining Plan Period	5Years
Life of the Mine	20 years
Year wise production for five years of ROM	2,62,338MT/84,625m^3
The Annual Peak Production (as Per ToR)	60,094 MT/19,385m^3
Proposed Depth for five years plan period	40m
Ultimate Depth	193m (L) X 145m (W) X 45m (D)
Toposheet No	57-L/07
Latitude between	12°26'59.53"N to 12°27'00.18"N
Longitude between	78°22'46.88"E to 78°22'56.47"E
Topography	The area is situated in flat terrain. The Altitude – 444m above from MSL. The dolerite dyke is intruded between the batholithic formations of Hornblende Biotite Gneiss. The Black granite is mostly concealed under 1m thickness of Reddish soil and 4 m thickness of Weathered rock
Mechanization	1.Jackhammer- 5 Nos 2.Compressor-2 Nos 3.Diamond Wiresaw -2 Nos 4. Diesel Generator-1 No 5.Crawler Crane – 1 No 6. Excavator – 1 Nos 7. Tipper- 3 Nos 8.Water Sprinkling- 1No.
Water Requirement	5.3 KLD
Proposed manpower deployment	30
Total Project cost	265.07 Lakhs
CER Cost	Rs. 5,00,000/-
Nearest habitation	320m-SE
Nearest R.F Boundary	Togarappalli R.F. – 3.3 km – North West
Nearest Wildlife sanctuary	Cauvery North Wildlife Sanctuary – 44.6 km – South West Cauvery South Wildlife Sanctuary – 48.5 km – South West

1.3.2 Location of the Project

- The area is located in ***S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8,Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.***
- The area is mentioned in GSI Topo sheet No. **57-L/07**
- The Latitude between of **12°26'59.53"N to 12°27'00.18"N**
- The Longitude between of **78°22'46.88"E to 78°22'56.47"E** on WGS 1984 datum.

Figure 1.1: Key Map Showing the Location of the Project Site

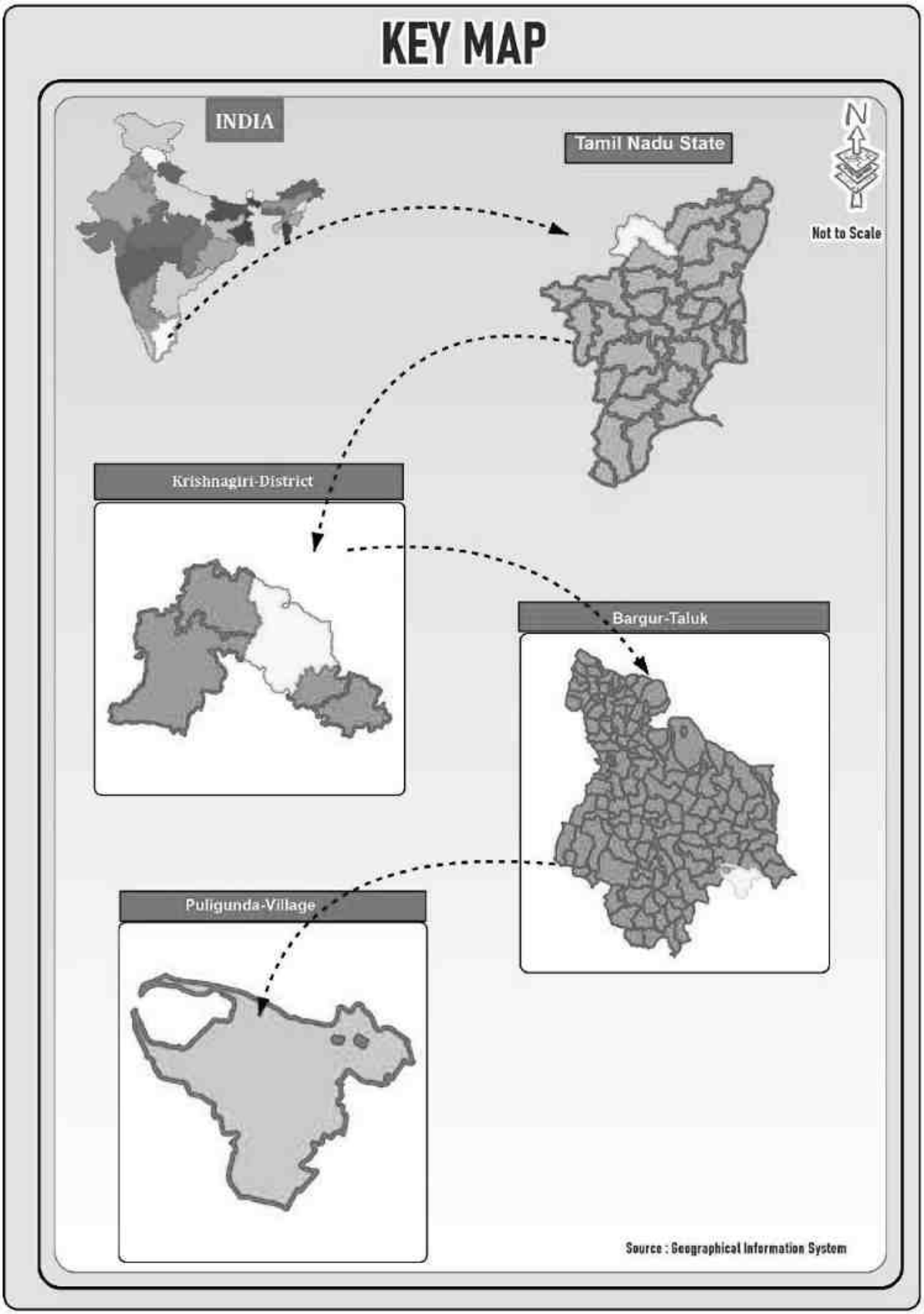
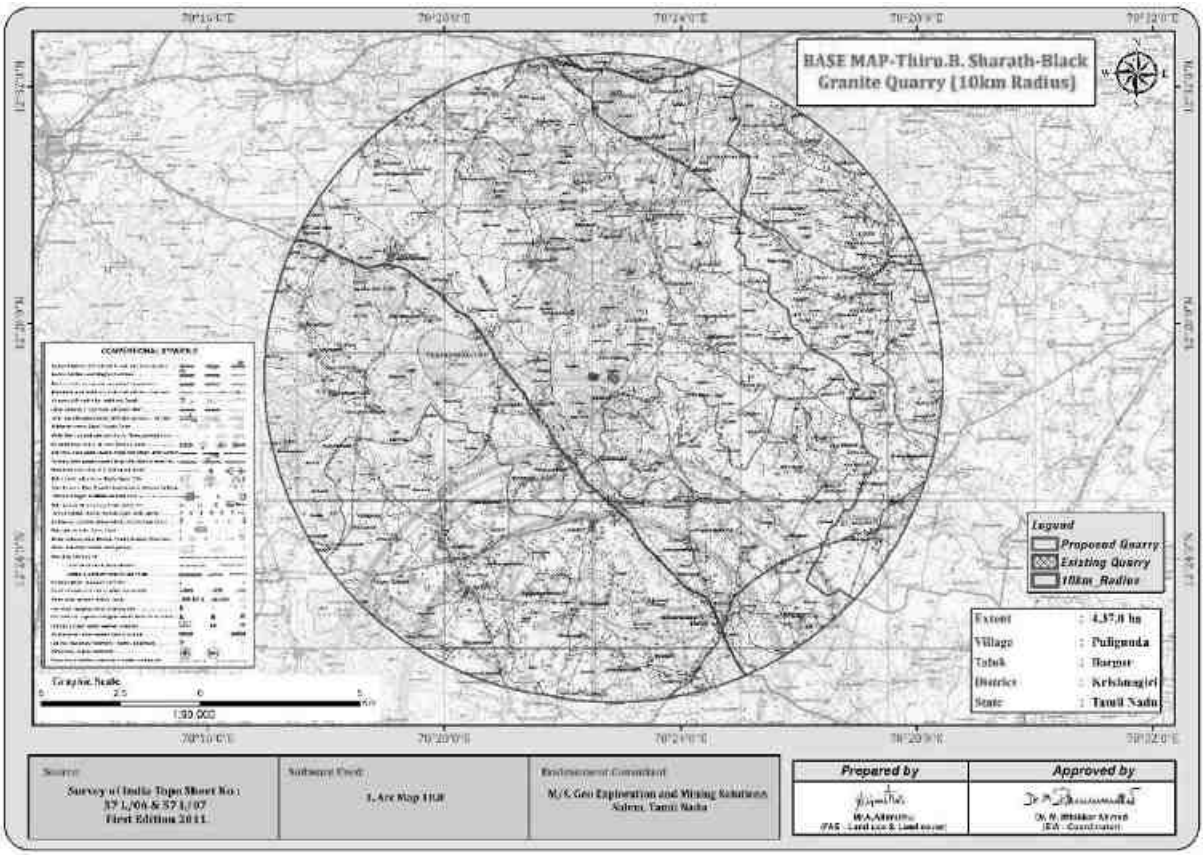


Figure 1.2: Toposheet Map of the Study Area 10 Km Radius



1.4 Environmental Clearance

The Environmental Clearance process for the project will comprise of four stages. These stages in sequential order are given below: -

1. Screening,
2. Scoping
3. Public consultation &
4. Appraisal

SCREENING –

- The proponent applied for Granite Quarry Lease, Dated: 19.08.2024
- The precise area communication has been granted as per Govt. Letter No. 1186/MMB.2/2025–1, dated: 05.08.2025 for a period of 20 years.
- The Mining plan was approved by the Director of Geology and Mining, Guindy, Chennai Vide Rc. No. 2976/MM4/2025, Dated: 29.01.2026
- Proponent applied for ToR to get Environmental Clearance vide online Proposal No. SIA/TN/MIN/569529/2026 Dated: 19.02.2026

SCOPING –

- The proposal was placed in 691st SEAC meeting held on 12.03.2026 and ADS
- The proposal was considered in 986h SEIAA meeting held on 26.03.2026
  The proposal was placed in 708st SEAC meeting held on 28.04.2026 and the committee recommended for issue of ToR.
- The proposal was considered in 1006th SEIAA meeting held on 11.05.2026 and issued ToR vide File No.: 13422 TOR Idenification No.: TO26B0108TN5195700N dated: 18.05.2026

PUBLIC CONSULTATION –

Application to The Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site or in its close proximity in the district is submitted along with this Draft EIA/ EMP Report and the outcome of public hearing proceedings will be detailed in the Final EIA/EMP Report

APPRAISAL –

Appraisal is the detailed scrutiny by the State Expert Appraisal Committee (SEAC) of the application and other documents like the final EIA & EMP Report, outcome of the Public Consultations including Public Hearing Proceedings, submitted by the proponent to the regulatory authority concerned for grant of environmental clearance.

The report has been prepared using the following references:

- Guidance Manual of Environmental Impact Assessment for Mining of Minerals, Ministry of Environment and Forests, February, 2010
- EIA Notification, 14th September, 2006
- ToR vide File No.: 13422 TOR Idenification No.: TO26B0108TN5195700N Dated: 18.05.2026
- Approved Mining Plan of this project
- In addition, other relevant standards for individual activities such as Sampling and Testing of
- Environmental attributes have been followed.

1.5 Post Environment Clearance Monitoring

The proposed project proponent shall submit a half-yearly compliance report in respect of stipulated Environmental Clearance terms and conditions to MoEF & CC Regional Office & SEIAA after grant of EC on 1st June and 1st December of each calendar year as per MoEF & CC Notification S.O. 5845 (E) Dated: 26.11.2018.

1.6 Generic Structure of EIA Document

The overall contents of the EIA report follow the list of contents prescribed in the EIA Notification 2006 and the "Environmental Impact Assessment Guidance Manual for Mining of Minerals" published by MoEF & CC.

1.7 Scope of the Study

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during **the summer season for March to May 2026** for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project.

Table 1.5: Environment Attributes

Sl.No.	Attributes	Parameters	Source and Frequency
1	Ambient Air Quality	PM10, PM 2.5, SO2, NO2	Continuous 24-hourly samples twice a week for three months at 8 locations (2 Core & 5 Buffer)
2	Meteorology	Wind speed and direction, temperature, relative humidity and rainfall	Near project site continuous for three months with hourly recording and from secondary sources of IMD station
3	Water quality	Physical, Chemical and Bacteriological parameters	Grab samples were collected at 4 ground water and 2 surface water locations once during study period.
4	Ecology	Existing terrestrial and aquatic flora and fauna within 10 km radius circle.	Limited primary survey and secondary data was
5	Noise levels	Noise levels in dB(A)	7 locations – data monitored once for 24 hours during EIA study
6	Soil Characteristics	Physical and Chemical Parameters	Once at 6 locations during study period
7	Land use	Existing land use for different categories	Based on Survey of India topographical sheet and satellite imagery and primary survey.
8	Socio-Economic Aspects	Socio-economic and demographic characteristics, worker characteristics	Based on primary survey and secondary sources data like census of India 2011.
9	Hydrology	Drainage pattern of the area, nature of streams, aquifer characteristics, recharge and discharge areas	Based on data collected from secondary sources as well as hydro-geology study report prepared.
10	Risk assessment and Disaster Management Plan	Identify areas where disaster can occur by fires and explosions and release of toxic substances	Based on the findings of Risk analysis done for the risk associated with mining.

Source: Onsite Monitoring Data/Sampling by Laboratories

The data has been collected as per the requirement of the ToR issued by SEIAA – TN.

1.7.1 Regulatory Compliance & Applicable Laws/Regulations

- Application for Quarrying Lease as per Tamil Nadu Minor Mineral Concession Rules, 1959
- Obtained Precise Area Communication Letter as per Tamil Nadu Minor Mineral Concession Rules, 1959 for Preparation of Mining Plan and obtaining Environmental Clearance
- The Mining Plan of Granite quarry has been approved under Rule 41 & 42 as amended of Tamil Nadu Minor Mineral Concession Rules, 1959
- ToR vide File No.: 13422 TOR Idenification No.: TO26B0108TN5195700N Dated: 18.05.2026**.**

2. PROJECT DESCRIPTION

2.0 General

Proposed Quarry in Puligunda Village, Bargur Taluk, Krishnagiri District and Tamil Nadu State falls under Cluster Situation as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016 and the total extent of cluster is 8.63.26ha consisting of three quarries. As the extent of cluster is more than 5 ha, the proposal falls under B1 Category as per the Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018, and requirement for EIA, EMP and Public Consultation for obtaining Environmental Clearance.

2.1 Description of the Project

The project is located in S.F. Nos 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8, Puligunda Village, Bargur Taluk, Krishnagiri District and Tamil Nadu State. The precise area communication has been granted as per Govt. Letter No. 1186/MMB.2/2025–1, Dated: 05.08.2025, the mining plan has been prepared and got approved Director of Geology and Mining Guindy, Chennai, vide Rc. No. 2976/MM4/2025, Dated: 29.01.2026.

Black Granite (Dolerite) quarry operation will be carried out by opencast mechanized method involving Eco-friendly Diamond Wire Saw Cutting, Heavy earth moving machineries like Excavators Trucks for Granite exploitation. Shot hole drilling with controlled blasting using slurry explosives for removal of overburden and Weathered portions during initial stage of quarry operation.

2.2 Location of the Project

- The area is located in ***S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8, Puligunda Village, Bargur Taluk, Krishnagiri District, Tamilnadu.***
- The entire quarry lease area falls in the Patta land, the area is situated in a flat terrain.
- The Altitude of the area is ranges from **444m AMSL**
- The area is mentioned in GSI Topo sheet No. **57-L/07**
- The Latitude between of **12°26'59.53"N to 12°27'00.18"N**
- The Longitude between of **78°22'46.88"E to 78°22'56.47"E** on WGS 1984 datum.

Table 2.1: Site connectivity to the project area

Nearest Roadway	National Highway - Krishnagiri – Uthangarai (NH-77) – 2.4km – SW State Highway - Bargur – Tirupathur (SH-131) – 6.3km – NE
Nearest Village	Karadigollapatti Village – 280m-South
Nearest Town	Bargur – 10.3km – North West
Nearest Railway Station	Kagankarai Railway Station – 14.5km – South East
Nearest Airport	Bangalore Airport - 110km – North West
Seaport	Cuddalore-172km South East

Source: PFR, Survey of India Toposheet

Table 2.2: Boundary Co-Ordinates of Proposed Project

S.No	Latitude	Longitude		Latitude	Longitude
1	12°27'03.09" N	78°22'46.92"E	16	12°27'03.23" N	78°22'54.99"E
2	12°27'03.49" N	78°22'46.88"E	17	12°27'02.47" N	78°22'54.84"E
3	12°27'05.15" N	78°22'47.70"E	18	12°27'02.33" N	78°22'55.00"E

4	12°27'05.28" N	78°22'47.14"E	19	12°27'00.97" N	78°22'54.76"E
5	12°27'06.85" N	78°22'47.46"E	20	12°27'01.22" N	78°22'53.77"E
6	12°27'07.78" N	78°22'48.12"E	21	12°26'59.53" N	78°22'53.07"E
7	12°27'07.09" N	78°22'48.73"E	22	12°26'59.38" N	78°22'52.94"E
8	12°27'06.48" N	78°22'48.24"E	23	12°27'00.18" N	78°22'51.65"E
9	12°27'06.41" N	78°22'48.33"E	24	12°27'00.85" N	78°22'51.07"E
10	12°27'09.17" N	78°22'49.46"E	25	12°27'01.27" N	78°22'51.13"E
11	12°27'08.95" N	78°22'49.89"E	26	12°27'01.94" N	78°22'50.32"E
12	12°27'07.78" N	78°22'51.50"E	27	12°27'02.32" N	78°22'50.20"E
13	12°27'06.73" N	78°22'50.95"E	28	12°27'02.49" N	78°22'49.25"E
14	12°27'05.30" N	78°22'56.47"E	29	12°27'02.24" N	78°22'48.59"E
15	12°27'04.32" N	78°22'55.99"E	30	12°27'02.46" N	78°22'47.76"E
Datum: UTM-WGS84, Zone 44 North					

Figure 2.1: Photographs of the project Area



Figure 2.1A: Plantation Photographs



Figure 2.2: Google Image Showing Project Area



Figure 2.3: Quarry Lease Plan & Surface Plan

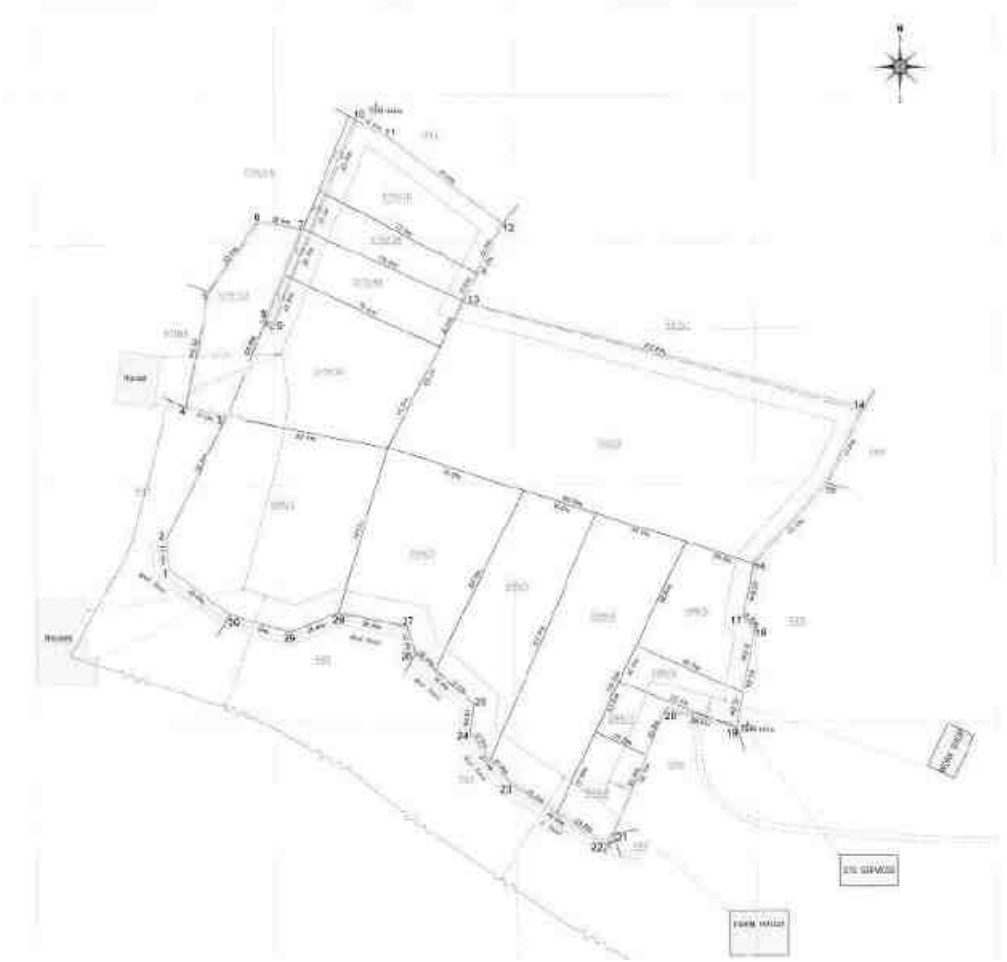


Figure 2.4: Village map superimposed on google earth image

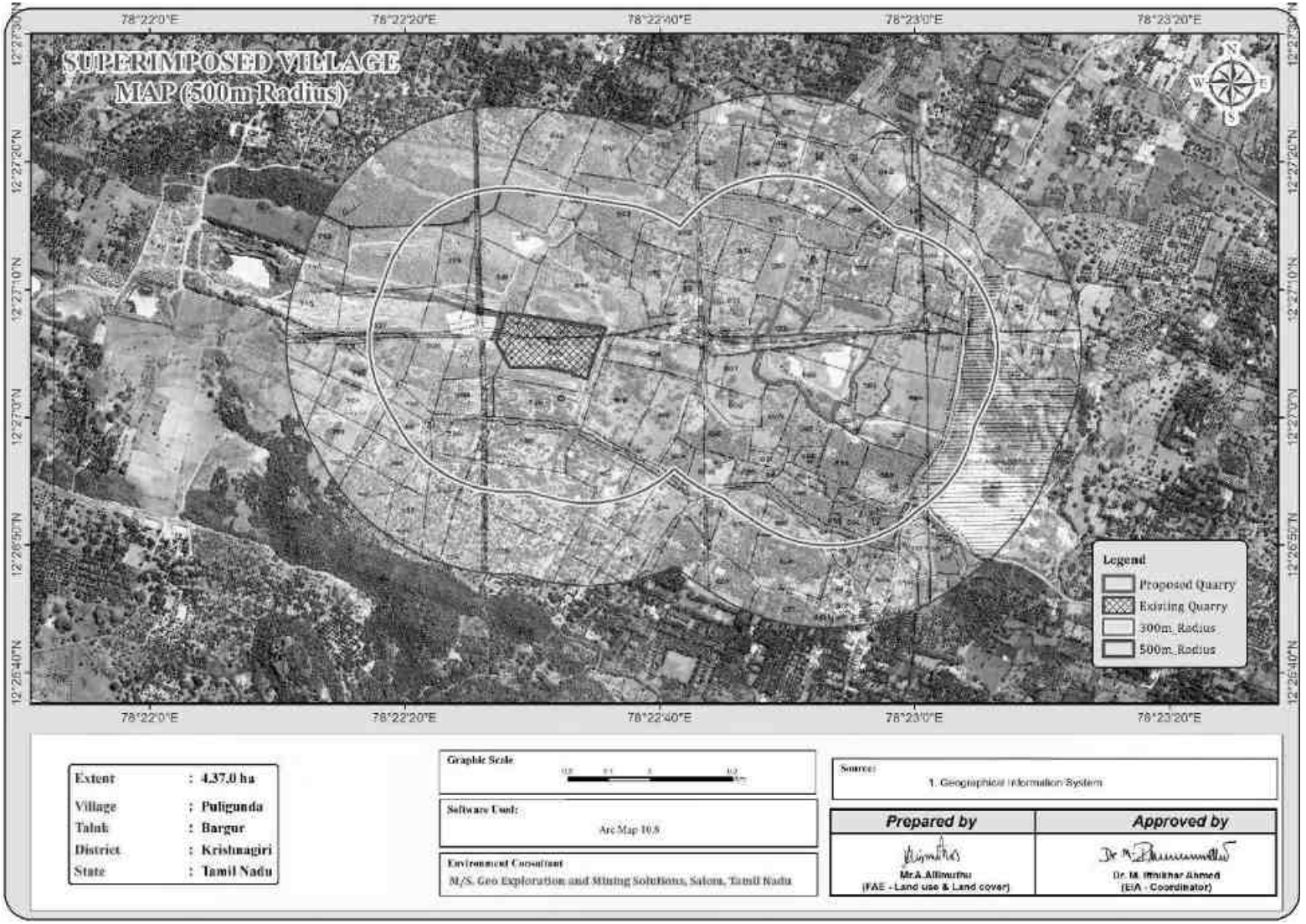


Figure 2.5: Image Showing Surface Features Around 10 Km Radius

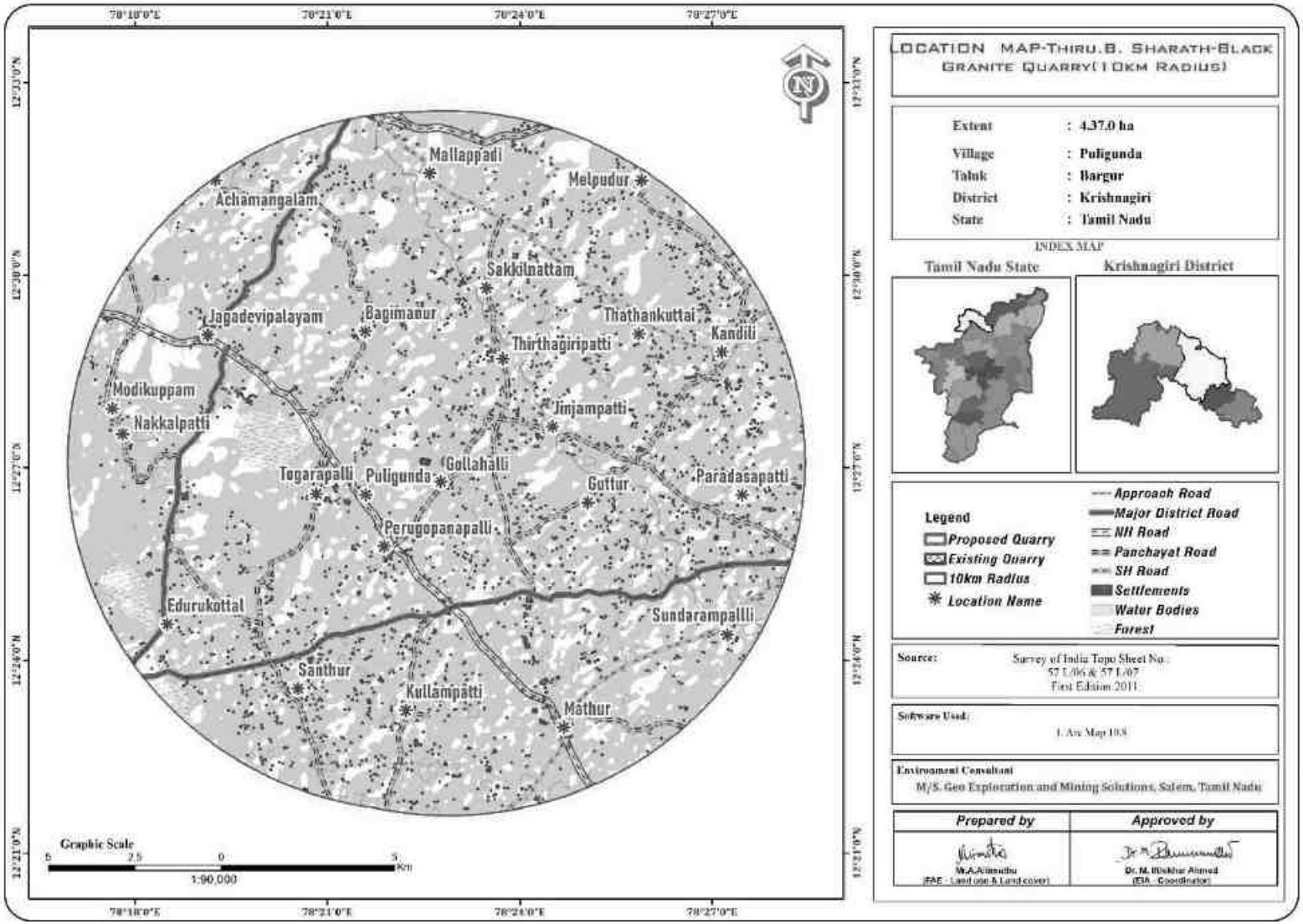


Figure 2.6: Image Showing Surface Features Around 5km Radius

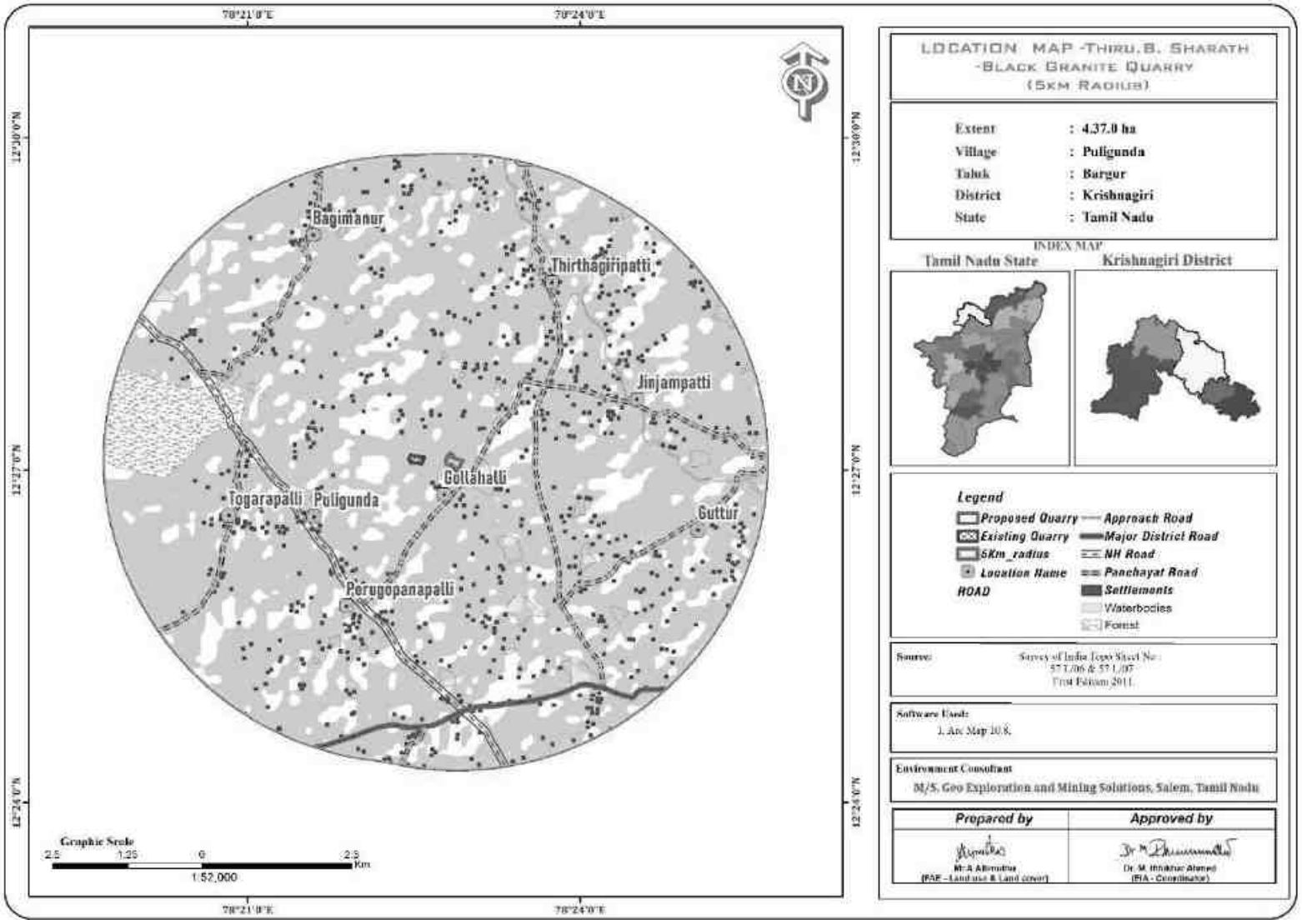
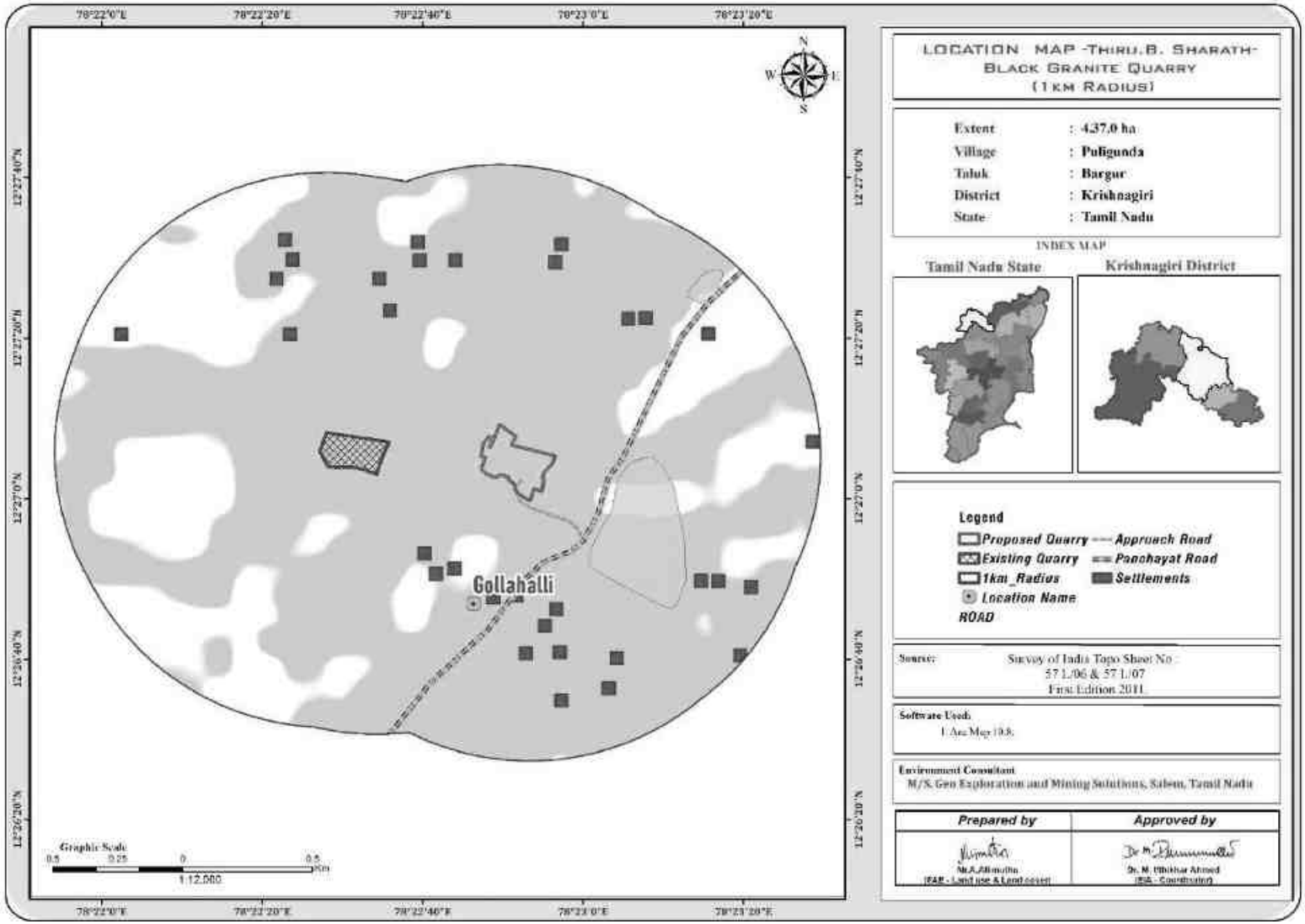


Figure 2.7: Image Showing Surface Features Around 1 Km Radius



2.2.1 Project Area

- The Topography of the Proposed Project is flat terrain, with Granite outcrops, which is site specific, Non – Non-Captive use, opencast Mechanized quarry.
- There is No beneficiation or processing proposed inside the project area.
- Elevation is 444m above from MSL, showing gentle gradient towards Northwest
- There is no forest land involved in the proposed project area and the area is devoid of major vegetation.

Table 2.3: Land use pattern of the proposed project

Description	Present area (Ha)	Area to be required during the present Mining Plan period(ha)	Area at the end of life of quarry (Ha)
Area under quarry	1.60.39	Nil	2.70.20
Waste dump	1.16.49	Nil	Back filled
Site Services	Nil	Nil	Nil
Roads	0.03.0	Nil	0.03.0
Green Belt	0.25.00	0.25.0	0.50.0
Unutilized/ Stocking Blocks	1.32.12	1.07.12	1.13.80
Grand Total	**4.37.0**	**-**	**4.37.0**

Source: Approved Mining plan

2.2.2 Size or Magnitude of Operation

Table 2.4: Operational details

Description	Details
Geological Resources ROM	6,15,137
Granite Recovery (20 % in m^3)	1,23,027
Granite Waste (80 % in m^3)	4,92,110
Side Burden	9,53,341
Weathered Rock	69,264
Top Soil in m^3	15,611
Mineable Reserves ROM	3,36,825
Granite Recovery (20 % in m^3)	67,365
Granite Waste (80 % in m^3)	2,69,460
Side Burden	97,184
Weathered Rock	26,984
Top Soil in m^3	5,511
Proposed Production for five years plan period ROM	84,625
Granite Recovery (20% in m^3)	16,925
Granite Waste (80 % in m^3)	67,700
Side Burden	-
Weathered Rock	6,200
Top Soil in m^3	-
Number of Working Days	300
Production of ROM per day in five-year plan period	56
Production of Granite per day	11
Total Waste per day (Granite waste)	35

Source: Approved Mining Plan

2.3 Geology

2.3.1 Regional Geology

The hard rock terrain of Archaean to Late Proterozoic comprises of predominantly Granite, Gneiss, Charnockite group of rocks and their magmatic derivatives, supracrustal sequences intruded by ultramafic complexes, basic dykes, granites.

The northern part of Tamil Nadu, north of Noyil – Cauvery River is characterized by the occurrences of a number of Dolerite dykes in contrast to the areas south of Noyil – Cauvery River where the dykes are absent. The dolerite dykes in general trending is in WNW- ESE and NNE – SSE directions and rarely in N-S and NNW – SSE directions.

Due to emplacement of Dolerite Dykes along narrower plains of weakness, the rock on solidification develops cracks and fractures mostly along the contacts with the country rocks. The dolerite dykes are mostly emplaced as 'swarms" in an area.

Granites were formed from molten rock referred to as "Magma" formed at great depths within the crust of the earth. During the cooling process, some of the minerals grow into larger crystals of colours peculiar to those minerals or get aligned along certain preferred directions giving rise to beautiful colours and patterns. Such rocks that were formed at great depths during the Archaean age are now exposed at the surface of the earth as a result of the combined actions of wind, air, sun and water and weathering and denudation over the past several million years.

The granitic group ranges in composition from granite, through grano diorites to adamellite, augite-diorite, monzonite, etc., and contains inclusions of hornblendic rocks. To what extent they represent intrusive of different ages is yet to be determined, but their very complex nature is unquestionable since they include composite gneisses, migmatites, granitised older crystalline rocks and true granites with their aplitic and quartz vein systems.

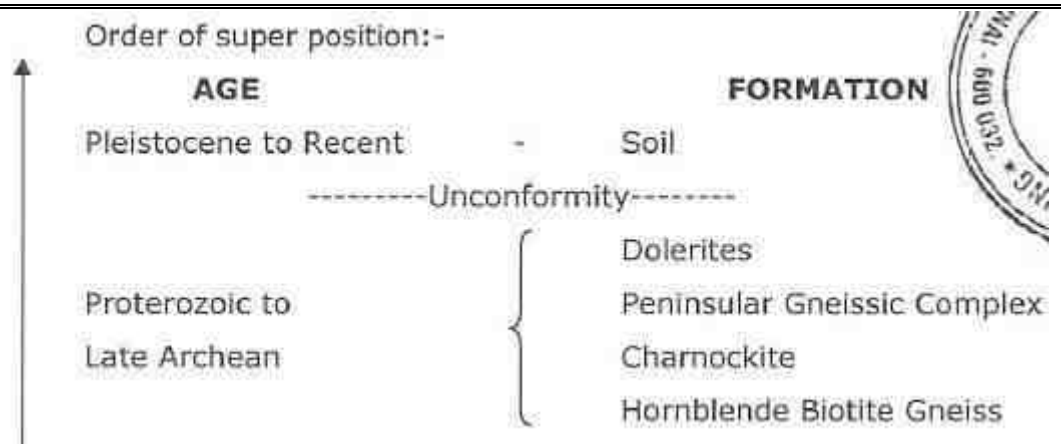
Geological succession of Krishnagiri District:

Krishnagiri district is underlain by hard Crystalline rocks of Archaean age comprising of various rock types such as Gneiss, Charnockite, Migmatites, etc. The Gneissic type of Crystalline formation is found in the North and North Eastern part of the District Shoolagiri, Hosur, Mattur and Soolamalai areas covered by Granitic Gneiss (Migmatite).

In the Krishnagiri district of Tamil Nadu is characterized by the occurrences of Numerous Dolerite dykes. The dolerite dykes are general trending in NNW- SSE direction and rarely in NNE– SSW directions.

2.3.3. Geology of the lease applied area

The Dolerite dyke is formed discordant intrusion in the country rock of hornblende Biotite Gneiss. The Quarry lease area contains Hornblende Biotite Gneiss and intruded by dolerite. The Dolerite dyke is covered by 1m Thickness of reddish soil and followed by fresh black granite. The dyke rock is hard, compact and sheet in nature at the middle and boundary along the contacts dure to geological disturbabnces.



Exploration studies

State Geology and Mining Department 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 Krishnagiri District, besides the Functional Area Experts (FAE) in Geology and Hydrogeology carried out detailed Geological studies in the area. The Granite outcrops is clearly visible in some places within the study area.

2.3.4 Hydrogeology

Krishnagiri district is underlined by Archaean crystalline formations with Recent alluvial deposits of limited areal extent and thickness along the courses of major rivers. The occurrence and movement of ground water are controlled by various factors such as physiography, climate, geology and structural features. Weathered, and fractured crystalline rocks constitute the important aquifer systems in the district. Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones at deeper levels. The thickness of weathered zones in the district ranges from less than a meter to more than 15 m (Source Central Ground Water Board – Krishnagiri).

Figure 2.8: Regional Geology Map

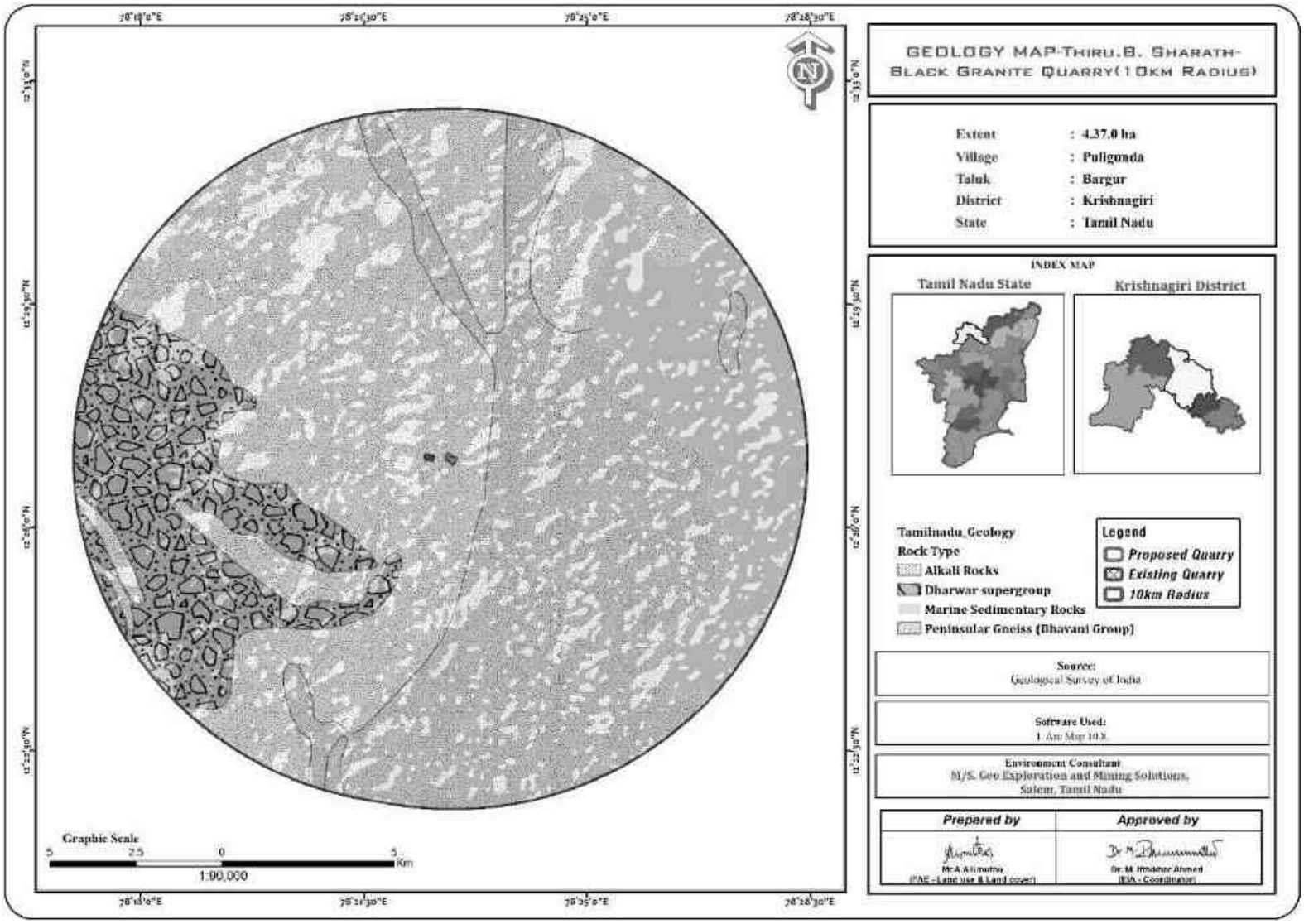
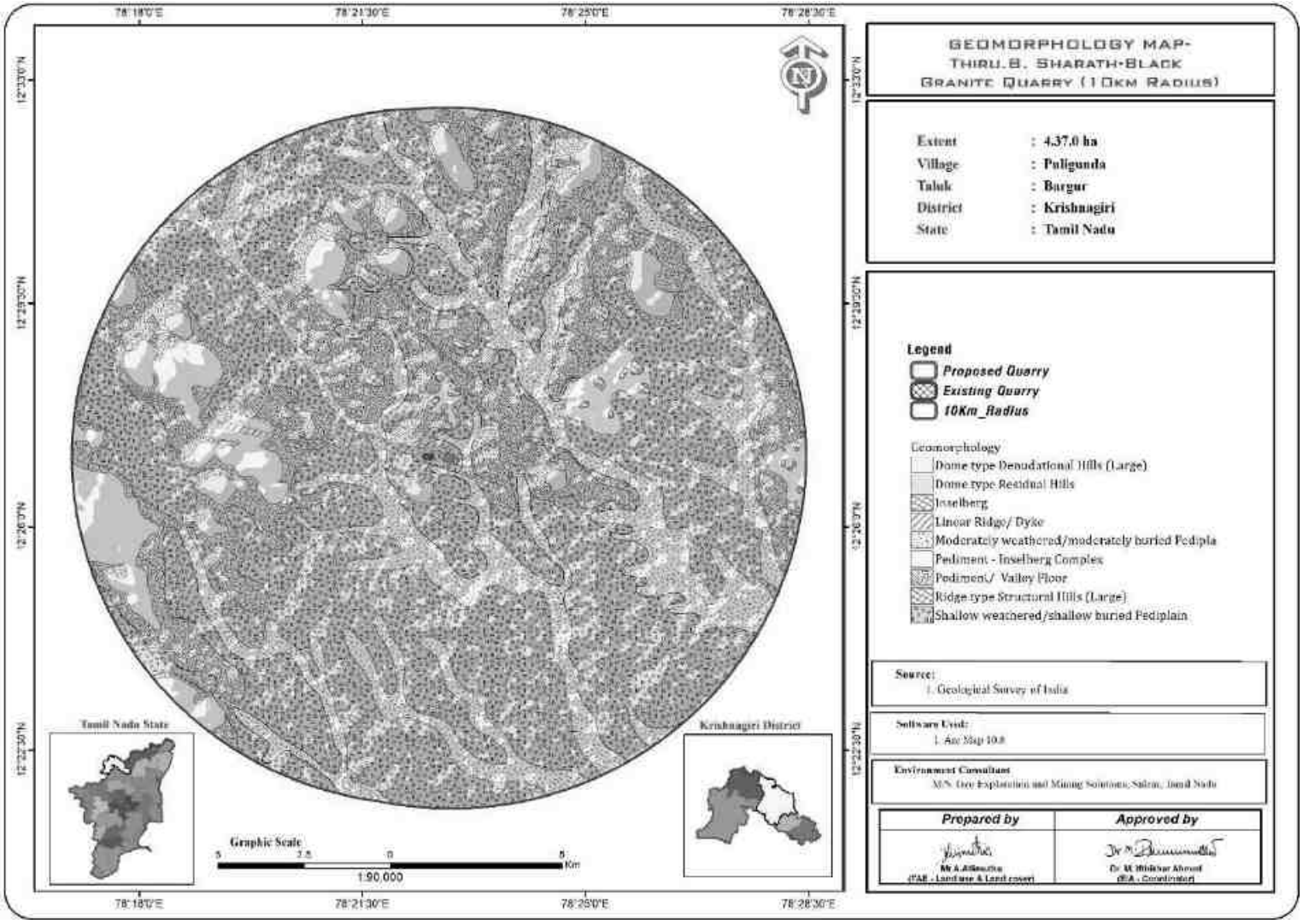


Figure 2.9: Geomorphology Map of The Study Area



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Figure 2.10: Conceptual Plan and Section

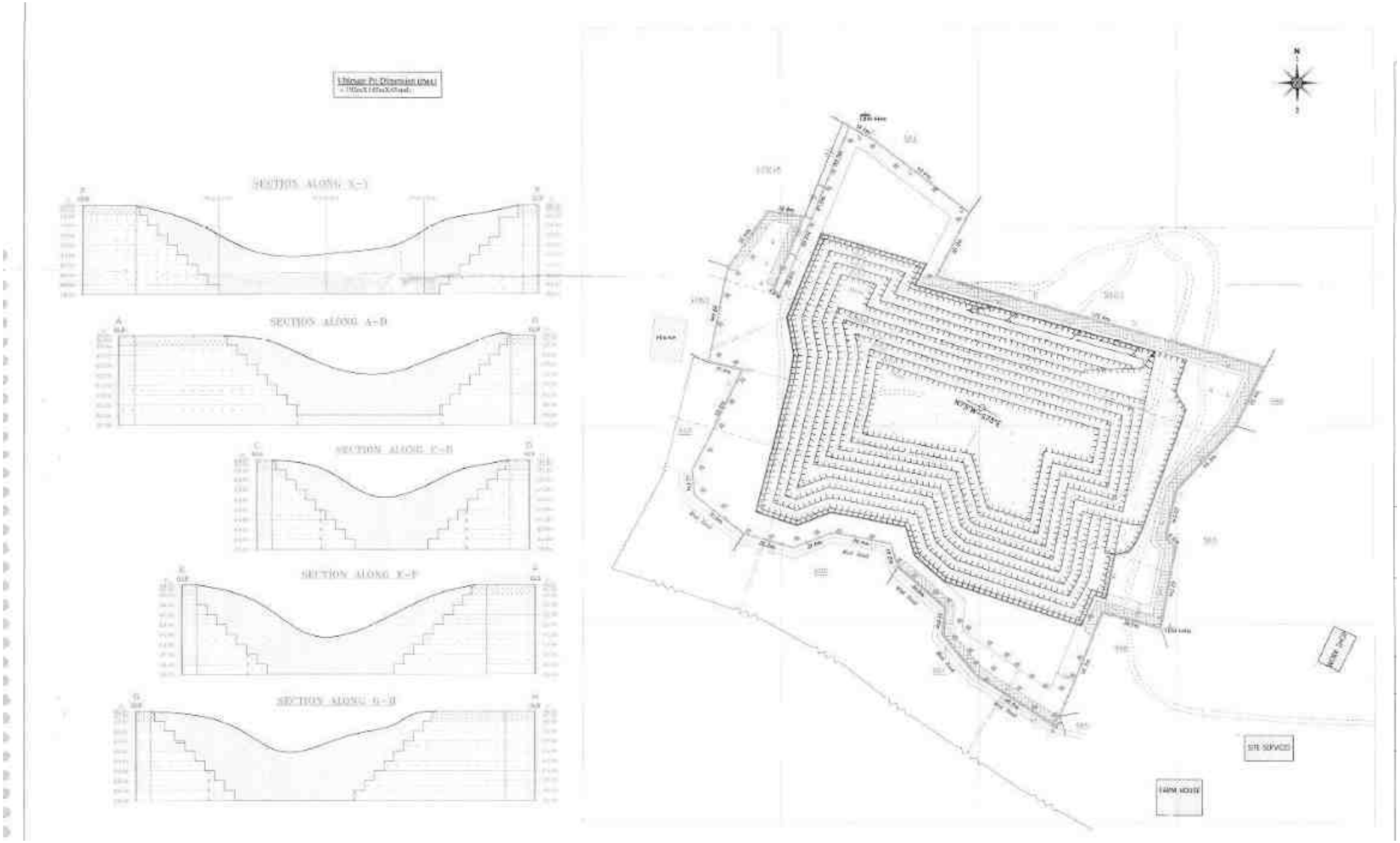
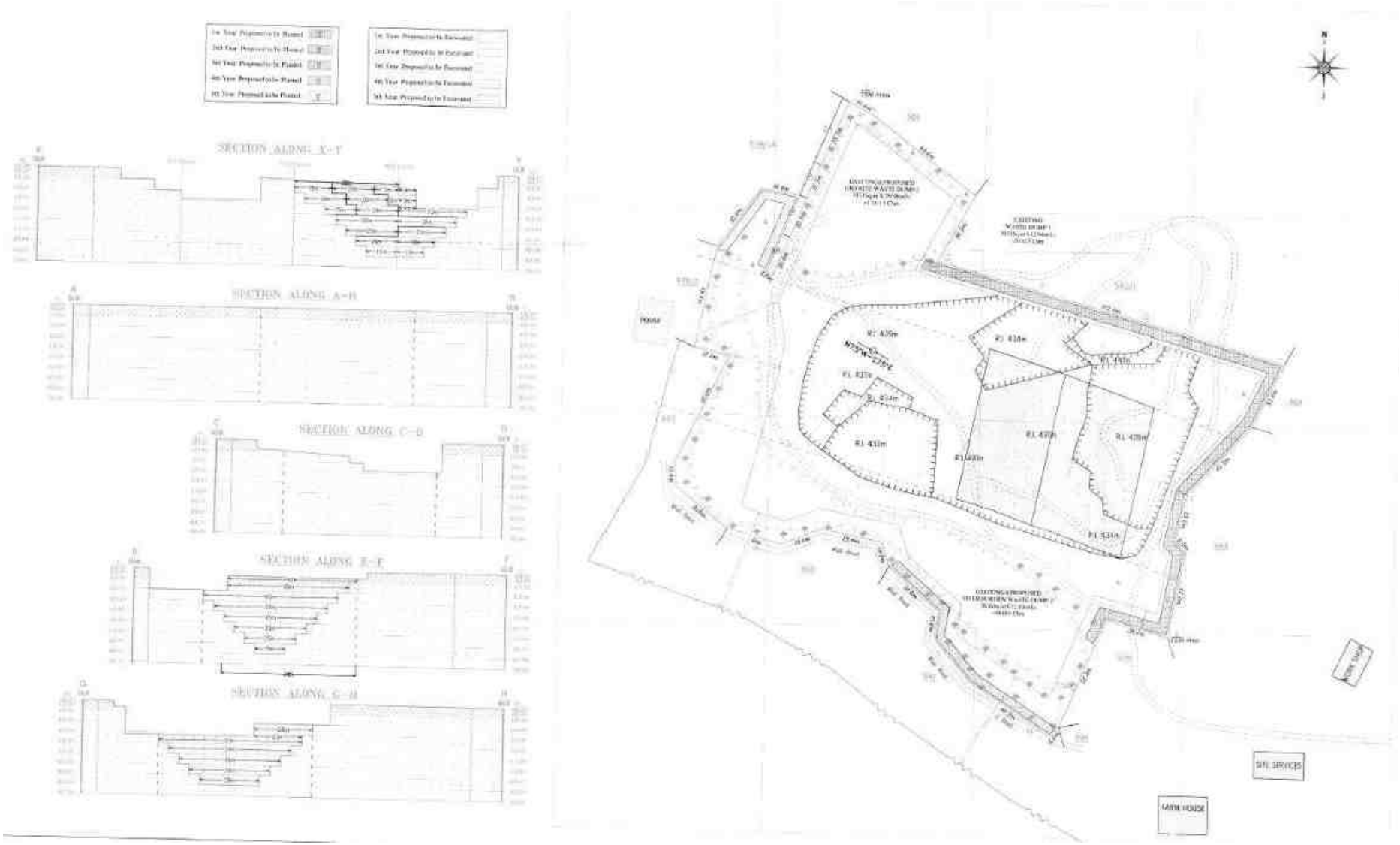


Figure 2.11: Year-Wise Development Production Plan and Section



2.4 Resources and Reserves

Black is occurring beneath the surface, Granite outcrops are visible in some places within the project area.

Table 2.5 Resources, Reserves

Description	ROM in m^3	Granite recovery @20% in m^3	Granite waste @80% recovery	Top Soil in m^3
Geological Resources	6,15,137	1,23,027	4,92,110	15,611
Mineable Reserves	3,36,825	67,365	2,69,460	5,511
Year wise Production for Five years	84,625	16,925	67,700	-

Source: Approved Mining plan

Table 2.6 Year Wise Production Plan

Year	ROM in m^3	Granite Recovery @ 20 % in m^3	Granite Waste @ 80 % in m^3	Weathered Rock in m^3
I	16,940	3,388	13,552	6,200
II	17,800	3,560	14,240	-
III	15,845	3,169	12,676	-
IV	19,385	3,877	15,508	-
V	14,655	2,931	11,724	-
Total	**84,625**	**16,925**	**67,700**	**6,200**

Source: Approved Mining plan

Stacking of Granite Rejects and Disposal of Waste

a) Granite waste and Land chosen for disposal of waste:

The total waste to be produced during the first five years is around 67,700 m^3 the same will be proposed to dump on the North side with maximum dimension of (Area) 3973m^2 x (Height) 29.98m & (Area) 3973 m^2 x (Height) 12.94m & 7676m^2 (Area) 12.83m(Height)

Conceptual Mining Plan/ Final Mine Closure Plan

Conceptual mining plan is prepared with an object of long-term systematic development of benches, lay outs, selection of permanent ultimate pit limit, depth of quarrying and ultimate pit, selection of sites for construction of infrastructure etc. The ultimate pit size is designed based on certain practical parameters such as economical depth of quarrying, safety zones, permissible area etc.,

Table 2.7 Ultimate Pit Dimension

Maximum Dimensions in meters		
Length	Width	Depth
193	145	45

Source: Approved Mining plan

2.5 Method of Mining

- The method of mining is Opencast mechanized method
- Eco-friendly dimensional wire saw cutting for liberation and splitting up of blocks from parent sheet rocks
- Splitting of rock body of considerable volume from the parent rock formation by carefully avoiding visibly seen defects such as patches veins, etc., is done by adopting the method of "Diamond wire cutting" along the horizontal as well as two vertical sides on the front face of the formation.
- Jackhammer drilling with 32mm dia, this huge portion is further split into several blocks of required dimensions, only slurry explosives are used for secondary fragmentation and handling of waste.
- Hydraulic Excavator coupled with tippers is deployed for the formation of benches and loading
- There is no mineral processing or ore beneficiation proposed
- Proposed bench height is 5m and 5m width with 60^0slope
- The waste material generated during quarrying activity includes rock fragments of different sizes, and waste chips during dressing of the blocks. The waste materials are taken in tippers and proposed to be dumped in the respective approved places ear-marked for the purpose and the same will be utilized for backfilling in the northern side of the lease area during conceptual stage.

2.5.1 Drilling

Drilling will be carried out as per parameters given below: -

Spacing - 1m, Burden - 0.8m, Depth of hole - 1.5m

2.5.2 Blasting

Blasting will be done as per details below: -

Controlled blasting parameter: -

Spacing – 1m
Burden – 0.8 m
Depth of hole – 1.5 m
Charge per hole – 125 gms
Powder factor – 7.0 tonnes/kg
Dia of hole – 32 mm

Details of blasting design and parameters are discussed in approved mining plan.

2.5.3 Extent of Mechanization

Table 2.8: Machinery Details Proposed

Drilling Equipment's					
Type	**No of Unit**	**Dia of Hole mm**	**Size capacity**	**Make**	**Motive Power**
Jack Hammer	5	35	1.2m to 6m	Atlas Copco	Compressed air
Compressor	2	-	400psi	Atlas Copco	Diesel drive
Diamond Wire Saw	1	-	$20m^3$/day	Optima	Diesel Generator
Diesel Generator	1	-	125kva	Powerica	Diesel
Loading Equipment					
Type	**No of Unit**	**Capacity**	**Make**	**Motive Power**	
Crawler Crane	1	855	Tata P & H	Diesel Drive	
Excavator	1	300	Tata Hitachi	Diesel Drive	
Haulage within the Mine & Transport Equipment					
Type	**No of Unit**	**Capacity**	**Make**	**Motive Power**	
Tipper	3	20 tonnes	Tata	Diesel Drive	
Water Sprinkler	1	6000 Ltrs	Tata	Diesel Drive	

2.6 General Features

2.6.1 Existing Infrastructures

Infrastructures like Mine office, Temporary Rest shelters for workers, Latrine and Urinal Facilities will be constructed as per the Mine Rule after the grant of quarry lease.

2.6.2 Drainage Pattern

There are no streams, canals or water bodies crossing within the project area, hence there is no requirement of stream or canals diversion.

2.6.3 Traffic Density

The traffic survey conducted based on the transportation route of material, the Granite will be transported mainly through

Traffic density measurements were performed at Two locations

840m South Gollahalli Panchayat Road

1.8km NE Madarahalli-Bargur-Panchayat Road Traffic density measurement were made continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., Heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station during each shift- one person on either direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken.

Figure. 2.12: Mineral Transportation Route Map

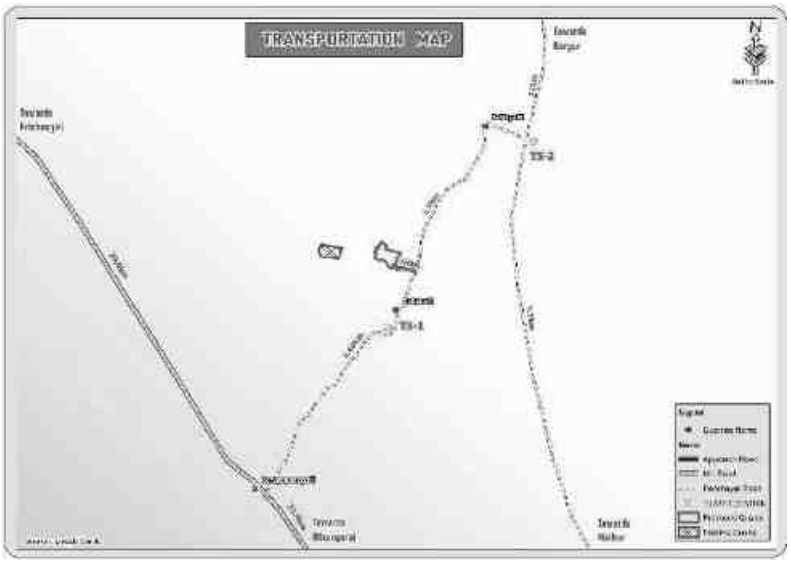


Table.2.9: Traffic Survey Locations

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Gollahalli Panchayat Road	840m South	Panchayat Road
TS2	Madarahalli-Bargur-Panchayat Road	1.8km NE	Panchayat Road

Source: On-site monitoring by GEMS FAE & TM

Table 2.10: Existing Traffic Volume

Station Code	HMV		LMV		2/3 Wheelers		Total PCU
	Number	PCU	Number	PCU	Number	PCU	
TS1	100	300	75	75	100	50	425
TS2	150	450	125	125	130	65	640

Source: On-site monitoring by GEMS FAE & TM

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

Table 2.11: Granite Hourly Transportation Requirement

Transportation of Granite per day			
Capacity of Trucks	No of trips per day	Volume in PCU	PCU considering 8 Hours
20Ts	9	27	3

Source: Data analysed from Approved Mining plan

Table 2.12: Summary of Traffic Volume

Route	Existing Traffic Volume in PCU	Incremental Traffic Due to the project in PCU	Total Traffic Volume in PCU	Hourly Capacity in PCU as per IRC - 1960
Gollahalli Panchayat Road	425	27	452	1200
Madarahalli-Bargur-Panchayat Road	640	27	667	1200

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

Due to this project the existing traffic volume will not exceed

As per the IRC 1960 this existing village road can handle 1,200 PCU in hour and Major district road can handle 1500 PCU in hour hence there will not be any conjunction due to this proposed transportation.

2.6.4 Mineral Beneficiation and Processing

There is no proposal for the mineral processing or ore beneficiation in this project

2.7 Project Requirement

2.7.1 Water Source & Requirement

Detail of water requirements in KLD as given below:

Table 2.13 Water Requirement for the Project

Purpose	Quantity	Source
Domestic & Drinking purpose	1.5 KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.
Dust Suppression	2.0 KLD	From Existing bore wells from nearby area
Green Belt	1.8 KLD	From Existing bore wells from nearby area
Total	**5.3 KLD**	

Source: Prefeasibility report

* Drinking water will be sourced from Approved Water Vendors

2.7.2 Power and Other Infrastructure Requirement

The project does not require power supply for the mining operations. The quarrying activity is proposed during day time only (General Shift 8 AM – 5 PM, Lunch Break 1 PM – 2 PM). Electricity for use in office and other internal infrastructure will be obtained from TNEB.

The temporary infrastructures such as Mine Office, First Aid Room, Rest Shelter etc., will be constructed within the project area before commencing the quarry operation. No workshops are proposed inside the project area hence there will not be any process effluent generation from the proposed lease area. Domestic effluent from the mine office will be discharged to septic tank and soak pit. There is no toxic effluent expected to generate in the form of solid, liquid or gaseous form hence there is no requirement of waste treatment plant.

2.7.3 Fuel Requirement

High speed Diesel (HSD) will be used for mining machineries. Diesel will be brought from nearby Fuel Stations. High speed Diesel (HSD) will be used for mining machineries. Diesel will be brought from nearby Fuel Stations.

One Hydraulic Excavator will excavate and loading into the tippers about 20m^3/Hour

Hydraulic Excavator will consume about 16 Ltrs per hour

Per hour Excavator will consume	=	16 liters / hour
Per hour Excavator will excavate	=	10m^3
For 84,625 m^3 (for mining plan period)	=	84,625/10
Diesel consume 8,462 working hours	=	8,462 hours x 16 liters
	=	**1,35,392Ltrs** of HSD for mining plan period

The HSD (High Speed Diesel) will be obtained from nearby fuel station near the vicinity of the project site and will be transported in Fuel Barrel specified for transport of HSD (High Speed Diesel).

Source: Prefeasibility Report

2.8 Employment Requirement:

The skilled, competent qualified statutory persons will be engaged for quarrying operation, preference will be given to the local community.

Table 2.14: Employment Potential

S.No	Description	Numbers
Supervisory Category		
1	Mines Manager	1
2	Geologist	1
3	Mines Foreman	1
4	Blaster / Mate	1
Skilled labour		
4	Excavator - Operator	1
5	Crane Operator	1
6	Wire saw operator	1
7	Tipper Driver	3
8	Water Sprinkler Driver	1
9	Jack Hammer Drillers	10
Unskilled Labour		
10	Security	1
11	Helper	2

12	Co-operator & Cleaner	6
Total		**30**

Source: Approved Mining Plan

2.9 Project Implementation Schedule

The mining operation will commence after the grant of Environmental Clearance. CTO will be obtained from the Tamil Nadu State Pollution Control Board. The conditions imposed during the Environmental Clearance will be compiled before the start of mining operation.

Table 2.15 Expected time Schedule

Sl. No	Particulars	Time Schedule (in month)					Remarks if any
		1st	2nd	3rd	4th	5th	
1	Environmental Clearance						
2	Consent to operate						Production Start Period
Time line may vary; subjected to rules and regulations /& other unforeseen circumstances							

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

3. DESCRIPTION OF ENVIRONMENT

3.0 General

This chapter presents a regional background to the baseline data at the very onset, which will help in better appreciation of micro-level field data, generated on several environmental and ecological attributes of the study area. The baseline environment quality represents the background environmental scenario of various environmental components such as Land, Water, Air, Noise, Biological and Socio-economic status of the study area. Field monitoring studies to evaluate the base line status of the project site were carried out covering March to May 2026 with CPCB guidelines. Environmental data has been collected with reference to cluster quarries by Global Lab and Consultancy Services ,

for the below attributes –

- Land
- Water
- Air
- Noise
- Biological
- Socio-economic status

Study Area

An area of 10 km radius (aerial distance) from the periphery of the cluster is considered for EIA study. The data collection has been used to understand the existing environment scenario around the cluster against which the potential impacts of the project can be assessed. The study area has been divided into two zones viz core zone and buffer zone where core zone is considered as cluster quarries area and buffer zone taken as 10km radius from the periphery of the Cluster quarries. Both Core zone and Buffer zone is taken as the study area.

Study Period

The baseline study was conducted during the summer season i.e., March to May 2026.

Study Methodology

- The boundary coordinates were superimposed on the satellite imagery to understand the relief of the area, besides Land use pattern of the area was studied through the Bhuvan (ISRO).
- Soil samples were collected and analysed for relevant physio-chemical characteristics, exchangeable Cations, nutrients & micro nutrients etc., in order to assess the impact due to mining activities and to recommend saplings for Greenbelt development.
- Ground water samples were collected during the study period from the existing bore wells, while surface water was collected from ponds in the buffer zone. The samples were analysed for parameters necessary to determine water quality (based on IS: 10500:2012 criteria) and those which are relevant from the point of view of environmental impact of the proposed mines.
- An onsite meteorological station was setup in project area, to collect data about wind speed, wind direction, temperature, relative humidity, rainfall and general weather conditions were recorded throughout the study period.
- In order to assess the Ambient Air Quality (AAQ), samples of ambient air were collected by installation of Respiratory Dust Samplers (RDS) for Fugitive dust, PM10 and SO2, NOX with gaseous attachments & Fine Dust Samplers (FDS) for PM2.5 and other parameters as per NAAQ norms and analysed for primary air pollutants to work out the existing status of air quality.
- The Noise level measurements were also made at various locations in different intervals of time with the help of sound level meter to establish the baseline noise levels in the impact zone.
- Baseline biological studies were carried out to assess the ecology of the study area to study the existing flora and fauna pattern of the area.
- Socio-Economic survey was conducted at village and household level in the study area to understand the present socio-economic conditions and assess the extent of impact due to the proposed mining project.

The sampling methodologies for the various environmental parameters required for the study, frequency of sampling, method of samples analysis, etc., are given below Table 3.1.

Table 3.1: Monitoring Attributes and Frequency of Monitoring

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land-use Land cover	Land-use Pattern within 10 km radius of the study area	Data from census handbook 2011 and from the satellite imagery	Study Area	Satellite Imagery Primary Survey
*Soil	Physio - Chemical Characteristics	Once during the study period	6 (2 core & 4 buffer zone)	IS 2720 Agriculture Handbook - Indian Council of Agriculture Research, New Delhi
*Water Quality	Physical, Chemical and Bacteriological Parameters	Once during the study period	6 (2 surface water & 4 ground water)	IS 10500& CPCB Standards
Meteorology	Wind Speed Wind Direction Temperature Cloud cover Dry bulb temperature Rainfall	1 Hourly Continuous Mechanical/Automatic Weather Station	1	Site specific primary data & Secondary Data from IMD Station-Krishnagiri
*Ambient Air Quality	PM10 PM2.5 SO2 NOX Fugitive Dust	24 hourly twice a week (Mar to May 2026)	7 (2 core & 4 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient Noise	Hourly observation for 24 Hours per location	7 (2 core & 4 buffer zone)	IS 9989 As per CPCB Guidelines
Ecology	Existing Flora and Fauna	Through field visit during the study period	Study Area	Primary Survey by Quadrate & Transect Study Secondary Data – Forest Working Plan
Socio Economic Aspects	Socio–Economic Characteristics, Population Statistics and Existing Infrastructure in the study area	Site Visit & Census Handbook, 2011	Study Area	Primary Survey, census handbook & need based assessments.

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

3.1 Land Environment

The main objective of this section is to provide a baseline status of the study area covering 10km radius around the proposed mine site so that temporal changes due to the mining activities on the surroundings can be assessed in future.

3.1.1 LAND USE/ LAND COVER

To study the land use pattern of the core as well as a buffer zone, land use/land cover details have been identified/ maps have been prepared in accordance with the **Standard ToR point no. 4 & 10 Stating**:

Point No. 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).

Point No. 10. Lard 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.

Current vintage data of Indian Remote Sensing Satellite RESOURCESAT1 (LISS-III) (False Color Composite) has been used for Land Use / Land Cover study. Satellite image has been procured from National Remote Sensing Centre, Hyderabad.

3.1.2 OBJECTIVE

The objectives of the LULC study are as follow:

- To develop the Land use & Land cover map using land coordinates of the quarry area (Core Zone) and 10 km radius from the quarry site (Buffer area).
- To Identify and mark the important Land use and Land cover features using the primary and secondary data collected.
- To evaluate the impacts on existing land use/cover features of the buffer area by the Proposed Project activities.
- To identify the mitigative measures for the sustainable use of land and to protect the buffer zone from the adverse impacts.

Technical specification of Satellite imagery Data Used:

Current vintage data of Indian Remote Sensing Satellite RESOURCESAT1 (LISS-III) digital FCC (False Color Composite) has been used for preparation of Land use/ Land cover thematic map of study area. Satellite image has been procured from National Remote Sensing Centre, Hyderabad. Survey of India Toposheet as a reference map on 1:50,000 scale has been used for preparation of base layer data like road, rail network; village for geo-referencing of satellite image.

Satellite Image - Resourcesat1-LISSIII, 23.5m Resolution
Satellite Data Source - NRSC, Hyderabad
Satellite Vintage - 14st July 2020, Swath 141km wide.
SOI Toposheet No - 57 H/ 11
Software Used - ArcGIS 10.8

The satellite image (FCC colour 3,2,1) of the buffer zone is given in 3.1

The spatial resolution and the spectral bands in which the sensor collects the remotely sensed data are two important parameters for any land use survey. Resourcesat1-LISSIII, 23m Resolution of 23.5m and a 141 km

wide swath of the earth in 23.5m resolution covering wide areas the data is collected in 4 visible bands namely band number and Resolution.

TABLE 3.2: Resourcesat1-LISSIII SENSOR characteristics

Band Number	Description	Wavelength	Resolution
Band 1	Green	0.52-0.59 µm	23.5 meters
Band 2	Red	0.62-0.68 µm	23.5meters
Band 3	NIR	0.77-0.86 µm	23.5meters
Band 4	SWIR	1.55-1.70 µm	70meters

Source: NRSC, Hyderabad

3.1.3 METHODOLOGY

The land use / land cover map is prepared by adopting the interpretation techniques of the Satellite image in combination with collateral data such as Survey of India topographical maps. Image classification is done by using visual interpretation techniques and digital classification using any of the image processing software. The various activities for preparation of LULC include pre-processing, rectification, image enhancements and classifying the satellite data for assessing the change in land use land cover due to proposed developmental activities.

- Preliminary/primary data collection of the study area
- Satellite data procurement from NRSC
- Secondary data collection from authorized bodies
- Survey of India Toposheet (SOI)
- Mine Layout
- Cadastral / Khasra map
- GPS Coordinates of Lease Boundary
- Processing of satellite data using ArcGIS 10.8 and preparing the Land Use & Land cover maps (e.g. Mine area, Existing Quarries, Settlements, Agriculture land, non-agriculture land, water bodies, etc.) by Digital Image Processing (DIP) technique.
- Geo-Referencing of the Survey of India Toposheet
- Geo-Referencing of satellite Imagery with the help of Geo-Referenced Toposheets
- Enhancement of the Satellite Imagery
- Base Map layer creation (Roads, Railway, Village Names, and other Secondary data, etc.)
- Data analysis and Classification using Digital interpretation techniques.
- Ground truth studies or field Verification.
- Error fixing / Reclassification
- Final Map Generation.

The land use/Land cover Map of the buffer zone is given in 3.4(b).

Land Use Pattern of the Buffer Zone (Study area)

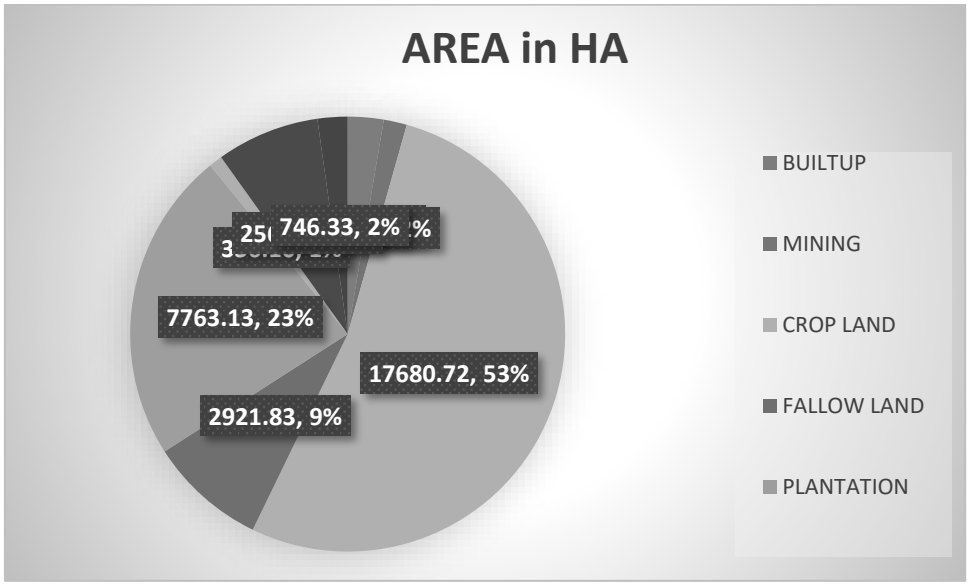
Details of the same are given in Table - 3.3 and the map is shown in Figure - 3.2

Table: 3.3 Land Use / Land Cover Details of Study Area

		10km Radius		2km Radius	
S.No	**CLASSIFICATION**	**AREA_HA**	**AREA_%**	**AREA_HA**	**AREA_%**
	BUILTUP				
1	BUILTUP	891.18	2.66	12.65	0.75
2	MINING	577.44	1.72	48.80	2.91
	AGRICULTURAL LAND				
3	CROP LAND	17680.72	52.81	1153.11	68.79
4	FALLOW LAND	2921.83	8.73	98.81	5.89
5	PLANTATION	7763.13	23.19	205.81	12.28
	FOREST LAND				
6	FOREST LAND	336.10	1.00	0.00	0.00
	BARREN/WASTE LANDS				
7	SCRUB LAND	2564.33	7.66	97.46	5.81
	WETLANDS/ WATER BODIES				
8	WATER BODIES/LAKE/ RIVER	746.33	2.23	59.71	3.56
TOTAL		33481.06	100.00	1676.33	100.00

Source: Bhuvan, NRSC.

Figure 3.1: Chart showing Landuse/Landcover analysis using LISS III Data



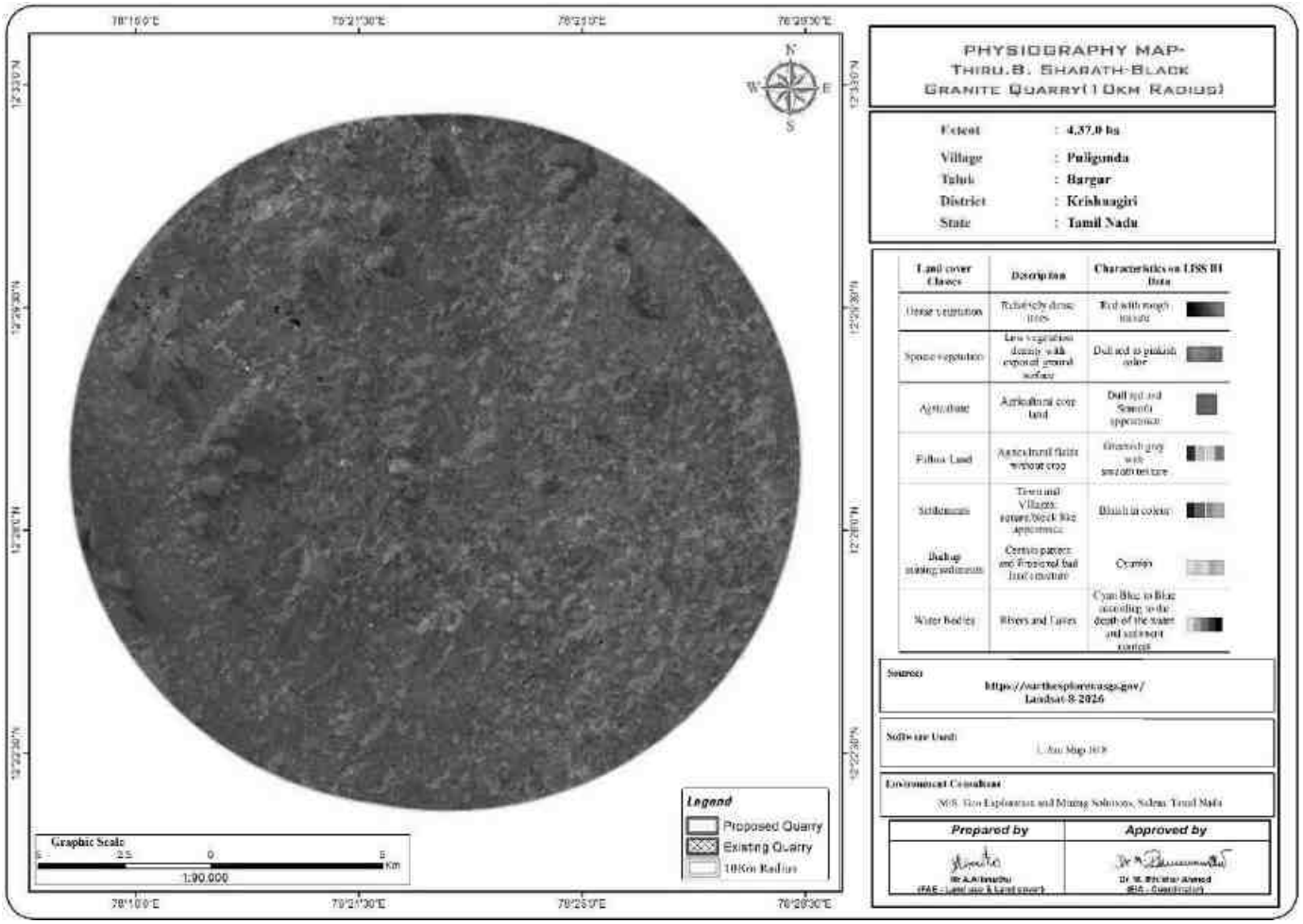
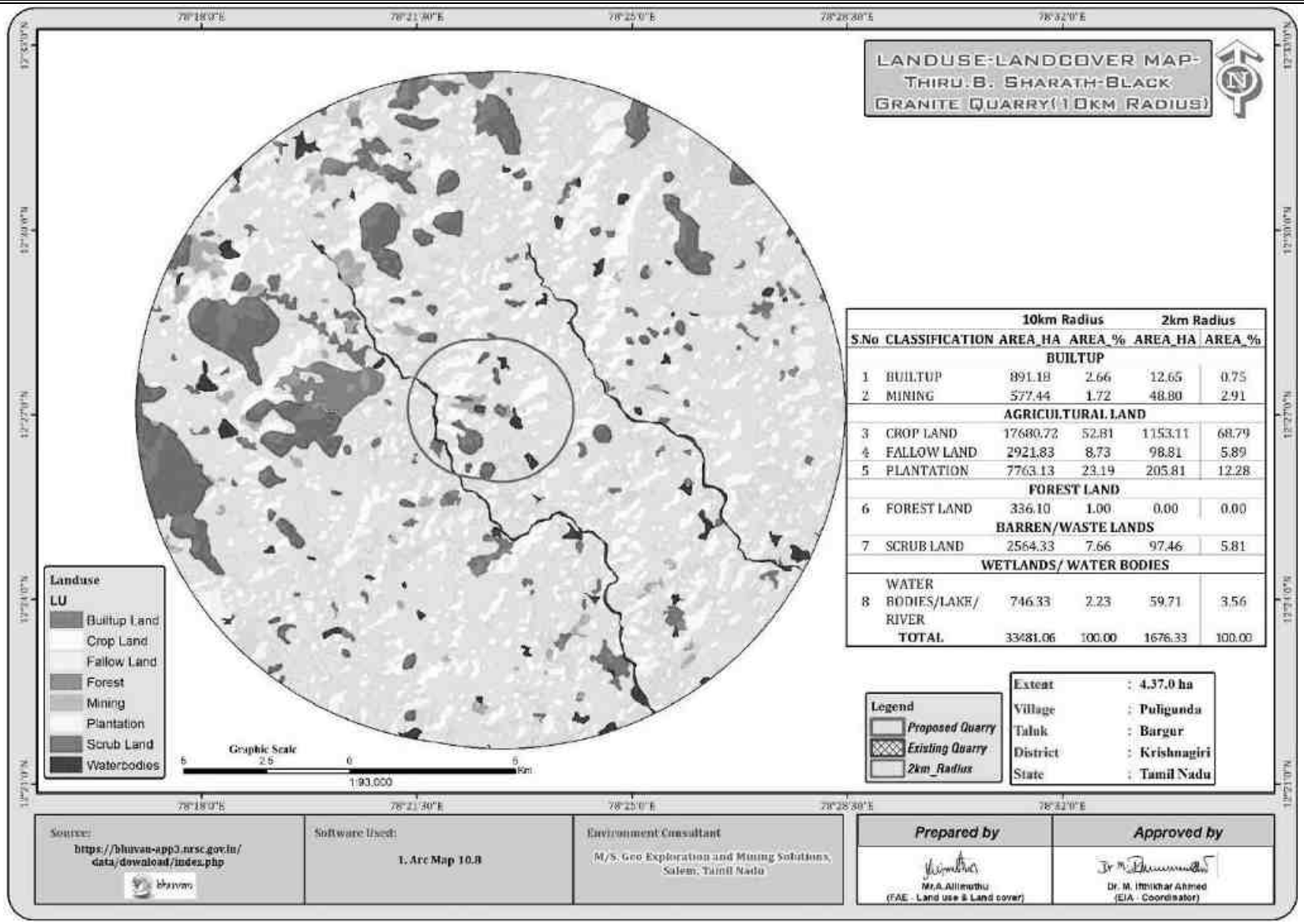


Figure 3.2: Map Showing False Color Composite (3,2,1) Satellite Imagery of The Study Area



S.No	CLASSIFICATION	10km Radius AREA_HA	10km Radius AREA_%	2km Radius AREA_HA	2km Radius AREA_%
	BUILTUP				
1	BUILTUP	891.18	2.66	12.65	0.75
2	MINING	577.44	1.72	48.80	2.91
	AGRICULTURAL LAND				
3	CROP LAND	17680.72	52.81	1153.11	68.79
4	FALLOW LAND	2921.83	8.73	98.81	5.89
5	PLANTATION	7763.13	23.19	205.81	12.28
	FOREST LAND				
6	FOREST LAND	336.10	1.00	0.00	0.00
	BARREN/WASTE LANDS				
7	SCRUB LAND	2564.33	7.66	97.46	5.81
	WETLANDS/ WATER BODIES				
8	WATER BODIES/LAKE/ RIVER	746.33	2.23	59.71	3.56
	TOTAL	33481.06	100.00	1676.33	100.00

Figure 3.3: Land Use Land Cover Map 10km Radius

3.1.4 Interpretation

- The 10 km radius study area mainly comprises of crop land & Agriculture Plantation land accounting of 52.81% & 23.19% of the total study area. The study area also consists of fallow land of 8.73%.
- Water Bodies such as ponds/ lakes comprises of 2.23% of the core and buffer area.
- The Scrub land accounts of 7.66%. As per the primary survey, it was observed the scrub land is mainly occupied by the stony waste and left-over domestic waste generated by the nearby areas.
- 1.72% of the total study area is occupied by the mine industries of captive/Non captive mines. The area occupied by Mainly Multi /Black colour granite of the total buffer area. As also observed within the primary survey, the 10 km buffer area is also occupied by the medium scaled granite and marble and small Brick kiln industries also located in the study area.
- 2.66% of the area is covered under the human Settlement. The nearest village within the 3 km radius from the project site boundary is observed to be villages like batlapalli, karadigollapatti, Pillaikottai,Prugopanapalli etc.,

3.1.5.1Topography

The area is situated in Slightly elevated terrain with gentle gradient towards Eastern side, maximum elevation of the area is 444 m above Mean Sea level.

3.1.5.6 Drainage Pattern of the Area

There are developed surface drainage channels in the study area. The drainage pattern of the area is dendritic it is inferred the rock-hard rock terrain.

The area is studded with few tanks that serve as the source of drinking water and also their surplus feeds adjoining tanks. The area is mostly dry in all seasons except rainy seasons.

During rainy season the surface runoff flows in NE to SW direction. The drainage pattern of the study area is given in Fig. 3.5. The quarrying activity will not hinder the natural flow of rainwater.

3.1.5.7 Seismic Sensitivity

The proposed project site falls in the seismic Zone II (Least active), low damage risk zone as per BMTPC, Vulnerability Atlas of Seismic zone of India IS: 1893 – 2002. The project area falls in the hard rock terrain on the peninsular shield of south India which is highly stable.

3.1.5.8 Environmental Features in the Study Area

Cauvery North Wildlife Sanctuary is situated 44.6km South West. There are no other Wildlife Sanctuaries, National Park and Archaeological monuments within cluster area. No Protected and Reserved Forest area is involved in the cluster area. Therefore, there will be no need to acquisition/diversion of forest land. The details related to the environment sensitivity around the cluster area i.e., 10km radius, are given in the below Table 3.3.

Table 3.4: Details of Environment Sensitivity around the Cluster

No	Sensitive Ecological Features	Name	Arial Distance in km from Cluster
1	National Park / Wild life Sanctuaries	Cauvery North wild life sanctuary Cauvery South wild life sanctuary	44.6 Km SW 48.5 Km SW
2	Reserve Forest	Togarappalli R.F	3.3 km -NW
3	Lake Reservoir	Tank	250m East
4	Tiger Reserve/ Elephant Reserve/ Biosphere Reserve	None	Nil within 10 km Radius
5	Critically Polluted Areas	None	Nil within 10 km Radius
6	Mangroves	None	Nil within 10 km Radius
7	Mountains/Hills	None	Nil within 10 km Radius
8	Notified Archaeological Sites	None	Nil within 10 km Radius
9	Industries/ Thermal Power Plants	None	Nil within 10 km Radius
10	Defence Installation	None	Nil within 10 km Radius

Source: Survey of India Toposheet

3.1.6 Soil Environment

Soil quality of the study area is one of the important components of the land environment. The composite soil samples were collected from the study area and analysed for different parameters. The locations of the monitoring sites are detailed in Table 3.4 and Figure 3.3.

Table 3.5: Soil Sampling Locations

S. No	Location Code	Monitoring Locations	Distance (km) and Direction	Coordinates
1	S-1	Core Zone	Project Area	12°27'6.81"N 78°22'51.00"E
2	S-2	Near Existing Quarry	350m West	12°27'6.45"N 78°22'36.29"E
3	S-3	Batlapalli (Agriculture Land)	1.7km NE	12°27'48.95"N 78°23'33.49"E
4	S-4	Perugopanapalli (School)	2.8km SW	12°25'52.46"N 78°21'50.76"E
5	S-5	Madarahalli (Barren land)	4.5km SE	12°24'51.08"N 78°24'8.48"E
6	S-6	Kondappanayanapalli (Residential Land)	4.6km NW	12°29'21.01"N 78°21'36.21"E

Source: On-site monitoring/sampling by Global Labs Private Limited in association with GEMS.

The objective of the soil sampling is -

- To determine the baseline soil characteristics of the study area;
- To determine the impact of proposed activity on soil characteristics and;
- To determine the impact on soil more importantly agriculture production point of view

Methodology –

For studying soil quality, sampling locations were selected to assess the existing soil conditions in and around the project site representing various land use conditions. The samples were collected by auger boring into the soil up to 90-cm depth. Six (6) locations were selected for soil sampling on the basis of soil types, vegetative cover, industrial & residential activities including infrastructure facilities, which would accord an overall idea of the soil characteristics. The samples were analysed for physical and chemical characteristics. The samples were sent to laboratory for analysis. The samples were filled in Polythene bags, coded and sent to laboratory for analysis and the details of methodology in respect are given in below Table 3.5.

Table 3.6: Methodology of Sampling Collection

Particulars	Details
Frequency	One grab sample from each station-once during the study period
Methodology	Composite grab samples of the topsoil were collected from 3 depths, and mixed to provide a representative sample for analysis. They were stored in airtight Polythene bags and analysed at the laboratory.

Source: On-site monitoring/sampling by Global Labs Private Limited in association with GEMS

Soil Testing Result –

The samples were analysed as per the standard methods prescribed in "Soil Chemical Analysis (M.L. Jackson, 1967) & Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India".

Figure 3.5: Soil Sampling Locations Around 10 Km Radius

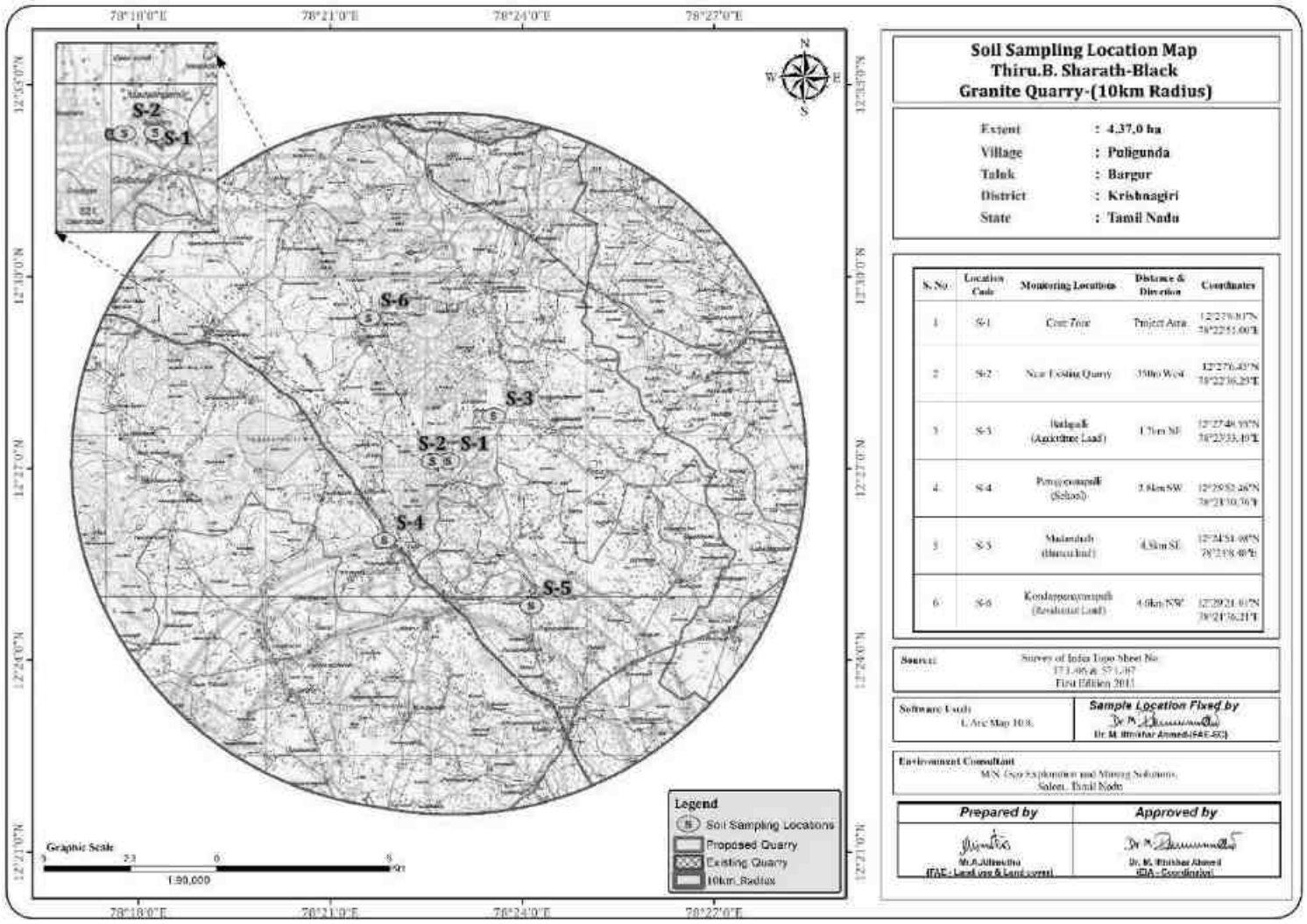
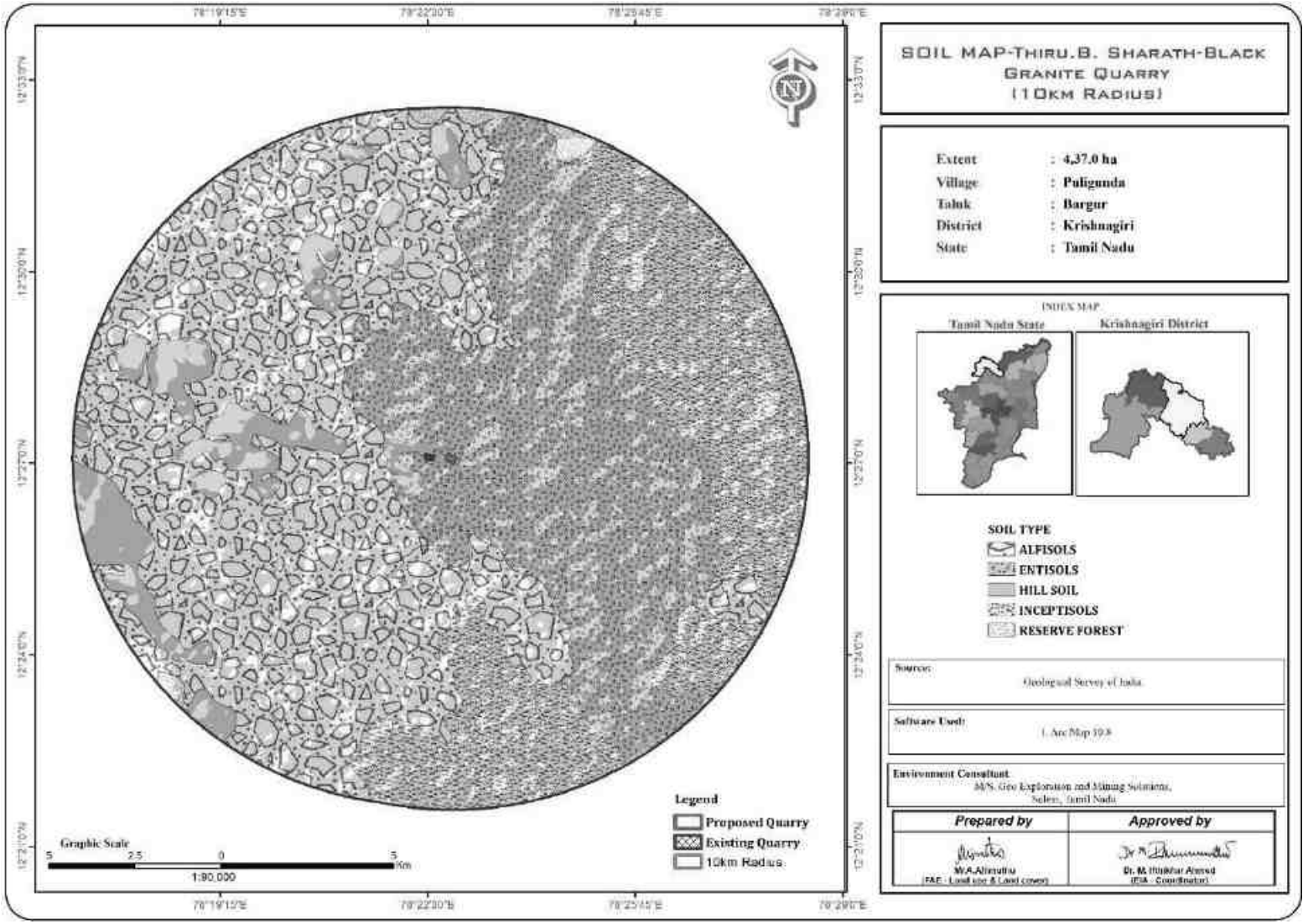


Figure 3.6: Soil Map



Interpretation & Conclusion

The physical properties of the soil samples were examined for texture, bulk density, porosity and water holding capacity. The soil texture found in the study area is Clay Loam Soil 13.15% to 23.55% and Bulk Density of Soils in the study area varied between 1.00 – 1.003 g/cm^3. The Water Holding Capacity and Porosity of the soil samples is found to be medium i.e. ranging from 33-40.0 %. And 46.6-48.3%.

- The nature of soil is slightly alkaline to strongly alkaline with pH range 5.8-6.8
- The available Nitrogen content range between 222.8 – 349.8 mg/kg
- The available Phosphorus content range between 3.8 mg/kg -6.5 mg/kg
- The available Potassium range between 0.56 mg/kg to 0.78 mg/kg
- Whereas, the micronutrient as zinc (Zn) and iron (Fe) were found in the range of 1.08 mg/kg to 2.58 mg/kg; 1.08 mg/kg to 3.56 mg/kg.

3.2 Water Environment

The water resources, both surface and groundwater play a significant role in the development of the area. The purpose of this study is to assess the water quality characteristics for critical parameters and evaluate the impacts on agricultural productivity, domestic community usage, recreational resources and aesthetics in the vicinity. The water samples were collected and transported as per the norms in pre-treated sampling cans to laboratory for analysis.

3.2.1 Surface Water Resources:

The study area is studded with few tanks that serve as the source of drinking water and also their surplus feeds adjoining tanks. The rainfall over the area is moderate, the rainwater storage in open wells and trenches are in practice over the area and the stored water acts as source of freshwater for couple of months after rainy season.

Table 3.7: Water Bodies in the Buffer Zone

Sl.No.	Water Bodies	Distance
1	Tank	250m SE
2	Odai	1.7km SW
3	Bargur Aru	2.9km NE
4	Kanandahalli Lake	3.3km South

Source: Survey of India Toposheet

3.2.3 Methodology

Reconnaissance survey was undertaken and monitoring locations were finalized based on;

- Drainage pattern;

- Location of Residential areas representing different activities/likely impact areas; and
- Likely areas, which can represent baseline conditions

Two (2) surface water and four (4) ground water samples were collected from the study area and were analysed for physio-chemical, heavy metals and bacteriological parameters in order to assess the effect of mining and other activities on surface and ground water. The samples were analysed as per the procedures specified by CPCB, IS-10500:2012 and 'Standard methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA). The water sampling locations are given in Table 3.8 and shown as Figure 3.5.

Table 3.8: Water Sampling Locations

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	SW-1	Bargur River	3km NE	12°27'37.09"N 78°24'27.43"E
2	SW-2	Karadigollapatti Tank	300m SE	12°26'53.05"N 78°23'1.53"E
3	OW-1	Near Project Area	140m West	12°27'8.42"N 78°22'43.19"E
4	BW-1	Near Project Area	270m NE	12°27'13.53"N 78°22'58.73"E
5	BW-2	Perugopanapalli	2.8km SW	12°25'54.93"N 78°21'48.69"E
6	BW-3	Kondappanayanapalli	4.6km NW	12°29'21.53"N 78°21'39.72"E

Source: On-site monitoring/sampling by GLCS in association with GEMS.

3.2.4 Interpretation & Conclusion

Surface Water

Ph:

The pH varied from 7.82 – 7.98 while turbidity found within the standards (Optimal pH range for sustainable aquatic life is 6.5 to 8.5 pH).

Total Dissolved Solids:

Total Dissolved Solids varied from 808 – 843 mg/l the TDS mainly composed of carbonates, bicarbonates, Chlorides, phosphates and nitrates of calcium, magnesium, sodium and other organic matter.

Other parameters:

Chloride varied between 238.7 – 250.2 mg/l

Ground Water

The pH of the water samples collected ranged from 7.20 – 7.63 and within the acceptable limit of 6.5 to 8.5. pH, Sulphates and Chlorides of water samples from all the sources are within the limits as per the Standard. On Turbidity, the water samples meet the requirement. The Total Dissolved Solids were found in the range of 768 - 856 mg/l in all samples. The Total hardness varied between 282.8 – 383.8 mg/l.

On Microbiological parameters, the water samples from all the locations meet the requirement. The parameters thus analysed were compared with IS 10500:2012 and are well within the prescribed limits.

3.2.5 Hydrology and Hydrogeological studies

The district is underlain by hard rock formation fissured and fractured crystalline rocks constitute the important aquifer systems in the district. Geophysical prospecting was carried out in that area by SSRMP-ATS Instrument by qualified Geo physicist with the help of IGIS software and it was inferred that the low resistance encountered at the depth between 64m Bgl. The maximum depth proposed out of proposed projects is 26 m BGL for the entire period. Hence there is no possibilities of water table intersection during the entire mine life period besides it is also inferred topographically that there are no major water bodies intersecting the project area. There is no necessity of stream, channel diversion due to these proposed projects.

During the rainy season there is a possibility of collection of seepage water from the subsurface levels this is due to the high intensity of fracture and weathered portion up to a depth of 26m thus the collected seepage water will be stored in the mine sump pits and will be used for dust suppression and greenbelt development and during the end of the life of the mine this collected water will act as a temporary reservoir.

3.2.6 Ground Water Resources:

Krishnagiri district is underlain entirely by Archaean Crystalline formations with Recent alluvial deposits occurring along the river and streams courses and colluvium of valley-fills. The important aquifer systems in the district are constituted by weathered, fissured and fractured crystalline rocks and the recent alluvial deposits. Ground water occurs under phreatic conditions. The maximum saturated thickness of these aquifers is up to 5 m depending upon the topographic conditions. The study area falls in the Bargur

There are 9 open wells and 9Bore wells within the radius of 1km Most of the wells are almost in dry conditions: - The details of the well and depth in monsoon and non-monsoon is described below:

Table 3.9: Details of Borewell & Water Level In 1km Radius

S.No	Name	LATITUDE	LONGITUDE	Mar-26	Apr-26	May-26
1	**BW-1**	12° 27' 13.4971" N	78° 22' 58.7078" E	77.6	78.2	78.8
2	**BW-2**	12° 26' 57.5521" N	78° 23' 21.4052" E	77.8	78.4	79
3	**BW-3**	12° 27' 23.1640" N	78° 22' 09.2326" E	78.2	78.8	79.4
4	**BW-4**	12° 27' 19.9538" N	78° 21' 43.5501" E	78.1	78.7	79.3
5	**BW-5**	12° 27' 53.2910" N	78° 22' 16.9379" E	77.5	78.1	78.7
6	**BW-6**	12° 27' 06.5374" N	78° 23' 29.0264" E	78.8	79.4	80
7	**BW-7**	12° 26' 54.3063" N	78° 23' 42.3204" E	78.6	79.2	79.8
8	**BW-8**	12° 26' 35.9514" N	78° 22' 43.9603" E	79	79.6	80.2
9	**BW-9**	12° 26' 11.5427" N	78° 22' 59.1302" E	78.2	78.8	79.4

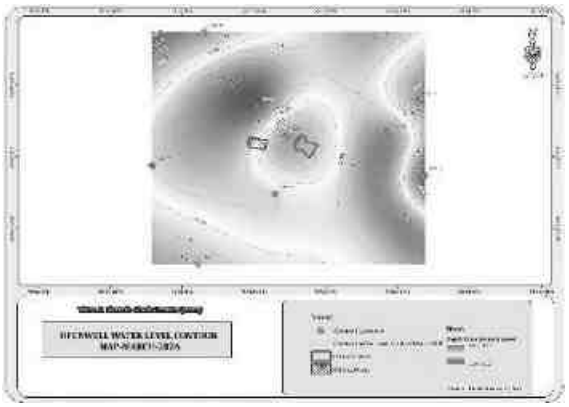
Source: Data obtained by the FAE & Team Members

Table 3.10: Details of Open well & Water Level in 1km Radius

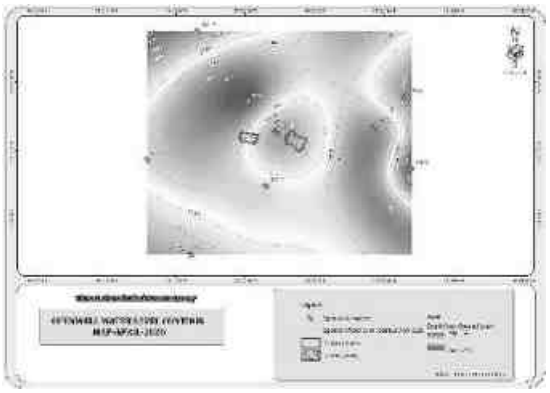
S.No	LABEL	LATITUDE	LONGITUDE	Mar-26	Apr-26	May-26
1	**OW-1**	12° 27' 08.4031" N	78° 22' 43.2043" E	13.2	13.8	14.4
2	**OW-2**	12° 27' 10.1803" N	78° 23' 25.6805" E	12.6	13.2	13.8
3	**OW-3**	12° 27' 23.4808" N	78° 23' 38.9512" E	13.2	13.8	14.4
4	**OW-4**	12° 26' 52.4443" N	78° 23' 41.4785" E	13.6	14.2	14.8
5	**OW-5**	12° 26' 44.8465" N	78° 22' 38.9069" E	12.8	13.4	14
6	**OW-6**	12° 26' 15.3240" N	78° 22' 06.3753" E	13.1	13.7	14.3
7	**OW-7**	12° 26' 56.3802" N	78° 21' 47.4950" E	12.8	13.4	14
8	**OW-8**	12° 27' 21.2945" N	78° 22' 31.0281" E	12.4	13	13.6
9	**OW-9**	12° 27' 52.0139" N	78° 22' 09.3718" E	13.2	13.8	14.4

Figure 3.8: Pre Monsoon Water Level of Open Well 1 Km Radius

Mar-26



Apr-2026



May-2026

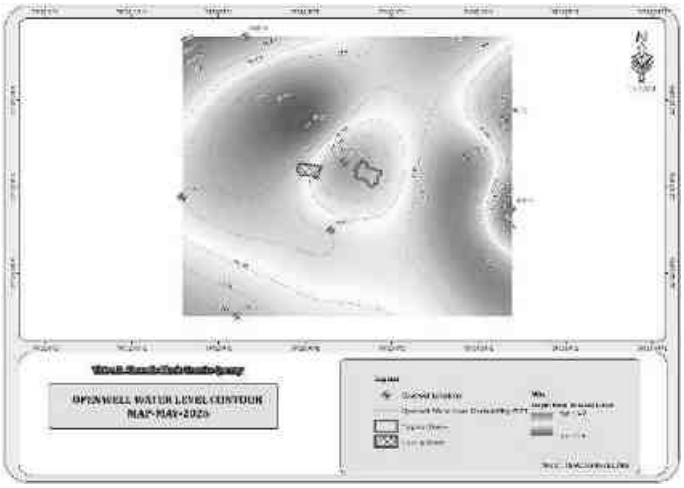
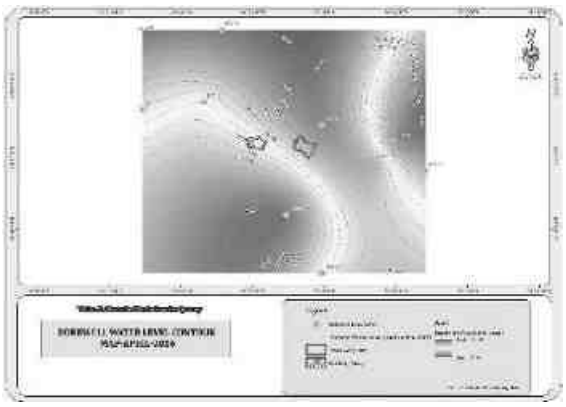


Figure 3.9: : Pre Monsoon Water Level of Bore Well 1 Km Radius

Mar-26



Apr-2026



May 2026

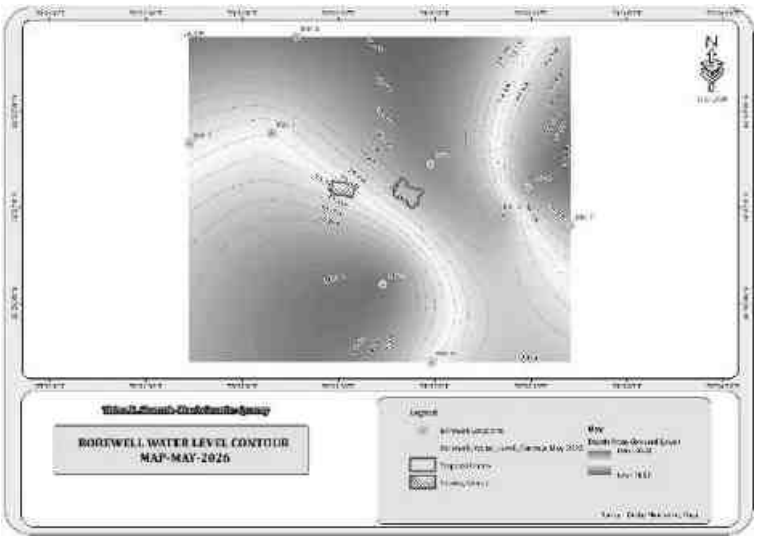


Figure 3.10: Drainage Map Around 10 Km Radius from Project Site

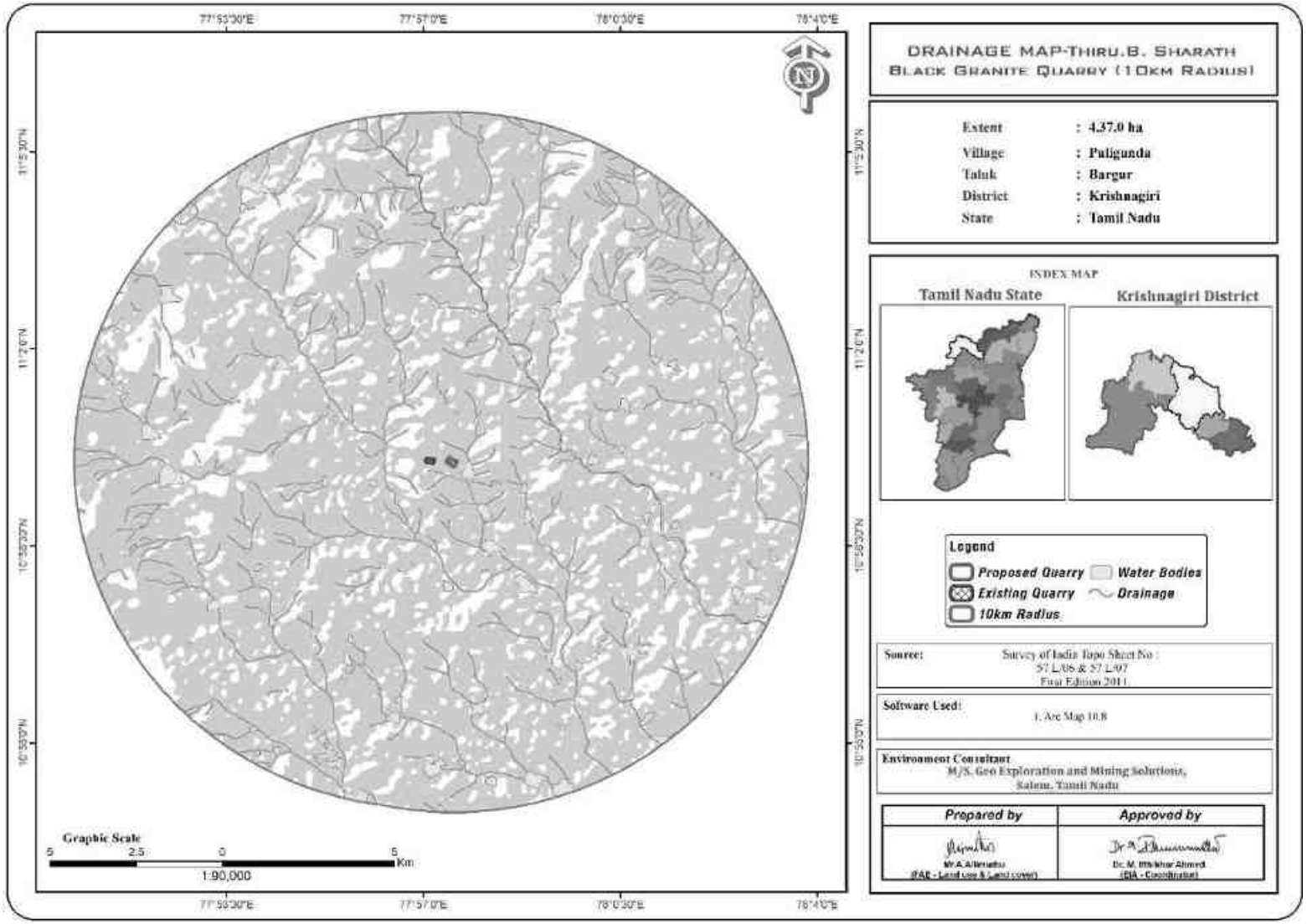
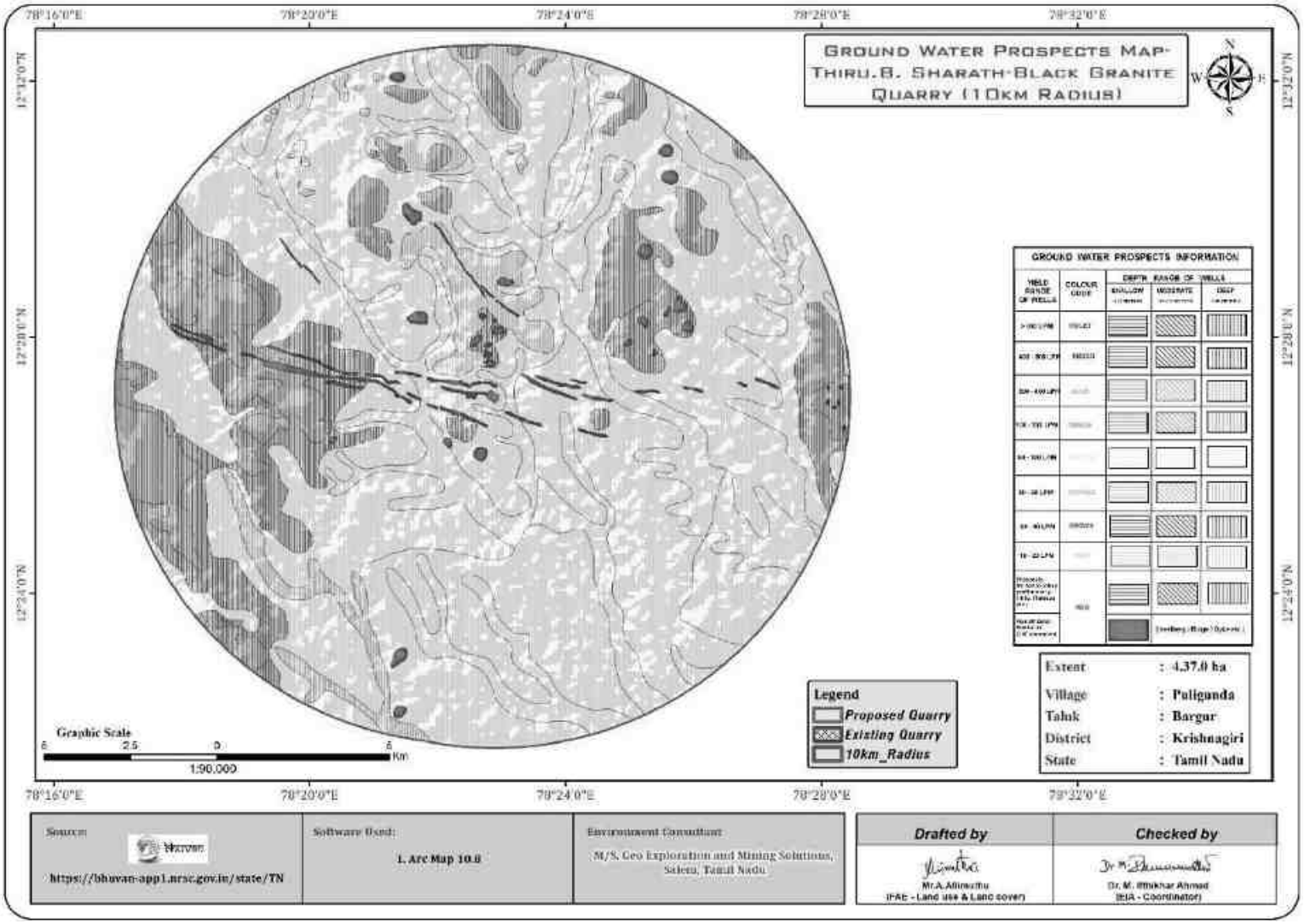


Figure 3.11: Ground Water Prospect Map



3.3 Air Environment

The existing ambient air quality of the area is important for evaluating the impact of mining activities on the ambient air quality. The baseline studies on air environment include identification of specific air pollution parameters and their existing levels in ambient air. The ambient air quality with respect to the study zone of 10 km radius around the cluster forms the baseline information. The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities. The prime objective of the baseline air quality study was to establish the existing ambient air quality of the study area. These will also be useful for assessing the conformity to standards of the ambient air quality during the operation of proposed projects in cluster.

This section describes the identification of sampling locations, methodology adopted during the monitoring period and sampling frequency.

3.3.1 Meteorology & Climate

Meteorology is the key to understand the Air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind in the broadest sense. Wind fluctuations over a very wide range of time, accomplish dispersion and strongly influence other processes associated with them.

A temporary meteorological station was installed at project site by covering cluster quarries. The station was installed at a height of 3 m above the ground level in such a way that there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature are recorded on hourly basis.

Climate –

- The climate is tropical in Krishnagiri. The summers are much rainier than the winters in Krishnagiri. This climate is considered to be Aw according to the Köppen-Geiger climate classification. The temperature here averages 25.5 °C | 77.9 °F.
- Precipitation here is about 773 mm | 30.4 inch per year.
- Because Krishnagiri is located near the equator, the summers are not easy to define.
- The most opportune time to visit are January, February, March, April, May, June, July, August, September, October, November.
- The driest month is February. There is 6 mm | 0.2 inch of precipitation in February. The greatest amount of precipitation occurs in October, with an average of 144 mm | 5.7 inch. With an average of 29.0 °C | 84.2 °F, April is the warmest month.
- The lowest average temperatures in the year occur in December, when it is around 21.9 °C | 71.4 °F.

https://en.climate-data.org/asia/india/tamil-nadu/krishnagiri-34157/

Rainfall

Table 3.11: Rainfall Data

Actual Rainfall in mm					Normal Rainfall in mm
2017	2018	2019	2020	2021	
1145.6	510.4	730.0	798.6	985.4	985

Source: https://www.twadboard.tn.gov.in/content/krishnagiri

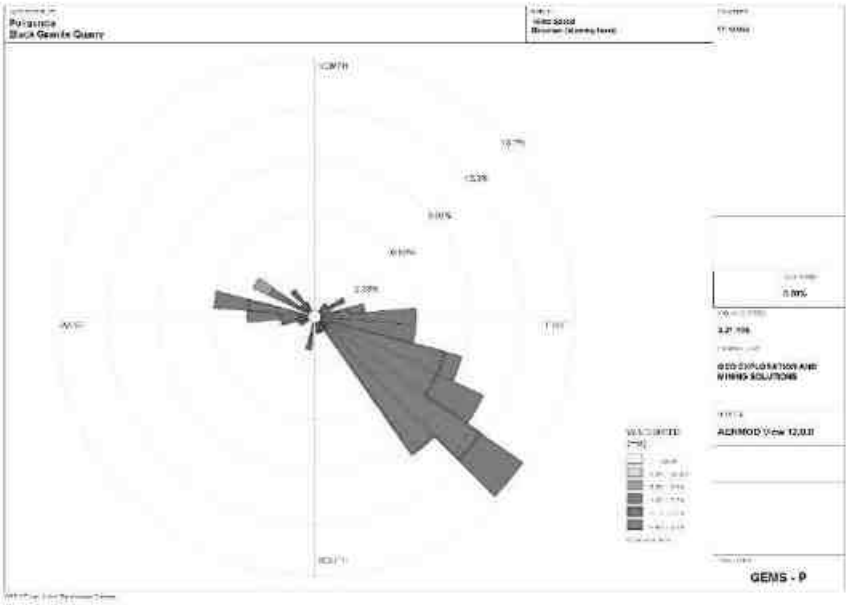
Table 3.12: Meteorological Data Recorded at Site

S.No	Parameters		Mar-2026	Apr-2026	May-2026
1	Temperature (^{0}C)	Max	29.45	31.50	29.48
		Min	25.39	27.46	26.15
		Avg	27.42	29.48	27.81
2	Relative Humidity (%)	Avg	51.61	50.16	67.79
3	Wind Speed (m/s)	Max	4.89	3.92	5.97
		Min	2.01	1.80	1.66
		Avg	3.45	2.86	3.81
4	Cloud Cover (OKTAS)		0-8	0-8	0-8
5	Wind Direction		E, ESE	ESE, SE	W, WNW

Correlation between Secondary and Primary Data

The meteorological data collected at the site is almost similar to that of secondary data collected from IMD station. A comparison of site data generated during the three months with that of IMD, Wind rose diagram of the study site is depicted in Figure. 3.8. Predominant downwind direction of the area during study season is East North East.

Figure 3.12: Windrose Diagram



In the abstract of collected data wind rose were drawn on presented in figure No.3.8 during the monitoring period in the study area

- Predominant winds were from SE, NE
- Wind velocity readings were recorded between 3.60 – 5.70 m/s
- Temperature readings ranging from 27.42 to 29.48 °C
- Relative humidity ranging from 50.16 to 67.79 %

3.3.2 Methodology and Objective

The prime objective of the ambient air quality study is to assess the existing air quality of study area and its conformity to NAAQS. The observed sources of air pollution in the study area are industrial, traffic and domestic activities. The baseline status of the ambient air quality has been established through a scientifically designed ambient air quality monitoring network considering the followings:

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

3.3.3 Sampling and Analytical Techniques

Parameter	Method	Instrument
$PM_{2.5}$	Gravimetric Method Beta attenuation Method	Fine Particulate Sampler Make – Thermo Environmental Instruments – TEI 121
PM_{10}	Gravimetric Method Beta attenuation Method	Respirable Dust Sampler Make –Thermo Environmental Instruments – TEI 108
SO_2	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
NO_x	IS-5182 Part II (Jacob & Hochheiser modified method)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

Table 3.16: National Ambient Air Quality Standards

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

Source: NAAQS CPCB Notification No. B-29016/20/90/PCI-I Dated: 18th Nov 2009
*Annual Arithmetic mean of minimum 104 measurements in a year taken twice a Week 24 hourly at uniform interval

** 24 hourly / 8 hourly or 1 hourly monitored value as applicable shall be complied with 98 % of the time in a year. However, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

3.3.4 Frequency & Parameters for Sampling

Ambient air quality monitoring has been carried out with a frequency of two samples per week at Seven (7) locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period March 2026 – May 2026 The baseline data of ambient air has been generated for $PM_{10,}$ $PM_{2.5}$, Sulphur Dioxide (SO_2) & Nitrogen Dioxide (NO_2) Monitoring has been carried out as per the CPCB, MoEF guidelines and notifications.

It was ensured that the equipment was placed preferably at a height of at least 3 ± 0.5m above the ground level at each monitoring station, for negating the effects of wind-blown ground dust. The equipment was placed at open space free from trees and vegetation which otherwise act as a sink of pollutants resulting in lower levels in monitoring results.

3.3.5 Ambient Air Quality Monitoring Stations

Seven (7) monitoring stations were set up in the study area as depicted in Figure 3.15 for assessment of the existing ambient air quality. Details of the sampling locations are as per given below.

Table 3.13: Ambient Air Quality (AAQ) Monitoring Locations

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	AAQ-1	Core Zone	Project Area	12°27'1.68"N 78°22'53.49"E
2	AAQ-2	Core Zone	Project Area	12°27'6.56"N 78°22'49.69"E
3	AAQ-3	Near Existing Quarry	350m West	12°27'7.57"N 78°22'35.96"E
4	AAQ-4	Batlapalli	1.7km NE	12°27'50.28"N 78°23'30.90"E
5	AAQ-5	Perugopanapalli	2.8km SW	12°25'52.01"N 78°21'50.75"E
6	AAQ-6	Madarahalli	4.5km SE	12°24'50.93"N 78°24'7.10"E
7	AAQ-7	Kondappanayanapalli	4.6km NW	12°29'22.18"N 78°21'37.68"E

Source: On-site monitoring/sampling by GLCS in association with GEMS

Figure 3.13: Ambient Air Quality Locations Around 10 Km Radius

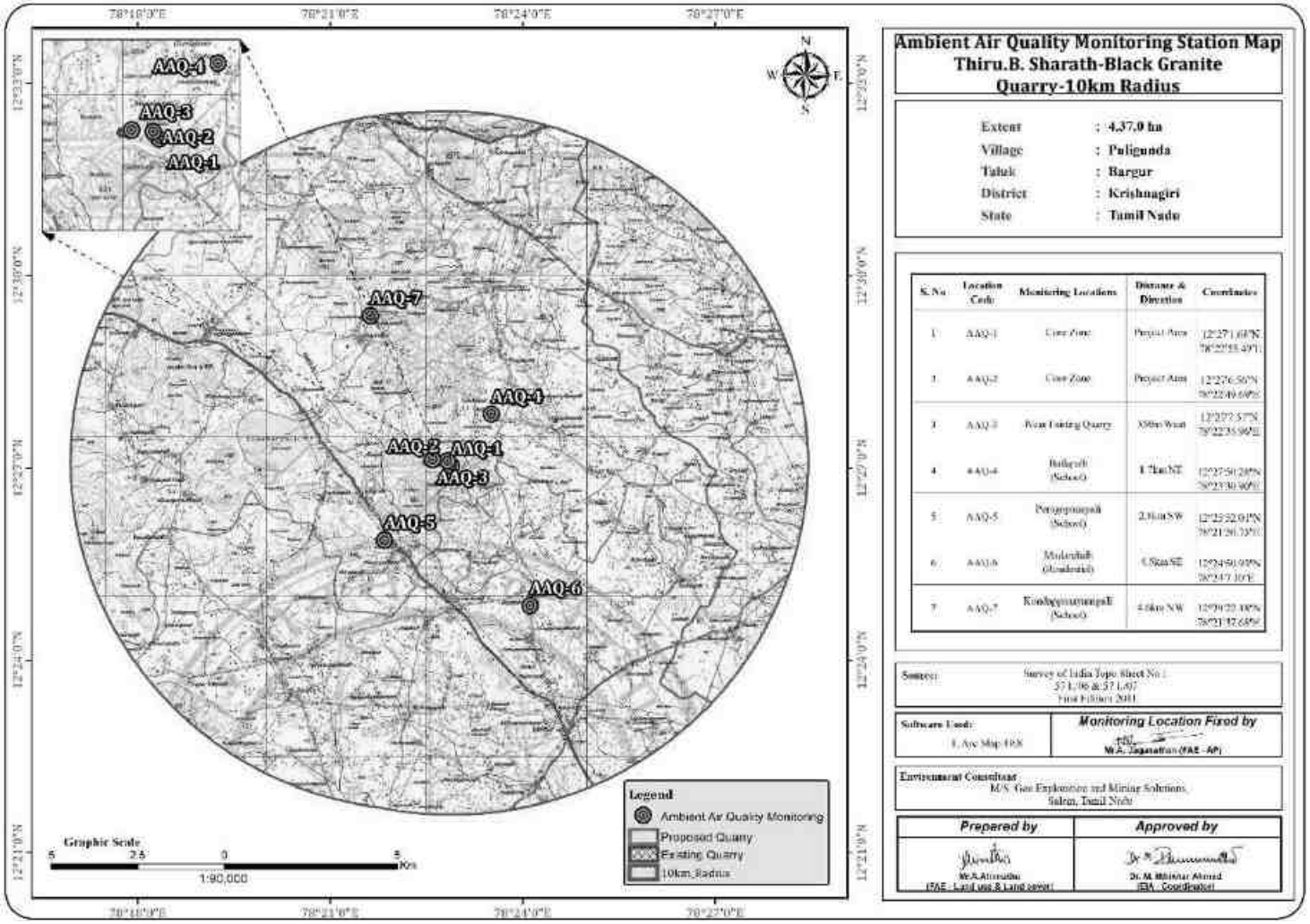


Table 3.14: Abstract of Ambient Air Quality Data

1	**Parameter**	**PM10**	**PM2.5**	**SO_2**	**NO_2**
2	No. of Observations	181	181	181	181
3	10th Percentile Value	48.3	19.5	1.0	18.8
4	20th Percentile Value	50.4	19.9	4.1	19.1
5	30th Percentile Value	51.0	20.4	4.2	19.4
6	40th Percentile Value	51.7	20.8	4.3	19.6
7	50th Percentile Value	52.3	21.6	4.5	19.7
8	60th Percentile Value	53.0	22.0	4.6	20.0
9	70th Percentile Value	53.7	22.7	4.7	20.2
10	80th Percentile Value	54.6	23.3	4.9	20.6
11	90th Percentile Value	55.6	24.1	5.1	21.0
12	95th Percentile Value	55.8	24.5	5.3	21.4
13	98th Percentile Value	56.1	25.3	5.4	21.7
14	Arithmetic Mean	52.0	21.6	4.1	19.8
15	Geometric Mean	51.9	21.5	3.7	19.8
16	Standard Deviation	3.2	2.0	1.3	0.9
17	Minimum	40.2	18.3	1.0	17.3
18	Maximum	57.3	33.0	6.1	22.3
19	**NAAQ Norms***	**100.0**	**60.0**	**80.0**	**80.0**
	% Values exceeding Norms*	0.0	0.0	0.0	0.0

Legend: $PM_{2.5}$-Particulate Matter size less than 2.5 µm; PM_{10}-Respirable Particulate Matter size less than 10 µm; SO_2-Sulphur dioxide; NO_2-Nitrogen Dioxide; CO-Carbon monoxide; O_3-Ozone; NH_3-Ammonia; Pb-Particulate Lead; As-Particulate Arsenic; Ni-Particulate Nickel; C_6H_6-Benzene & BaP- Benzo (a) pyrene in particulate phase levels were monitored below their respective detectable limits.

The enteri

* NAAQ Norms-National Ambient Air Quality Norms-Revised as per GSR 826(E) dated 16.11.2009 for Industrial, Residential, Rural and other Area.

Table 3.15: Summary of Ambient Air Quality Data (AAQ1-AAQ7)

PM10	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	49.6	51.2	53.0	52.3	52.2	52.6	53.1
Minimum	40.2	42.3	44.6	42.3	43.6	41.9	44.7
Maximum	52.4	55.5	55.8	56.1	56.2	56.9	57.3
NAAQ Norms	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PM2.5	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	19.5	20.5	22.3	21.6	22.1	22.2	23.0
Minimum	18.3	19.1	19.5	19.1	19.5	19.9	18.7
Maximum	22.0	22.4	24.5	25.3	25.4	24.5	33.0
NAAQ Norms	60.0	60.0	60.0	60.0	60.0	60.0	60.0
SO2	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	3.5	3.8	4.2	4.0	4.4	4.4	4.3
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Maximum	5.5	5.2	5.3	5.1	5.6	6.1	5.3
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0
NO2	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	19.8	20.0	19.7	19.8	19.9	19.9	19.7
Minimum	17.5	17.5	17.3	17.3	18.8	17.7	17.9
Maximum	22.3	22.2	21.7	21.7	21.7	21.5	21.5
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0

Figure 3.14: Bar diagram of summary of air quality model (AAQ1-AAQ7)

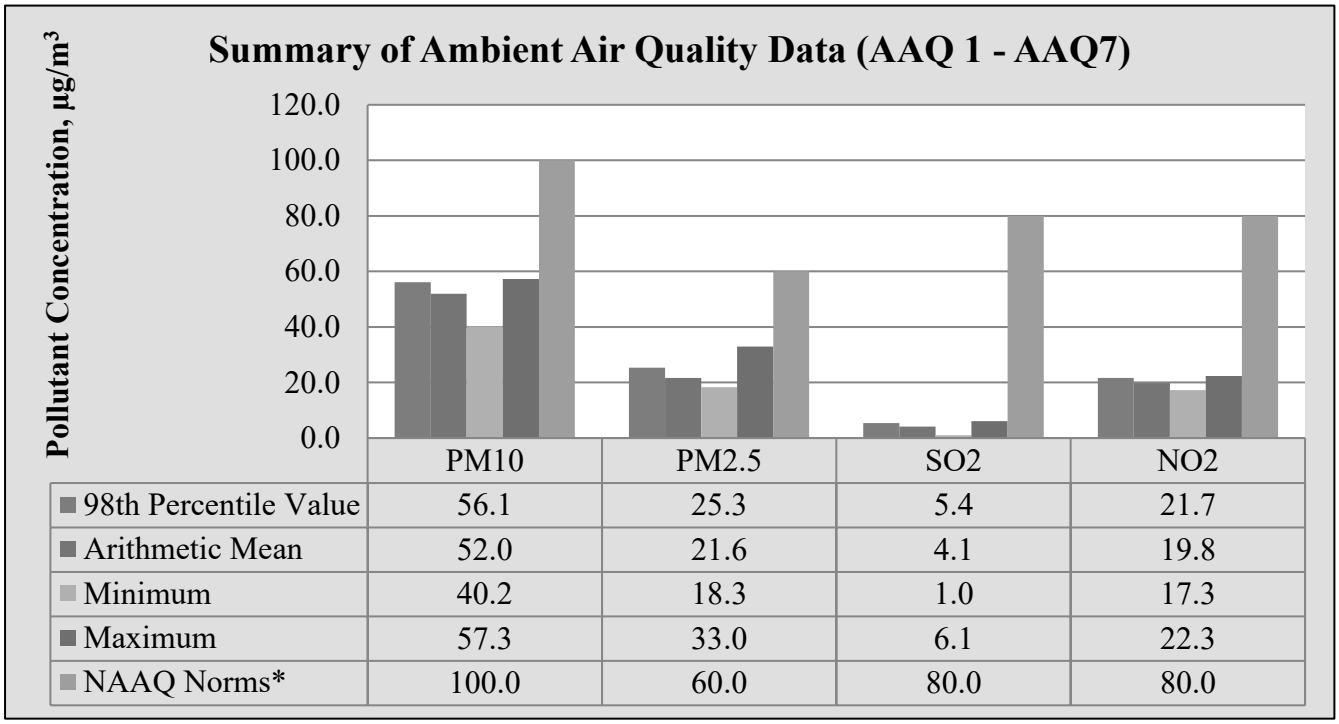


Figure 3.15 : Bar diagram of particulate matter (PM2.5)

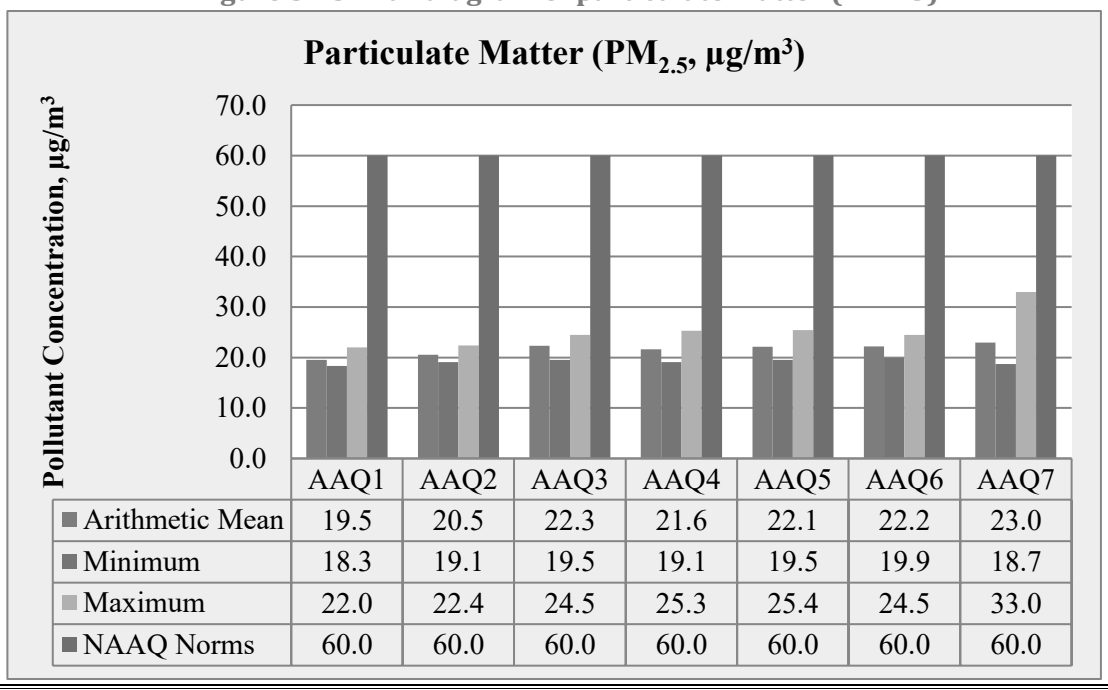
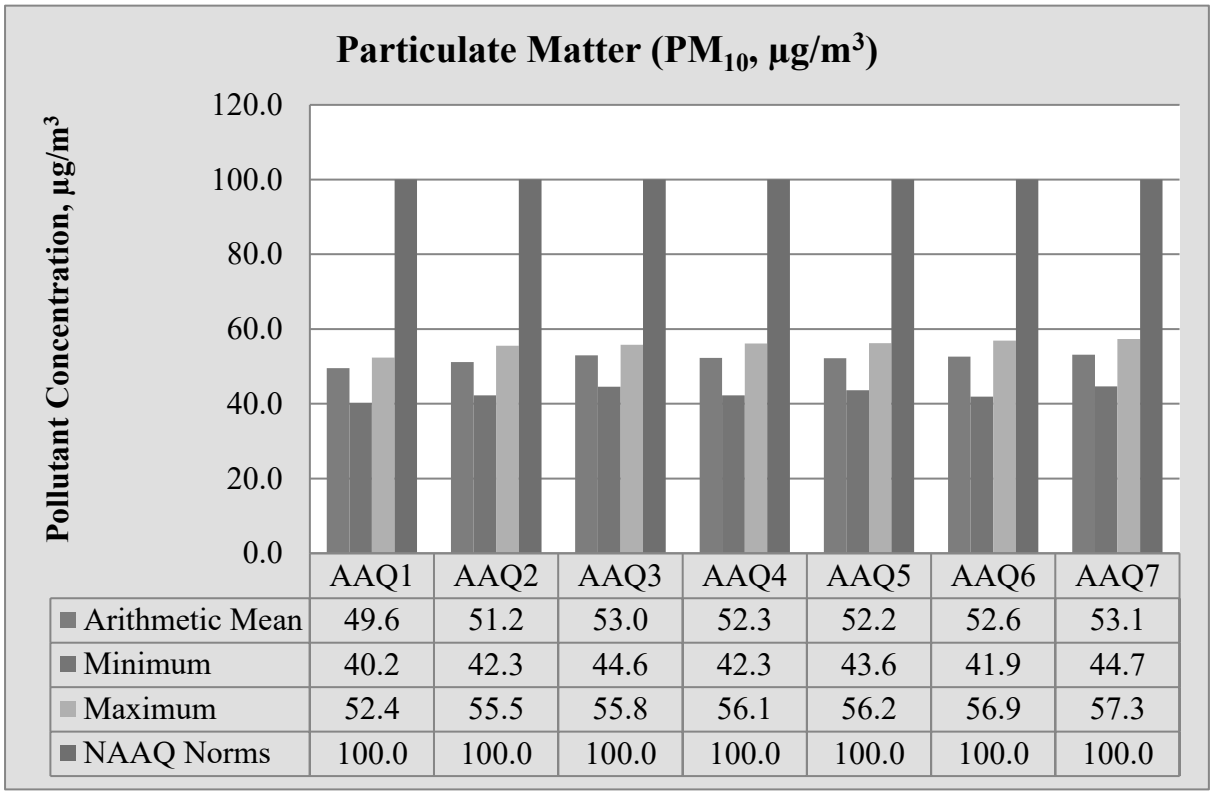
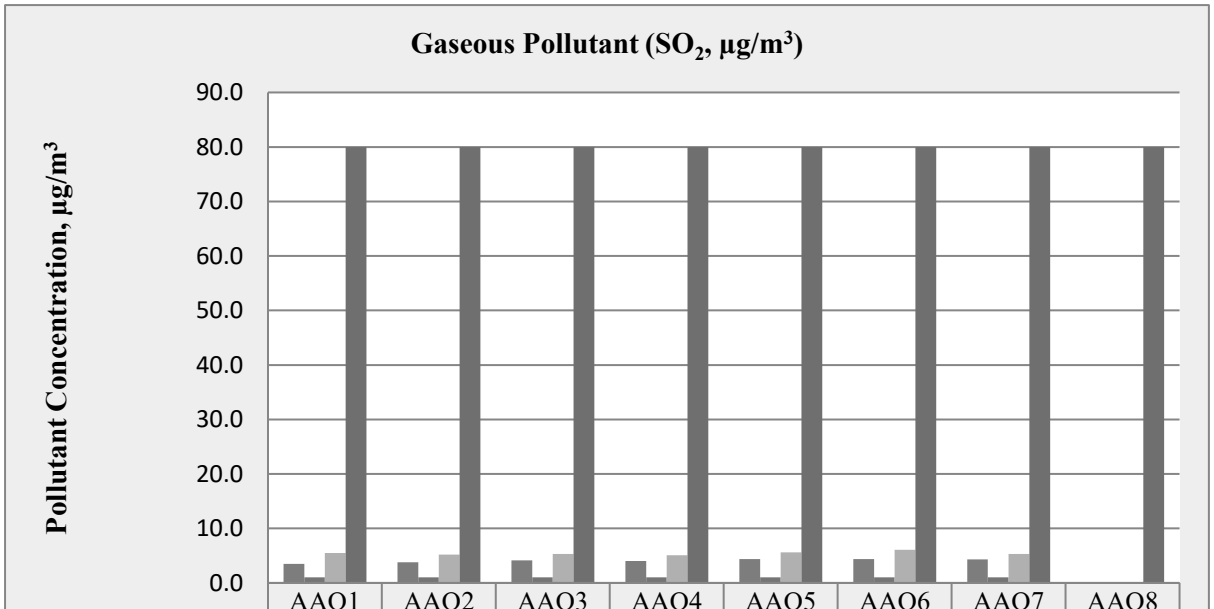


Figure 3.16: Bar diagram of particulate matter (PM_{10})



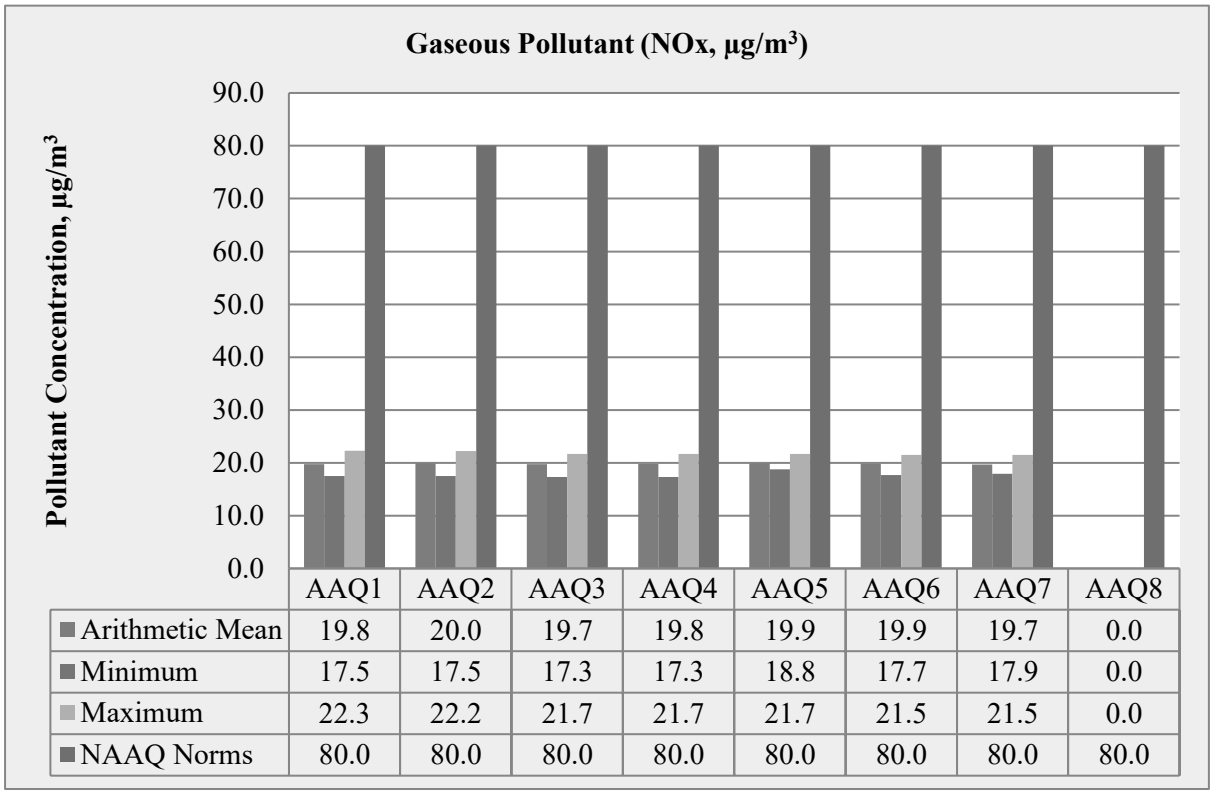
	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	49.6	51.2	53.0	52.3	52.2	52.6	53.1
Minimum	40.2	42.3	44.6	42.3	43.6	41.9	44.7
Maximum	52.4	55.5	55.8	56.1	56.2	56.9	57.3
NAAQ Norms	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 3.17: Bar diagram of particulate matter (SO_2)



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	3.5	3.8	4.2	4.0	4.4	4.4	4.3	0.0
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Maximum	5.5	5.2	5.3	5.1	5.6	6.1	5.3	0.0
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0

Figure 3.18: Bar diagram of particulate matter (SO_2)



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	19.8	20.0	19.7	19.8	19.9	19.9	19.7	0.0
Minimum	17.5	17.5	17.3	17.3	18.8	17.7	17.9	0.0
Maximum	22.3	22.2	21.7	21.7	21.7	21.5	21.5	0.0
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0

3.3.6 Interpretations & Conclusion

As per monitoring data, PM_{10} ranges from 40.2 µg/m^3 to 57.3 µg/m^3, $PM_{2.5}$ data ranges from 18.3 µg/m^3 to 33.0 µg/m^3, SO_2 ranges from 1.0 µg/m^3 to 6.1 µg/m^3 and NO_2 data ranges from 17.3 µg/m^3 to 22.3 µg/m^3. The concentration levels of the above criteria pollutants were observed to be well within the limits of NAAQS prescribed by CPCB with no recorded exceedances across the monitoring period. These values reflecting minimal dust generation and a generally clean atmospheric environment.

3.4 Noise Environment

The vehicular movement on road and mining activities is the major sources of noise in study area, the environmental assessment of noise from the mining activity and vehicular traffic can be undertaken by taking into consideration various factors like potential damage to hearing, physiological responses, and annoyance and general community responses.

The main objective of noise monitoring in the study area is to establish the baseline noise level and assess the impact of the total noise expected to be generated during the project operations around the project site.

3.4.1 Identification of Sampling Locations

In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Eight (8) locations. The noise level monitoring locations were carried out by covering commercial, residential, rural areas within the radius of 10 km. A noise monitoring methodology was chosen such that it best suited the purpose and objectives of the study.

Table 3.16: Details of Noise Monitoring Locations

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	N1	Core Zone	Project Area	12°27'1.48"N 78°22'54.40"E
2	N2	Core Zone	Project Area	12°27'6.51"N 78°22'49.12"E
3	N3	Near Existing Quarry	350m West	12°27'7.64"N 78°22'36.23"E
4	N4	Batlapalli	1.7km NE	12°27'50.26"N 78°23'31.05"E
5	N5	Perugopanapalli	2.8km SW	12°25'52.32"N 78°21'51.17"E
6	N6	Madarahalli	4.5km SE	12°24'50.62"N 78°24'7.09"E
7	N7	Kondappanayanapalli	4.6km NW	12°29'22.12"N 78°21'37.55"E

Source: On-site monitoring/sampling by GLCS in association with GEMS

3.4.2 Method of Monitoring

Digital Sound Level Meter was used for the study. All reading was taken on the 'A-Weighting' frequency network, at a height of 1.5 meters from ground level. The sound level meter does not give a steady and consistent reading and it is quite difficult to assess the actual sound level over the entire monitoring period. To mitigate this shortcoming, the Continuous Equivalent Sound level, indicated by Leq, is used. Equivalent sound level, 'Leq', can be obtained from variable sound pressure level, 'L', over a time period by using following equation.

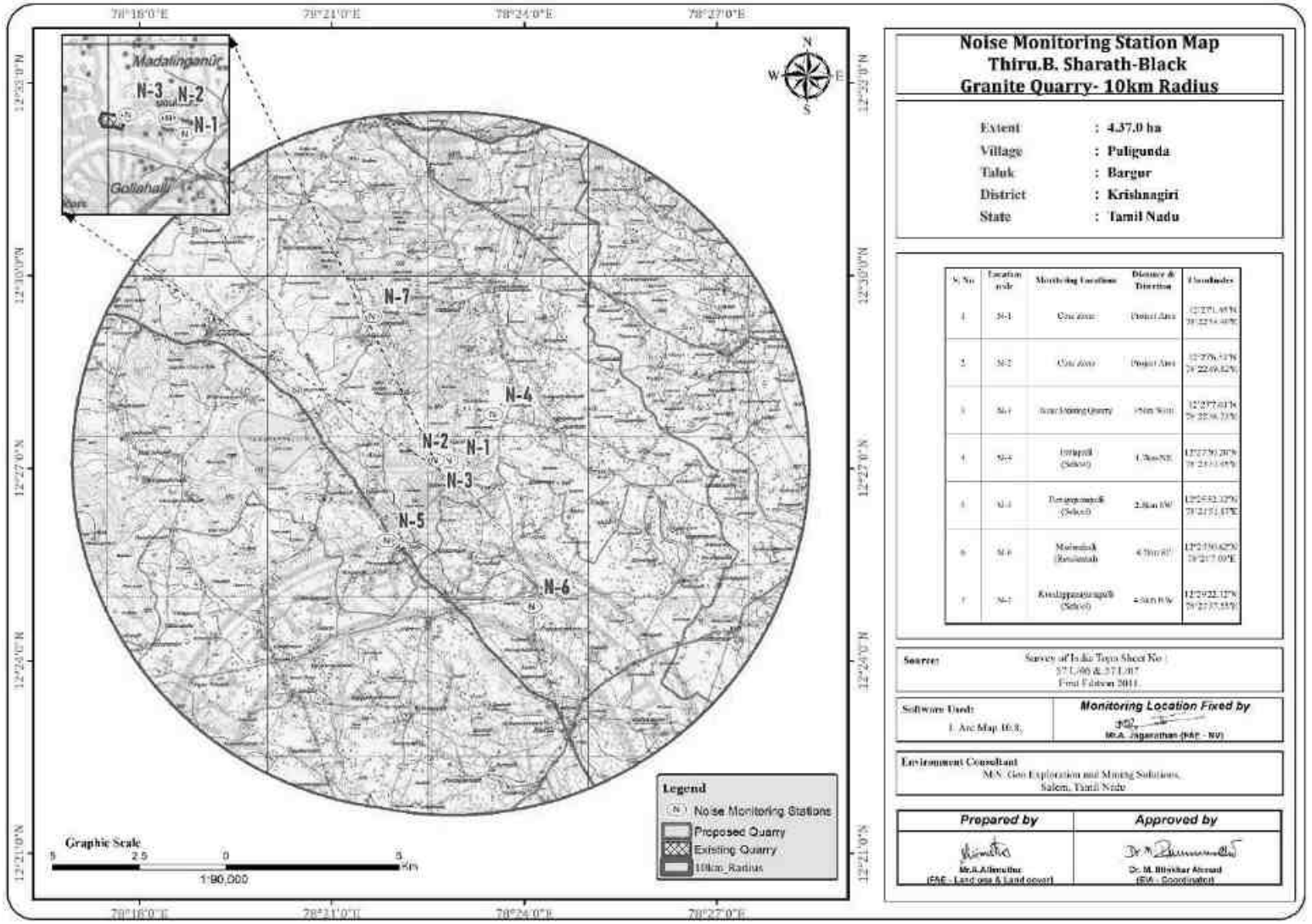
Measured noise levels, displayed as a function of time, is useful for describing the acoustical climate of the community. Noise levels recorded at each station with a time interval of about 60 minutes are computed for equivalent noise levels. Equivalent noise level is a single number descriptor for describing time varying noise levels.

$Leq = 10 \text{ Log } L / T\Sigma (10Ln/10)$

Where L = Sound pressure level at function of time dB (A)

T = Time interval of observation

Figure 3.19: Noise Monitoring Stations Around 10 Km Radius



3.4.3 Analysis of Ambient Noise Level in the Study Area

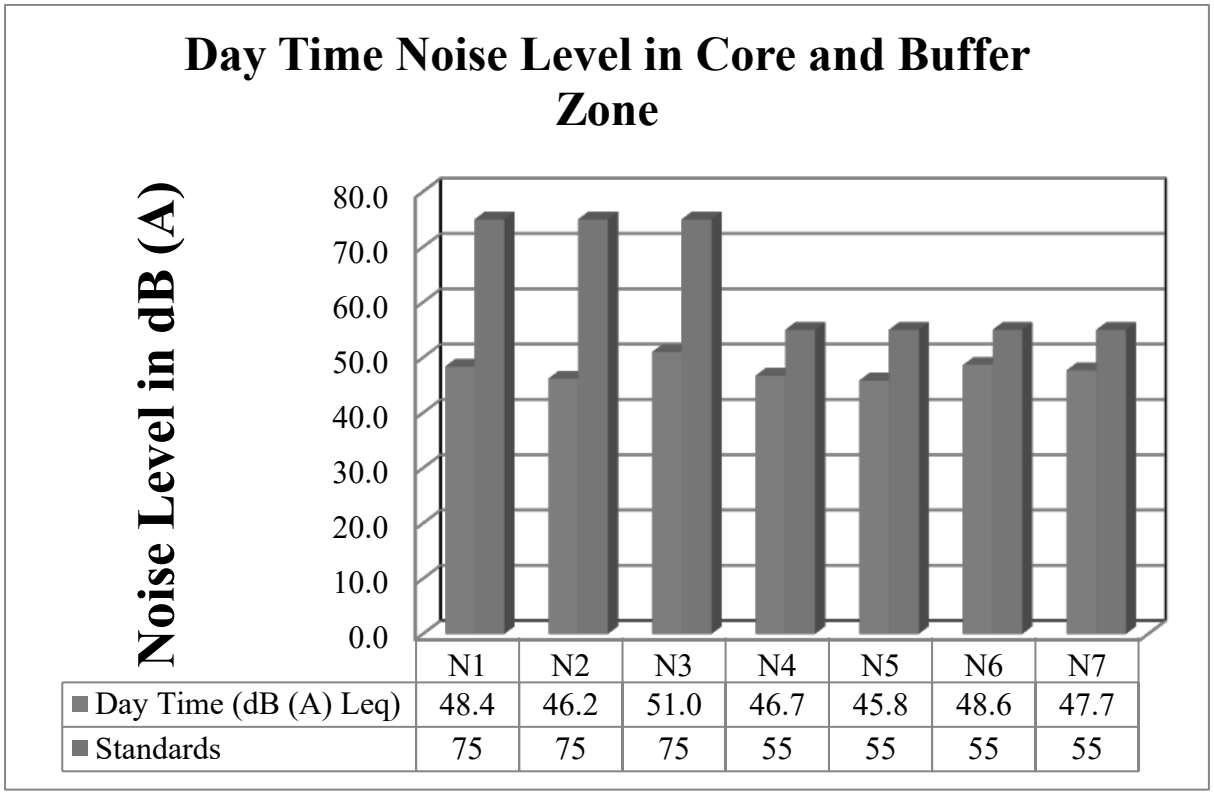
The Digital Sound pressure level have been measured by a sound level meter (Model: HTC SL-1352) An analysis of the different Leq data obtained during the study period has been made. Variation was noted during the day-time as well as night-time. The results are presented in below Table 3.6
Day time: 6:00 hours to 22.00 hours.

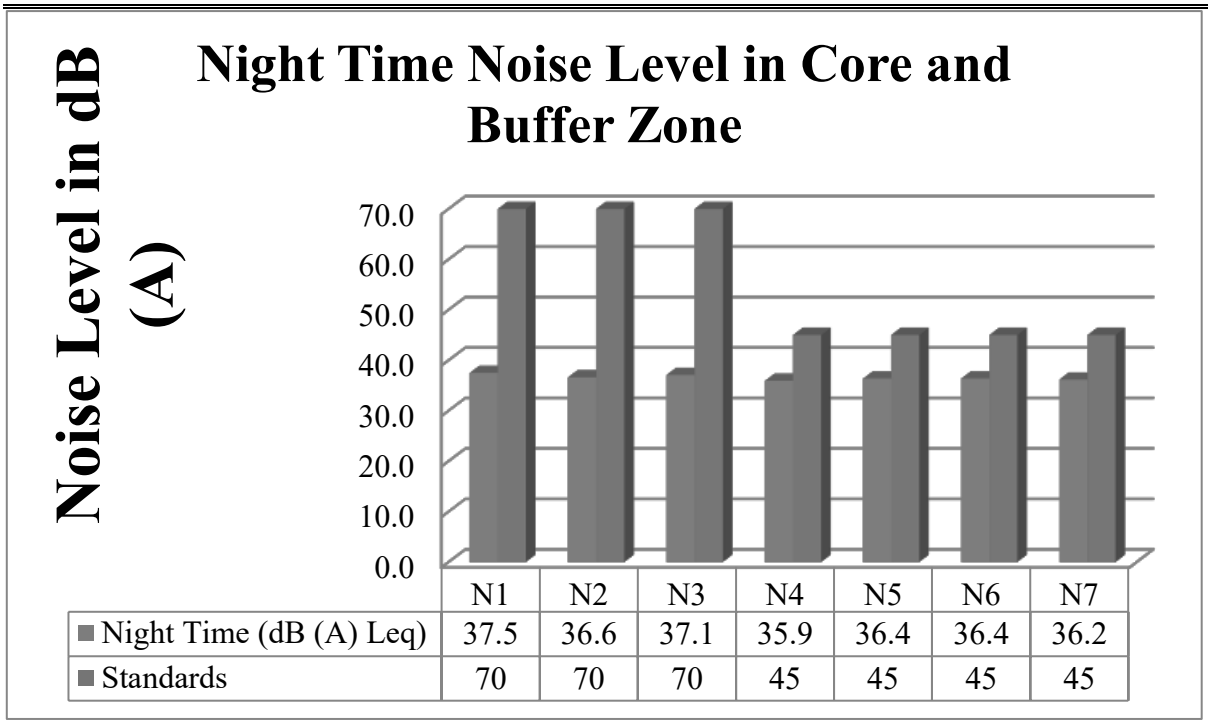
Night time: 22:00 hours to 6.00 hours.

Table 3.17: Ambient Noise Quality Result

S. No	Locations	Noise level (dB (A) Leq)		Ambient Noise Standards
		Day Time	Night Time	
1	Core Zone	48.4	37.5	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
2	Core Zone	46.2	36.6	
3	Near Existing Quarry	51.0	37.1	
4	Batlapalli (School)	46.7	35.9	**Residential Day Time– 55 dB (A) Night Time- 45 dB (A)**
5	Perugopanapalli (School)	45.8	36.4	
6	Madarahalli (Residential)	48.6	36.4	
7	Kondappanayanapalli (School)	47.7	36.2	

Figure 3.20: Day and Night Time Noise Levels In Core And Buffer





3.4.4 Interpretation & Conclusion:

Ambient noise levels were measured at 7 (Seven) locations around the proposed project area. Noise levels recorded in core zone during day time were from 46.2 – 48.4 dB (A) Leq and during night time were from 36.6 – 37.5 dB (A) Leq. Noise levels recorded in buffer zone during day time were from 46.7 – 51.0 dB (A) Leq and during night time were from 35.9 – 37.1 dB (A) Leq.

3.5 Ecological Environment

3.5.1.Study area Ecology

In this project, the total area of the Cluster with in 10km radius from the periphery of this quarry is reported as 7.14.5 Ha with 2 No. of quarries. In such Cluster situation, a common Ecology and Biodiversity study for the entire cluster of quarries is enough to capture all the possible externalities. The common EIA/EMP data can be used for all quarries fall under this clusterbut the present work was carried out on detailed study of the impacts Black granite quarry on the ecology and biodiversity of the core lease area with the proper mitigation and sustainable management plan. The proposed area exhibits almost flat terrain. The following methods were applied during the baseline study of flora, fauna and diversity assessment.

The present study was carried out in two separate headings for floral and faunal community. The aspects to be covered in the study for the project are given in Table No 3.53.

Aspect to be covered in the study area

Aspect of Environment	Impacts
A. Terrestrial Ecology	Impacts on terrestrial flora and fauna
	Impacts on Rare-Endangered-Threatened (RET) wildlife
B. Aquatic Ecology	Impacts on aquatic fauna/flora
	Impacts on spawning and breeding grounds for aquatic species

3.5.2. Objectives of Biological Studies

a) Undertake an intensive field survey to assess the status of floral & faunal component in different habitats in the core and buffer areas of the project site.
b) Identification and listing of flora and fauna which are important as per the Wildlife (Protection) Act 1972.
c) Suggest Wildlife conservation (species specific/habitat specific) and management plan for the threatened (critically endangered & endangered species - schedule I) faunal species if any reported within the study area.
d) To identify the impacts of mining on agricultural lands and how it affects.
e) Proper collection of information about wildlife Sanctuaries/ national parks/ biosphere reserves of the project area.
f) Devise management & conservation measures for biodiversity.

3.5.2.1. Field surveys

The field visit was carried out to understand and assess the impacts of mining activities on flora & and fauna and natural habitats and prediction after the enhancement of the production capacity of the mine. We evaluated the distribution and abundance of flora and fauna in the study area through primary and secondary data sources.

3.5.2.2. Floral Study

- The floral survey of the project area is based on field survey of the area.
- The local flora was identified by their morphological observation, such as the size, age and shape of the leaf, flowers, fruits, and their bark features of the stem, and also documented their habitat viz. Trees, Shrubs, Herbs, Grasses, Climbers etc.
- After surveying the core and the buffer areas, a detailed floral inventory has been compiled. A list of all plants from the study area was prepared and their habitats were recorded.
- Selection of sampling locations was made with reference to topography, land use, etc. The observations were taken on natural vegetation, roadside plantations, and non-forest areas (agricultural fields, in plain areas, village wasteland, etc.) for quantitative representation of different species.

3.5.3. Methodology of Sampling

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

The faunal elements (animal species) of core and buffer zone were identified by direct sightings or indirect evidences viz. pug marks, skeletal remains, scats and droppings etc. (Jayson and Easa 2004). Standard binocular was used for the observations. The authenticity of faunal elements occurrence was confirmed by interaction with the local people. Avifauna identification was done with pictorial descriptions of published literature. Information pertaining to existence of any migratory corridors and paths were obtained from local inhabitants. The status of each faunal element was determined and the Wildlife schedule category was ascertained as per the IUCN-Red Data Book and Indian wildlife (Protection) Act, 1972.

Plot method is used in the floral documentation in the core and buffer zone. For trees (10x10-m), shrubs (5x5-m) and herbs (1x1-m) plots were taken. Birds and butterflies were mainly focused during faunal assessment, transect method was employed for birds and butterflies. Transect is a path along which one counts and records the occurrence of an individual for study. A straight-line walk covering desired distance, within a time span of one hour to 30 minutes was carried out in the proposed region. Bird species were recorded during the hours of peak activity. 0700 to 1100 Hrs and 1430 to 1730 Hrs (Bibby et al. 2000).

Direct observations and bird calls were used for bird documentation. Same transects were used for counting butterflies. Opportunistic observations were made for Amphibians, reptiles and ordinates. Presence of mammals was recorded by direct and indirect signs. All possible transects were taken for birds and butterflies. Birds and butterflies were classified into species level. Recorded bird species were identified to species level using standard books (Ali & Ripley 1987, Grimmett et al., 2016).

The secondary baseline data of flora and fauna has been complied through the following data sources:

1. Forest working plan
2. Schedule I to V: Indian Wildlife (Protection) Act, 1972
3. Vivek Menon, Indian Mammals: A Field Guide. Hachette Book publishing India Pvt.Ltd., India.
4. Daniel J.C. The Book of Indian Reptiles and Amphibians, Bombay Natural History Society., India.
5. Ali, S and Ripley. handbook of the Birds of India and Pakistan together with those of Nepal, Sikkim and Bhutan, Oxford University Press, Bombay.
6. ENVIS Centre on Wildlife and Protected Area.
7. Birds Life Data Zone
8. Ebird.org
9. Global Biodiversity Information Facility

3.5.3.1. Sampling

A stratified simple random sampling procedure was employed to obtain a sample from study area. The study area was further stratified in different land use/ecosystems.

3.5.3.2. Sampling Size

Keeping in mind both random sampling technique and covering all land use patterns for the study following sampling locations were chosen depending up on the area of the proposed site.

3.5.3.3. Timing of Study

The study was carried out during morning and evening hours, to cover the different activity phases for important species such as time resting, feeding, hunting, and daily movements.

3.5.3.4. Observations from Sampling

The various observations relating to flora and fauna species are discussed in detail below, in separate sections.

3.5.3.5. Field Equipment's/ References

Following tools/equipment was used for conducting phytosociological study.

- Ballpoint pen, Field bags, Field notebooks, field shoes, gloves, GPS, Measuring tapes and scales, Plant cutters, packet lens, ropes etc.
- Canon Mark III Camera with 50-500mm lens– Snap shots taken
- Leica Binoculars (8x 20) to spot/identify species

- IUCN Red Data Book – https://www.iucnredlist.org/species

Ornithological/Entomological/Herpetological/Mammalian catalogues and pictorial descriptions from various authors and websites are followed for species identification.

3.5.4. Part I Field Sampling Techniques (Fauna Sampling)

3.5.4.1. Transect walk – Birds

Eight no transect lines with varying length (100m-300m) and fixed width (2m) were laid which cuts through the core and buffer areas of proposed site. The transect surveys were conducted from 0700 to 1100Hrs and 1430 to 1730Hrs (Bibby et al. 2000). All avifauna found along these transects were recorded for analysing the data. Counts were conducted while there is no heavy rain, mist or strong wind.

3.5.4.2. Modified Pollard Walk – for Butterflies

The Modified Pollard Walk (Pollard 1977, 1993, Walpole 1999) using fixed width transect walk method were employed to investigate butterfly spatial distribution, diversity and abundance at the different survey sites.

3.5.4.3. Visual Encounter Survey (VES) - reptiles and Amphibians

VES is a time-constrained sampling technique (Campbell and Christman, 1982; Corn and Bury, 1990). It needs a systematic search through an area or habitat for a prescribed time period (Campbell and Christman, 1982). The result of VES is measured against the time spent on search. VES technique is one of the simplest methods, and an appropriate technique for both inventory and monitoring Herpetofauna (Heyer et al. 1994).

3.5.4.4. Observational methods- Mammals

For the purpose of recording mammals, we used two different observational techniques: (1) direct observations, and (2) recording of occurrences like holes, markings, scats, hairs, and spines (Menon 2003). For identification confirmations, photographs with a scale reference were used, and locations were recorded using a portable GPS device. Indigenous knowledge particularly that of the locals, was occasionally employed to compile a preliminary list of species and/or aid in the recognition of indicators.

3.5. Flora

The quadrat sampling technique was used for sampling vegetation. Sampling quadrats of the regular shape of dimensions 10 × 10 m, 5 × 5 m, and 1 × 1 m, were nested within each other and were defined as the units for sampling the area and measuring the diversity for trees, Shrubs, and herbs respectively.

3.5.1. Flora Composition in the Core Zone

Core zone flora sampling was conducted between 8.00 am to 10.00 am in two locations. The proposed applied area is exhibits elevated terrain. We used with transect sampling methods. Taxonomically a total of 16 species belonging to 10 families have been recorded from the core zone mining lease area. The area is situated slightly elevated terrain. Based on the habitat classification of the enumerated plants the majority of species were Herbs 7, followed by Shrubs 4, Trees 4, and Climbers 1. Details of flora with the scientific names were mentioned in Table No. 3.54. The result of the core zone of flora studies shows that Fabaceae and Lamiaceaeare the main dominating species in the study area mentioned in Table No.3.54. No species were found as threatened category.

Table No: 3.18. Flora in the Core zone of Cluster area, Puligunda Village, Black Granite quarry (Primary data)

S.No	English Name	Vernacular Name	Scientific Name	Family Name
Trees				

1.	Mesquite	Velikathan maram	*Prosopis juliflora*	Fabaceae
2.	Millettia pinnata	Pongam oiltree	*Pongamia pinnata*	Fabaceae
3.	Acacia Nilotica	Karuvelam maram	*Vachellia nilotica*	Fabaceae
4.	Neem	Vembu	*Azadirachta indica*	Meliaceae
Shrubs				
1.	Wild sage	Unichedi	*Lantana camara*	Verbenaceae
2.	Milk Weed	Erukku	*Calotropis gigantea*	Apocynaceae
3.	Prickly pear	Nagathali	*Opuntia dillenii*	Cactaceae
4.	Tanner's cassia	Avaram	*Senna auriculata*	Fabaceae
Herbs				
1.	Indian doab	Arugampul	*Cynodon dactylon*	Poaceae
2.	Devil‘s thorn	Nerunji	*Tribulus terrestris*	Zygophyllales
3.	Carrot grass	Parttiniyam	*Parthenium hysterophorus*	Asteraceae
4.	Holy basil	Thulasi	*Ocimum tenuiflorum*	Lamiaceae
5.	Coat buttons	Thatha poo	*Tridax procumbens*	Asteraceae
6.	Bitter bush	-	*Chromolaena odorata*	Asteraceae
7.	Bindii	Nerunji mullu	*Tribulus terrestris*	Zygophyllaceae
Climbers				
8.	Stemmed vine	Perandai	*Cissus quadrangularis*	Vitaceae

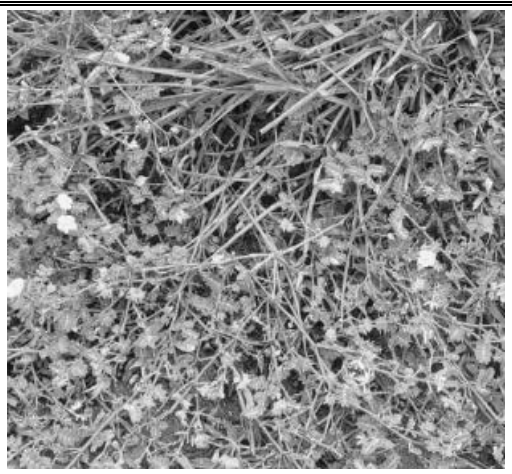
(**Sources**: Species observation in the field study)



a. Tridax procumbens b.Ocimumtenuiflorum



c.Prosopis juliflora



d. Tribulus terrestris



e.Opuntia ficus-indica



f.Euphorbia antiquorum

Figure No: 3.21. Flora species observation in the Core zone area

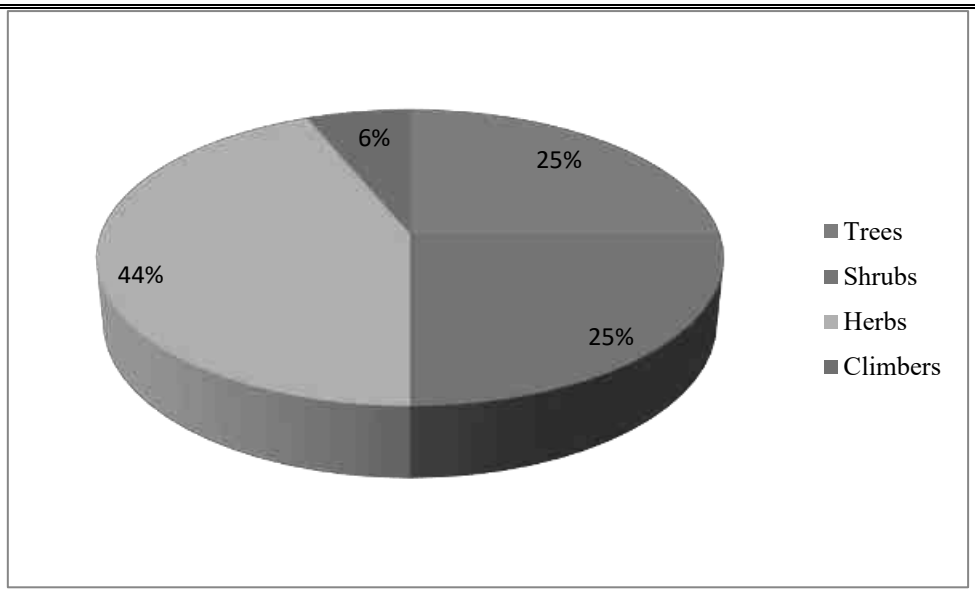


Fig No. 3.22: Graph Showing % Distribution Of Floral Life Forms (Core Zone- Cluster area)

The trees surveys were conducted around 300m radius from the proposed project site cluster are of Puligunda village. This is the standard scientific method followed by various workers in respect of phytosociological studies (Cottom and Curtis 1956; Ralhan et al. 1982; Saxena and Sing 1982; Nayak et al. 2000; Lu et al. 2004; Nautiyal 2008). While sampling, circumference at breast Height (CBH) of tree species was measured at 1.27m from ground level, along with the name of the species, phenology (flowering, fruiting, and flushes), and uses. After surveying areas, a detailed trees inventory has been compiled. A list of all plants from the study area was prepared and their habitats were recorded. The species of trees were documented during this base line survey. The dominant plant species growing in this area were Azadirachta indica Prosopis juliflora, etc. Please refer the Table No.3.55.

Table No: 3.55. Tree survey around 300m radius from the proposed project site (Primary data)

S.No	English Name	Vernacular Name	Scientific Name	No of trees
Trees				
1.	Acacia Nilotica	Karuvelammaram	*Vachellianilotica*	15
2.	Mesquite	Mullumaram	*Prosopis juliflora*	44
3.	Neem	Vembu	*Azadirachta indica*	12
4.	Millettia Pinnata	Pongamoiltree	*Pongamia pinnata*	6
5.	Tanner's cassia	Avaram	*Senna auriculata*	8

(**Sources**: Species observation in the field study)

Table No: 3.56. Flora in Buffer Zone of Puligunda Village, Black Granite quarry (Primary data & Secondary data)

Sl.No	English Name	Vernacular Name	Scientific Name	Family Name
Trees				
1.	Neem or Indian lilac	Vembu	*Azadirachta indica*	Meliaceae
2.	Millettia pinnata	Pongam oiltree	*Pongamia pinnata*	Fabaceae
3.	Gum arabic tree	Karuvelam	*Acacia nilotica*	Mimosaceae
4.	Coconut	Thennai maram	*Cocos nucifera*	Arecaceae
5.	Peepal	Arasanmaram	*Ficus religiosa*	Moraceae
6.	Tamarind	Puliyamaram	*Tamarindus indica*	Legumes
7.	Beauty leaf	Punnai	*Calophyllu inophyllum*	Calophyllaceae
8.	Indian fig tree	Athi	*Ficus recemosa*	Moraceae
9.	Banana tree	Vazhaimaram	*Musa*	Musaceae
10.	Chebulic myrobalan	Kadukkai	*Terminalia chebula*	Combretaceae
11.	Indian fir tree	Nettilinkam	*Polylathia longifolia*	Annonaceae
12.	Castor oil plant	Amanakku	*Ricinus communis*	Euphorbiaceae
13.	Giant thorny bamboo	Perumungil	*Bambusa bambos*	Poaceae
14.	Cutch tree	Karungali	*Acacia sundra*	Legumes
15.	Manilkara zapota	Sapota	*Manilkara zapota*	Sapotaceae
16.	Eucalyptus	Eucalyptus	*Eucalyptus globules*	Myrtaceae
17.	Black plum	Navalmaram	*Sygygium cumini*	Myrtaceae
18.	Lemon	Ezhumuchaipalam	*Citrus lemon*	Rutaceae
19.	Banyan tree	Alamaram	*Ficus benghalensis*	Moraceae
20.	Asian Palmyra palm	Panai maram	*Borassus flabellifer*	Arecaceae
21.	Mango	Manga	*Mangifera indica*	Anacardiaceae

22.	Teak	Thekku	*Tectona grandis*	Verbenaceae
23.	Indian gooseberry	Nelli	*Emblica officinalis*	Phyllanthaceae
24.	Indian fir tree	Nettilinkam	*Polylathia longifolia*	Annonaceae
25.	Acacia Nilotica	Karuvelam maram	*Vachellia nilotica*	Fabaceae
26.	Jack fruit	Palamaram	*Artocarpus heterophyllus*	Moraceae
27.	Creamy Peacock Flower	Vadanarayani	*Delonix elata*	Fabaceae
28.	Henna	Marudaani	*Lawsonia inermis*	Lythraceae
29.	Haldina cordifolia	Manja kadambai	*Adina cordifolia*	Rubiaceae
30.	Papaya	Pappali maram	*Carica papaya L*	Caricaceae
31.	Chinese chaste tree	Nochi	*Vitex negundo*	Verbenaceae
32.	Indian bael	Vilvam	*Aegle marmelos*	Rutaceae
33.	Noni	Nuna maram	*Morinda citrifolia*	Rubiaceae
34.	Guava	Koyya	*Psidium guajava*	Myrtaceae
35.	Custard apple	Seethapazham	*Annona reticulata*	Annonaceae
36.	Curry tree	Velipparuthi	*Murraya koenigii*	Asclepiadaceae
37.	Bamboo	Moonghil	*Bambusa bambo*	Poaceae
38.	Hog plum	Chiru-illanthai	*Ximenia americana*	Olacaceae
Shrubs				
1.	Devil's trumpet	Umathai	*Datura metel*	Solanaceae
2.	Avaram	Avarai	*Senna auriculata*	Fabaceae
3.	Castor bean	Amanakku	*Ricinus communis*	Euphorbiaceae
4.	Puriging nut	Kattamanakku	*Jatropha curcas*	Euphorbiaceae
5.	Triangular spruge	Chaturakalli	*Euphorbia antiquorum*	Euphorbiaceae
6.	Jungle geranium	Idly Poo	*Ixora coccinea*	Rubiaceae
7.	Prickly pear	Nagathali	*Opuntia*	Cactaceae

8.	Rosy Periwinkle	Nithyakalyani	*Cathranthus roseus*	Apocynaceae
9.	Ceylon Date Palm	Icham	*Phoenix pusilla*	Arecaceae
10.	Shoe flower	Chemparuthi	*Hibiscu rosa-sinensis*	Malvaceae
11.	Milk Weed	Erukku	*Calotropis gigantea*	Apocynaceae
12.	Ipomoea cornea	Neivelikattamanaku	*Ipomoea carnea*	Convolvulaceae
13.	Puriging nut	Kattamanakku	*Jatropha curcas*	Euphorbiaceae
14.	Malabar catmint	Pei veratti	*Anisomelesmalabarica*	Lamiaceae
15.	Touch-me-not	Thottalchinungi	*Mimosa pudica*	Mimosaceae
16.	Indian mallow	Thuthi	*Abutilon indicum*	Meliaceae
17.	Night shade plan	Sundaika	*Solanum torvum*	Solanaceae
18.	Rosary pea	Kundumani	*Abrus precatorius*	Fabaceae
19.	Indian Oleander	Arali	*Nerium indicum*	Apocynaceae
20.	West Indian Lantana	Unni chedi	*Lantana camara*	Verbenaceae
Herbs				
1.	Carrot grass	Parttiniyam	*Parthenium hysterophorus*	Asteraceae
2.	Billygoat weed	Pumpillu	*Ageratum conyzoides*	Asteraceae
3.	Aloe barbadensis	Katrazhai	*Aloe vera*	Asphodelaceae
4.	Madagascar Periwinkle	Nithyakalyani	*Catharanthus roseus*	Apocynaceae
5.	Indian Mercury	Kuppamani	*Acalypha indica*	Euphorbiaceae
6.	Indian nettle	Nayuruvi	*Achyranthes aspera*	Amaranthaceae
7.	Bui	Ciru-pulai	*Aervalanata*	Amaranthaceae
8.	Chocolate weed	Punnakkupoondu	*Melochiacorchorifolia*	Sterculiaceae
9.	Indian doab	Arugampul	*Cynodondactylon*	Poaceae
10.	Cleome viscosa	Nai kadugu	*Celome viscosa*	Capparidaceae
11.	Common leucas	Thumbai	*Leucas aspera*	Lamiaceae

12.	Asthma-plant	Amman pacharisi	*Euphorbia hirta*	Euphorbiaceae
13.	Poor land flatsedg	Kunnakora	*Cyperus compressus*	Cyperaceae
14.	False daisy	Karisilanganni	*Ecliptaprostata*	Asteraceae
15.	Tridax daisy	Veetukaayapoondu	*Tridax procumbens*	Asteraceae
16.	Slender amaranth	Sirukeerai	*Amaranthus polygonoides*	Amaranthaceae
17.	European black nightshade	Manathakkali	*Solanumnigrum*	Solanaceae
18.	Holy basil	Thulasi	*Ocimumtenuiflorum*	Lamiaceae
19.	Mexican prickly poppy	Eli-yotti	*Argemone mexicana*	Papaveraceae
20.	Punarnava	Mukkirattai	*Boerhaaviadiffusa*	Nyctaginaceae
21.	Prickly amaranth	Mullukkeerai	*Amaranthus spinosus*	Amaranthaceae
22.	Peanut	Kadalai	*Arachis hypogaea*	Fabaceae
23.	Red Hogweed	Mukurattai	*Boerhaviadiffusa*	Nyctaginaceae
24.	Tridax daisy	Thatha poo	*Tridax procumbens*	Asteraceae
25.	Gale of the wind	Keelaneeli	*Phyllanthus niruri*	Phyllanthaceae
26.	Eggplant	kathirikai	*Solanum melongena*	Solanaceae
27.	European black nightshade	Manathakkali	*Solanumnigrum*	Solanaceae
Climber/Creepers				
1	Ivy gourd	Kovai	*Coccinia grandis*	Cucurbitaceae
2	Stemmed vine	Perandai	*Cissus quadrangularis*	Vitaceae
3	Balloon vine	Mudakkotan	*Cardiospermum helicacabum*	Sapindaceae
4	Butterfly pea	Karkakartum	*Clitoria ternatea*	Fabaceae
5	Betel	Vetrilai	*Piper betle*	Piperaceae
6	Indian sarsparilla	Nannari	*Hemidesmus indicus*	Asclepiadaceae
7	Pointed gourd	Kovakkai	*Trichosanthes dioica*	Cucurbitaceae
8	Butterfly-pea	Sangupoo	*Clitoriaternatia*	Fabaceae

9	Wild jasmine	Malli	*Jasminum augustifolium*	Oleaceae
10	Bottle Guard	Sorakkai	*Lagenaria siceraria*	Cucurbitaceae
11	Mukia maderaspatana	Musumusukkai	*Mukia maderaspatana*	Cucurbitaceae
12	Watermelon	Tharpoosani	*Citrullus lanatus*	Cucurbitaceae
Creeper				
1	Water spinach	Vallikeerai	*Ipomoea aquatica*	Convolvulaceae
2	Grona triflora	Siru puladi	*Desmodium triflorum*	Fabaceae
3	Ground Spurge	Sithrapaalavi	*Euphorbia prostrata*	Euphorbiaceae
4	Nut grass	Korai	*Cyperus rotandus*	Poaceae
5	Creeping-oxeye	Malai mookuthi poondu	*Wedelia trilobata*	Asteraceae
Grass				
1	Eragrostis	Pullu	*Eragrostisferruginea*	Poaceae
2	Finger grass	Kuruthupillu	*Chloris dolichostachya*	Poaceae
3	Nut grass	Korai	*Cyperus rotandus*	Poaceae
4	Marvel grass	Marvel grass	*Dichanthiumannulatum*	Poaceae
5	Jungle rice	KuthiraivaalKattuarusi	*Echinochloacolona*	Poaceae
6	Windmill grass	Chevvarakupul	*Chloris barbata*	Amaranthaceae

(Sources: Species observation in the field study and secondary data)

3.6. Flora Composition in the Buffer Zone (Primary & Secondary data)

Buffer zone flora sampling was conducted between 10.00 am to 4.00 pm in eight different locations in 10 km radius as per the ToR. The most important and widely used methods for a general assessment is belt transect/quadrate methods. The study area was divided according to habitat types followed the random sampling methods in the selected area. For plant biodiversity study in the ecosystems, the quadrate methods were followed. The proposed applied area is elevated terrain. A similar type of environment is also in buffer area but with more flora diversity compare to core zone area, because of nearby agriculture land and forest covers in all the directions. There are no impacts due to this mining activity all the reserve forest is away from the proposed project site. It contains a total of 105 species belonging to 44 families that have been recorded from the buffer zone. The floral (105) varieties among them Trees 38, Herbs 27, shrubs 20, Climbers 9, Creeper 5 and Grass 6 were identified. The result of the buffer zone of flora studies shows that Poaceae and Fabaceae, Cucurbitaceae are the main dominating species in the study area mentioned in Table No.3.56. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. A list of floral species has been prepared based on primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.57 and their % distribution is shown in Figure No 3.36.

Table No: 3.19. Number of floral life forms in the Study Area

S. No	Plant Life Form	Number of Species
1	Trees	38
2	Shrubs	20
3	Herbs	27
4	Creepers	5
5	Climbers	9
6	Grasses	6
Total No. of Species		**105**

(Sources:

Species observation in the field study

https://www.jetir.org/papers/JETIR2204752.pdf

Global Biodiversity Information Facility

https://indiaflora-ces.iisc.ac.in/advsrh.php

Tamil Nadu state Forest department working plan

https://en.wikipedia.org

https://indiaflora-ces.iisc.ac.in

https://indiaflora-ces.iisc.ac.in/states.php?id=A-Z&cat=13&state=tamilnadu

Ethno botanical Survey of Medicinal Plants used by Traditional Healers in Krishnagiri District of Tamil Nadu.

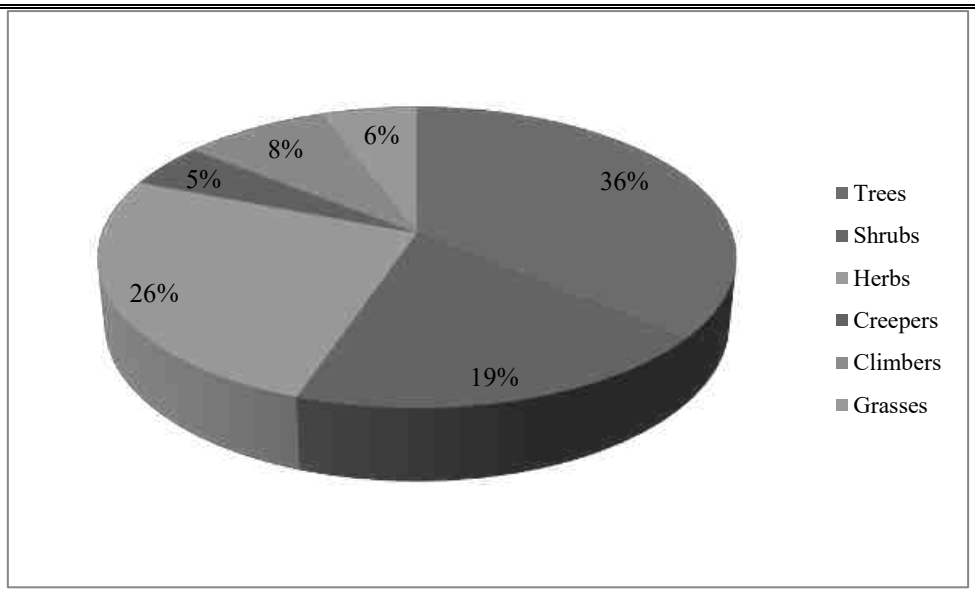


Fig No. 3.23: Graph Showing % Distribution Of Floral Life Forms (Buffer Zone)

3.6.1. Economically important Flora of the study area

The major irrigated crops in the district are paddy, ragi, turmeric, sugarcane, banana, tomato, groundnut, cotton, coconut and flowers. The irrigated area under vegetables, fruit and flowers. Farmers have adopted to cultivation methods through judicious use of water with modern water management techniques and technology.

3.6.2. Major Crops in the District

Owing to the climate and soil conditions Krishnagiri District suits to diverse type of cultivation. There are about 26 types of crops grown in the district including medicinal plants. Important crops grown in the district are Paddy, Ragi, Cholam, Red gram, Black gram, Horse Gram, Mango, Coconut, Cabbage, Banana, Tomato, Califlower etc., and the major cash crops are groundnut, flowers and cotton.

Source: DDS – Krishnagiri, 2019

Table No: 3.20. List of medicinal plants recorded from the nearby forest area (Primary & Secondary data)

S.No	Botanical Name	Local name(s)	Habit	Part(s) used	Uses
1.	Azadirachta indica A. Juss	Vaembu	T	Bark, Leaves, Flower, Seeds and Oil	Antiviral, anthelmintic, insecticide, antiseptic, skin diseases, small pox and clean teeth.
2.	Abrus precatorius L.	Kundumani	***CL***	Leaves, Seeds	Skin diseases, Eye disease and tooth ache.
3.	Acacia catechu (L.f.) Willd	Karungaali	T	Wood	Skin diseases, mouth ulcer, dysentery and Leprosy.
4.	Acacia nilotica (L.) Willd. ex Del. subsp. indica (Benth) Brenan	Karuvelam	T	Bark, heartwood, Leaves, Seeds and gum	Urino-genital diseases, wounds, haemorrhage, ulcers, cough and tooth ache.
5.	Acalypha indica L	Kuppaimeni	H	Whole plant	Eczema, skin diseases, cough and bronchitis, Wounds and ulcer
6.	Erythrina variegata	Kalyana murungai	T	Whole plant	Laxative, diuretic, anthelmintic, galactagogue and emmenagogue, venereal buboes.
7.	Achyranthes aspera L	Nayurivi	H	Whole plant	Diuretic, astringent, skin diseases and piles
8.	Albizia lebbeck (L.) Willd	Vaagai	T	Seeds, Leaves, Bark, Flowers and Pod	Eczema, Ulcer, rheumatism, leprosy
9.	Aloe vera (L.) Burm.f.	Chotthukathazhai	H	Leaf juice	Dysentry, leucorrhoea, amenorrhoea, menstrual problems, intestinal worms and skin tonics
10.	Cissus quadrangularis L.	Pirandai	CL	Stem	Rheumatoid arthritis, appetizer, bone fracture and nervine tonic.
11.	Calotropis gigantea (L.) R.Br	Erukku	S	Whole plant	Anthelmintic, skin diseases, leprosy, snake bite, ulcers, piles, cough and asthma
12.	Abutilon indicum (L.) Swee	Thuthi	S	Seed, Root, Barks and Leaves	Urinary troubles, Nervous disorders, Leprosy and Leucorrhoea

13.	Ormocarpum cochinchinense (Lour.) Merr.	Elumbotti	S	Bark	Fever, rheumatism and bone setting.
14.	Phyllanthus urinaria L	Malai Kizhanelli	H	Whole plant	Jaundice, gonorrhea, urinary diseases, indigestion, bleeding piles and menstrual problems.

3.6.3. The vegetation in the RF / PF areas, ecologically sensitive areas etc.

There are no protected or ecologically sensitive areas such as National parks or Important Bird Areas (IBAs), or Wetlands or migratory routes of fauna or water bodies or human settlements within the proposed mine lease area. There are no Biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), or migratory routes of fauna. Thus, the area under study (Mine lease area and the 10 Km buffer zone) is not ecologically sensitive. Thus, no forest land is involved in any manner. There are no impacts due to this mining activity. There are neither forests nor forest dwellers nor forest-dependent communities in the mine lease area. There shall be no forest-impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.

3.7. FAUNA

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

3.7.1. Fauna Composition in the Core Zone

Core zone fauna samplings were conducted between 6.00 am to 8.00 am in two locations. A total of 19 varieties of species were observed in the Core zone of Puligunda Village Cluster area, Black granite quarry, and gravel quarry (Table No.3.59) among them numbers of Insects/ Butterflies 5, Reptiles 4, Mammals 2, and Avian 9. None of these species are threatened or endemic in the study area and surroundings. There is no Schedule I species and 13 species are under Schedule IV according to the Indian Wildlife Act 1972. A total of 9 species of bird were sighted in the mining lease area. There are no critically endangered, endangered, vulnerable, and endemic species were observed. Details of fauna in the core zone with the scientific name were mentioned in Table No. 3.59.

Table No: 3.21. Fauna in the Core zone of Puligunda Village, Black Granite quarry (Primary data)

SI. No	Common Name	Family Name	Scientific Name	Schedule list WPA 1972	IUCN Red List data
Insects/Butterflies					
1.	Striped tiger	Nymphalidae	*Danaus plexippus*	Schedule IV	LC
2.	Common Tiger	Nymphalidae	*Danaus genutia*	Schedule IV	LC
3.	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
4.	Common Tiger	Nymphalidae	*Danaus genutia*	NL	NL
5.	Termite	Blattodea	*Hamitermes silvestri*	NE	LC
Reptiles					
1.	Garden lizard	Agamidae	*Calotes versicolor*	NL	LC
2.	Common skink	Scincidae	*Mabuya carinatus*	NL	LC
3.	Rat snake	Colubridae	*Ptyas mucosa*	Sch II (Part II)	LC
4.	Green vine snake	Colubridae	*Ahaetulla nasuta*	Schedule IV	NL
Mammals					

1.	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	NL
2.	Common rat	Muridae	*Rattus rattus*	Schedule IV	LC
Aves					
1.	Black drongo	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
2.	Common myna	Sturnidae	*Acridotheres tristis*	Schedule IV	LC
3.	Sunbird	Nectariniidae	*Cinnyrisasiaticus*	Schedule IV	LC
4.	Shikra	Laniidae	*Laniusexcubitor*	Schedule IV	LC
5.	House crow	Corvidae	*Corvussplendens*	Schedule V	LC
6.	Common quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
7.	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
8.	Rock pigeon	Columba livi	*Columbidae*	Schedule IV	LC
9.	Rose-ringed parkeet	Psittaculidae	*Psittacula krameri*	Schedule IV	LC

(Sources: Species observation in the field study)

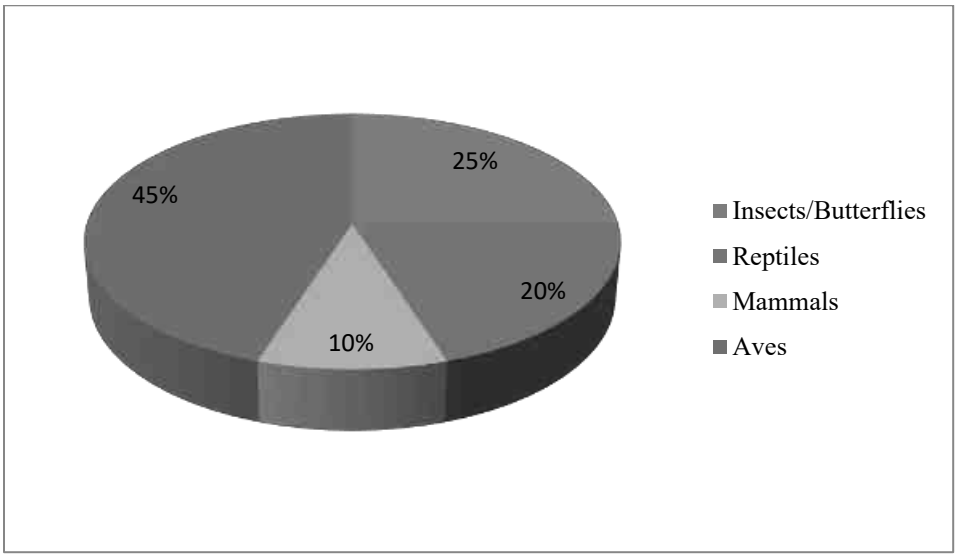


Fig No: 3.24. Distribution Of Faunal Communities (Core Zone)

3.7.2. Fauna Composition in the Buffer Zone

The Buffer zone fauna samplings were conducted between 6.00 am to 8.00 am and 2.30 pm to 6.30 pm in different locations. As animals, especially vertebrates move from place to place in search of food, shelter, mate or other biological needs, separate lists for core and buffer areas are not feasible however, a separate list of fauna pertaining to core and buffer zone are listed separately. There is Cauvery North Wild life sanctuary situated at 2km on the Southern side and Eco sensitive zone situated at 1km on the southern side of the area. Togarappalli R.F. – 3.3 km – North West is located. As such there are no chances of occurrence of any rare or endangered or endemic or threatened (REET) species within the core or buffer area.

There are no Sanctuaries, National Parks, Tiger Reserve or Biosphere reserves or Elephant Corridor or other protected areas within 10 km radius of from the core area. It is evident from the available records, reports, and circumstantial evidence that the entire study area including the core and buffer areas were free from any endangered animals. There were no resident birds other than common bird species such as Red-whiskered Bulbul, Asian Koel, House crow, Black drangos, Crows, Pond heron etc.

The list of Mammals (*directly sighted animals & Secondary data) is given in table No.3.60. The list of bird species recorded during the field survey and literature from the study area are given in Table 3.61. The list of reptilian species recorded during the field survey and literature from the study area is given in Table 3.62. The list of insect species recorded during the field survey and literature from the study area are given in Table 3.63. The list of Butterflies species recorded during the field survey and literature from the study area are given in Table 3.64. It is apparent from the list that none of the species either spotted or reported is included in Schedule I of the Wildlife Protection Act. Similarly, none of them comes under the REET category.

Taxonomically a total of 69 species recorded were from the buffer zone area. Based on habitat classification the majority of species were birds 30, followed by Butterflies 14, Reptiles 9, Insects 4, Mammals 8, and Amphibians 4. There are two Schedule II species, two species are under the schedule III and thirty nine species are under Schedule IV according to the Indian Wildlife Act 1972. A total of 30 species of bird were sighted in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed. There are no impacts on nearby fauna species.

Dominant species are mostly birds, butterflies, and insects, and four amphibian was observed during the extensive field visit Sphaerotheca breviceps, Euphlyctis hexadactylus, Bufomelanostictus, etc. There is no Schedule I Species in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed.

Table No: 3.22. List of Fauna & Their Conservation Status, Mammals:

(*directly sighted animals & Secondary data)

SI. No	Scientific Name	Common Name/English Name	Schedule list WPA 1972
1.	*Herpestes edwardsi*	Indian Grey Mongoose	Schedule II
2.	*Mus booduga*	Little Indian field mouse	Schedule IV
3.	*Bandicota bengalensis*	Indian mole-rat	Schedule IV
4.	*Mus musculus*	House mouse	Schedule IV
5.	*Funambulus palmarum*	Common Palm Squirrel	Schedule IV
6.	*Rattus rattus*	Black rat	Schedule IV
7.	*Bandicota indica*	Rat	Schedule IV
8.	*Lepus nigricollis*	Indian Hare	Schedule IV

Table No: 3.23. Listed birds (Primary data and Secondary data)

SI. No	Scientific Name	Common Name	Schedule list WPA 1972
1.	*Alcedo atthis*	Common Kingfisher	Schedule IV
2.	*Copsychus fulicatus*	Indian robin	Schedule IV
3.	*Dicrurus paradiseus*	Racket tailed drongo	Schedule IV
4.	*Corvus splendens*	House crow	Schedule V
5.	*Dicrurus macrocercus*	Black Drongo	Schedule IV
6.	*Halcyon smyrnensis*	White-breasted kingfisher	Schedule IV
7.	*Bubulcus ibis*	Cattle Egret	Schedule IV
8.	*Hypsipetes madagascariensis*	Black bulbul	Schedule IV
9.	*Columba livia*	Rock pigeon	Schedule IV
10.	*Turdoides caudatus*	Common Babbler	Schedule IV
11.	*Acridotheres tristis*	Common myna	Schedule IV
12.	*Psittacula krameri*	Rose ringed parakeet	Schedule IV
13.	*Coturnix coturnix*	Grey quail	Schedule IV
14.	*Passer domesticus*	House Sparrow	Schedule IV
15.	*Pycnonotus cafer*	Red vented Bulbul	Schedule IV
16.	*Accipiter badius*	Shikra	Schedule IV
17.	*Megalaima viridis*	Small green barbet	Schedule IV
18.	*Cuculus canorus*	Cuckoo	Schedule IV
19.	*Calidris minuta*	Little stint	Schedule IV
20.	*Merops orientalis*	Small green bee eater	Schedule IV
21.	*Nectarinia minima*	Small sunbird	Schedule IV
22.	*Ardeola grayii*	Pond Heron	Schedule IV
23.	*Spilopelia chinensis*	Spotted dove	Schedule IV
24.	*Milvus migrans*	Common Kite	Schedule IV
25.	*Phalacrocorax niger*	Little cormorant	Schedule IV
26.	*Egretta garzetta*	Little Egret	Schedule IV
27.	*Apus apus*	Common swift	Schedule IV
28.	*Ardea cinerea*	Grey heron	Schedule IV
29.	*Eudynamys scolopacea*	Koel	Schedule IV
30.	*Coracias benghalensis*	Indian roller	Schedule IV

Table No: 3.24. List of Reptiles either spotted or reported from the study area.

(*indicates direct observations & Secondary data)

SI. No	Scientific Name	Common Name/English Name	Schedule list WPA 1972
1.	*Calotes versicolor*	Oriental garden lizard	NL
2.	*Hemidactylus flaviviridis*	House lizards	Schedule IV
3.	*Naja naja*	Indian cobra	Sch II (Part II)
4.	*Ahaetulla nasuta*	Green vine snake	Schedule IV
5.	*Ptyas mucosa*	Rat snake	Sch IV (Part II)
6.	*Bungarus caeruleus*	Common krait	Schedule IV
7.	*Mabuya carinatus*	Common skink	NL
8.	*Nerodia piscator*	Fresh water snake	Sch III (Part II)
9.	*Groemyda bijuga*	Fresh water tortoise	Sch III (Part II)

Table No: 3.25 List of insects either spotted or reported from the study area

SI. No	Scientific Name	Common Name	Schedule list WPA 1972
1.	*Apis cerana*	Indian honey bee	-
2.	*Hamitermes silvestri*	Termite	NE
3.	*Hieroglyphus sp*	Grasshopper	NL
4.	*Ceratogomphus pictus*	Dragonfly	-

Table No: 3.26. List of Butterflies reported from the study area and Secondary data

SI. No	Scientific Name	Common Name	Schedule
1.	*Papilio clytia*	Common mime	-
2.	*Euploea core*	Euploea core	-
3.	*Pachliopta aristolochiae*	Common rose	-
4.	*Papilio polytes*	Common mormon	-
5.	*Spialia galba*	Indian Skipper	-
6.	*Danaus genutia*	Common tiger	-
7.	*Pachliopta hector*	Crimson rose	-
8.	*Eurema brigitta*	Eurema brigitta	-
9.	*Hypolimnas bolina*	Hypolimnas bolina	-
10.	*Castalius rosimon*	Common Pierrot	-
11.	*Curetis thetis*	Indian Sunbeam	-
12.	*Troides minos*	Southern birdwing	-
13.	*Papilio demoleus*	Lime Butterfly	-
14.	*Ariadne merione*	Common Castor	-

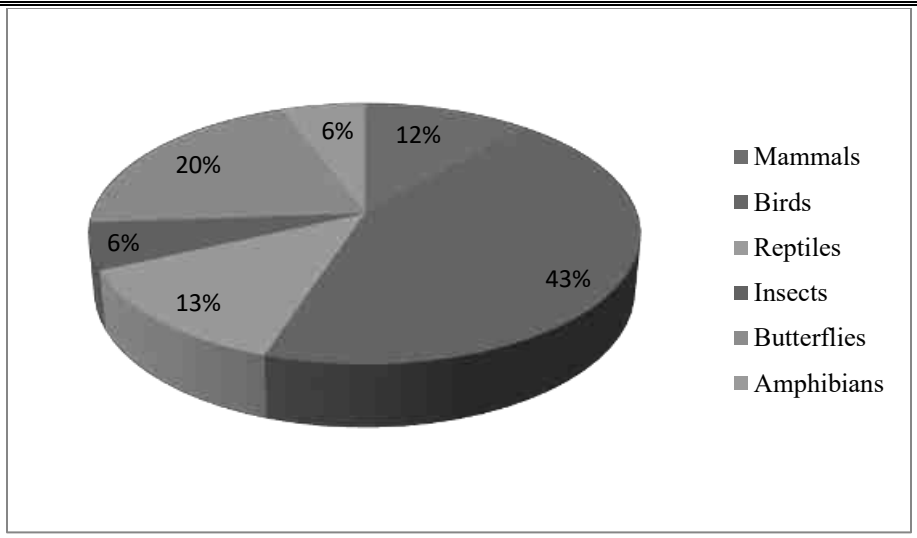


Fig No:3.25. Distribution Of Faunal Communities (Buffer Zone)

Livestock like cattle, buffalo, goat, poultry, duck and pig are reared for dairy products, meat, and egg and for agriculture purpose. Majority of cattle and buffalo are of local variety. Backyard poultry farms are mostly common in this area; however, some commercial poultry farms are also recorded in the study area.

The study area is marked with moderate population of flora and fauna. With reference to the Wildlife Protection Act 1972 total number of wildlife tabulated in this study can be characterized as given in the Table No 3.65.

Table No: 3.27 Characterizations of Fauna in the Study Area (As Per W.P Act, 1972)

S.No	Schedule of Wildlife Protection Act 1972	No. of species	Remark
1.	Schedule I	0	-
2.	Schedule II	2	-
3.	Schedule III	2	-
4.	Schedule IV	39	-
5.	Schedule V	1	-
6.	Schedule VI	0	-

Fig No: 3.26. Schedule Of Wildlife Protection Act 1972

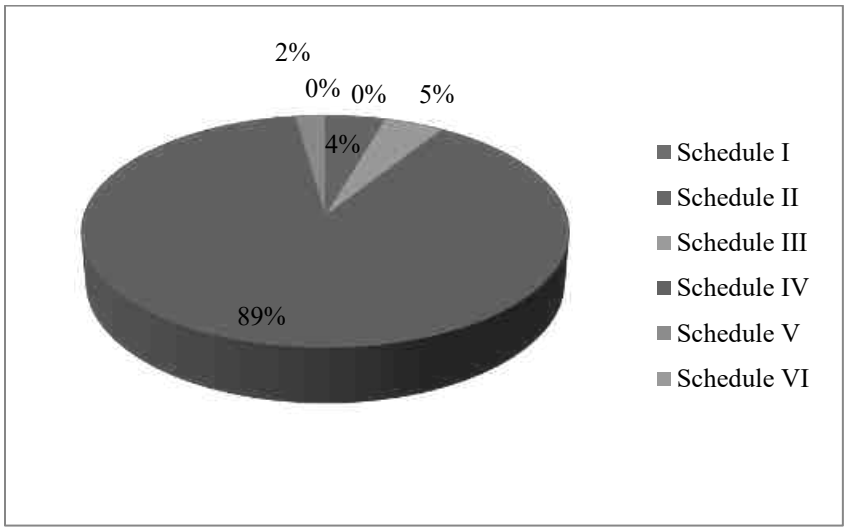


Table 3.28: Description of Flora & Fauna

S. No	Type of Species	Name	Local Name
Flora			
1.	Endangered species	None	None
2.	Threatened species	None	None
3.	Near Threatened species	None	None
4.	Vulnerable species	None	None
Fauna			
5.	Endangered species	None	None
6.	Threatened species	None	None
7.	Near Threatened species	None	None
8.	Vulnerable species	None	None
9.	Migratory Corridors & Flight Paths	No corridors & flight paths	-
10.	Breeding & Spawning grounds	None	-
11.	Invasive Alien species	None	None

A comprehensive Central Legislation namely Wild Life (Protection) Act was enforced in 1972 to provide protection to wild animals. Schedule-I of this act contains the list of rare and endangered species, which are completely protected throughout the country. The list of wild animals and their conservation status as per Wild Life Act (1972) presented in Table 3.66 are the species recorded/reported from the study area, out of which 2 species belongs to schedule-II, 2 species belong to schedule-III, 1 species belongs to schedule-V and rest of the species belongs to schedule-IV of Wildlife protection Act, 1972. And there is no Invasive alien species (IAP) in the study area.

3.7.3. Aquatic Vegetation

The study area has one seasonal lake (Water body) is located about 1.5km on the northeast side. But no major drainage system can be found within the study area. No Aquatic diversity is noticed in the core zone area. Aquatic weeds are found to be growing everywhere in 10 km radius area, in every water bog, pond, etc. Typha angustata can be found growing all along the drains of villages, small water-logged depressions, and agricultural fields lacking water but containing enough moisture to support its growth. And where water is present, Eichhornia crassipes has taken its roots and covers the entire water surface by its sprawl and invasion. All the aquatic plant species listed in Table 3.67.

Table No: 3.29. List of aquatic plants observed in the study area

S.No	Scientific Name	Common Name	Type
1.	*Typha angustifolia*	Lesser Bulrush	Emergent hydrophytes
2.	*Pistia stratiotes*	Water lettuce	Free floating hydrophytes
3.	*Cyperus articulates*	Jointed flatsedge	Emergent Hydrophytes
4.	*Eichhornia crassipes*	Common water hyacinth	Free floating hydrophytes

3.6.3.4. Aquatic Fish Fauna

Among all the aquatic life in the study area the fish fauna occupies an important place. The fish fauna of the area includes: Major carps includes Catla, Rahu, Mirgal, Exotic carps includes silver carp, Grass carp, Minor carps etc.

3.6.3.3. Aquatic Faunal Diversity

Amphibian species like the common Indian Burrowing frog, and green pond frog, and etc. were sighted near the water bodies located in the study area.

Table no. 3.30. Amphibians Observed/Recorded from the Study Area

SI. No	Scientific Name	Common Name/English Name	Schedule list wildlife Protection act 1972
1.	*Sphaerotheca breviceps*	Indian Burrowing frog	Schedule IV
2.	*Euphlyctis hexadactylus*	Green pond frog	Schedule IV
3.	*Bufomelanostictus*	Indian Toad	Schedule IV
4.	*Euphlyctiscynophlyctis*	Skipper	Schedule IV

3.10. Findings/Results

The assessment was carried out during the Winter season. The inspection day was quite all right with respectable weather. The details of the flora and fauna observed are given below.

S.No	Ecological sensitive habitat	Direction and Distance from the project site
1.	National Parks/ Wildlife Sanctuary/ Biosphere reserves/ Elephant Reserve/ Any Other Reserve	There is Cauvery North Wild life sanctuary situated at 2km on the Southern side and Eco sensitive zone situated at 1km on the southern side of the area. Togarappalli R.F. – 3.3 km – North West is located
2.	Reserved Forests	Nil

3.	Wildlife Corridors & Routes	No notified wildlife corridors are present in 10 km vicinity.
4.	Wetlands / Water bodies	-
5.	Ramsar Site	Nil
6.	Important Bird Habitats	Nil
7.	Breeding/nesting areas of endangered species	Not present
8.	Mangroves	None

There are no critically endangered, endangered, vulnerable, and endemic species were observed. As the rainfall in the area is scanty and as no toxic wastes are produced or discharged on account of mining, the proposed mining activity is not going to have any additional and adverse impacts on these RET species. There are no ecologically sensitive areas or protected areas within the 10 Km radius. Hence no specific conservation for conservation of any RET species or Wildlife is envisaged.

3.8. Conclusion

The observations and assessment of the overall ecological scenario involve details such as classification of Biogeographic zone, eco-region, habitat types, and land cover, distances from natural habitats, vegetation/forest types, and sensitive ecological habitats such as Wetlands sites, Important Bird areas, migration corridors of important wildlife etc. Such baseline information provides better understanding of the situation and overall ecological importance of the area. This baseline information viewed against proposed project activities help in predicting their impacts on the wildlife and their habitats in the region. Data collected and information gathered from secondary literature on flora, fauna, protected area, natural habitats, and wildlife species etc., and consulted and discussed with local people, from the villages, herders and farmers who inhabit close to the proposed project area.

Sources:

Invasive Alien Species | IUCN

https://www.inaturalist.org/places/krishnagiri

https://ebird.org/region/IN-TN-KS

https://avibase.bsc-eoc.org/checklist.jsp?region=INsetnks

https://uk.inaturalist.org/check_lists/316682-Krishnagiri-Check-List

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Ali, S. (2002). The Book of Indian Birds (13th revised edition). Oxford University Press, New Delhi. 326pp.

Ali, S and Ripley, S.D. 1969.Handbook of the Birds of India and Pakistan together with those of Nepal, Sikkim, Bhutan and Ceylon,3. Stone Curlews to Owls. Oxford University Press, Bombay, 327pp.

Bird Life International 2012. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012

3.6 Socio Economic Environment

An essential part of environmental study is socio-economic environment incorporating various facts related to socio-economic conditions in the area, which deals with the total environment. Socio economic study includes demographic structure of the area, provision of basic amenities viz., housing, education, health and medical services,

occupation, water supply, sanitation, communication, transportation, prevailing diseases pattern as well as features of aesthetic significance such as temples, historical monuments etc. at the baseline level. This would help in visualizing and predicting the possible impact depending upon the nature and magnitude of the project. Socio-economic study of an area provides a good opportunity to assess the socio-economic conditions and possibly makes a change in living and social standards of the particular area benefitted due to the Project. It can undoubtedly be said that the project will provide direct and indirect employment and improve the infrastructural facilities and standards of living of the area.

3.6.1 Objectives of the Study

The objective of this socio-economic study is:

- To know the current socio-economic situation in the study area covering the sub factors of education, health, sanitation, water, employment and business
- To recommend practical strategic interventions to improve the area
- To help in providing better living standards
- To help in providing better employment opportunities for locals in the study area.

3.6.2 Scope of Work

- ❖ To study the socio-economic environment of the study area
- ❖ Data collection during primary field survey and collate it with the secondary sources
- ❖ Identification of possible impacts from the project
- ❖ Prediction of probable impact due to the project
- ❖ Mitigation measures
- ❖ Action plan for the implementation of mitigation measures.

3.6.3 Methodology

Collection of Data

Data for this project was collected from primary sources like Field survey, Interviews of locals and secondary sources like Government department, Maps, Literature research etc. GEMS conducted the socio-economic **baseline survey using a survey team of Field Assistants and a Supervisor apprising them about the project area and relevant documents**. The Survey was conducted **using Simple Random Sampling method** with a well-structured questionnaire prepared enabling subjects to reply appropriately. The questionnaires were designed to suit the subjects considering their rural background enabling them to furnish correct information and data to the extent possible. Primary data has been collected at village level, household level by questionnaires and focused group discussions. The study area for the field survey has been divided into three major segments namely Primary Zone.
(0 - 3 km), Secondary Zone (3 - 7 km) and Outer Zone (7 - 10 km).

Table no. 3.31. Major segments from the Study Area

Major segments	No of Village	%of Respondents
0-3km	2	14
3-7km	4	33
7-10km	7	53

total	13	100

Source: https://censusindia.gov.in/

Presentation of Data and Analysis

The data collected were presented in a suitable, concise form i.e., tabular or diagrammatic or graphic form for further analysis. These tabulated data were interpreted and analyzed with the help of various qualitative techniques and ideographic approaches.

A detailed socio-economic survey was conducted in the buffer zone 10 km radius of the Black granite quarry at village: Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.to identify the social and economic impacts. To get an overview of the villager's views and preferences about the plant, socio-economic parameters i.e., population growth, density, literacy etc. were taken to determine the impact of the quarry production on the human population of the study area.

3.6.4 Population Growth Rate

In 1991, there were only 21 districts in the State of Tamil Nadu. In 2001, eight new districts were created by reorganising the territorial jurisdiction. The nine districts are – Krishnagiri, Namakkal, Perambalur, Viluppuram, Thiruvarur, Nagapattinam, and Theni. The population and its growth trend are important economic factors in a developing economy.

Year	Tamil Nadu	India
1941	11.91	14.22
1951	14.66	13.31
1961	11.85	21.51
1971	22.30	24.80
1981	17.50	24.66
1991	15.39	23.86
2001	11.19	21.34
2011	15.61	5.96
2021	5.96	1.0

3.6.5 Krishnagiri District

Krishna' refers to 'black' and 'giri' refers to 'hill'. This district is gifted with Multicolour hillocks and named as "krishnagiri". The region came under the rule of Krishna Deva Raya and hence it might have been named after this king.

Krishnagiri district is bounded by Vellore and Thiruvannamalai districts in the East, Karnataka state in the west, State of Andhra Pradesh in the North Dharmapuri District in the south. Its area is **5143 Sq. Kms.** This district is elevated from 300m to 1400m above the mean sea level. Source: https://krishnagiri.nic.in/about-district/district-at-a-glance/

It is located between 11º 12'N to 12º 49'N Latitude,77º 27'E to 78º 38'E Longitude.

3.6.7 Study Area

Detailed socio-economic survey was conducted in the study area (Core and buffer zone) within 10 km radius of the area village: Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State., Tamil Nadu. In order to determine the impact of the proposed project on nature and inhabitant. To get an overview of the villagers and their perspectives about this proposed activity, different demographic parameters and social aspects such population density, sex ratio, literacy rate, worker ratio etc. has been identified, analyzed, studied together. These impacts may be beneficial or disadvantageous. If disadvantageous anticipated suggestions measures are advocated in order to have collective development.

3.6.8 Demographic pattern of 10km study area characteristics a comparative analysis

Table 3.32 Shows the socio-economic profile of the study area as compared to district, state and national level socio-economic profile

Particular	India	Tamil Nadu	Krishnagiri District	Study Area (10km Radius)
Area (in sq. km.)	3,287,263	130058	5143	318
Population Density/ sq. Km.	368	554	370	143
No. of Households	249454252	13357027	448053	10130
Population	1210569573	72147030	1879809	45589
Male	623121843	36137975	960232	23658
Female	587447730	36009055	919577	21931
Scheduled Tribes	104281034	794697	22388	1344
Scheduled Castes	201378086	14438445	267386	6304
Literacy Rate	**73%**	**80%**	**72%**	**58.06%**
Sex Ratio (Females per 1000 Males)	**943**	**996**	**956**	927

Source: Census of India, 2011

✓ .

Table 3.33 Village wise Demographic Profile of the Study Area (Core and Buffer Zone)

Sl.No.	Village Name	No HH	Total Population	Male	Female	Total SC Population	Male SC	Female SC	Total ST Population	Male ST	Female ST	Total Literate Population	Male Literate	Female Literate	Total Illiterate Population	Male Illiterate	Female Illiterate	Total Workers Population	Male Workers	Female Workers
1	Batlapalli	1199	5036	2625	2411	2077	###	###	0	0	0	3156	1797	1359	1880	828	1052	2311	1487	824
2	Bommepalli	870	3324	1673	1651	484	243	241	0	0	0	2188	1217	971	1136	456	680	1720	1008	712
3	Guttur	1175	4996	2562	2434	2267	###	###	0	0	0	3269	1808	1461	1727	754	973	2566	1531	1035
4	Jagadevipalayam	1607	6747	3398	3349	1602	798	804	447	225	222	4474	2464	2010	2273	934	1339	2720	1911	809
5	Kannandahalli	2055	8562	4485	4077	638	311	327	0	0	0	5690	3273	2417	2872	1212	1660	3877	2599	1278
6	Kondappanayakempalli	846	3653	1903	1750	95	48	47	7	4	3	2312	1331	981	1341	572	769	1666	1121	545
7	Mahadevagollahalli	1395	5855	3015	2840	204	107	97	48	22	26	3477	2028	1449	2378	987	1391	2899	1810	1089
8	Nagampatti	1112	4688	2420	2268	540	275	265	0	0	0	3033	1758	1275	1655	662	993	2173	1385	788
9	Pasinayanapalli	631	2441	1224	1217	444	225	219	32	18	14	1394	743	651	1047	481	566	1183	679	504
10	Pichugoundanhalli	90	371	170	201	6	2	4	0	0	0	222	128	94	149	42	107	198	100	98
11	Puligunta	2033	8365	4212	4153	1312	650	662	31	15	16	5342	2978	2364	3023	1234	1789	3664	2445	1219
12	Sigaralapalli	151	719	383	336	34	15	19	9	4	5	370	220	150	349	163	186	525	281	244

Source: Village Wise Demographic Profile of the Study Area, *Census of India, 2011*

Table 3.34 Village wise Communication & Transport Facilities of the Study Area (Core and Buffer Zone)

Communication & Transport Facilities in the Study Area																			
Sl	Village Name	PO	SPO	PTO	T	PCO	MP	IC / CSC	PCF	BS	PBS	RS	NH	SH	MDR	BTR	GR	NWR	FP
1	Batlapalli	2	1	2	2	2	1	2	2	1	2	2	2	2	2	1	1	2	1
2	Bommepalli	2	2	2	1	1	1	2	2	1	2	2	2	2	2	1	1	2	1
3	Guttur	2	1	2	1	1	1	1	2	1	1	2	2	2	2	1	1	2	1
4	Jagadevipalayam	2	1	2	1	1	1	1	2	1	1	2	1	1	1	1	1	2	1
5	Kannandahalli	2	1	2	1	1	1	1	2	1	1	2	1	2	1	1	1	2	1
6	Kondappanayakempalli	2	1	2	1	1	1	2	2	1	2	2	2	2	2	1	1	2	1
7	Mahadevagollahalli	2	1	2	1	1	1	2	2	1	2	2	2	2	1	1	1	2	1
8	Nagampatti	2	1	2	1	1	1	2	2	1	2	2	1	2	1	1	1	2	1
9	Pasinayanapalli	2	1	2	1	2	1	2	2	2	2	2	2	2	2	1	1	2	1
10	Pichugoundanhalli	2	2	2	1	2	1	2	2	1	2	2	2	2	1	1	1	2	1
11	Puligunta	2	1	2	1	1	1	2	2	1	1	2	2	2	2	1	1	2	1
12	Sigaralapalli	2	1	2	1	1	1	1	2	1	1	2	1	1	1	1	1	2	1

Table 3.35 Village wise Water & Drainage Facilities of the Study Area (Core and Buffer Zone)

Water & Drainage Facilities in the Study Area												
Sl	Village Name	TP	CW	UCW	HP	TW/BH	S	R/C	T/P/L	CD	OD	CT
1	Batlapalli	1	1	1	1	1	1	2	2	2	2	2
2	Bommepalli	1	1	1	1	1	2	1	2	2	2	2
3	Guttur	1	1	1	1	1	2	2	2	2	1	2
4	Jagadevipalayam	1	1	1	1	1	2	2	2	1	1	2
5	Kannandahalli	1	1	1	1	1	2	2	2	2	1	1
6	Kondappanayakempalli	1	1	1	1	1	2	2	2	2	2	2
7	Mahadevagollahalli	1	1	1	1	1	1	2	2	2	1	1
8	Nagampatti	1	1	1	1	1	2	2	2	2	2	2
9	Pasinayanapalli	1	1	1	1	1	1	1	2	2	2	2
10	Pichugoundanhalli	1	2	2	2	1	2	2	2	2	2	2
11	Puligunta	1	1	1	1	1	2	2	2	2	1	2
12	Sigaralapalli	1	1	1	1	1	1	2	2	2	2	2

Table 3.36 Village wise Communication & Transport Facilities of the Study Area (Core and Buffer Zone)

Village wise Communication & Transport Facilities																		
Sl	Village Name	ATM	CB	COB	ACS	SHG	PDS	RM	AMS	NC	NC-AC	CC	SF	PL		NPS	APS	BDRO	PS
1	Batlapalli	2	2	2	2	2	1	2	2	1	1	1	2	2		2	1	1	1
2	Bommepalli	2	2	2	2	1	1	2	2	1	1	2	1	1		1	1	1	1
3	Guttur	2	2	2	2	1	1	2	2	1	1	1	1	2		2	1	1	1
4	Jagadevipalayam	2	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1
5	Kannandahalli	2	1	1	1	1	1	1	2	1	1	1	1	1		1	1	1	1
6	Kondappanayakempalli	2	2	2	2	1	1	2	2	1	1	1	1	1		1	1	1	1
7	Mahadevagollahalli	2	2	2	2	1	1	2	2	1	1	1	1	1		1	1	1	1
8	Nagampatti	2	2	1	1	1	1	2	2	1	1	1	1	1		1	1	1	1
9	Pasinayanapalli	2	2	2	2	2	1	2	2	1	1	2	2	2		2	1	1	1
10	Pichugoundanhalli	2	2	2	2	1	2	2	2	2	2	2	2	2		2	2	1	1
11	Puligunta	2	2	1	1	1	1	2	2	1	1	1	1	1		1	1	1	1
12	Sigaralapalli	2	2	1	2	1	1	1	2	1	1	1	1	1		1	1	2	1

Table 3.37 Village wise Educational Facilities in of the Study Area (Core and Buffer Zone)

Educational Facilities in the study Area																									
		PPS		PS		MS		SS		SSS		DC		EC		MC		MI		PT		VTS		SSD	
Sl	Village Name	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P
1	Batlapalli	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
2	Bommepalli	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Guttur	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Jagadevipalayam	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	Kannandahalli	1	2	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Kondappanayakempalli	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	Mahadevagollahalli	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	Nagampatti	1	1	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Pasinayanapalli	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	Pichugoundanhalli	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	Puligunta	1	2	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	Sigaralapalli	1	1	1	1	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

3.6.9 Gender and Sex Ratio

3.6.18 ADVERSE SOCIAL IMPACTS

¬ Health Impacts

The project has the potential for triggering health impacts through increased dust, creation of breeding grounds for disease vectors, population influx which might introduce new diseases in the area and inadequate sanitation facilities.

¬ Noise and Vibration

The mining activity is carrying out by eco-friendly surface miner without drilling & blasting. The noise & vibration is generated only for short time due to transportation of vehicles thus there is no major adverse impact has seen.

¬ Livelihood change

Due to the labour intensity of the mining sector, the project will attract the more able-bodied persons from the community which in turn will lead to low labour availability in other sectors of the economy including agricultural, education and health skilled workers. Local employment opportunities to be created by the project. This impact will not be significant due to low level of education and skills in the area which will result in sourcing skilled workforce from outside the immediate area. But the magnitude of this impact will be high due to high number of dependents in a household.

¬ Managing Loss of Livelihood and Income

To cushion the population against impacts of mine closure, comprehensive retrenchment packages that include adequate advance warning to employees and contractors to allow them to source alternative opportunities should be undertaken. Skills development programmes should also be undertaken well before the closure of the mines. However, adequate protection measures will be taken by the mine management to take care of environment and to guard against adverse environmental impact.

3.6.19 Inference of the Socio-economic Study

- The Socio-Economic study provides the clear picture of demographic as well as economic attributes such as population, average household size, working, non-working population, literacy rate, sex ratio, occupation etc.
- Percentage of the male population is observed to be higher than women population with the study area. As observed, the majority of the villages are spatially distributed with the secondary zone of the study area. The sex ratio is 927 females of every 1000 males in the study area which is not very poor compared to the national sex ratio.
- As far as the literacy rate is concerned, the study area has an average level as the literacy rate of people is growing.
- Vulnerable people are very low in the buffer zone area.

Morbidity Pattern

Morbidity rate refers to the rate at which a disease or illness occurs in a population and can be used to determine the health of a population and its healthcare needs. Illnesses can range from acute to chronic, long-lasting conditions. There is no such major morbidity pattern has been found in the area as per the data sources of the health department. Some minor morbidity may be seen like respiratory diseases were commonest morbidity followed by cataract, cardiovascular. As the age increases chances of getting morbidities were more. Also, water quality results of some of the villages indicates that there is fluoride content in the ground water which may lead to fluorosis disease among the population.

Recommendation and Suggestion

The village development plans are made in consultation with the community through Gram Sabah; these appear to address the needs of the community. However, it may be noted that at the implementation stage these plans often are fraught with problem of inadequate funds, lack of proper planning, corruption, vested interests and political agendas. Hence while ascertaining the scope for convergence with the government activities, care must be taken to ascertain realistic possibilities for implementation.

- Women empowerment– Home based income generation activities, vocational training programme, Common education centre for increase the literacy.
- Education – free uniform, construction of common rooms, secondary schools, colleges and library, computer education and physical education, additional schools for girls, furniture and equipment in schools to promote education.
- Vocational Trainings – establishment of a vocational training center within the villages with a curriculum designed to suit market demands. Vocational training for disability persons.
- Agriculture/livestock –infrastructure such as agriculture electric connections, assistance with buying improved tools and equipment, capacity building, supply and/or knowledge of better variety of seeds, pasture land development and trainings on animal husbandry& facility of veterinary doctor.
- Health – improvement in sanitary conditions of the villages, assistance with construction of latrines, improvement in drainage system, health camps and awareness campaigns for diseases like malaria, typhoid, tuberculosis, yellow fever and pneumonia. Repairing of PHCs and Aanganbadi centers, Provision of water tanks at discreet village locations for sanitation, extending health facility to needy amongst surrounding villages, ambulances to local health centres in improving facility to public health. Establishment of new PHCs and medicinal shops.
- Persons with disability: Establishment of center for special education, sensitization of the community towards disabled and awareness on Govt.
- Roads-- Laying of new roads and pucca roads in the study area which can increase in the transportation facilities.

3.6.20 Structure studies300m radius

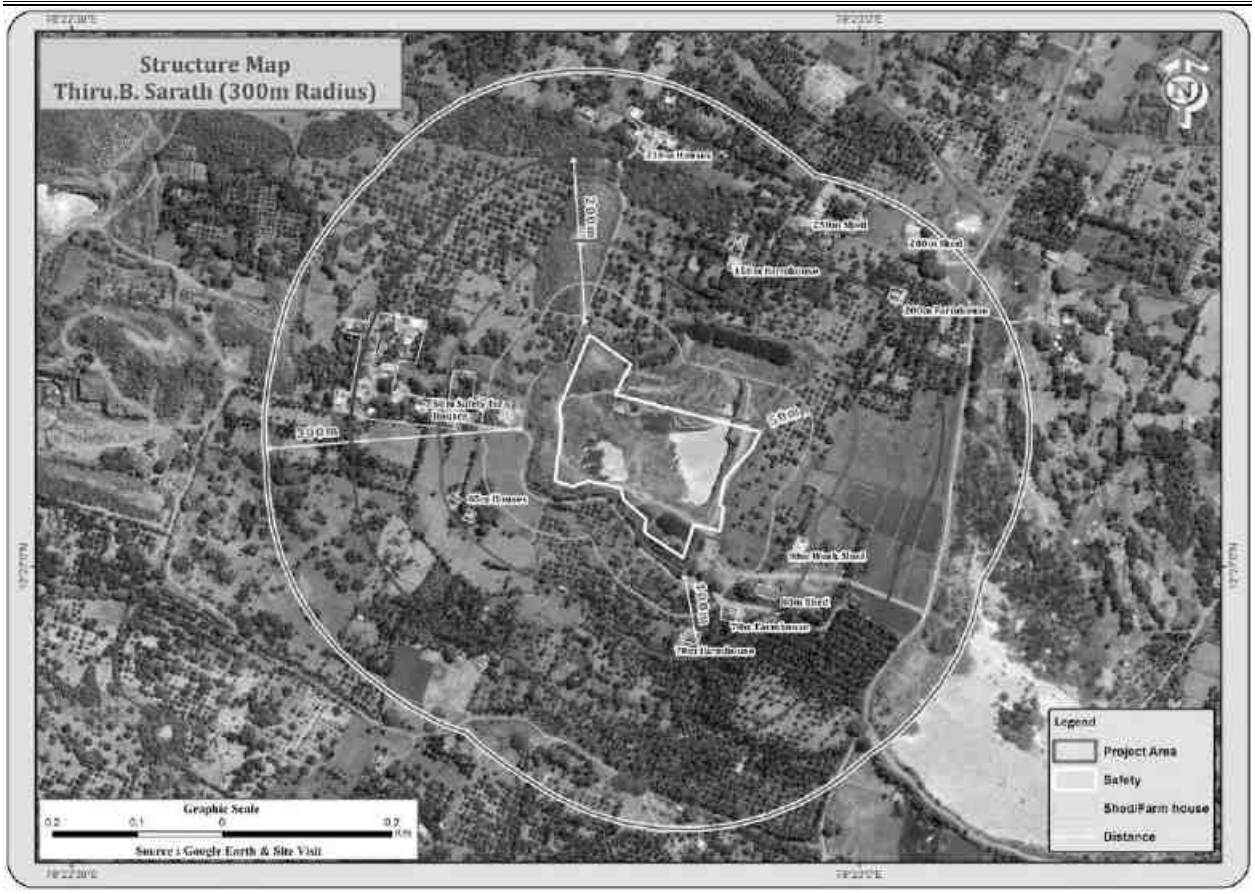


Fig.3.27 Structure map around 30m Radius

3.6.20 CONCLUSION

The environment baseline study was conducted in the project area by both secondary data and primary data collections. Abiotic factors including air, water and soil were studied for the core and buffer zone. It was found that most of the parameters were within the limits as per the Standards. Similarly, the study for the biotic factors was conducted. It can be concluded that the present environment status of the study area is good enough for the project activity. Adoption of adequate pollution control measures will protect the surrounding environment.

Social Impact assessment study was also conducted during the study period which revealed that area further require improvement in the Economy, Employment and Infrastructure Development of the area. Hence, it can be concluded that the present baseline environment status of the study area will not be affected by the project Proponent will adopt adequate control measures to protect the surrounding environment and will contribute in social & economic development of the areas in vicinity & study area.

4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 General

Environmental impacts both direct and indirect on various environmental attributes due to proposed mining activity will be created in the surrounding environment, during the operational and post–operational phases. The occurrence of mineral deposits, being site specific, their exploitation, often, does not allow for any choice except adoption of eco-friendly operation. The methods are required to be selected in such a manner, so as to maintain environmental equilibrium ensuring sustainable development.

In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans sustainable resource extraction. The following parameters are of significance in the Environmental Impact Assessment and are being discussed in detail.

- Land environment
- Soil environment
- Water Environment
- Air Environment
- Noise Environment
- Socio economic environment
- Biological Environment

Based on the baseline environmental status at the project site, the environmental factors that are likely to be affected (Impacts) are identified, quantified and assessed.

4.1 Land Environment

4.1.1 Anticipated Impact

The main anticipated impact on the Land Environment due to quarrying operation is change in Landscape, change in Land – use Pattern. The total area applied for quarry lease is 4.37.0 Ha, the total extent of the cluster is 7.14.5 Ha (Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016) including existing and proposed quarries. The proposed project area is proponent own patta land, No forest land involved in this lease applied area. The ultimate depth of the proposed project is quarrying is varying from 45m below the ground level and will not intersect the ground water table. The project is site specific.

4.1.2 Mitigation measures

Due to the quarrying activities in the project the land use pattern will be altered. In order to minimize the adverse effects, the following control measures will be implemented:

- In the Opencast Method of Mining the degradation of land is insignificant, after completion of the quarrying operation the land, the land will be partially backfilled with dumped material and part of the area will be allowed to collect rainwater which will act as temporary reservoir, this Granite waste, overburden not produce any toxic effluents in the form of solid, liquid or gas
- Top Soil will be removed and utilized for greenbelt development in the safety barrier

- The periphery of the mining lease area will be converted to a greenbelt to prevent Noise and sound propagation to the nearby lands
- Construction of garland drains all around the quarry pit and construction of check dam at strategic location in lower elevations to prevent soil erosion due to surface runoff during rainfall and also to collect the storm water for various uses within the proposed area
- Barbed wire fencing will be re constructed at the conceptual stage, Security will be posted round the clock, to prevent inherent entry of the public and cattle.

4.1.1.2 Soil Environment

4.1.1.3 Impact on Soil Environment

Erosion and Sedimentation (Removal of protective vegetation cover; Exposure of underlying soil horizons that may be less pervious, or more erodible than the surface layers; Reduced capacity of soils to absorb rainfall; Increased energy in storm-water runoff due to concentration and velocity; and Exposure of subsurface materials which are unsuitable for vegetation establishment).

4.1.1.4 Mitigation measures for Soil Conservation

- The top soil will be preserved in the safety barrier and kept in moisture condition. The preserved top soil will be utilized for greenbelt development in the safety barrier and utilized for plantation on the top bench
- Garland drains will be constructed around the project area to arrest any soil from the quarry area being carried away by the rainwater. This will also avoid the soil erosion and siltation in the mining pits and maintaining the stability of the benches.

4.1.1.5 Waste Dump Management

4.1.1.6 Anticipated Impact

Solid waste is in the form of Granite waste which does not produce any toxic effluent during dumping. Garland drains will be constructed around the waste dump to prevent the rainwater entering into the quarrying pit besides this garland drain will also help in facilitating the rainwater to the natural gradient.

The quarried out mineral reject (2,09,870 MT) will be proposed to dump over the existing granite waste sump – 1 situated in the north western side with maximum dimension of 3,973m^2 * (Height) 29.98m and excavated over burden (12,400 MT) will be proposed to dump over the existing over burden dump – 2 situated on the southern side with maximum dimension of 7,676 m^2 * (Height) 12.83m during the mining plan period.

4.1.1.7 Mitigation measures

- Retaining wall with weep hole, Garland drain will be provided around the dump areas
- Proper angle of repose to be maintained
- Grasses to be done over the dump areas for stability.
- Soil erosion may also be accelerated on areas where the overburden from the ore excavation operation will be dumped. As there is neither a toxic effluent nor solid waste from the mine, quality of soil is not expected to be adversely affected.

4.2 Water Environment (Impact & Mitigation Measures)

4.2.1 Anticipated Impact on Surface and ground water

The impact due to mining on the water quality is expected to be insignificant because of no use of chemicals or hazardous substances during quarrying process. For the quarrying activity water will be utilized for wire saw cutting (which will be recycled), water sprinkling on haul roads and greenbelt development. The quarrying activity will not intersect ground water table as ultimate depth of the quarry is 45m and water table is found at a depth of 72m summer and 77m rainy season BGL.

4.2.2 Mitigation measures

The following mitigation measures are suggested for water management

The quarrying operation will be carried out well above the water table. There is no intersection of surface water bodies (Streams, Canal, Odai etc.,) in the proposed project area. During rainy season rain water will be collected in the quarry pit and later used for greenbelt development and for the water sprinkling in the haul roads. There is no proposal for discharging of quarry pit water outside the project area.

There is no proposal Granite processing or workshop within the project area thus there is no effluent anticipated in the mine.

Detail of water requirements in KLD as given below:

Table 4.1 Water Requirement for the Project

Purpose	Quantity	Source
Domestic & Drinking purpose	1.5 KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.
Dust Suppression	2.0 KLD	From Existing bore wells from nearby area
Green Belt	1.8 KLD	From Existing bore wells from nearby area
Total	**5.3 KLD**	

Source: Prefeasibility report

- With respect to Turbidity, Total Iron and Silica, Pre-treatment methods like settling or filtration, Water Softening (Ion Exchange) shall be adopted to make it fit for drinking purposes. But it can be used for other domestic purposes
- Rainwater will be collected in sump in the mining pit and will be allowed to store and pumped out to surface setting tank of 15 m x 10m x 3m to remove suspended solids if any. This collected water will be judiciously used for dust suppression onwards and such sites where dust likely to be generated and for developing green belt. The proponent will collect and judicially utilize the rainwater as part of rainwater harvesting
- Construction of garland drains to divert surface run-off into the quarrying area
- Retaining walls with weep hole will be constructed around the dump to arrest silt wash off
- Periodic analysis of quarry pit water and ground water quality in nearby villages
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits
- Wastewater discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes
- De-silting will be carried out before and immediately after the monsoon season
- Regular monitoring and analysing the quality of water in open well, bore wells and surface water

4.3 Air Environment (Impact & Mitigation Measures)

The air borne particulate matter is the main air pollutant in this opencast mining. The mining operation will be carried out by Diamond wire saw cutting, jackhammer drilling (35mm dia) and Hydraulic Excavators will be utilized for handling of Granite waste.

4.3.1. Anticipated Impact

The air borne particulate matter generated by quarrying operation, and transportation. The emissions of Sulphur dioxide (SO_2), Oxides of Nitrogen (NOx) due to excavation/loading equipment and vehicles plying on haul roads are marginal. Loading - unloading and transportation of Granite and overburden, wind erosion of the exposed area and movement of light vehicles will be the main polluting source in the mining activities releasing Particulate Matter (PM_{10}) affecting Ambient Air of the area. Prediction of impacts on air environment has been carried out taking into consideration proposed production of 84,625 cbm (ROM) on air environment and net increase in emissions by Open pit source modelling in AERMOD Software.

4.3.2 AERMOD Frame work of Computation & details

By using the above-mentioned inputs, ground level concentrations due to the quarrying activities have been estimated to know the incremental concentration in ambient air quality and impact in the study area. The effect of air pollutants upon receptors are influenced by concentration of pollutants and their dispersion in the atmosphere. Air quality modelling is an important tool for prediction, planning and evaluation of air pollution control activities besides identifying the requirements for emission control to meet the regulatory standards and to apply mitigation measures to reduce impact caused by quarrying activities. PM_{10} was the major pollutant occurred during quarrying activities. The prediction included the impact of Excavation, Drilling, Blasting (Occasionally), loading and movement of vehicles during transportation and meteorological parameters such as wind speed, wind direction, temperature, rainfall, humidity and Cloud cover.

Impact was predicted over the distance of 10km around the source to assess the impact at each receptor separately at the various locations and maximum incremental GLC value at the project site. Maximum impact of PM_{10} was observed close to the source due to low to moderate wind speeds. Incremental value of PM_{10} was superimposed on the base line data monitored at the proposed site to predict total GLC of PM_{10} due to combined impacts.

4.3.2.1 Emission Rate

An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant.

The general equation for emissions estimation is:

$$E = A \times EF \times (1-ER/100)$$

Where:

E = Emissions;
A = Activity rate;
EF = Emission factor, and
ER = Overall emission reduction efficiency, %

The proposed mining activity includes various activities like ground preparation, excavation, handling and transport of ore. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 4-2.

Table 4.2: Estimated Emission Rate for PM_{10}

Activity	Source type	Value	Unit
Drilling	Point Source	0.032424999	g/s
Blasting	Point Source	0.000008670	g/s
Mineral Loading	Point Source	0.032013185	g/s
Haul Road	Line Source	0.002482751	g/s/m
Overall Mine	Area Source	0.054146289	g/s

Table 4.3: Estimated Emission Rate for So_2

Activity	Source type	Value	Unit
Drilling	Point Source	3.91164E-05	g/s

Table 4.4: Estimated Emission Rate for No_x

Activity	Source type	Value	Unit
Overall Mine	Area Source	0.000002053	g/s

4.3.2 Frame work of Computation & Model details

By using the above-mentioned inputs, ground level concentrations due to the quarrying activities have been estimated to know the incremental concentration in ambient air quality and impact in the study area. The effect of air pollutants upon receptors are influenced by concentration of pollutants and their dispersion in the atmosphere. Air quality modelling is an important tool for prediction, planning and evaluation of air pollution control activities besides identifying the requirements for emission control to meet the regulatory standards and to apply mitigation measures to reduce impact caused by quarrying activities. PM_{10} was the major pollutant occurred during quarrying activities. The prediction included the impact of Excavation, Drilling, Blasting, loading and movement of vehicles during transportation and meteorological parameters such as wind speed, wind direction, temperature, rainfall, humidity and Cloud cover.

Impact was predicted over the distance of 10 km around the source to assess the impact at each receptor separately at the various locations and maximum incremental GLC value at the project site. Maximum impact of PM_{10} was observed close to the source due to low to moderate wind speeds. Incremental value of PM_{10} was superimposed on the base line data monitored at the proposed site to predict total GLC of PM_{10} due to combined impacts.

Figure 4.1: AERMOD Terrain Map

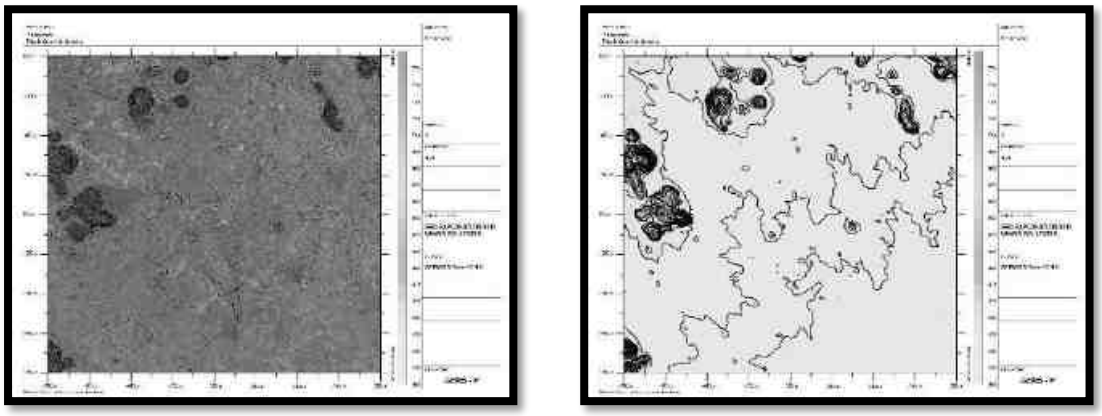


Figure 4.2: Predicted Incremental Concentration of Fugitive Dust

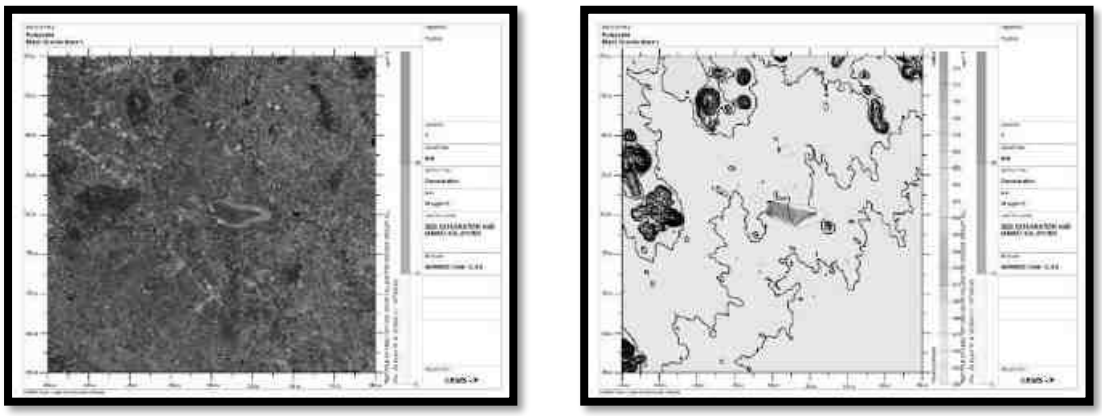


Figure 4.3: Predicted Incremental Concentration of PM_{10}

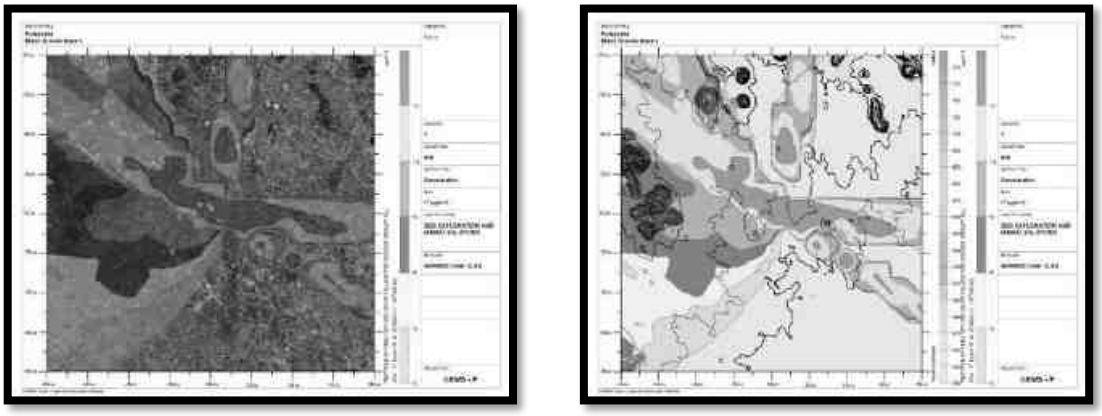


Figure No 4.4: Predicted Incremental Concentration of $PM_{2.5}$

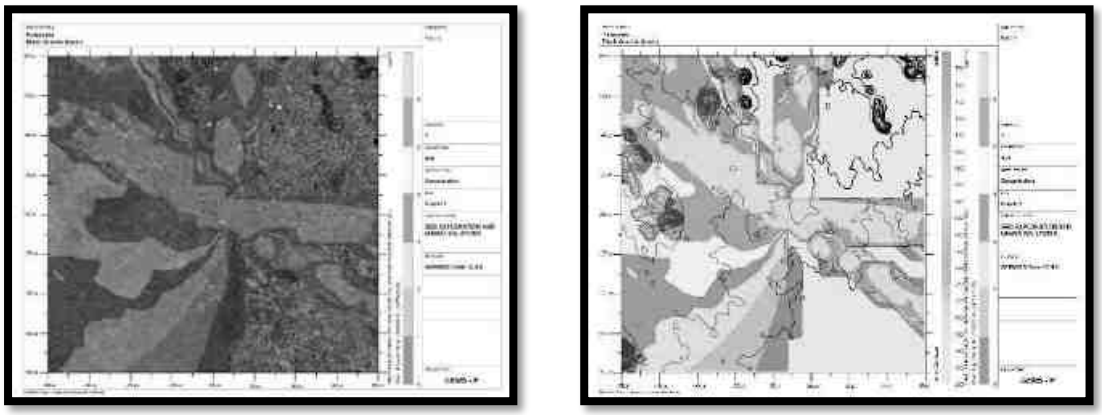


Figure No 4.5: Predicted Incremental Concentration of So_2

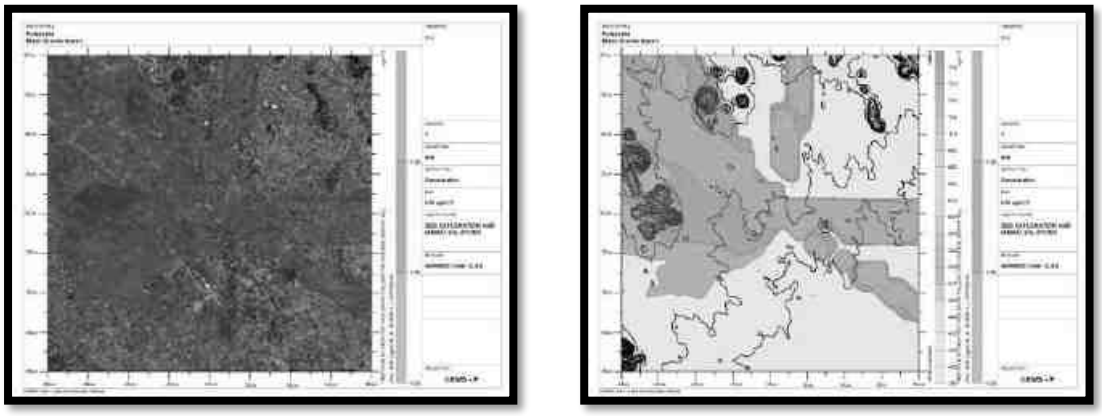
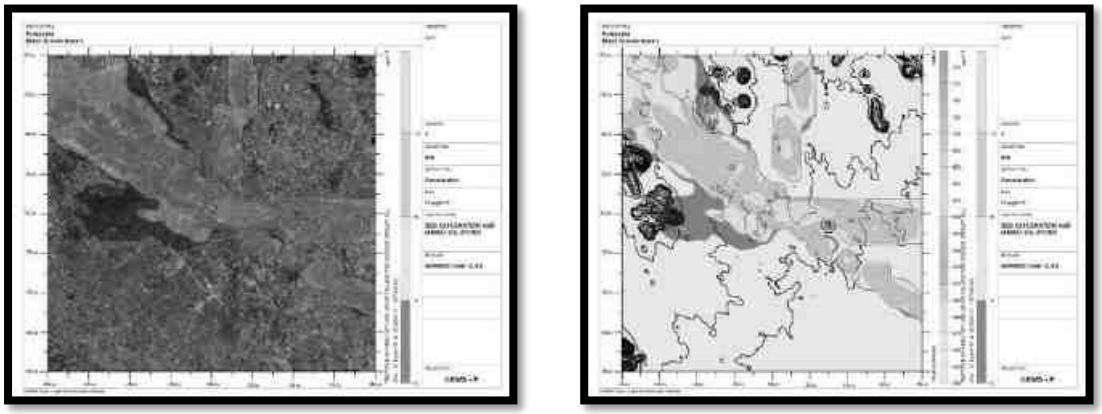


Figure No 4.6: Predicted Incremental Concentration of No_x



4.3.2.1 Model Results

The post project Resultant Concentrations of Fugitive Dust emission, PM_{10}, $PM_{2.5}$, SO_2 & NO_X (GLC) is given in Table below:

Table 4.6: Incremental & Resultant GLC OF PM_{10}

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline PM_{10} ($\mu g/m^3$)	Incremental value of PM_{10} due to mining ($\mu g/m^3$)	Total PM_{10} ($\mu g/m^3$) (5+6)
AAQ1	12°27'1.68"N 78°22'53.49"E	59	-83	49.6	17.76	67.36
AAQ2	12°27'6.56"N 78°22'49.69"E	-57	70	51.2	17.60	68.8
AAQ3	12°27'7.57"N 78°22'35.96"E	-476	98	53.0	17.29	70.29
AAQ4	12°27'50.28"N 78°23'30.90"E	1200	1424	52.3	0	52.3
AAQ5	12°25'52.01"N 78°21'50.75"E	-1854	-2247	52.2	8.00	60.2
AAQ6	12°24'50.93"N 78°24'7.10"E	2303	-4144	52.6	0	52.6
AAQ7	12°29'22.18"N 78°21'37.68"E	-2461	3639	53.1	16.00	69.1

Table 4.7: Incremental & Resultant GLC OF $PM_{2.5}$

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline $PM_{2.5}$ ($\mu g/m^3$)	Incremental value of $PM_{2.5}$ due to mining ($\mu g/m^3$)	Total $PM_{2.5}$ ($\mu g/m^3$) (5+6)
AAQ1	12°27'1.68"N 78°22'53.49"E	59	-83	19.5	8.93	28.43
AAQ2	12°27'6.56"N 78°22'49.69"E	-57	70	20.5	8.81	29.31
AAQ3	12°27'7.57"N 78°22'35.96"E	-476	98	22.3	8.49	30.79
AAQ4	12°27'50.28"N 78°23'30.90"E	1200	1424	21.6	0	21.6
AAQ5	12°25'52.01"N 78°21'50.75"E	-1854	-2247	22.1	5.32	27.42
AAQ6	12°24'50.93"N 78°24'7.10"E	2303	-4144	22.2	0	22.2
AAQ7	12°29'22.18"N 78°21'37.68"E	-2461	3639	23.0	7.86	30.86

Table 4.8: Incremental & Resultant GLC OF SO_2

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline So_2 ($\mu g/m^3$)	Incremental value of So_2 due to mining ($\mu g/m^3$)	Total So_2 ($\mu g/m^3$) (5+6)
AAQ1	12°27'1.68"N 78°22'53.49"E	59	-83	3.5	2.59	6.09
AAQ2	12°27'6.56"N 78°22'49.69"E	-57	70	3.8	2.57	6.37
AAQ3	12°27'7.57"N 78°22'35.96"E	-476	98	4.2	2.55	6.75
AAQ4	12°27'50.28"N 78°23'30.90"E	1200	1424	4.0	0	4
AAQ5	12°25'52.01"N 78°21'50.75"E	-1854	-2247	4.4	1.00	5.4
AAQ6	12°24'50.93"N 78°24'7.10"E	2303	-4144	4.4	0	4.4
AAQ7	12°29'22.18"N 78°21'37.68"E	-2461	3639	4.3	2.51	6.81

Table 4.9: Incremental & Resultant GLC OF NO_X

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline Nox ($\mu g/m^3$)	Incremental value of Nox due to mining ($\mu g/m^3$)	Total Nox ($\mu g/m^3$) (5+6)
AAQ1	12°27'1.68"N 78°22'53.49"E	59	-83	19.8	12.61	32.41
AAQ2	12°27'6.56"N 78°22'49.69"E	-57	70	20.0	12.43	32.43
AAQ3	12°27'7.57"N 78°22'35.96"E	-476	98	19.7	11.89	31.59
AAQ4	12°27'50.28"N 78°23'30.90"E	1200	1424	19.8	0	19.8
AAQ5	12°25'52.01"N 78°21'50.75"E	-1854	-2247	19.9	0	19.9
AAQ6	12°24'50.93"N 78°24'7.10"E	2303	-4144	19.9	0	19.9
AAQ7	12°29'22.18"N 78°21'37.68"E	-2461	3639	19.7	7.93	27.63

From the resultant of cumulative concentration i.e., Background + Incremental Concentration of pollutant in all the receptor locations without effective mitigation measures are still within the prescribed NAAQ limits of 100, 60, 80 & 80 $\mu g/m^3$ for PM_{10}, $PM_{2.5}$, SO_2 & NO_X respectively. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be further being controlled.

4.3.3. Mitigation Measures

Drilling – To control dust at source, wet drilling will be practiced. Where there is a scarcity of water, suitably designed dust extractor will be provided for dry drilling along with dust hood at the mouth of the drill-hole collar.

Advantages of Wet Drilling:-

- In this system dust gets suppressed close to its formation. Dust suppression become very effective and the work environment will be improved from the point of occupational comfort and health.
- Due to dust free atmosphere, the life of engine, compressor etc., will be increased.
- The life of drill bit will be increased.
- The rate of penetration of drill will be increased.
- Due to the dust free atmosphere visibility will be improved resulting in safer working conditions.

Blasting –

- Blasting will be carried out only to remove the overburden and weathered portion
- Establish time of blasting to suit the local conditions and water sprinkling on blasting face
- Controlled blasting includes Adoption of suitable explosive charge and short delay detonators, adequate stemming of holes at collar zone and restricting blasting to a particular time of the day i.e. at the time lunch hours, controlled charge per hole as well as charge per round of hole.

Haul Road & Transportation –

- Water will be sprinkled on haul roads, Loading Points twice a day to avoid dust generation during transportation
- Transportation of material will be carried out during day time and material will be covered with taurpaulin
- The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.
- Main source of gaseous pollution will be from vehicle used for transportation of mineral; therefore weekly maintenance of machines improves combustion process & makes reduction in the pollution.
- The un-metalled haul roads will be compacted weekly before being put into use.
- Over loading of tippers will be avoided to prevent spillage.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- Grading of haul roads and service roads to clear accumulation of loose materials.

Green Belt –

- Planting of trees all along main mine haul road and regular grading of haul roads will be practiced to prevent the generation of dust due to movement of dumpers/trucks
- Green belt of adequate width will be developed around the project area

Occupational Health –

- Dust mask will be provided to the workers and their use will be strictly monitored
- Annual medical check-ups, trainings and campaigns will be arranged to ensure awareness about importance of wearing dust masks among all mine workers & tipper drivers
- Ambient Air Quality Monitoring will be conducted six months once to assess effectiveness of mitigation measures proposed

4.4 Noise Environment

Noise pollution is mainly due to operation like drilling & blasting (Occasionally) and plying of trucks & HEMM. These activities will not cause any problem to the inhabitants of this area because there is no human settlement in close proximity to the project area. Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities.

Predictions have been carried out to compute the noise level at various distances around the working pit due to these major noise-generating sources.

Noise at a point generates spherical waves, which are propagated outwards from the source through the air at a speed of 1,100 ft/sec, with the first wave making an ever-increasing sphere with time. As the wave spreads the intensity of noise diminishes as the fixed amount of energy is spread over an increasing surface area of the sphere. The assumption of the model is based on point source relationship i.e., for every doubling of the distance the noise levels are decreased by 6 dB (A).

For hemispherical sound wave propagation through homogeneous loss free medium, one can estimate noise levels at various locations at different sources using model based on first principle.

$$Lp_2 = Lp_1 - 20 \log (r_2/r_1) - Ae_{1,2}$$

Where:

Lp_1 & Lp_2 are sound levels at points located at distances r_1 & r_2 from the source.

$Ae_{1,2}$ is the excess attenuation due to environmental conditions. Combined effect of all sources can be determined at various locations by logarithmic addition.

$$Lp_{total} = 10 \log \{10^{(Lp1/10)} + 10^{(Lp2/10)} + 10^{(Lp3/10)} + \ldots\ldots\}$$

4.4.1 Anticipated Impact

Attenuation due to Green Belt has been taken to be 4.9 dB (A). The inputs required for the model are:

- Source data
- Receptor data
- Attenuation factor

Source data has been computed considering of all the machinery and activities used in the mining process. Same has been listed in Table 4-8.

The total noise to be produced by mining activity is calculated to be 95.8 dB (A). Generally, most mining operations produce noise between 100-109 dB (A). We have considered equipment and operation noise levels (max) to be approx. 109 dB (A) for nose prediction modelling.

Table 4.10: Predicted Noise Incremental Values

Location ID	N1	N2	N3	N4	N5	N6	N7	N8
Maximum Monitored Value (Day) dB(A)	45.8	44.6	45.2	45.1	42.3	45.6	39.9	39.9
Incremental Value dB(A)	66.1	56.0	44.8	34.1	25.8	29.7	27.0	29.2
Total Predicted Noise level dB(A)	66.2	56.3	48.0	45.4	42.4	45.7	40.1	40.3
NAAQ Standards	Industrial Day Time- 75 dB (A) & Night Time- 70 dB (A) Residential Day Time– 55 dB (A) & Night Time- 45 dB (A)							

The incremental noise level is found within the range of 66.1 dB (A) in Core Zone and 27 to 56.0dB (A) in Buffer zone. The noise level at different receptors in buffer zone is lower due to the distance 33.3 involved and other topographical features adding to the noise attenuation. The resultant Noise level due to monitored values and calculated values at the receptors are based on the mathematical formula considering attenuation due to Green Belt as 4.9 dB (A) the barrier effect. From the above table, it can be seen that the ambient noise levels at all the locations are within permissible limits of Industrial area (core zone) & Residential area (buffer zone) as per THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 (The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.).

4.4.2 Mitigation measures for Control of Noise

The following noise mitigation measures are proposed for control of Noise

- Usage of sharp drill bits while drilling which will help in reducing noise;
- Secondary blasting will be totally avoided and hydraulic rock breaker are utilized for breaking boulders;
- Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will reduce noise;
- The blasting will be carried out during favourable atmospheric condition and less human activity timings by using nonelectrical initiation system;
- Proper maintenance, oiling and greasing of machines will be done every week to reduce generation of noise;
- Provision of sound insulated chambers for the workers working on machines (HEMM) producing higher levels of noise;
- Silencers / mufflers will be installed in all machineries;
- Green Belt will be developed around the project areas and along the haul roads. The plantation minimizes propagation of noise;
- Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM and their use will be ensured though training and awareness.
- Regular medical check–up and proper training to personnel to create awareness about adverse noise level effects.

4.4.3 Ground Vibrations

Ground vibrations due to mining activities in the project area are anticipated due to operation of Mining Machines like Excavators, drilling and blasting, transportation vehicles, etc. However, the major source of ground vibration from the proposed mine is moving of Heavy Earth Moving Machineries vibration due to blasting is very minimal since the blasting will not carried out frequently in this type of Granite quarry operation. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kuchha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements.

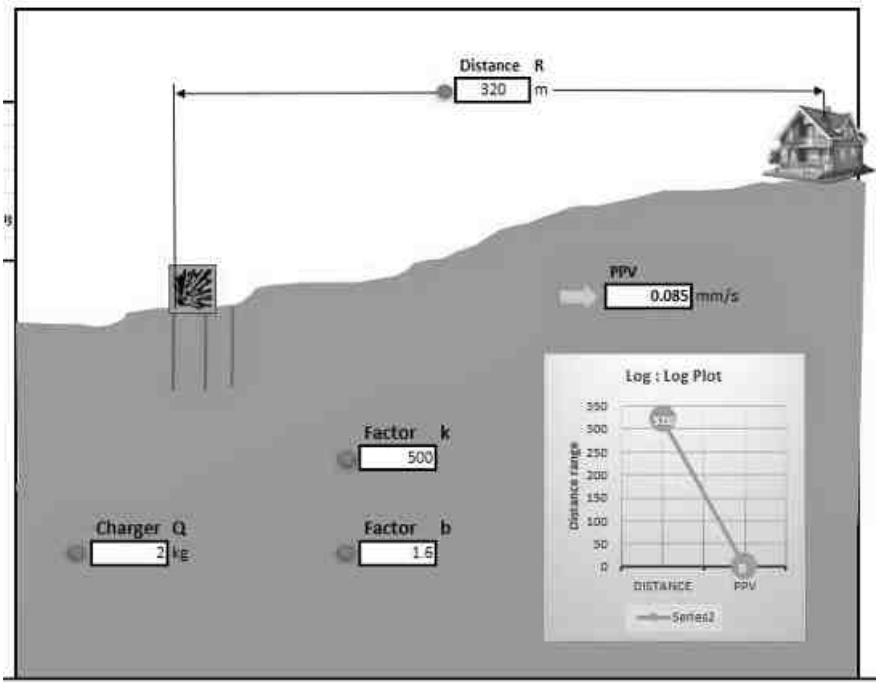
Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining lease area and may cause injury to persons or damage to the structures. Nearest habitation from the project area is located 350 m South East. The ground vibrations due to the blasting in proposed mine are calculated using the empirical equation.

The empirical equation for assessment of peak particle velocity (PPV) is:

$$V = K\,[R/Q_{0.5}]^{-B}$$

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

Figure No 4.7: Ground Vibration Prediction



From the above graph, the charge per blast of 2 kg is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997. It should be ensured that the explosives used for blasting at one blast should not exceed more than 100kg at any point of

time. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

4.4.3.1 Mitigation measures for Control of Vibration

- The blasting operations in the mine are proposed to be carried out by jackhammer drilling and blasting using delay detonators, which reduces the ground vibrations;
- Proper quantity of explosive, suitable stemming materials and appropriate delay system should be adopted to avoid overcharging and for safe blasting;
- Adequate safe distance from blasting should be maintained as per DGMS guidelines;
- Blasting shelter will be provided as per DGMS guidelines;
- Blasting operations will be carried out only during day time;
- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts;
- During blasting, other activities in the immediate vicinity shall be temporarily stopped;
- Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast;
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 2_{nd} Class Mines Manager/ 1st Class Mines Manager) will be appointed.

4.5 Impact on the Biological Environment

4.5.1. Anticipated Impact on agricultural land associated with flora

1. Dust particle settle on neighbouring agricultural land it is located about 200m on the North and west side. During operation and minerals are transported in approach roads.
2. There shall be negligible air emissions or effluents from the project site. During the loading of the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.

4.5.2 Mitigation Measures

4.5.2.1. General Guidelines for Green Belt Development

Drone survey was covered the green belt and fencing as per the terms of references. The green belt and plantation purposes in and around the proposed mine lease area native species, fruit-bearing trees, medicinal plants, and dense canopy trees should be selected. These species should be tolerant to pollution levels as per Bio-Geography zones of India.

After the operation of mining production capacity, green belt and Plantation species should be in accordance with the Terms and Conditions of the Environmental Clearance Green belt is created not only for the purpose of protecting sensitive areas or maintaining the ecological balance but because they also act as efficient biological filters or sinks for particulate and gaseous emissions, generated by vehicular movements and various industrial and mining activities. Optimally designed green belts can be effective in reducing the impact of fugitive emissions and pollutants accidentally or otherwise released at ground levels.

4.5.2.2. Proposed Green Belt

Extensive green belt development will be started during the construction phase, which will continue till the operation of the plant. About 1500-2000 trees will be planted per hectare all around the plant, approach roads, and township premises. Locally available types of trees that are resistant to pollutants will be planted. In addition to the above, all open spaces available within the premises will be developed as nurseries, parks, gardens, and other forms of greenery. 5 m wide greenbelt will be developed along the plant premises, as per land available.

4.5.2.3. Development of Green Belt

The plantation matrix adopted for the green belt development includes pit of 0.3 m x 0.3 m in size with a spacing of 2 m x 2 m. In addition, earth filling and manure may also be required for the proper nutritional balance and nourishment of the sapling. It is also recommended that the plantation has to be taken up randomly and the landscaping aspects could be taken into consideration. Multi-layered plantations comprising of medium height trees (7 m to 10 m) and shrubs (5 m height) are proposed for the green belt.

4.5.3.4. Selection of Plant Species for Green Belt Development

It is also recommended that the plantation has to be taken up randomly and the landscaping aspects could be taken into consideration. Multi-layered plantations comprising of medium height trees (7 m to 10 m) and shrubs (5 m height) are proposed for the green belt. Green belt is plantation of trees for reducing the air pollution as they absorb both gaseous and particulate pollutant, thus removing them from atmosphere. Green plants form a surface

capable of absorbing air pollutants and forming sinks for pollutants. It improves the aesthetic value of local environment. Under present project, green belts have been planned with emphasis on creating biodiversity; enhance natural surroundings and mitigating pollution. Regional tree saplings in eco-friendly bags like Pterocarpus marsupium, Pongamia pinnata, Limonia acidissima, and Cassia roxburghii will be planted along the Lease boundary and avenues as well as over non-active dumps with intervals 3m in between with the GPS Coordinates. The greenbelt development plan aims to overall improvement in the environmental conditions of the region Native plant species will be preferred.

- The species should be wind-firm and deep-rooted.
- The species should form a dense canopy.
- Fast-growing plants will be planted
- Species tolerance to air pollution like SO2 and NO2 should be preferred.
- Plants having large leaf area index will be considered
- Soil improving plants (Nitrogen fixing rapidly decomposable leaf litter).
- Attractive appearance with good flowering and fruit-bearing.
- Birds and insects attract tree species.
- Roadsides will be planted with local vegetation.

Table No 4.11. List of plant species proposed for Greenbelt development

S. No	Scientific name	Tamil Name
1	Aegle marmelos	Vilva maram
2	Albizia lebbeck	Vaagai maram
3	Cassia fistula	Konrai tree
4	Lannea coromandelica	Othiyam
5	Limonia acidissima	Vila maram
6	Syzygium cumini	Naval maram
7	Toona ciliata	Santhana Vembu
8	Ficus hispida	Aththi maram
9	Borassus flabellifer	Panai-maram
10	Madhuca longifolia	Illupai maram

(*Source: Term of Reference-ToR)

Table No 4.12. Species suitable for abatement of noise and dust pollution

S. No	Botanical name	Common name
1	Azadirachta indica	Vembhu maram
2	Ficus religiosa	Arasan maram
3	Ficus hispida	Aththi maram
4	Bombax ceiba	Mul Elavu
5	Syzygium cumini	Naval maram
6	Tamarindus indica	Puliyamaram
7	Mangifera indica	Manga maram
8	Harwickia binata	Anjan maram
9	Delonix regia	Neruppu Kondrai
10	Cassia Fistula	Sara Kondrai

(*Source: Guidance for Developing Green belts Manual, CPCB 2000)

The above-suggested list covers species with thick canopy cover, perennial green nature, native origin, and a large leaf area index. The proposed species will help in forming an effective barrier between the mine site area and the surroundings.

These species need to be planted along the periphery of the lease area for absorb fugitive emissions and noise levels which are generated during mining activities. All the open spaces, where tree plantation may not be possible, should be covered with shrubs and grass to prevent erosion of topsoil.

4.5.4. Anticipated Impact on Fauna

- Noise generation due to vehicle may affect avifauna.
- The lease area is not inhabited by any wild life, as there is no forest cover, hence there will not be any effect on migration or extinction of wildlife.
- There is Cauvery North Wild life sanctuary situated at 2km on the Southern side and Eco sensitive zone situated at 1km on the southern side of the area.

4.5.4.1. Measures for protection and conservation of wildlife species

- Topsoil has a large number of seeds of native plant species in the mining area.
- Topsoil will be used for restoration and suitable surfaces for planted seedlings.
- Checks and controls the movement of vehicles in and out of the mine.
- Undertaking mitigative measures for a conducive environment to the flora and fauna in consultation with Forest Department.
- A dust suppression system will be installed within the mine and periphery of the mine.
- Plantation around the mine area will help in creating habitats for small faunal species and create a better environment for various fauna. Creating and developing awareness for nature and wildlife in the adjoining villages.

4.5.3. Impact on Aquatic Biodiversity

- The major lake along the project sites doesn't have a rich biodiversity and almost all the species of both fauna and flora listed are either least concerned or not evaluated.
- There is no impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.

Table No. 4.13. Overall Ecological impact assessments of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.

S. No	Attributes	Assessment
	Activities of the project affect the breeding/nesting sites of birds and animals	No breeding and nesting site was identified in the mining lease site. The fauna sighted mostly migrated from the buffer area.
2	Located near an area populated by rare or endangered species	No Endangered, Critically Endangered, or vulnerable species were sighted in the core mining lease area.
3	Proximity to national park/wildlife sanctuary/reserve forest /mangroves/ coastline/estuary/sea	There is Cauvery North Wild life sanctuary situated at 2km on the Southern side and Eco sensitive zone situated at 1km on the southern side of the area. Togarappalli R.F. – 3.3 km – North West
4	The proposed project restricts access to waterholes for wildlife	'No '
5	Proposed mining project impact surface water quality that also provides water to wildlife	'No 'scheduled or threatened wildlife animals are sighted regularly core in the core area.
6	Proposed mining project increase siltation that would affect nearby biodiversity areas.	Surface runoff management such as drains is constructed properly so there will be no siltation effect in the nearby mining area.
7	Risk of fall/slip or cause death to wild animals due to project activities.	'No'
8	The project release effluents into a water body that also supplies water to a wildlife.	No water body near to core zone so the chances of water becoming polluted is low.
9	Mining projects affect the forest-based livelihood/ any specific forest product on which local livelihood depended.	'No'
10	The project likely to affect migration routes.	'No 'migration route was observed during the monitoring period.

11	The project is likely to affect the flora of an area, which have medicinal value	'No'
12	Forestland is to be diverted, has carbon high sequestration.	'No 'There was no forest land diverted.
13	The project is likely to affect wetlands, Fish breeding grounds, and marine ecology.	'No'. Wetland was not present in the near core Mining lease area. No breeding and nesting ground is present in the core mining area.

(*Source: EIA Guidance Manual-Mining and Minerals, 2010)

4.5.2.2. Afforestation

More number of trees has been observed along the approach road to the lease area, the trees will be maintained in good condition. The 7.5m and 10m Safety distance along the boundary has been identified to be utilized for subsequent Afforestation. However, the afforestation should always be carried out in a systematic and scientific manner. Regional trees like Neem, Pongamia, Pinnata, Mango will be planted along the Lease boundary and avenues as well as over non-active dumps at a rate of 50 trees per annum with interval 3m in between. A retaining wall will be constructed around the dumping yard. The rate of survival expected to be 80% in this area. Afforestation Plan is given in Table No.4.14 and preparation of green belt details are given in Table No.4.14.

Table 4.14: Greenbelt development plan

Plantation details	Required	No. of trees provided (Considering 80% survival rate)	1st Year
No of Plants	1200	1440	1440
Yearly %	100%	120%	100%

4.5.2.2.1. Species Recommendation for Plantation

Following points have been considered while recommending the species for plantation:

- Natural growth of existing species and survival rate of various species.
- Suitability of a particular plant species for a particular type of area.
- Creating of biodiversity.
- Fast growing, thick canopy copy, perennial and evergreen large leaf area.
- Efficient in absorbing pollutants without major effects of natural growth.
- The following species may be considering primary for plantation best suited for the prevailing climate condition in the area.

4.6 ANTICIPATED IMPACT ON SOCIO-ECONOMIC ENVIRONMENT AND MITIGATION MEASURES

4.6.1 Construction Phase

Anticipated Impacts:

♣ No. of people will get employment during the construction stage resulting in the ancillary development and growth. Nearby Local people will be given preference for employment on the basis of their skill and experience.

♣ Further due to proposed project, influx of working community will also generate an indirect employment through development of nearby market/ shops, trade centers, activities, transportation etc.

♣ Population influx during the construction phase can introduce various water and vector borne diseases which can lead to various unhygienic health problems in the area by disturbing the existing sanitation infrastructure.

♣ Rapid diverse population influx at the project site can create unusual behavioural activity such as worker-community conflicts, increase violence such as theft/stabbing and increased consumption of drugs/alcohol within the area.

♣ Impacts on the health of nearby villagers can be envisaged due to the transportation activities leading to short term exposure of fugitive dust, resulting in various acute diseases such as increased eye irritation, nausea, headache etc.

Mitigation measures:

♣ Deploying of mobile toilets or the construction of temporary toilets will be done near to the construction site with the adequate water supply.

♣ Awareness programme will be conducted before the monsoon season regarding the spread of water borne/ vector diseases.

♣ Mosquito repellents will be provided in the nearby villages and at construction site to avoid the spread of diseases.

♣ To overcome behavioural impact, proper site in charge with timely supervision will be done. In advance, facilities with equipped medical and safety services will be provided to take a control over the incident/violence if any caused.

♣ To overcome behavioural impact, supervision will be done by site in charge. In advance, emergency cell will be formed with fully equipped communication system, medical and safety services to take control over the incident/violence caused.

4.6.2 Operation Phase:

Anticipated Impacts:

♣ Long term exposure to the pollutants such as PM, SO_2 and NO_2 Cement dust have a potential to create health impacts such as risk of cardiovascular and respiratory disease, eye irritation, bronchitis, lung damage, increased heart ailments, etc.

♣ Other impacts, associated with the applied for rough stone and gravel quarry Project will create a positive impact as it will result in the overall development of the area in respect to the infrastructure development, educational growth, health facilities etc., as a part of the CSR activity.

Mitigation Measures:

♣ In order to mitigate the long-term health impacts, efficient Air Pollution Control Equipment (APCE) like Bag House / Bag Filter / ESP will be installed at all major stacks to keep the emissions within the permissible limits. To reduce the gaseous emission, Pyro-process itself acts as a long SO2 scrubber and De - NOx system will be installed for fuel burning along with calciner for low NOx formation. To reduce fugitive emission from vehicles and machineries will be regularly monitored and maintained.

♣ For emergency, proposed to develop an occupational health centre for its employees and nearby villagers.

4.6.3 Impact Evaluation:

Table 4.15 Impact Evaluation Impact evaluation is given in table below.

Impact Evaluation Element	Impact on socio economics due to the applied for Thiru.B. Sharath Black granite quarry over an extent of 4.37.0 ha of Patta land of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.			
Potential Effect/ Concern	Proposed project will provide direct & indirect employment opportunities to the local residents, which will help to increase their earning and better living standard as well as further up-liftment of socio-economic status of the area.			
Characteristics of Impacts				
Nature	Positive		Nagative	Netural
	✓			
Type	Direct	Indirect	Cumulative	
			✓	
Extent	Project area	Local	Zonal	Regional
		✓		
Duration	Short time		Long term	
			✓	
Intensity	Low		Medium	High
			✓	
Frequency	Remote (R)	Occasional (O)	Periodic (P)	Continuous (C)
			✓	
Significance of Impact				
Significance	Insignificant	Minor	Moderate	Major
			✓	

4.7 Occupational Health and Safety

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

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

4.7.1 Respiratory Hazards

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

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

4.7.2 Noise

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

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

4.7.3 Physical Hazards

The following measures are proposed for control of physical hazards

- Specific personnel training on work-site safety management will be taken up;
- Work site assessment will be done by rock scaling of each surface exposed to workers to prevent accidental rock falling and / or landslide, especially after blasting activities;
- Natural barriers, temporary railing, or specific danger signals will be provided along rock benches or other pit areas where work is performed at heights more than 2m from ground level;
- Maintenance of yards, roads and footpaths, providing sufficient water drainage and preventing slippery surfaces with an all-weather surface, such as coarse gravel will be taken up

4.7.4 Occupational Health Survey

All the persons will undergo pre-employment and periodic medical examination. Employees will be monitored for occupational diseases by conducting the following tests

- General physical tests
- Audiometric tests, Full chest, X-ray, Lung function tests, Spirometric tests
- Periodic medical examination – yearly, Lung function/ Silicosis test – yearly, those who are exposed to dust
- Eye test

Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment. First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

4.7.5 Post COVID Health Management Plan for Workers

The following Health Management plan will be strictly implemented in the Mines, Mine officials like Mines Manager and Foreman will be Act as a Controller of Health Management of the workers.

- Temperature will be checked to all the workers while arriving to work on each day
- If any persons/employees have fever of 100.4 or higher, chills, shortness of breath will be sent to Hospital and the persons will be employed after fourteen days
- All the persons inside the mine area instructed to wear fabric or disposable pleated masks covering Nose and Mouth
- Social distancing of 6 feet will be maintained all the time
- Temporary Hand washing points will be installed near the working places, workers will be initiated to Wash hands frequently with soap and water for a minimum of 20 seconds and advised to avoid touching face. This is an essential contagion-control mechanism

4.7.6 Plastic Waste Management

As per the Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (EC.2) Department Dated 25.06.2018 following kind of plastics will not be used in the mines area.

Use and throw away plastics such as carry bags, plastic bags, plastic sheets used for food wrapping, spreading, plastic plates, plastic coated tea cups and plastic tumblers will not be used in the mines

Action Plan:

Action Plan	Responsibility
All the employees will be checked for plastics before entering the quarry.	Watchman
Every week or month a meeting of workers under the chairmanship of the mine manager will be held to explain the disadvantages of plastic use.	Mine Foreman & Mining Mate
They will be advised not to bring plastic materials into the mines and those who are involved in such activities will not be allowed to work on the day of the snow.	Mines Manager
The miners will be provided with areca nut plates and mugs to help reduce the use of plastics.	Mines owner

4.8 Mine Closure

Mine closure plan is the most important environmental requirement in mineral mining projects. The mine closure plan should cover technical, environmental, social, legal and financial aspects dealing with progressive and post closure activities. The closure operation is a continuous series of activities starting from the decommissioning of the project.

Objective of Mine closure

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

4.8.1 Mine Closure criteria

The criteria involved in mine closure are discussed below:

4.8.1.1 Physical Stability

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

4.8.1.2 Chemical Stability

The solid wastes on the mine site should be chemically stable. This means that the consequences of chemical changes or conditions leading to leaching of metals, salts or organic compounds should not endanger

public health and safety nor result in the deterioration of environmental attributes. If the pollutant discharge likely to cause adverse impacts is predicted in advance, appropriate mitigation measures like settling of suspended solids or passive treatment to improve water quality as well as quantity, etc. could be planned. Monitoring should demonstrate that there is no adverse effect of pollutant concentrations exceeding the statutory limits for the water, soil and air qualities in the area around the closed mine.

4.8.1.3 Biological Stability

The stability of the surrounding environment is primarily dependent upon the physical and chemical characteristics of the site, whereas the biological stability of the mine site itself is closely related to rehabilitation and final land use. Nevertheless, biological stability can significantly influence physical or chemical stability by stabilizing soil cover, prevention of erosion/wash off, leaching, etc.,

A vegetation cover over the disturbed site is usually one of the main objectives of the rehabilitation programme, as vegetation cover is the best long-term method of stabilizing the site. When the major earthwork components of the rehabilitation programme have been completed, the process of establishing a stable vegetation community begins. For re-vegetation, management of soil nutrient levels is an important consideration. Additions of nutrients are useful under three situations.

- Where the nutrient level of spread topsoil is lower than material in-situ e.g. for development of social forestry
- Where it is intended to grow plants with a higher nutrient requirement than those occurring naturally e.g. planning for agriculture
- Where it is desirable to get a quick growth response from the native flora during those times when moisture is not a limiting factor e.g., development of green barriers

The Mine closure plan should be as per the approved mine plan. The mine closure is a part of approved mine plan and activities of closure shall be carried out as per the process described in mine closure plan (Annexure I).

5. ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.1 Introduction

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

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

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

Enough infrastructures exists and lesser resources are required to be deployed. Since, any further construction for infrastructure is not required and hence does not affect the environment considerably. The mineral deposits are site specific in nature; hence question of seeking alternate site does not arise for this project.

6. ENVIRONMENTAL MONITORING PROGRAMME

6.0 General

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

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

6.1 Methodology of Monitoring Mechanism

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

An Environment monitoring cell (EMC) will be constituted to monitor the implementation of EMP and other environmental protection measures.

The responsibilities of this cell will be:

- Implementation of pollution control measures
- Monitoring programme implementation
- Post-plantation care
- To check the efficiency of pollution control measures taken
- Any other activity as may be related to environment
- Seeking expert's advice when needed

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

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

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

6.2 Implementation Schedule of Mitigation Measures

The mitigation measures proposed in Chapter-4 will be implemented so as to reduce the impact on the environment due to the operations of the proposed project. Implementation schedule of mitigation measures is given in Table 6.1.

Table 6.1: Implementation Schedule

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

6.3 Monitoring Schedule and Frequency

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

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

- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil Quality; and
- Greenbelt Development

The details of monitoring are detailed in Table 6.2

Table 6.2: Monitoring Schedule for the Project Area

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, PM2.5, PM10, SO2 and NOx.
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall

3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in bgl
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting Operation	Peak Particle Velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	–	Once in six months	Physical and Chemical Characteristics
8	Greenbelt	Within the Project Area	Daily	Monthly	Maintenance

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

6.4 Budgetary Provision for EMP

The cost in respect of monitoring of environmental attributes, parameter to be monitored, sampling/monitoring locations with frequency and cost provision against each proposal is shown in Table 6.3. Monitoring work will be outsourced to external laboratory approved by NABL / MoEF.

The proposed capital cost for Environmental Monitoring Programme for Thiru B.Sharath Black Granite (Dolerite) Quarry is Rs.3,80,000 for conducting Air Quality, Meteorology, Water Quality, Hydrology, Soil Quality, Noise Quality Vibration Study, Greenbelt.

Table 6.3: Environmental Monitoring Budget

S. No.	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year	Total Charges For Mining plan period
1	Ambient air quality monitoring	6500	4	26000	52000	2,60,000
2	Noise level monitoring	250	4	1000	2000	10,000
3	Ground vibration monitoring	1000	2	2000	4000	20,000
4	Water sampling and analysis	9000	1	9000	18000	90,000
Total EMP Cost					**76,000**	**3,80,000**

6.5 Reporting Schedules of Monitored Data

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

Periodical reports to be submitted to: -

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

Besides the Mines Manager/Agent will submit the periodical reports to

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

CHAPTER – 7: ADDITIONAL STUDIES

7.0 General

The following Additional Studies were done as per items identified by project proponent and items identified by regulatory authority. And items identified by public and other stakeholders are incorporated after Public Hearing.

- Public Consultation
- Risk Assessment
- Disaster Management Plan

7.1 Public Consultation:

Application to The Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing was submitted along with this Draft EIA / EMP Report and the outcome of public hearing proceedings is detailed in this Final EIA/EMP Report.

7.1.2 Public Consultation:

There are no specific issues addressed by the public/Village peoples hence no specific action plan is required. The Environmental Management plan will be followed as mentioned in the Chapter No. 10.

7.2 Risk Assessment

The methodology for the risk assessment has been based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad, vide Circular No.13 of 2002, dated 31st December, 2002. The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. Further, mechanisms responsible for these hazards are identified and their control measures, set to timetable are recorded along with pinpointed responsibilities.

The whole quarry operation will be carried out under the direction of a qualified Competent Mine manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad. Risk Assessment is all about prevention of accidents and to take necessary steps to prevent it from happening.

factors of risks involved due to human induced activities in connection with mining & allied activities with detailed analysis of causes and control measures for the mine is given in below Table 7.2.

Table 7.1 Risk Assessment

S. No	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and heavy mining machineries	Improper handling and unsafe working practice	▪ All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations; ▪ Entry of unauthorized persons will be prohibited; ▪ Firefighting and first-aid provisions in the mine office complex and mining area; ▪ Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use ▪ Working of quarry, as per approved plans and regularly updating the mine plans; ▪ Cleaning of mine faces shall be daily done in order to avoid any overhang or undercut;

			▪ Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of a Mine Manager; ▪ Maintenance and testing of all mining equipment as per manufacturer guidelines.
2	OB / Waste Dump	Sliding of benches Height and slope of the benches Drainage facilities	▪ Dumps benches are maintained with proper 3 m height and 37° slope to prevent slope failure and terraced. ▪ Dumping in the waste dump in layers and dozing daily. ▪ Vegetation of the top and slopes of the dump to prevent erosion and providing water drainage channels ▪ Providing proper drainage facilities in mine and dump area. ▪ Construction of retaining wall around dump area to stop sliding of material. ▪ Garland drain to be made around OB dump area
3	Drilling& Wire Saw Cutting	Due to improper and unsafe practices Due to high pressure of compressed air, hoses may burst Drill Rod may break	▪ Safe operating procedure established for drilling (SOP) will be strictly followed. ▪ Only trained operators will be deployed. ▪ No drilling shall be commenced in an area where shots have been fired until the blaster/blasting foreman has made a thorough Examination of all places, ▪ Drill& Wire saw operator shall examine the drilling and wire saw equipment and satisfy himself ▪ Drilling & cutting operations shall not be carried on simultaneously on the benches at places directly one above the other. ▪ Periodical preventive maintenance and replacement of worn-out accessories in the compressor and drill equipment and wire saw equipment as per operator manual. ▪ All drills and wire saw unit shall be provided with wet drilling and cutting arrangement and it shall be maintained in efficient working in condition. ▪ Operator shall regularly use all the personal protective equipment.
4	Blasting	Fly rock, ground vibration, Noise and dust. Improper charging, stemming & Blasting/ fining of blast holes Vibration due to movement of vehicles	▪ The maximum charge per delay and by optimum blast hole pattern, vibrations will be controlled within the permissible limit and blast can be conducted safely. ▪ SOP for Charging, Stemming & Blasting/Firing of Blast Holes will be followed by blasting crew during initial stage of operation ▪ Shots are fired during daytime only. ▪ All holes charged on any one day shall be fired on the same day.

			▪ The danger zone is and will be distinctly demarcated (by means of red flags)
5	Transportation	Potential hazards and unsafe workings contributing to accident and injuries Overloading of material While reversal & overtaking of vehicle Operator of truck leaving his cabin when it is loaded.	▪ Before commencing work, drivers personally check the dumper/truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio-visual reversing alarm, rear view mirrors, side indicator lights etc., are in good condition. ▪ Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle. ▪ Concave mirrors should be kept at all corners ▪ All vehicles should be fitted with reverse horn with one spotter at every tipping point ▪ Loading according to the vehicle capacity ▪ Periodical maintenance of vehicles as per operator manual.
6	Natural calamities	Unexpected happenings	▪ Escape Routes will be provided to prevent inundation of storm water ▪ Garland drains will be provided at the toe of dump ▪ Fire Extinguishers & Sand Buckets
7	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	• Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m height.

7.3 Disaster Management Plan

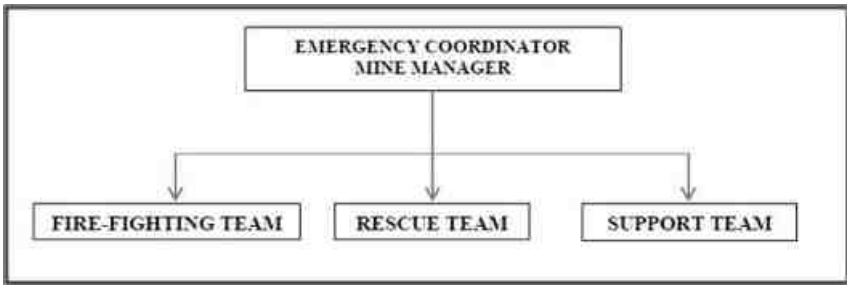
The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities.

The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

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

It is to optimize operational efficiency to rescue rehabilitation and render medical help and to restore normalcy. To tackle the consequences of a major emergency inside the mines or immediate vicinity of the mines, a Disaster Management Plan must be formulated, and this planned emergency document is called “Disaster Management Plan”.

In case a disaster takes place, despite preventive actions, disaster management will have to be done in line with the descriptions below. There is an organization proposed for dealing with the emergency situations and the coordination among key personnel and their team has been shown below



The emergency organization shall be headed by emergency coordinator who will be qualified competent mine manager. In his absence senior most people available at the mine shall be emergency coordinator till arrival

of mine manager. There would be three teams for taking care of emergency situations – Fire-Fighting Team, Rescue Team and Support Team. The proposed composition of the teams is given in Table 7.5.

Table 7.2: Proposed Teams to Deal with Emergency Situation

Designation	Qualification
Fire-Fighting Team	
Team Leader	Mines Manager
Team Member	Mines Foreman
Team Member	Mining Mate
Rescue Team	
Team Leader	Mines Manager
Team Member	Environment Officer
Team Member	Mining Foreman
Support Team	
Team Leader	Mines Manager
Assistant Team Leader	Environment Officer
Team Member	Mining Mate
Security Team	Mines Foreman

Once the mine becomes operational, the above table along with names of personnel will be prepared and made easily available to workers. A mobile communication network and wireless shall connect Mine Emergency Control Room (MECR) to control various departments of the mine, fire station and neighbouring industrial units/mines.

Roles and responsibilities of emergency team –

(a) Emergency coordinator (EC)

The emergency coordinator shall assume absolute control of site and shall be located at MECR.

(b) Incident controller (IC)

Incident controller shall be a person who shall go to the scene of emergency and supervise the action plan to overcome or contain the emergency. Shift supervisor or Environmental Officer shall assume the charge of IC.

(c) Communication and advisory team

The advisory and communication team shall consist of heads of Mining Departments i.e., Mines Manager

(d) Roll call coordinator

The Mine Foreman shall be Rollcall Coordinator. The roll call coordinator will conduct the roll call and will evacuate the mine personnel to assembly point. His prime function shall be to account for all personnel on duty.

(e) Search and rescue team

There shall be a group of people trained and equipped to carryout rescue operation of trapped personnel. The people trained in first aid and fire-fighting shall be included in search and rescue team.

(f) Emergency security controller

Emergency Security Controller shall be senior most security person located at main gate office and directing the outside agencies e.g., fire brigade, police, doctor and media men etc.,

Emergency control procedure –

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

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

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

Proposed fire extinguishers at different locations –

The following type of fire extinguishers has been proposed at strategic locations within the mine.

Table 7.3: Proposed Type of Fire Extinguishers

Location	Type of Fire Extinguishers
Electrical Equipment's	CO2 type, foam type, dry chemical powder type
Fuel Storage Area	CO2 type, foam type, dry chemical powder type, Sand bucket
Office Area	Dry chemical type, foam type
Location	Type of Fire Extinguishers

Alarm system to be followed during disaster –

On receiving the message of disaster from Site Controller, fire-fighting team, the mine control room attendant will sound siren wailing for 5 minutes. Incident controller will arrange to broadcast disaster message through public address system.

On receiving the message of "Emergency Over" from Incident Controller the emergency control room attendant will give "All Clear Signal", by sounding alarm straight for 2 minutes.

The features of alarm system will be explained to one and all to avoid panic or misunderstanding during disaster. In order to prevent or take care of hazard / disasters if any the following control measures have been adopted.

- All safety precautions and provisions of Metalliferous Mines Regulations (MMR), 1961 is strictly followed during all mining operations.
- Observance of all safety precautions for blasting and storage of explosives as per MMR 1961.
- Entry of unauthorized persons into mine & allied areas is completely prohibited.
- Firefighting and first-aid provisions in the mines office complex and mining area are provided.
- Provisions of all the safety appliances such as safety boot, helmets, goggles, dust masks, ear plugs and ear muffs etc. are made available to the employees and the use of same is strictly adhered to through regular monitoring.
- Training and refresher courses for all the employees working in hazardous premises.
- Working of mine, as per approved plans and regularly updating the mine plans.
- Cleaning of mine faces is regularly done.
- Handling of explosives, charging and blasting are carried out only by qualified persons following SOP.
- Checking and regular maintenance of garland drains and earthen bunds to avoid any inflow of surface water in the mine pit.
- Provision of high-capacity standby pumps with generator sets with enough quantity of diesel for emergency pumping especially during monsoon.
- A blasting SIREN is used at the time of blasting for audio signal.
- Before blasting and after blasting, red and green flags are displayed as visual signals.
- Checking of blasting area for any un-blasted hole or material.

- Warning notice boards indicating the time of blasting and NOT TO TRESPASS are displayed at prominent places.
- Regular maintenance and testing of all mining equipment were carried out as per manufacturer's guidelines.

7.4 Cumulative Impact Study

There are 1 Proposed & 1 Existing quarries forms the cluster category. The list of quarries is as below

Table 7.4: List of Quarries in the Cluster

PROPOSED QUARRY				
CODE	**Name of the Owner**	**S.F. Nos & Village**	**Extent**	**Status**
P1	Thiru. B. Sharath	S.F. No: 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State	**4.37.0 Ha**	File No.: 13422 ToR Identification No.: TO26B0108TN5195700N Dated:18/05/2026
EXISTING QUARRY				
E1	M/s Imperial Granites (P) Ltd.	540/1 Puligunda Village	**2.77.50 Ha**	24.04.2007 to 23.04.2027
TOTAL EXTENT			**7.14.50 Ha**	

Note: - Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016

Table 7.5 A: Salient Features of Proposed Projects-P1

Name of the Quarry	**Thiru B.Sharath**
Lease period	20 years
Mining Lease area	4.37.0Ha
Type of Land	Proponent own patta Land
Location	S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8, Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.
Mining Plan Period	5Years
Life of the Mine	20 years
Year wise production for five years of ROM	2,62,338MT/84,625m^3
The Annual Peak Production (as Per ToR)	60,094 MT/19,385m^3
Proposed Depth for five years plan period	40m
Ultimate Depth	193m (L) X 145m (W) X 45m (D)
Toposheet No	57-L/07
Latitude between	12°26'59.53"N to 12°27'00.18"N
Longitude between	78°22'46.88"E to 78°22'56.47"E
Topography	The area is situated in flat terrain. The Altitude – 444m above from MSL. The dolerite dyke is intruded between the batholithic formations of Hornblende Biotite Gneiss. The Black granite is mostly concealed under 1m thickness of Reddish soil and 4 m thickness of Weathered rock
Mechanization	1.Jackhammer- 5 Nos 2.Compressor-2 Nos 3.Diamond Wiresaw -2 Nos 4. Diesel Generator-1 No 5.Crawler Crane – 1 No 6. Excavator – 1 Nos

	7. Tipper- 3 Nos 8.Water Sprinkling- 1No.
Water Requirement	5.3 KLD
Proposed manpower deployment	30
Total Project cost	265.07 Lakhs
CER Cost	Rs. 5,00,000/-
Nearest habitation	320m-SE
Nearest R.F Boundary	Togarappalli R.F. – 3.3 km – North West
Nearest Wildlife sanctuary	Cauvery North Wildlife Sanctuary – 44.6 km – South West Cauvery South Wildlife Sanctuary – 48.5 km – South West

Table 7.5 B: Salient Features of Proposed Projects-E1

Name of the Quarry	**Tvl. Imperial Granite Pvt Ltd**
Mining Plan period	4 years
Mining Lease area	2.77.50 Ha
Type of Land	It is a Patta land registered in the name of Thiru.Asaithambi one of the director, Vide Patta No: 820
Location	S.F.No. 540/1of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State.
Life of the Mine	20 years
Proposed production of Mine	Mineable of Black Granite : 2,08,685 m^3 Recoverable Reserve @10% : 20,868 m^3
Proposed Depth	22m Bgl
Ultimate Depth of Mining	211m(L) x 107m (W) x 22m (D)
Latitude between	12° 27’ 03” N to 12° 27’ 08” N
Longitude between	78° 22’ 27” E to 78° 22’ 36” E
Water Requirement	1.0 KLD
CER Cost	Rs. 5,00,000/-

The Cumulative Impact is mainly anticipated due to drilling & blasting and excavation and transportation activities in all the quarries (proposed and existing) within the cluster and major impact anticipated is on Air & Noise Environment Movement of HEMM and operating of machineries in the cluster.

Air Environment –

Calculating the Cumulative Load of Mining within the cluster is as shown in table 7.5A

Table 7.6: Cumulative Production Load of Granite

Quarry	**Mineable Reserves ROM in m^3**	**Mineable Reserves of Granite in m^3**	**Proposed production of ROM for five-year period in m^3**	**Production of Granite Per day in m^3**	**Number of Lorry loads of Granite per day**
P1	3,36,825	67,365	84,625	56	5
E1	2,08,685	20,868	80,130	66	6
Total	**5,45,510**	**88,233**	**1,64,755**	**122**	**11**

Source: Approved Mining plan of Respective mines

On a cumulative basis considering the Proposed & Existing quarry. it can be seen that the overall production of Granite ROM per day is 122 m^3.

Based on the above production quantities the emissions due to various activities mines includes various activities like ground preparation, excavation, handling and transport of ore. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 7.7.

Table 7.7: Emission Estimation from Quarries within 500 Meter Radius

Emission Estimation for quarry P1				
Estimated Emission Rate for PM10	Activity	Source type	Value	Unit
	Drilling	Point Source	0.032424999	g/s
	Blasting	Point Source	0.000008670	g/s
	Mineral Loading	Point Source	0.032013185	g/s
	Haul Road	Line Source	0.002482751	g/s/m
	Overall Mine	Area Source	0.054146289	g/s
Estimated Emission rate for SO2	Overall Mine	Area Source	3.91164E-05	g/s
Estimated Emission rate for NOX	Overall Mine	Area Source	0.000002053	g/s

Source: Emission Calculations

Emission Estimation for quarry E1				
Estimated Emission Rate for PM10	Activity	Source type	Value	Unit
	Drilling	Point Source	0.042103815	g/s
	Blasting	Point Source	0.000032005	g/s
	Mineral Loading	Point Source	0.034380486	g/s
	Haul Road	Line Source	0.002483366	g/s/m
	Overall Mine	Area Source	0.049549033	g/s
Estimated Emission rate for SO2	Overall Mine	Area Source	7.95267E-05	g/s
Estimated Emission rate for NOX	Overall Mine	Area Source	0.000003405	g/s

Table 7.8: Incremental & Resultant GLC within Cluster

PM_{10} in $\mu g/m^3$	
Location	CORE
Background	45.3
Highest Incremental	14.5
Resultant	60.2
NAAQ standard	100 $\mu g/m^3$
$PM_{2.5}$ in $\mu g/m^3$	
Location	CORE
Background	21.1
Highest Incremental	6.85
Resultant	27.9
NAAQ standard	60 $\mu g/m^3$
SO_2 in $\mu g/m^3$	
Location	CORE
Background	6.8
Highest Incremental	1.89
Resultant	8.7
NAAQ standard	80 $\mu g/m^3$
NOx in $\mu g/m^3$	
Location	CORE
Background	23.5
Incremental	9.67
Resultant	33.1
NAAQ standard	80 $\mu g/m^3$

Noise Environment –

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and

transportation activities. Predictions have been carried out to compute the noise level at various distances around the different quarries within the 500 m radius.

For hemispherical sound wave propagation through homogeneous loss free medium, one can estimate noise levels at various locations at different sources using model based on first principle.

$$Lp_2 = Lp_1 - 20 \log (r_2/r_1) - Ae_{1,2}$$

Where:

Lp_1 & Lp_2 are sound levels at points located at distances r_1 & r_2 from the source.

$Ae_{1,2}$ is the excess attenuation due to environmental conditions. Combined effect of all sources can be determined at various locations by logarithmic addition.

$$Lp_{total} = 10 \log \{10^{(Lp1/10)} + 10^{(Lp2/10)} + 10^{(Lp3/10)} + \ldots\ldots\}$$

Attenuation due to Green Belt has been taken to be 4.9 dB (A). The inputs required for the model are:

Source data has been computed considering of all the machinery and activities used in the mining process.

Table 7.9: Predicted Noise Incremental Values from Cluster Quarry

Location ID	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	47.9	46.1	50.1	55
Habitation Near E1	48.6	40.8	49.3	55

The incremental noise level is found within the range of 46.1 dB (A) in Core Zone. The noise level at different receptors in buffer zone is lower due to the distance involved and other topographical features adding to the noise attenuation. The resultant Noise level due to monitored values and calculated values at the receptors are based on the mathematical formula considering attenuation due to Green Belt as 4.9 dB (A) the barrier effect. From the above table, it can be seen that the ambient noise levels at all the locations near habitations are within permissible limits of Residential Area (buffer zone) as per THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 (The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.).

Socio Economic Environment –

About 30people getting and will get employment from these cluster quarries. Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III, Dated: 01.05.2018 by all the mines

As per para 6 (II) of the office memorandum, all the mines being a green field project & Capital Investment is ≤ 100 crores, they shall contribute 2% of Capital Investment towards CER as per directions of EAC/SEAC and the total CER amount Rs.5,00,000/-

CHAPTER – 8: PROJECT BENEFITS

8.0 General

Black Granite (Dolerite) Quarry of Thiru B.Sharath, 67,365 m^3 of Granite @ 20% recovery (ROM 3,36,825m^3 for the entire period- Life of the mine) for Life of Mine of 20 Years. This will enhance the socio-economic activities in the adjoining areas and will result in the following benefits

- Increase in Employment Potential
- Improvement in Socio-Economic Welfare
- Improvement in Physical Infrastructure
- Improvement in Social infrastructure
- To meet out the demand supply gap of Granite and enhance the foreign exports

8.1 Employment Potential

It is proposed to provide employment to about 30 persons for carrying out mining operations and give preference to the local people in providing employment. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc., the economic status of the local people will be enhanced due to mining project.

8.2 Socio-Economic Welfare Measures Proposed

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

8.3 Improvement in Physical Infrastructure

The proposed mine is located in Puligunda Village, Bargur Taluk and Krishnagiri District of Tamil Nadu and the area have communications, roads and other facilities already well established. The following physical infrastructure facilities will further improve due to proposed mine.

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

8.4 Improvement in Social Infrastructure

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

8.5 Other Tangible Benefits

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

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

8.5.1 Corporate Social Responsibility

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

Under this programme, the project proponent will take-up following programmes for social and economic development of villages within 10 km of the project site. For this purpose, separate budget will be provided every year. For finalization of these schemes, proponent will interact with LSG. The schemes will be selected from the following broad areas –

- Health Services
- Social Development
- Infrastructure Development
- Education & Sports
- Self-Employment

8.5.2 CSR Cost Estimation

CSR activities will be taken up in the Puligunda village mainly contributing to education, health, training of women self-help groups and contribution to infrastructure etc., CSR budget is allocated as 2.5% of the profit.

8.5.3 Corporate Environment Responsibility–

Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021.

Table 8.1: CER – Action Plan

Description	CER Cost INR
Providing funds for the infrastructure facilities and basic amenities	**Rs. 5,00,000/-**

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

CHAPTER – 9: ENVIRONMENTAL COST BENEFIT ANALYSIS

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

CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN

10.0 General

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

10.1 Environmental Policy

The Project Proponent committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent will – **Thiru B.Sharath Black Granite (Dolerite) Quarry**

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

10.1.1 Description of the Administration and Technical Setup –

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of the proposed quarry.

The said team will be responsible for:

- Analysis of the water and air samples collected through external laboratory
- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.,
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages

- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme
- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

10.2 Land Environment Management –

Landscape of the area will be changed due to the quarrying operation, restoration of the land by converting the quarry pit into temporary reservoir and the remaining part of the area (un utilized areas, infrastructure, haul Roads) will be utilized for greenbelt development. Aesthetic of the Environment will not be affected. There is no major vegetation in the project area during the course of quarrying operation and after completion of the quarrying operation thick plantation will be developed under greenbelt development programme.

Table 10.1: Proposed Controls for Land Environment

Control	Responsibility
Designing vehicle wash-down system so that all washed water is captured and passed through grease and oil separators.	Mines Manager
Re fuelling will be carried out in a safe location, away from vehicle movement pathways	Mine Foreman & Mining Mate
No external dumping i.e., outside the project area	Mine Foreman
Greenbelt on dumps and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent run off affecting the surrounding lands.	Environment Officer
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager
Thick plantation using native flora spices will be carried out on the backfilled area.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which can be used for watering the greenbelt at the conceptual stages.	Environment Officer

10.3 Soil Management

10.3.1 Top Soil Management –

There is no of topsoil will be generated during the mining plan period.

10.3.2 Overburden / Waste and Side Burden Management –

The total waste to be produced during the first five years is around 67,700m^3 the same will be proposed to dump on the Northwest side with maximum dimension of (Area) 3,973m^2 x (Height) 29.98m.

Table 10.2: Proposed Controls for Soil Management

Control	Responsibility
backfilling process during mine closure as per mining plan	Mines Manager

The dump slopes will be planted with deep rooting shrubs, grasses and creepers for stabilizing them	Environment Officer
Garland drains are to be paved around the dump area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface dumps via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
The backfilled area shall be covered with the soil for green belt development	Environment Officer
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Environment Officer
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
The overall slope of the dump is maintained at angle of repose not exceeding 37° from horizontal	Mines Manager
The retaining wall has to be made to arrest the waste dump spills	Mines Manager
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the extent of the affected area, as well as existing control measures and assessment of their performance	Environment Officer
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Environment Officer
Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager

10.4 Water Management

Water is a key component in mining projects as it is required for, and affected by, mining activities. Effective water management is important for a variety of reasons including: uninterrupted operation of the mine, compliance with operational permissions and applicable legislation, and minimization of effects on the receiving environment.

This section focuses on actions for avoidance, mitigation, and control, as well as a water management monitoring program –

- To protect water-related resources, and avoid harmful impacts;
- To supply and retain water for mine operations;
- to Define water-related environmental control structures; and
- To manage water to ensure that any discharges are following the applicable water quality levels and guidelines.

Table 10.3: Proposed Controls for Water Environment

Control	**Responsibility**
To maximize the reuse of pit water for water supply	Mines Manager
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Environment Officer
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations Safety distance of 50m will be always maintained from the odai and oorani	Mines Manager
Mine pit water is used for dust suppression and greenbelt development utilization of mine pit water is optimal and effective ways	Environment Officer
Ensure there is no process effluent generation or discharge from the project area into water bodies	Environment Officer

Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Manager
Fast growing grasses, small plants and bushes will be grown on the overburden dumps to control soil erosion and siltation	Mines Manager
Retention walls and garland drains will be constructed around toe of waste dumps to arrest silt wash off from dumps during monsoon	Environment Officer
Rainwater harvesting measures will be adopted in the project area and in nearby villages to maintain and enhance the ground water table of the area	Environment Officer
Regularly assess and modify Water Management Plan to adapt to changing work plans and site conditions	Environment Officer
Familiarize all site personnel with the purpose and content of the Water Management Plan, and their responsibilities in its implementation	Environment Officer
Water management and sediment control structures and facilities will be regularly inspected and maintained according to the monitoring schedules	Environment Officer
Monthly or after rainfall, inspection for performance of water management structures and systems	Environment Officer
Conduct ground water and surface water monitoring for parameters specified by State Pollution Control Board (SPCB)	Mines Manager

Source: Proposed by FAE‟s & EIA Coordinator

10.5 Air Quality Management

The proposed mining activity would result in the increase of particulate matter concentrations due to fugitive dust. Daily water sprinkling on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements.

Table 10.4: Proposed Controls for Air Environment

Control	Responsibility
Generation of dust during excavation is minimized by water sprinkling on working face	Mines Manager
Develop thick Greenbelt with tall growing trees and thick foliage cover all along the boundary of the project (7.5 Meter Buffer Zone) to arrest dust spreading outside the project area and to be maintained. This plantation cover will also act as an acoustic barrier	Environment Officer
Daily maintenance of haul roads and daily water sprinkling to minimize the generation of fugitive dust due to movement of heavy earth moving machineries on it	Mines Manager
Handle the waste from the mine pit to respective dumps and backfilling during closure process, fugitive dust is anticipated. this fugitive emission can be controlled by well-maintained machineries, well maintained haul roads water sprinkling on haul roads twice a day. Besides it is also advised not to handle the waste during high windy periods	Mines Manager & Environment Officer
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself to be implemented	Environment Officer
Plantation will be carried out on surface dumps, backfilled area and top benches of the mined-out area	Environment Officer

Water reservoir will be developed in the left over mined out pit, which will serve as additional surface water resources for the nearby villages	Environment Officer
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution and noise generation	Mines Manager
Over loading of trucks should be avoided	Mines Manager
All the mining equipment and trucks has been controlled with emission norms	Environment Officer
The village roads used for mineral transport will be maintained weekly and monthly basis to avoid fugitive dust emissions	Mines Manager
Dust mask are provided to the workers working in high dust generating areas and continue to provide the same	Mines Manager
Weekly and Monthly maintenance of deployed machineries, to reduce gaseous emission	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Environment Officer
Monitor meteorological conditions (temperature, wind, rainfall)	Environment Office

Source: Proposed by FAE"s & EIA Coordinator

10.6 Noise Management

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and cutting activities. No mining activities are planned during night time.

Table 10.5: Proposed Controls for Noise Environment

Control	Responsibility
A thick greenbelt to be developed all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Plantation activities to be carried out on surface dumps and infrastructure facilities, these plantations will help in attenuating the noise levels	Environment Officer
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Manager
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Environment Officer
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Environment Officer
Provision of effective silencers for mining machinery and transport vehicles	Environment Officer
Provision of sound proof AC operator cabins to HEMM	Environment Officer
Sharp drill bits are used to minimize noise from drilling	Environment Officer
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring to be carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Environment Officer
Undertake noise or vibration monitoring in response to a complaint (from any sensitive receptor).	Mines Manager
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination during initial stage of operation	Mines Manager
If a noise or vibration complaint is received, follow the complaints and inquiries	Environment Officer

Undertake noise or vibration monitoring half yearly	Environment Officer

Source: Proposed by FAE"s & EIA Coordinator

10.7 Ground Vibration and Fly Rock Control

Table 10.6: Proposed Controls for Ground vibration & Fly rocks

Control	Responsibility
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting during initial stage will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Prior to blasting within 500 meters of the lease boundary, establish a fly rock exclusion zone within adjacent properties and check with landholders that the area is not occupied by humans, blast clearance zones are applied for all blasts.	Environment Officer
Undertake vibration monitoring	Environment Officer

Source: Proposed by FAE"s & EIA Coordinator

10.8 Biological Environment Management

The mine management will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of mined out area, backfilled area, etc., the water reservoir will be developed in lower benches of the mined-out area at conceptual stage will be used for the maintenance of green belt after the closure of mine.

Following control measures are proposed for its management and will be the responsibility of the environment officer.

- Greenbelt development all along the safety barrier of the project area
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and constructing a sprinkler near the newly planted area.
- Year wise plantation should be recorded and monitored
    - Based on the area of plantation.
    - Period of plantation
    - Type of plantation
    - Spacing between the plants
    - Type of manuring and fertilizers and its periods
    - Lopping period, interval of watering
    - Survival rate
    - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

10.8.1 Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.
- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

Table 10.7: Recommended Species to Plant in the Greenbelt

SI.No	*Name of the plant (Botanical)*	*Family Name*	*Common Name*	*Habit*
1	*Azadirachta indica*	Meliaceae	Neem, Vembu	Tree
2	*Albiziafalcatoria*	Fabaceae	Tamarind, Puliyamaram	Tree
3	*Polyalthialongifolia*	Annonaceae	Kattumaram	Tree
4	*Borassus Flabellifer*	Arecaceae	Palmyra Palm	Tree

Source: Proposed by FAE's & EIA Coordinator

10.9 Occupational Safety & Health Management

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health in mines are fugitive dust and noise. Safety of employees during mining operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

10.9.1 Medical Surveillance and Examinations –

- Identifying workers with conditions that may be aggravated by exposure to dust & noise and establishing baseline measures for determining changes in health.
- Evaluating the effect of noise on workers
- Enabling corrective actions to be taken when necessary
- Providing health education

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail's medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test

- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The above tests keep upgrading the database of medical history of the employees.

10.9.2 Proposed Occupational Health and Safety Measures –

- Providing a clean working environment that is conductive to safety & health annually
- Employee involvement and commitment in the implementation of health and safety guidelines
- Implementing safety and health management system and assessing the effectiveness through periodic audits
- Setting of safety and health objectives based on comprehensive strategic plans and measure performance against these plans
- Provision of necessary standard personal protective equipment's (PPE)
- Ensuring that all employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities.
- Provision of rest shelters for mine workers with amenities like drinking water, fans, toilets urinals, canteen etc.,
- Rotation of workers exposed to noisy areas.
- Daily dust suppression on haul roads to prevent fugitive dust emission into the air.
- First-aid facility at the mine office.

10.9.3 Health and Safety Training Programme

The company shall provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State. And engage an Environmental Consultants to provide periodical training to all the employ to carry out the mining operation in and eco-friendly manner.

Table 10.8: List of Periodical Trainings Proposed for employees

Course	Personnel	Frequency	Duration	Instruction
New-hire Training	All new hires exposed to mine hazards	Once	One week	Employee rights, Supervisor responsibilities, Self-rescue Respiratory devices, Transportation controls, Communication systems, Escape and emergency evacuation, Ground control hazards, Occupational health hazards, Electrical hazards, First aid, Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health &safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.

Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations, Fire warning Ground control hazards First aid, Electrical hazards Accident prevention Explosives, Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules, Respiratory devices

Source: Proposed by FAE"s & EIA Coordinator as per DGMS Norms

10.9.4 Budgetary Provision for Environmental Management

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

Table 10.9: Emp Budget for Proposed Project

Activities	Mitigation Measure	Provision for Implementation	Capital	Recurring per annum
Air Environment	Haul road maintenance & Water sprinkling	Lump sum fund allocation for daily maintenance of haul roads and thrice a day water sprinkling by fixed sprinklers or water tankers	0	50000
	Muffle blasting – To control fly rocks during blasting	Lump sum fund allocation Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure	Lump sum fund allocation for ensuring wet drilling by covering drill holes with wet gunny bags and spraying water while drilling	0	10000
	No overloading of trucks/tippers/tractors	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Enforcing speed limits of 20 km/hr within ML area	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Regular monitoring of exhaust fumes as per RTO norms	Lump sum fund allocation Manual Monitoring through Security guard	0	5000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	5000
Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0

	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	0	0
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	0
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection anddisposal through authorized agency	5000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Mine Closure	1. Progressive Closure Activity - Surface Runoff managent	Provision made in Operating Cost	0	0
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Provision made in Operating Cost	0	0
	3. Greenbelt development under safety zone during the mining plan period	Provision made in Operating Cost	0	0
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of Half Yearly Compliance every six month once - Lab Monitoring Report as per CPCB norms	0	100000
	Workers will be provided with Personal Protective Equipment's	Lumpsum fund allocation	50000	15000
	Health check up for workers will be provisioned	IME & PME Health check up for all the employees will be covered batch wise.	0	50000
	First aid facility will be provided	Lumpsum fund allocation	0	5000
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	No parking will be provided on the transport routes. Separate provision will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Lumpsum fund allocation	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000

	Erection of GI sheet fencing North & west sides to prevent the dust deposition in the nearby Houses & agriculture lands	Erection of GI sheet	50000	15000
	Appointment of Competent person for ensuring the safety operation	Provision made in operational cost	0	0
Start Rating	Monitoring of Granite Quarrying Operation by Anna University	Star Rating @ Rs. 1,00,000/- per Year will be deposited in the First Year	500000	0
CER	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Lumpsum fund allocation	500000	0
TOTAL			**12,10,000**	**3,00,000**

In order to implement the environmental protection measures, an amount of Rs.28.20 lakhs as capital cost and recurring cost as Rs. 12.09 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

Year Wise Break Up	
I	**₹ 15,75,000**
II	₹ 3,30,750
III	₹ 3,47,288
IV	₹ 3,64,652
V	₹ 3,82,884
VI	**₹ 4,02,029**
VII	₹ 4,22,130
VIII	₹ 4,43,237
IX	₹ 4,65,398
X	₹ 4,88,668
XI	**₹ 5,13,102**
XII	₹ 5,38,757
XIII	₹ 5,65,695
XIV	₹ 5,93,979
XV	₹ 6,23,678
XVI	**₹ 6,54,862**
XVII	₹ 6,87,605
XVIIII	₹ 7,21,986
XIX	₹ 7,58,085
XX	₹ 7,95,989
Total	**₹ 116.76 lakhs**

10.11 Conclusion

Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and fund has been allocated for the same. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Senior Management responsible for the project will conduct review of EMP and its implementation to ensure that the EMP remains effective and appropriate. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

CHAPTER – 11: SUMMARY AND CONCLUSIONS

Thiru B.Sharath Black Granite (Dolerite) Quarry falls under "B" category as per MoEF & CC Notification (S.O. 3977 (E)).

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B-1 and appraised by SEAC/ SEIAA as well as for cluster situation.

A detailed Draft EIA/ EMP Report is prepared for public and other stakeholders' suggestions and a Final EIA/ EMP Report will be prepared based on the outcome of Public Consultation.

Environmental monitoring and audit mechanism have been recommended before and after commencement of the project, where necessary, to verify the accuracy of the EIA predictions and the effectiveness of recommended mitigation measures.

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during the month of Mar to May 2026 for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suitable mitigation measures for likely adverse impacts due to the proposed project is suggested individually for the respective proposed project under Chapter 10.

The project proponent ensures to obtain necessary clearances and quarrying will be carried out as per rules and regulations. The Mining Activity will be carried out in a phased manner as per the approved mining plan after obtaining EC, CTO from TNPCB, execution of lease deed and obtaining DGMS Permission and working will be carried out under the supervision of Competent Persons employed.

Overall, the EIA report has predicted that the project will comply with all environment standards and legislation after commencement of the project and operational stage mitigation measures are implemented.

Mining operations has positive impact on environment and socio economy such as landscape improvement, water as by-product, economy development and better public services, providing and supply of Granite as per market demand.

Sustainable and modern mining leads us to see positive impact of mining operation and providing consistent employment for nearly 30 people directly in the cluster and indirectly around 50people.

As discussed, it is safe to say that the proposed quarries are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigate technique, as well as to serve as biological indicators for the pollutants released from the Thiru B.Sharath Black Granite (Dolerite) Quarry.

12. DISCLOSURE OF CONSULTANTS

Thiru B.Sharath have engaged M/s Geo Exploration and Mining Solutions, an Accredited Organization under Quality Council of India – National Accreditation Board for Education & Training, New Delhi, for carrying out the EIA Study as per the ToR Issued.

Name and address of the consultancy:

GEO EXPLORATION AND MINING SOLUTIONS
No 17, Advaitha Ashram Road,
Alagapuram, Salem – 636 004
Tamil Nadu, India
Email: infogeoexploration@gmail.com
Web: www.gemssalem.com
Phone: 0427 2431989.

The Accredited Experts and associated members who were engaged for this EIA study as given below

Sl.No.	Name of the expert	In house/ Empanelled	EIA Coordinator		FAE	
			Sector	Category	Sector	Category
1	**Dr. M. Ifthikhar Ahmed**	**In-house**	**1**	**A**	WP GEO SC	B A A
2	Dr. P. Thangaraju	In-house	-	-	HG GEO	A A
3	Mr. A. Jagannathan	In-house	-	-	AP NV SHW	B A B
4	Mr. N. Senthilkumar	Empanelled	38 28	B B	AQ WP RH	B B A
5	Mrs. Jisha parameswaran	In-house	-	-	SW	B
6	Mr. Govindasamy	In-house	-	-	WP	B
7	Mrs. K. Anitha	In-house	-	-	SE	A
8	Mrs. Amirtham	In-house	-	-	EB	B
9	Mr. Alagappa Moses	Empanelled	-	-	EB	A
10	Mr. A. Allimuthu	In-house	-	-	LU	B
11	Mr. S. Pavel	Empanelled	-	-	RH	B
12	Mr. J. R. Vikram Krishna	Empanelled	-	-	SHW RH	A A

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

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA/EMP

Declaration by experts contributing to the EIA/EMP for Black Granite (Dolerite) Quarry Thiru B.Sharath over an Extent of 4.37.0 ha in Puligunda Village of Bargur Taluk, Krishnagiri District of Tamil Nadu. It is also certified that information furnished in the above EIA study are true and correct to the best of our knowledge.

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

Name**:** **Dr. M. Ifthikhar Ahmed**

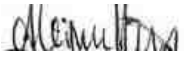
Designation**:** **EIA Coordinator**

Date & Signature:

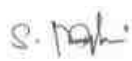
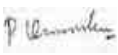
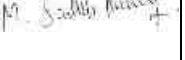
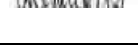
Period of Involvement: **Dec 2022 to till date**

FUNCTIONAL AREA EXPERTS ENGAGED IN THE PROJECT

Sl. No.	Functional Area	Involvement	Name of the Expert/s	Signature
1	AP	▪ Identification of different sources of air pollution due to the proposed mine activity ▪ Prediction of air pollution and propose mitigation measures / control measures	Mr. A. Jagannathan	
2	WP	▪ Suggesting water treatment systems, drainage facilities ▪ Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.	Dr. M. Ifthikhar Ahmed	
			Mr. N. Senthilkumar	
3	HG	▪ Interpretation of ground water table and predict impact and propose mitigation measures. ▪ Analysis and description of aquifer Characteristics	Dr. P. Thangaraju	
4	GEO	▪ Field Survey for assessing the regional and local geology of the area. ▪ Preparation of mineral and geological maps. ▪ Geology and Geo morphological analysis/description and Stratigraphy/Lithology.	Dr. M. Ifthikhar Ahmed	
			Dr. P. Thangaraju	
5	SE	▪ Revision in secondary data as per Census of India, 2011. ▪ Impact Assessment & Preventive Management Plan ▪ Corporate Environment Responsibility.	Mrs. K. Anitha	
6	EB	▪ Collection of Baseline data of Flora and Fauna. ▪ Identification of species labelled as Rare, Endangered and threatened as per IUCN list. ▪ Impact of the project on flora and fauna. ▪ Suggesting species for greenbelt development.	Mrs. Amirtham	
			Mr. Alagappa Moses	
7	RH	▪ Identification of hazards and hazardous substances ▪ Risks and consequences analysis ▪ Vulnerability assessment ▪ Preparation of Emergency Preparedness Plan	Mr. N. Senthilkumar	
			Mr. S. Pavel	
			Mr. J. R. Vikram Krishna	

		▪ Management plan for safety.		
8	LU	▪ Construction of Land use Map ▪ Impact of project on surrounding land use ▪ Suggesting post closure sustainable land use and mitigative measures.	Mr. A. Allimuthu	
9	NV	▪ Identify impacts due to noise and vibrations ▪ Suggesting appropriate mitigation measures for EMP.	Mr. A. Jagannathan	
10	AQ	▪ Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. ▪ Recommending mitigations measures for EMP	Mr. N. Senthilkumar	
11	SC	▪ Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. M. Ifthikhar Ahmed	
12	SHW	▪ Identify source of generation of non-hazardous solid waste and hazardous waste. ▪ Suggesting measures for minimization of generation of waste and how it can be reused or recycled.	Mr. A. Jagannathan	
			Mr. J. R. Vikram Krishna	

LIST OF TEAM MEMBERS ENGAGED IN THIS PROJECT

Sl.No.	Name	Functional Area	Involvement	Signature
1	Mr. S. Nagamani	AP; GEO; AQ	▪ Site Visit with FAE ▪ Provide inputs & Assisting FAE with sources of Air Pollution, its impact and suggest control measures ▪ Provide inputs on Geological Aspects ▪ Analyse & provide inputs and assist FAE with meteorological data, emission estimation, AERMOD modelling and suggesting control measures	
2	Mr. Viswanathan	AP; WP; LU	▪ Site Visit with FAE ▪ Provide inputs & Assisting FAE with sources of Air Pollution, its impact and suggest control measures ▪ Assisting FAE on sources of water pollution, its impacts and suggest control measures ▪ Assisting FAE in preparation of land use maps	
3	Mr. Santhoshkumar	GEO; SC	▪ Site Visit with FAE ▪ Provide inputs on Geological Aspects ▪ Assist in Resources & Reserve Calculation and preparation of Production Plan & Conceptual Plan ▪ Provide inputs & Assisting FAE with soil conservation methods and identifying impacts	
4	Mr. Umamahesvaran	GEO	▪ Site Visit with FAE ▪ Provide inputs on Geological Aspects ▪ Assist in Resources & Reserve Calculation and preparation of Production Plan & Conceptual Plan	
5	Mr. A. Allimuthu	SE	▪ Site Visit with FAE ▪ Assist FAE with collection of data's ▪ Provide inputs by analysing primary and secondary data	
6	Mr. S. Ilavarasan	LU; SC	▪ Site Visit with FAE ▪ Assisting FAE in preparation of land use maps ▪ Provide inputs & Assisting FAE with soil conservation methods and identifying impacts	

7	Mr. E. Vadivel	HG	▪ Site Visit with FAE ▪ Assist FAE & provide inputs on aquifer characteristics, ground water level/table ▪ Assist with methods of ground water recharge and conduct pump test, flow rate	E.Vadivel
8	Mr. D. Dinesh	NV	▪ Site Visit with FAE ▪ Assist FAE and provide inputs on impacts due to proposed mine activity and suggest mitigation measures ▪ Assist FAE with prediction modelling	
9	Mr. Panneer Selvam	EB	▪ Site Visit with FAE ▪ Assist FAE with collection of baseline data ▪ Provide inputs and assist with labelling of Flora and Fauna	
10	Mrs. Nathiya	EB	▪ Site Visit with FAE ▪ Assist FAE with collection of baseline data ▪ Provide inputs and assist with labelling of Flora and Fauna	

DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION

I, Dr. M. Ifthikhar Ahmed, Managing Partner, Geo Exploration and Mining Solutions, hereby, confirm that the above-mentioned Functional Area Experts and Team Members prepared the EIA/EMP for Black Granite Quarry Thiru B.Sharath over an Extent of 4.37.0ha in Puligunda Village of Bargur Taluk, Krishnagiri District of Tamil Nadu. It is also certified that information furnished in the EIA study are true and correct to the best of our knowledge.

Signature & Date: Dr. M. Ifthikhar Ahmed

Name: **Dr. M. Ifthikhar Ahmed**

Designation: **Managing Partner**

Name of the EIA Consultant Organization: **M/s. Geo Exploration and Mining Solutions**

NABET Certificate No & Issue Date: **NABET/EIA/2225/RA0276 Dated: 20-02-2023**

Validity: **Valid till 06.08.2025**

ANNEXURE

THIRU. B. SHARATH BLACK (DOLERITE) GRANITE QUARRY

S.F. Nos: 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7, and 599/8

Extent: 4.37.0 ha

Puligunda Village,

Bargur Taluk,

Krishnagiri District.

Cluster Extent – 7.14.50 Ha

Project Proponent

Thiru. B. Sharath,

S/o. K. Bage Gowda,

Proprietor of M/s. Sharath Granites,

No. 108, 13th Main,

Jayanagar 4th Block East, Bangalore – 560 011

LIST OF ANNEXURES

Annexures	DESCRIPTION	PAGE NO
P1- THIRU. B. SHARATH	COPY OF TERMS OF REFERENCE	1A - 19A
	COPY OF APPROVAL LETTER	20A-26A
	COPY OF 500M LETTER	27A-29A
	COPY OF MINING PLAN WITH PLATES	30A-127A
	COPY OF 300M LETTER	128A
	COPY OF FOREST LETTER	129A-132
EXISTING QUARRY-1	COPY OF EXISTING QUARRY EC COPY	133A-157A
	COPY OF BASE LINE MONITORING DATA	158A-245
	COPY OF CONSULTANT ACCREDITATION CERTIFICATE	246A

File No: 13422
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), TAMIL NADU)
***

Dated: **18/05/2026**

To,

SHARATH B
No. 108,13th Main, Jayanagar 4th Block East, Bangalore District - 560011, KARNATAKA.
sharathgranites@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

Sub: SEIAA, TN Proposed Black Granite (Dolerite) quarry over an area of 4.37.0 Ha in S.F. Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu by Thiru. B. Sharath- under project category – "B1" of Item 1(a) "Mining of Minerals" of the Schedule to the EIA Notification, 2006– ToR issued along with Public Hearing- preparation of EIA report – Regarding.

Ref:
1. Online proposal No. SIA/TN/MIN/569529/2026, Dated: 19/02/2026.
2. Minutes of the 691st meeting of SEAC-1 held on 12.03.2026.
3. Minutes of the 986th meeting of SEIAA held on 26.03.2026
4. Minutes of the 708th SEAC -1 meeting held on 28.04.2026.
5. Minutes of the 1006th meeting of SEIAA held on 11.05.2026

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO26B0108TN5195700N
(ii) File No.	13422
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Name of Project	Black Granite (Dolerite) Quarry Project Belong to Thiru. B. Sharath
(vii) Name of Company/Organization	SHARATH B
(viii) Location of Project (District, State)	KRISHNAGIRI, TAMIL NADU
(ix) Issuing Authority	SEIAA
(x) Applicability of General Conditions	no
(xi) Applicability of Specific Conditions	no

1.In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2.The above-mentioned proposal has been considered by SEIAA in the meeting held on 11.05.2026. The minutes of the meeting and all the Application and documents submitted [viz. Form-1 Part A, Part B] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3.The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4.The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of **Thiru. B. Sharath** under the provisions of EIA Notification, 2006 and as amended thereof.
5.The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6.The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7.This issues with the approval of the Competent Authority.
8.The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Annexure 1

Specific Terms of Reference s for (Mining Of Minerals)

1. Seiaa Specific Conditions :

S. No	Terms of Reference
1.1	After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing for the quantity of 2,62,338 MT of RoM, 52,468 MT of Recoverable Reserves@20%, 2,09,870 MT of Granite Waste@80% up to the depth of 40m BGL (including the existing depth of 16m BGL) and the annual peak production should not exceed 12,019 MT of Recoverable Reserves@20%** as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions & SEIAA Specific & Standard conditions.

2. Seiaa Standard Conditions :

S. No	Terms of Reference
2.1	**<u>Cluster Management Committee</u>** 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with

S. No	Terms of Reference
	respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. **Agriculture & Agro-Biodiversity** 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. **Forests** 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. **Water Environment** 19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 20. Erosion Control measures. 21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and

S. No	Terms of Reference
	archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its foot prints including Environmental stress. c) Sediment geochemistry in the surface streams. **Energy** 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. **Climate Change** 29. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. **Mine Closure Plan** 32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. **EMP** 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan. **Risk Assessment** 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. **Disaster Management Plan** 36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. **Others** 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

SEAC Site Specific Condition

1. A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of required statutory personnel, appropriate environmental management, system of maintaining the haul roads and village/panchayat roads, authorized blasting operation, Monitoring system of the environmental & other statutory compliances & its reporting status, etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal:
   (i) Copy of the agreement forming CMC.
   (ii) The Organisation chart of the Committee with defining the role of the members
   (iii) The 'Standard Operating Procedures' (SoP) executing the planned activities.
2. The PP shall ensure the installation of CCTV at the proposed quarry site and ensure its inclusion during the EIA presentation.

SEAA Standard Condition

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
   (i) Original pit dimension
   (ii) Quantity achieved Vs EC Approved Quantity
   (iii) Balance Quantity as per Mineable Reserve calculated.
   (iv) Mined out Depth as on date Vs EC Permitted depth
   (v) Details of illegal/illicit mining
   (vi) Violation in the quarry during the past working.
   (vii) Quantity of material mined out outside the mine lease area
   (viii) Condition of Safety zone/benches
   (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it

belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.

4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the water bodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.
6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.
8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.

12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
14. Quantity of minerals mined out.
    - Highest production achieved in any one year
    - Detail of approved depth of mining.
    - Actual depth of the mining achieved earlier.
    - Name of the person already mined in that leases area.
    - If EC and CTO already obtained, the copy of the same shall be submitted.
    - Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,
17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
20. The Project Proponent shall conduct t he hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and

surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.

21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.
22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.
27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
28. Impact on local transport infrastructure due to the Project should be indicated.

29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.
32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detail ed.
37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local

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

39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

STANDARD TERMS OF REFERENCE

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

5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard

as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

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

19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should

also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized

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

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

22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

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

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

25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water

for the Project should be provided.

26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

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

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

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

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

37) Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

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

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

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

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

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

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

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

    a) Executive Summary of the EIA/EMP Report

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

    c) Where data are presented in the Report especially in Tables, the period in which the

data were collected and the sources should be indicated.

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

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

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

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

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

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

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

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

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

1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or

disposal.

4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of is acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given

23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

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

a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
b. All documents may be properly referenced with index, page numbers and continuous page numbering.
c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -l1013/77/2004-

IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent 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.

Signed by
Rahul Nadh A R
Date: 18-05-2026 16:25:12
Reason: Verified and signed

DIRECTORATE OF GEOLOGY AND MINING

From
Thiru D. Mohan, I.A.S.,
Director of Geology and Mining,
Guindy,
Chennai - 600 032.

To
Thiru B. Sharath,
S/o. K. Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar
4th Block East, Bangalore District,
Karnataka – 560 011.

Rc. No. 2976/MM4/2025, dated: 29.01.2026

Sir,

Sub: Mines and Minerals – Minor Mineral – Black Granite – Krishnagiri district – Bargur Taluk – Puligunda village - over an extent of 4.37.0 ha of patta lands – S.F.Nos. 579/1B (0.18.50 ha), 579/2B (0.19.00 ha), 579/3B (0.10.00 ha), 579/4B (0.14.00 ha), 579/5B (0.38.50 ha), 582/2 (1.21.50 ha), 599/1 (0.59.00 ha), 599/2 (0.37.50 ha), 599/3 (0.32.00 ha), 599/4 (0.44.50 ha), 599/5 (0.19.00 ha), 599/6 (0.08.00 ha), 599/7 (0.05.50 ha) and 599/8 (0.10.00 ha) – Quarry lease application preferred by M/s. Sharath Granites – Precise area communicated by the Government – Mining Plan submitted by M/s. Sharath Granites – Recommended by the Assistant Director, G&M, Krishnagiri – Approval accorded.

Ref:
1. Commissioner of Geology and Mining original file No. 2976/MM4/2025, dated 05.07.2025 forwarded under Single File System.
2. Government letter No. 1186/MMB.2/2025-1, dated 05.08.2025 (Precise Area Communication).
3. Draft Mining Plan submitted by M/s. Sharath Granites dated 27.10.2025.
4. Assistant Director, Geology and Mining, Krishnagiri letter Roc. No. 1117/2024/Mines, dated 06.01.2026.

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Kind attention is invited to the references cited above.

2) A quarry lease application preferred by M/s. Sharath Granites for quarrying Black granite over an extent of 4.37.0 ha of patta lands in S.F.Nos. 579/1B (0.18.50 ha), 579/2B (0.19.00 ha), 579/3B (0.10.00 ha), 579/4B (0.14.00 ha), 579/5B (0.38.50 ha), 582/2 (1.21.50 ha), 599/1 (0.59.00 ha), 599/2 (0.37.50 ha), 599/3 (0.32.00 ha), 599/4 (0.44.50 ha), 599/5 (0.19.00 ha), 599/6 (0.08.00

ha), 599/7 (0.05.50 ha) and 599/8 (0.10.00 ha) of Puligunda village, Krishnagiri taluk, Krishnagiri district was forwarded to the Government by the Commissioner of Geology and Mining vide reference 1st cited under rule 19-A of TNMMCR, 1959.

3) The Assistant Director (G&M), Krishnagiri in the reference 4th cited has recommended and forwarded the Mining Plan of M/s.Sharath Granites for approval. On scrutinizing the mining plan submitted by M/s. Sharath Granites and the report of the District Officer (G&M), Krishnagiri, the following are submitted.

i) The Government vide letter No. 1186/MMB.2/2025-1, dated 05.08.2025 has issued Precise area over an extent of 4.37.0 ha of patta lands in S.F.Nos. 579/1B (0.18.50 ha), 579/2B (0.19.00 ha), 579/3B (0.10.00 ha), 579/4B (0.14.00 ha), 579/5B (0.38.50 ha), 582/2 (1.21.50 ha), 599/1 (0.59.00 ha), 599/2 (0.37.50 ha), 599/3 (0.32.00 ha), 599/4 (0.44.50 ha), 599/5 (0.19.00 ha), 599/6 (0.08.00 ha), 599/7 (0.05.50 ha) and 599/8 (0.10.00 ha) of Puligunda village, Krishnagiri taluk, Krishnagiri district with instructions to furnish the approved mining plan through the Director of Geology and Mining and to produce environmental clearance obtained from the competent authority for the subject area.

ii) The Assistant Director (G&M), Krishnagiri has reported that the draft mining plan prepared by the Qualified Person (QP) and submitted by the applicant has been examined with reference to the field conditions and found correct.

iii) The details such as geological, mineable reserves, year wise production and development program have been incorporated in the draft mining plan.

iv) The conditions imposed by the Government in the precise area communication are incorporated in the draft mining plan.

v) There are no archaeological monuments within 300 m radius and it complies with the Rule 36 (1-A) (d) (e) of the amended TNMMCR 1959.

vi) As per the draft mining plan, the ROM for the Mining Plan period is 2,62,338 MT and the proposed production for the Mining Plan period is 52,468 MT @ 20% recovery for a depth of 40 m.

vii) The year wise proposed production for the first five years is furnished below:-

Year	ROM (MT)	Recoverable reserves @ 20% (MT)	Granite Waste @ 80% (MT)	Weathered Rock (MT)
1st Year	52514	10503	42011	12400
2nd Year	55180	11036	44144	–
3rd Year	49120	9824	39296	–
4th Year	60094	12019	48075	–
5th Year	45430	9086	36344	–
TOTAL	**262338**	**52468**	**209870**	**12400**

viii) As per the draft mining plan it has been proposed to dump the waste on the North western side and Southern side of the lease boundary area.

ix) The mining plan submitted by M/s. Sharath Granites has been forwarded and recommended by the Assistant Director (G&M), Krishnagiri.

4) The mining plan submitted by M/s. Sharath Granites and the Assistant Director (G&M), Krishnagiri has been examined with reference to the provisions of Rule 12, 13 and 15 of Granite Conservation and Development Rules, 1999 read with G.O.(Ms). No. 87, Industries (MMC.1), Department dated: 22.02.2001. Based on the recommendation of the District Officer, (G&M), Krishnagiri, the mining plan submitted by M/s. Sharath Granites is hereby approved subject to the following conditions.

i. This mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time

whether such Laws are made by the Central Government, State Government or any other authority.

ii. The approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Indian Explosives Act, 1884 (Central Act IV of 1884) and the rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

iii. This mining plan including progressive mine closure plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.

iv. Provisions of the Mines Act, 1952 and the Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required under Mines Act, 1952 shall be complied with.

v. Provisions made under Mines and Minerals (Development & Regulation) Act, 1957, MMDR Amendment Act, 2015 and Granite conservation and Development Rules, 1999 made thereunder shall be complied with.

vi. Environment Clearance should be obtained from the competent authority in respect of the subject area as per rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the notification of the Ministry of Environment and Forest and any other clearances if any.

vii. A safety distance of 7.5 meters shall be maintained for the adjacent Patta lands.

viii. A safety distance of 50 m shall be maintained between the applied area and the EB line.

ix. A safety distance of 50 m shall be maintained to the residential area situated in South Western and Western sides of the applied area.

x. The quarry operation should be restricted only in the area granted on lease.

xi. The applicant should fence the lease granted area with barbed wire before the execution of lease deed as follows.

i. The pillar post shall be firmly grounded with concrete foundation of height not less than 2 m with a distance between two pillars shall not be more than 3mts.

ii. The applicant shall incorporate the DGPS readings for the entire boundary pillars of the area and the same should be clearly shown in the mining plan.

iii. A soft copy of the digitized map with DGPS readings should be submitted in CD to the Deputy Director (G&M), Krishnagiri.

xii. As per rule 12 (v) of Mineral (other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, the applicant firm shall at his own expense, erect, maintain and keep in repair all boundary pillars.

xiii. No hindrance shall be caused to the adjacent patta lands and Government poramboke lands while quarrying and transportation of granite.

xiv. No blasting (or) transportation of materials in vehicles should be carried out from 6.00 pm to 6.00 am.

xv. The waste materials generated during the course of quarrying should be dumped only within the lease hold area that will be earmarked for the purpose in the mining plan as per rule 31 of GCDR, 1999.

xvi. Relaxation to be obtained under Rule 106(2)(b) of Metalliferous Mines Regulations, 1961 from the Director of Mines Safety, if necessary.

xvii. If anything is found to be concealed as required by the Granite Conservation and Development Rules, 1999 and Tamil Nadu Minor Mineral Concession Rules, 1959 and proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

xviii. The applicant shall strictly adhere to the statutory and safety requirements and the applicant should ensure the

periodical medical checkup to the quarry workers to safeguard them from quarry related diseases.

xix. The applicant shall submit Scheme of Mining, mine closure plan and other statutory requirements within the time stipulated for submission of the above as per GCDR, 1999 rules.

xx. The boundary stone should be fixed for the subject quarry and the district administration / Geology and Mining Department should ensure that the quarrying operation should be restricted only within the area granted for lease.

xxi. A green belt should be constructed over a extent of 4.37.0 of applied patta lands in Puligunda village, Krishnagiri taluk, Krishnagiri district area to prevent sound and air pollution due to the proposed quarrying activity by planting at least 500 seedlings of neem and pungan all around the area.

xxii. When the quarried material is transported, necessary permits should be produced before the forest check post officials and necessary entries should be made in the register.

xxiii. The conditions mentioned in G.O No. 79 Industries Department dated 06.04.2015 should be complied with.

xxiv. The applicant may use mild explosives during quarrying, and storing of explosives if required, by obtaining valid license under explosive Acts and Rules.

xxv. The applicant should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification using the agencies empaneled by the CGM.

xxvi. Child labourers should not be engaged in the quarry works and the quarry workers should be registered in the Tamil Nadu Construction Labour Welfare Board.

xxvii. If any violation is found during quarry operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules 1959 and other rules and act in force will attract.

xxviii. The applicant should remit the Stamp Duty as per the approved modified mining plan during the currency of the lease period.

xxix. The earlier instances of irregular / illegal quarrying, if any, shall not be regularized through the approval of this document.

xxx. The applicant shall remit the penalty / cost of mineral / other dues if any as arrived by the District Collector / Assiatant Director (G&M), Krishnagiri district.

xxxi. Non adherence to any condition set-out above, the approval shall be deemed to have been withdrawn with immediate effect.

xxxii. The applicant should comply with the additional conditions stipulated by the Government of India, Ministry of Mines, Order No.11/02/2020, dated.14.01.2020 issued as per the Order of the Hon'ble Supreme Court of India, dated.08.01.2020 which states that "The Mining lease holders shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc."

Encl.: Approved Mining Plan

Sd/- D.Mohan
Director of Geology and Mining

Forwarded / By Order

30/1/2026
Joint Director

30/1/26

Copy to:

1. The Additional Chief Secretary
   to Government (FAC),
   Natural Resources Department,
   4th Floor, Secretariat, Chennai-9.
2. The Director of Mines Safety,
   3rd Floor, Left Wing,
   New Additional Building,
   CGO Complex, Shastri Bhawan,
   Nungambakkam, Chennai – 06
3. The District Collector,
   Krishnagiri District.

From

Dr. R.Elangoan, M.Sc.,Ph.D.,
Assistant Director,
Dept. of Geology and Mining,
Krishnagiri.

To

B. Sharath,
S/o. K. Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar
4th Block East,
Bangalore,
Karnataka State - 560 011.

Roc.No.1117/2024/Mines Dated: 12.02.2026.

Sir,

Sub: Mines and Minerals - Minor Mineral - Black Granite - Krishnagiri District - Bargur Taluk – Puligunda Village - Patta land - S.F.Nos. 579/1B (0.18.50ha), 579/2B (0.19.00ha), 579/3B (0.10.00ha), 579/4B (0.14.00ha), 579/5B (0.38.50ha), 582/2 (1.21.50ha), 599/1 (0.59.00), 599/2 (0.37.50ha), 599/3 (0.32.00ha), 599/4 (0.44.50ha), 599/5 (0.19.00ha), 599/6 (0.08.00ha), 599/7 (0.05.50ha) and 599/8 (0.10.00ha) - Over an extent of 4.37.00 Ha - M/s. Sharath Granites preferred application for the grant of Black Granite quarry lease - Details of quarries situated within 500m radial distance requested – Quarry details furnished - Reg.

Ref:

1. M/s. Sharath Granites preferred application, dated: 19.08.2024.
2. The Government letter No. 1186/MMB.2/2025-1, dated 05.08.2025 (Precise area communication).
3. The Director of Geology & Mining, Chennai letter No.2976/MM4/2025, dated 29.01.2026.
4. Representation of M/s. Sharath Granites, dated 06.02.2026.

****

Kind attention is invited to the references cited above.

2. M/s. Sharath Granites, preferred an application vide the reference 1st cited for the grant of quarry lease to quarry Black Granite in S.F.Nos. 579/1B (0.18.50ha), 579/2B (0.19.00ha), 579/3B (0.10.00ha), 579/4B (0.14.00ha), 579/5B (0.38.50ha), 582/2 (1.21.50ha), 599/1 (0.59.00), 599/2 (0.37.50ha), 599/3 (0.32.00ha), 599/4 (0.44.50ha),

599/5 (0.19.00ha), 599/6 (0.08.00ha), 599/7 (0.05.50ha) and 599/8 (0.10.00ha) over an extent of 4.37.00 Ha of patta land in Puligunda Village, Bargur Taluk, Krishnagiri District under the Rule 19 of Tamil Nadu Minor Mineral Concession Rules, 1959.

3. Subsequently, M/s. Sharath Granites had been communicated precise area vide reference 2nd cited and directed to submit Mining plan and Environmental Clearance for grant of Black Granite quarry lease over an extent of 4.37.00 hectares of Patta land in S.F.Nos. 579/1B (0.18.50ha), 579/2B (0.19.00ha), 579/3B (0.10.00ha), 579/4B (0.14.00ha), 579/5B (0.38.50ha), 582/2 (1.21.50ha), 599/1 (0.59.00), 599/2 (0.37.50ha), 599/3 (0.32.00ha), 599/4 (0.44.50ha), 599/5 (0.19.00ha), 599/6 (0.08.00ha), 599/7 (0.05.50ha) and 599/8 (0.10.00ha) in Puligunda Village, Bargur Taluk, Krishnagiri District for a period of 20 (Twenty) years under the provisions of Rule 19 (A) of Tamil Nadu Minor Mineral Concession Rules, 1959.

4. Accordingly, the applicant submitted Mining Plan and the same was approved by the Director of Geology & Mining vide the reference 3rd cited.

5. At this juncture, the applicant has requested the details of quarries situated within 500m radial distance from the lease applied area vide letter dated 06.02.2026. As requested by the applicant, the details of quarries situated within 500m radial distance from the subject area is furnished as follows:

I. Details of Existing Quarries

S. No.	Name of the Lessee	Village & Taluk	S.F.No.	Extent in ha	Proceedings Rc.No. & date	Lease period
1.	M/s. Imperial Granites (P) Ltd., No.76, Cathedral Road, Chennai-600086.	Bargur & Puligunda	540/1	2.77.50	G.O. (3D) No.42 Industries (MME.2) Department Dated 13.03.2007	24.04.2007 to 23.04.2027
Total		**2.77.50 ha**				

II. Details of Expired/Abandoned Quarries

S. No.	Name of the Applicant/Lessee	Village & Taluk	S.F. No.	Extent (ha)	Proceeding Rc.No. & date	Lease period
			----------			

III. Details of Proposed/applied quarries

S. No.	Name of the Applicant/Lessee	Village& Taluk	S.F.No.	Extent (ha)	Proceeding Rc.No. & date	Remarks
1.	M/s. Sharath Granites	Bargur & Puligunda	579/1B (0.18.50ha) 579/2B (0.19.00ha) 579/3B (0.10.00ha) 579/4B (0.14.00ha) 579/5B (0.38.50ha) 582/2 (1.21.50ha) 599/1 (0.59.00) 599/2 (0.37.50ha) 599/3 (0.32.00ha) 599/4 (0.44.50ha) 599/5 (0.19.00ha) 599/6 (0.08.00ha) 599/7 (0.05.50ha) and 599/8 (0.10.00ha)	4.37.00	----------	Applied Area
Total			**4.37.00 ha**			

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

Copy to:

The Chairman, Tamil Nadu State Environment Impact Assessment Authority, 3rd Floor, Panakal Maligai, No. 1 Jeenes Road, Saidapet,Chennai -15.

MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR PULIGUNDA BLACK GRANITE (DOLERITE) QUARRY

(Under Rule 19A of Tamil Nadu Minor Mineral Concession Rules, 1959 and Rule 12, 13 & 16 of Granite Conservation and Development Rules, 1999)

Patta Land/ Lease Period: 20 Years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT	:	4.37.0 HECTARES
S.F.No.	:	579/1B, 579/2B, 579/3B & ETC.,
VILLAGE	:	PULIGUNDA
TALUK	:	BARGUR
DISTRICT	:	KRISHNAGIRI
STATE	:	TAMIL NADU

FOR

APPLICANT / LESSEE

THIRU. B. SHARATH,

S/o. K. Bage Gowda

Proprietor of M/s. Sharath Granites,

No. 108, 13th Main, Jayanagar 4th Block East,

Bangalore District,

Karnataka State – 560 011.

PREPARED BY

B. VENGADAGIRI, M.Sc.,

Qualified Person

(Under Rule 15(I)(a) and (b) of MCR 2016)

No.105, 5th Cross, Alagapuram,

Salem District

Tamil Nadu – 636 010.

Mobile No. +91 86953 32233.

E-mail: vengatb6@gmail.com

ABBREVIATIONS



• EIA	-	Environmental Impact Assessment
• EMP	-	Environment Management Plan
• SEIAA	-	State Level Environment Impact Assessment Authority
• MoEF&CC	-	Ministry of Environment, Forest and Climate changes
• MSL	-	Mean Sea Level
• CPCB	-	Central Pollution Control Board
• TNPCB	-	Tamil Nadu Pollution Control Board
• FMB	-	Field Measurement Book
• S.F.No.	-	Survey Field Number
• GSI	-	Geological Survey of India
• DMS	-	Director of Mines Safety
• DGMS	-	Director General of Mines Safety
• MMR	-	Metalliferous Mines Regulations
• MCR	-	Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules
• TNMMCR	-	Tamil Nadu Minor Mineral Concession Rules
• GCDR	-	Granite Conservation and Development Rules
• EMP	-	Environment Management Plan
• NGT	-	National Green Tribunal
• NONEL	-	Non Electric
• CRZ	-	Coastal Regulatory Zone
• HACA	-	Hill Area Conservation Authority
• QP	-	Qualified Person
• AGL	-	Above Ground Level
• BGL	-	Below Ground Level
• CCTV	-	Closed Circuit Television
• HP	-	Horse Power
• PSI	-	Pounds per square inch
• Kva	-	Kilo-volt-amperes
• m & mm	-	Meter and millimeter
• ltrs	-	Liters
• R.L.	-	Reduced Level
• MT	-	Metric Tonne

ırath,
Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar 4th Block East,
Bangalore,
Karnataka State – 560 011.

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032. *

CONSENT LETTER FROM APPLICANT

The Mining Plan along with progressive quarry closure plan in respect of Puligunda Black Granite (Dolerite) quarry over an extent 4.37.0 Hectares of Patta lands in S.F.No. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State has been prepared by

B. Vengadagiri, M.Sc.,
Qualified Person,

I have entrusted the works to prepared the Mining Plan based upon the production requirements to meet as per the Mines Acts, Rules, Regulations and Amendments as on date. We request to the Commissioner, Department of Geology and Mining, Chennai to make further correspondence regarding the corrections of the mining Plan with the said Qualified Person at his following address.

B. Vengadagiri, M.Sc.,
No.105, 5th Cross,
Alagapuram
Salem District
Tamil Nadu – 636 010.
Mobile No. +91 86953 32233.

I hereby undertake that all the responsibilities of contents in the mining plan and if any corrections made in the mining plan by the Qualified Person may be deemed to have been made with our knowledge and consent and shall be acceptable to me and binding on me in all respects. If there is any substantial change during operation, we will carry out a Modified Mining plan and seek its approval from concerned Authorities.

Signature of the applicant

(B. Sharath)

Place: Bangalore
Date: 07.08.2025

arath,
K. Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar 4th Block East,
Bangalore,
Karnataka State – 560 011.

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032. *

DECLARATION OF APPLICANT

The Mining Plan along with progressive quarry closure plan in respect of Puligunda Black Granite (Dolerite) quarry over an extent 4.37.0 Hectares of Patta lands in S.F.No. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State has been prepared in full consultation with me by

B. Vengadagiri, M.Sc.,
Qualified Person,

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

Signature of the applicant

(B. Sharath)

Place: Bangalore
Date: 11.08.2025

CERTIFICATE FROM THE QUALIFIED PERSON

Certified that I, **B. Vengadagiri, M.Sc.,** residing at No.105, 5th Cross, Alagapuram, Salem District, Tamil Nadu – 636 010 holding a Post Graduate Degree in Geology (M.Sc., Applied Geology) from Annamalai University, Chidambaram and I worked in the field of Mining 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 prepared this Mining Plan along with Progressive Quarry Closure Plan in respect of Puligunda Black Granite (Dolerite) quarry over an extent 4.37.0 Hectares of Patta lands in S.F.No. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State for **Thiru. B. Sharath,** S/o. K. Bage Gowda, Proprietor of M/s. Sharath Granites residing at No. 108, 13th Main, Jayanagar 4th Block East, Bangalore, Karnataka State – 560 011. 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

(B. Vengadagiri, M.Sc.,)

Place : Salem

Date : 11.08.2025

B. Vengadagiri, M.Sc.,
No.105, 5th Cross,
Alagapuram
Salem District
Tamil Nadu – 636 010.
Mobile No. +91 86953 32233.

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032. *

CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of Granite Conservation and Development Rules, 1999 as amended in Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan along with progressive quarry closure plan for Puligunda Black Granite (Dolerite) quarry over an extent 4.37.0 Hectares of Patta lands in S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State has been prepared for

Thiru. B. Sharath,
S/o. K. Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar 4th Block East,
Bangalore,
Karnataka State – 560 011.

Whenever specific permissions/exemptions/ relaxations and approvals are required, the applicant will approach the concerned authorities of Commissioner of Geology and Mining, Government of Tamil Nadu, Guindy, Chennai– 600 032 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

(B. Vengadagiri, M.Sc.,)

Place : Salem
Date : 11.08.2025

B. Vengadagiri, M.Sc.,
No.105, 5th Cross,
Alagapuram
Salem District
Tamil Nadu – 636 010.
Mobile No. +91 86953 32233.

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032. *

CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations made there under have been observed in the preparation of Mining Plan along with progressive quarry closure plan for Puligunda Black Granite (Dolerite) quarry over an extent 4.37.0 Hectares of Patta lands in S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State has been prepared for

Thiru. B. Sharath,
S/o. K. Bage Gowda,
Proprietor of M/s. Sharath Granites,
No. 108, 13th Main, Jayanagar 4th Block East,
Bangalore,
Karnataka State – 560 011.

Whenever specific permissions / exemptions / relaxations and approvals are required, the applicant will approach the concerned authorities of the Director of Mines Safety, No. 5, IInd Street, Block – AA, Anna Nagar, Chennai, 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

(B. Vengadagiri, M.Sc.,)

Place : Salem
Date : 11.08.2025.

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GUINDY, CHENNAI

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DIRECTOR OF GEOLOGY AND MINING
GUINDY, CHENNAI - 600 032.

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DIRECTOR OF GEOLOGY AND MINING
GUINDY, CHENNAI - 600 032.

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MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR PULIGUNDA BLACK GRANITE (DOLERITE) QUARRY

(Under Rule 19A of Tamil Nadu Minor Mineral Concession Rules, 1959 and 12, 13 and 16 of Granite Conservation and Development Rules, 1999)

INTRODUCTION AND EXECUTIVE SUMMARY:

The applicant **Thiru. B. Sharath,** S/o. K. Bage Gowda, **Proprietor of M/s. Sharath Granites** residing at No. 108, 13th Main, Jayanagar 4th Block East, Bangalore, Karnataka State – 560 011 has entrust and given consent to preparation of Mining plan and Progressive Mine Closure Plan as per the provisions of Mines Act, Rules, Regulations and as amended till date.

The applicant has applied quarry lease for quarrying Black Granite for over an extent 4.37.0 Hectares of Patta lands in S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State for a period of twenty years under Rule 19-A of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was examined, Scrutinized, Inspected and processed by the state Government and issued a Precise Area Communication letter vide **letter No. 1186/MMB.2/2025-1, Dated: 05.08.2025** under Rule 19-A of Tamil Nadu Minor Mineral Concession Rules, 1959 for submission of approved Mining plan within 90 days and obtain Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu under rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 with the following conditions to provide (Refer Annexure No. I):-

1. A safety distance of 7.5 meters shall be maintained for the adjacent Patta lands.
2. A safety distance of 50 metres shall be maintained between the applied area and the EB line.
3. A safety distance of 50 metres shall be maintained to the residential area situated in South Western and Western sides of the applied area.
4. Barbed wire fencing or Compound wall should be erected all along the boundary of the lease granted area and the boundary pillars should be erected as per DGPS norms.
5. Environment Clearance should be obtained from the competent authority in respect of the subject area as per rule 42 of TNMMCR, 1959 and as per the notification of the Ministry of Environment and Forest and any other clearances if any.
6. As per rule 12 (V) of Mineral (other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, the applicant firm shall at his own expenses erect, maintain and keep in repair of all the boundary pillars with DGPS readings.
7. A green belt should be constructed to prevent sound and air pollution due to the proposed quarrying activity by planting at least 500 seedlings of neem and pungan all around the area.

8. The applicant should fence the lease granted area with barbed wire before the execution of lease deed as follows:
    - ❖ The pillar post shall be firmly grounded with concrete foundation of height not less than 2 metres with a distance between two pillars shall not be more than 3 metres.
    - ❖ The applicant shall incorporate the DGPS readings for the entire boundary Pillars of the area and the same should be clearly shown in the mining plan.
    - ❖ A soft copy of the digitalized map with DGPS readings should be submitted in the CD to the Deputy Director, (G&M), Krishnagiri.
9. The applicant should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification in Rc.No.2921/MM4/2019, dated 01.02.2018 and subsequent corrigendum dated 13.08.2019 using the empanelled agencies before execution of quarry lease.
10. The quarry operation should be restricted only in the area granted on lease.
11. Quarry activity should be carried out from 6.00 a.m. to 6.00 p.m. only.
12. Quarried materials should be transported only with permits issued by the Assistant Director / Deputy Director (G&M) and they should be produced before the forest check post officials and necessary entries should be made in the register.
13. The waste materials generated during the course of quarrying should be dumped only within the lease hold area.
14. The applicant should not damage the Government land situated around the applied area if any.
15. The District administration and the Geology and Mining department should ensure the conditions imposed in G.O.(Ms). No.79 Industries Department dated 06.04.2015.
16. No pollution should be caused to the water bodies situated near the applied area if any.
17. The applicant should use mild explosives during quarrying.
18. As per the Hon'ble Supreme court of India order dated: 08.01.2020 in W.P. (C) No.144/2014, after ceasing quarrying operation, re-grassing the quarry area and any other area which may have been disturbed due to the quarrying activity should be restored to a condition which is fit for growth of fodder, flora, fauna etc.,.
19. Child labourers should not be engaged for quarry works and all the quarry labourers should be registered with the Labour Welfare Board of Government of Tamil Nadu and should be enrolled in the Group Insurance Scheme.

20. The applicant shall strictly adhere to the statutory and safety requirements.
21. 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.
22. The applicant shall submit scheme of mining; mine closure plan and other statutory requirements within the time stipulated for submission of the above, as per rules.
23. The applicant shall submit scheme of mining; mine closure plan and other statutory requirements within the time stipulated for submission of the above, as per rules.
24. If any violation is found during quarrying operation, the penal provisions of the Tamil Nadu Minor Mineral Concession Rules, 1959 and other Rules and Act in force will attract.

This Mining Plan along with Progressive quarry closure Plan is prepared in full consent with **Thiru. B. Sharath, S/o. K. Bage Gowda, Proprietor of M/s. Sharath Granites** residing at No. 108, 13th Main, Jayanagar 4th Block East, Bangalore, Karnataka State – 560 011, in respect of Puligunda Black Granite quarry over an extent **4.37.0 Hectares of Patta lands in S.F.Nos. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District**. This mining plan is prepared under Rules 19-A and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and Rules 12, 13 and 16 of Granite Conservation and Development Rules, 1999 with obtained full consent as per the application and Production schedule in preparation of Mining plan as per the provisions of Mines Act, Rules, Regulations as on date.

The lease applied area is situated in almost flat terrain, the Black Granite is clearly visible right from the the existing quarry pit and other areas concealed under Top soil having an average thickness of 1m and 4m Weathered rock totally over burden having an average thickness of 5m and followed by fresh Black Granite.

This mining plan has been prepared by keeping and considering all the parameters stipulated by the Government of Tamil Nadu before and during the course of quarry operations.

This Mining plan has been prepared after carrying the field investigation, geological survey, collection of Primary & secondary data, geological attributes, environmental setting and estimated the Resources & Reserves, depth of mining as identified in the field with best our knowledge and experience. This mining plan is prepared by considering as amended Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendments.

The applicant ensures to comply all the condition stipulated by the Government before the execution of lease deed and during the course of quarrying operations.

In order to ensure compliance of the order of the Honorable Supreme Court Dated: 27.02.2012 in I.A.No.12-13 of 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 is require prior environmental clearance. As per amendment in EIA Notification 2006 vide S.O. 1886(E), Dated:20.04.2022 "All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal" would be treated as category B and will be considered by the state notified by Ministry of Environment, Forest and Climate Change as prescribed procedure under EIA notification 2006.

The field investigation was carried out by the Qualified Person and his Team as on 08.08.2025.

The quarry lease was previously granted in favour of **Thiru. R.K.Ramesh**, Chennai **vide G.O.(3D) No. 56 Industries (MME-2) Department dated 23.11.2011** for over an extent of 4.37.0 Hectares of Patta lands in S.F.Nos. 579/1A (Part), 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District for the period of 20 years. The lease deed was executed on 14.12.2011 and the lease period is valid upto 13.12.2031.

Due to the financial crises for the lessee he could not maintaining the quarry lease. Hence, Thiru. R.K.Ramesh, had **transferred** the above said quarry lease in favour of **M/s. BM Continental Granites and Minerals Limited**, vide **G.O.(Ms) No.117 Industries (MME.2) Department dated 21.08.2014.** and the lessee was due to personal problem they are unable to start the said project, hence, it is resolved in the board to surrender the lease. Therefore, the company has requested the Government to accept the surrender of quarry lease. Finally the Revenue Divisional Officer, Krishnagiri has recommended the surrender of quarry lease preferred by the lessee M/s. BM Continental Granites and Minerals Limited (Refer Annexure No. VII). Based on the surrender GO. (D) No. 48, the assistant Geologist, Department of Geology and Mining, Krishnagiri has stated that during the lease period (14.12.2011 to 02.02.2016) the lessee has **produced 2,821.911m³** of Black granite dimensional stone and transport permit obtained for **2,736.461m³** and the remaining **85.450m³** is stacked within the study area.

The applied area under consideration in quarrying operations earlier:

At present there are six different depth pits existing within the lease applied area. The maximum dimensions of existing pit and dumps are given table below (Refer Plate No. III).

Table – 1

Existing Pit Details													
Depth-id	Existing R.L	Pit R.L	Area in m^2	Total Depth m	Depth in meter				Volume in m^3				Total Excavation in m^3
					Top soil	Weathered	Granite	Side Burden	Top soil	Weathered	Granite	Side Burden	
D-1	444	441	1839	3	1	2	-	-	1839	3678	-	-	5517
	444	441	370	3	1	2	-	-	370	740	-	-	1110
D-2	444	439	1590	5	1	4	-	-	1590	6360	-	-	7950
	444	439	812	5	1	4	-	-	812	3248	-	-	4060
D-3	444	437	3945	7	1	4	2	-	3945	15780	7890	-	27615
	444	437	180	7	1	4		2	180	720	-	360	1260
D-4	444	434	1604	10	1	4	5	-	1604	6416	8020	-	16040
	444	434	798	10	1	4		5	798	3192	-	3990	7980
D-5	444	430	1558	14	1	4	9	-	1558	6232	14022	-	21812
	444	430	160	14	1	4		9	160	640		1440	2240
D-6	444	428	2210	16	1	4	11	-	2210	8838	24305	-	35353
	444	428	974	16	1	4		11	974	3896	-	10715	15586
Total									**16040**	**59740**	**54237**	**16505**	**146523**

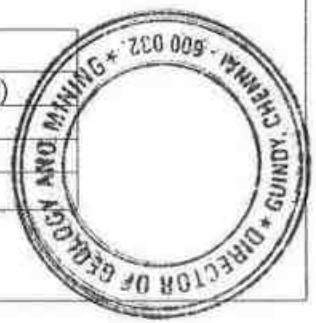
Table – 1A

Excavation Details (14.12.2011 - 02.02.2016)				
Total Excavation (m^3)	Production (m^3)	Despatch (m^3)	Stock (m^3)	Waste Dump (m^3) (Top Soil + Weathred Rock + Side Burden)
146523	2821 911	2736.461	85.45	1,43,700

Table – 1B

Existing waste dump Geometry			
Dump ID	Area (m^2)	Height (m)	Volume (m^3)
Granite Waste Dump - 1	3,973	12.94	51,415
Over burden Waste Dump - 2	7,676	12.02	92,285
Total			**1,43,700**

Note: Small varation bound to occure in calculation of volume as per geometry due to the dump is irregular in shape.



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1.0 GENERAL:



1.1 Name of the applicant with address:

Name	:	**Thiru. B. Sharath**
		K. Bage Gowda
		Proprietor of M/s. Sharath Granites
Address	:	No. 108, 13th Main, Jayanagar 4th Block East
		Bangalore
State	:	Karnataka
Pin code	:	560 011
Phone	:	+91 78999 99596
E-mail ID	:	Sharathgranites@gmail.com.
Aadhaar No.	:	5310 8328 9849.

1.2. Status of the applicant:

The applicant is an Individual.

1.3. Mineral which the applicant intends to mine:

The Applicant intends to quarry Dimensional stone (Dolerite) commercially known as **"BLACK GRANITE"..**

1.4. Period for which the mining area is required:

Twenty years as mentioned in Precise area Communication letter.

1.5. Name and address of the Qualified Person who prepared the mining plan:

Name	:	B. Vengadagiri, M.Sc.,
		Qualified Person (As per Rule 15(I)(a) and (b) of MCR 2016)
Address	:	No.105, 5th Cross,
		Alagapuram,
		Salem District.
		Tamil Nadu – 636 010.
Mobile No.	:	+91 86953 32233.
E-mail ID	:	vengatb6@gmail.com.

(Refer Annexure No. IX and X).

1.6. Name and address of the prospecting agency:

State Geology and Mining Deptartment, 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 of the commercial granite deposits of Tamil Nadu. Besides, the Qualified Person and his team members made a detailed geological study of the area and demarcated clearly the Black Granite deposit with a mine surveyor. The granite formation is clearly visible right from the existing quarry pit. No detailed prospecting carried out by any agencies.

Address of the prospecting Agency:

(i) STATE GEOLOGICAL DEPARTMENT
O/o The Commissioner of Geology and Mining
Thiru Ve Ka industrial Estate,
Guindy, Chennai – 32.

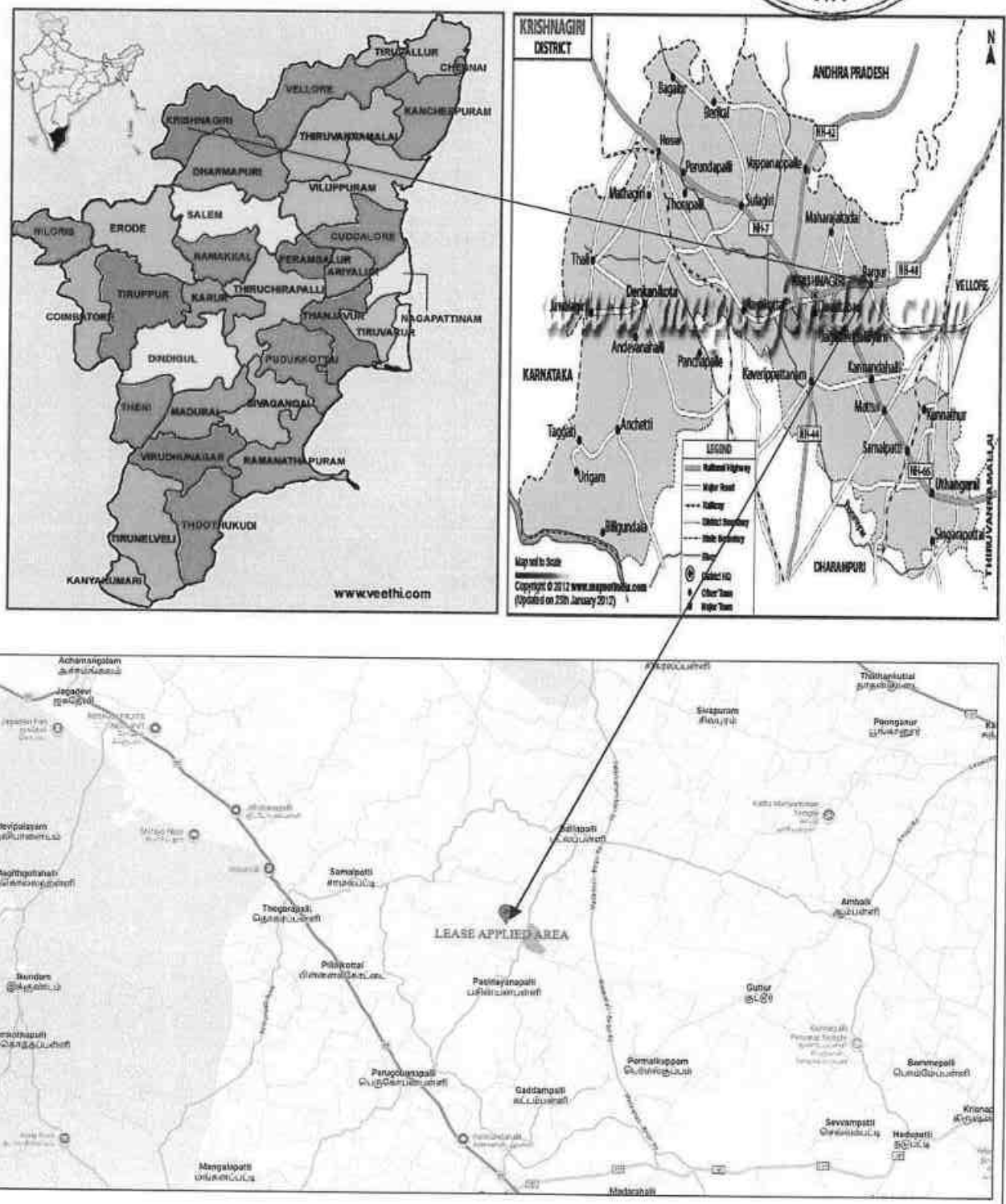
1.7. Reference no. Date of grant/ Precise Area Communication received form the State Government:

The Precise area Communication letter has been issued by the State Government of Tamil Nadu vide **letter No. 1186/MMB.2/2025–1, Dated: 05.08.2025,** (Refer Annexure No. I).

2.0 LOCATION AND ACCESSIBILITY:

The lease applied area is located about 19.7km Southeast side of Krishnagiri town, 10.3km Southeast side of Bargur town and 6.4km Northeast side of Puligunda Village.

Location Map of the Lease Applied area



2.1 Details of the area:

Table – 2

District	Taluk	Village	S.F.No.	Area in Ha.	Patta No.	Classification
Krishnagiri	Bargur	Puligunda	579/1B	0.18.5	3240	It is Patta Lands, classified as Punsei (Refer Annexure Nos. IV - VI).
			579/2B	0.19.0		
			579/3B	0.10.0		
			579/4B	0.14.0		
			579/5B	0.38.5		
			582/2	1.21.5		
			599/1	0.59.0		
			599/2	0.37.5		
			599/3	0.32.0		
			599/4	0.44.5		
			599/5	0.19.0		
			599/6	0.08.0		
			599/7	0.05.5		
			599/8	0.10.0		
			Total	**4.37.0**		

Source: As per the FMB, Patta and 'A' register record furnished by the applicant.

2.2 Whether the area recorded to be in Forest Department:

The area does not falls under forest land of any category. It is patta lands.

2.3 Ownership / Occupancy and Classification of the area:

The applied area is patta lands, classified as punsei. The lands are registered in the name of applicant (Thiru. B. Sharath) Vide Patta No. 3240 (Please refer Annexure No. IV to VI).

2.4 Existence of public road / Railway line, if any nearby and approximate distance:

The approach road is available on the eastern side, which is connected to the Panchayat road located at 260m on the Eastern side of the area. There is no other patta lands are encountered for the haulage of Black Granite (Please refer Plate No.I to IB).

Road access is available from the quarry to state highways and National Highway, the traffic density is not much more due to the transportation of quarried out material.

The Nearest Railway line is Chennai – Salem which is located about 14.4km on the Southeastern side of the area as per the GSI Toposheet and Google Map.

The nearest town is Bargur which is located about 10.3km on the Northwestern side of the area, where basic facilities like Hospital, Communication centre, Schools, Police Station and Bus terminus are available. District head quarters and District Administrative Offices are available in Krishnagiri located at 19.7km on the Northwestern side of the area.

2.5 Toposheet No. with Latitude and Longitude:

The area is marked in the Survey of India, Topo Sheet No. 57-L/03. The area lies between the Latitudes of 12°26'59.53"N to 12°27'00.18"N and Longitudes of 78°22'46.88"E to 78°22'56.47"E on WGS datum-1984. (Please refer Plate Nos. I to II as per the GSI Toposheet).

3.0 GEOLOGY AND EXPLORATION:

3.1 Topography:

The area is situated an almost flat terrain. The gradient is gentle towards Eastern side and altitude of the area is 444m above from MSL. The dolerite dyke is intruded between the batholithic formations of Hornblende Biotite Gneiss. The Black granite is mostly concealed under 1m thickness of Reddish soil and 4m thickness of Weathred rock. The area receives an average rainfall 851mm /annum and The ground water occurrence in this area is about 72m - 77m.

3.2 Regional Geology & Geological Succession:

The dolerite dyke is formed discordant intrusion in the country rock. The petrological setting of the area is simple not complicated phenomena. There are no major minerals observed in the vicinity of the proposed quarry area. A brief description of the regional Geology is discussed below.

The hard rock terrain of Achaean to late Proterozoic groups comprises of predominantly charnockite, Khondalite group of rocks and their magmatic derivatives, supracrustal sequences intruded by ultramafic complexes, basic dykes and granites.

The northern part of Tamil Nadu, north of Noyil - Cauvery River is characterized by the occurrences of a number of Dolerite dykes in contrast to the areas south of Noyil - Cauvery River where the dykes are absent. The dolerite dykes in general trending is in WNW- ESE and NNE - SSE directions and rarely in N-S and NNW - SSE directions.

In central part of Tamil Nadu, ENE - WNW to NE- SW trending dolerite dykes (Black granite) are seen transecting the Charnockite in Kalrayan & Kolli Hills. Palaeo magnetic studies of some of these dykes indicate Mid-Proterozoic age.

Granites were formed from molten rock referred to as "Magma" formed at great depths within the crust of the earth. During the cooling process, some of the minerals grow into larger crystals of colours peculiar to those minerals or get aligned along certain preferred directions giving rise to beautiful colors and patterns. Such rocks that were formed at great depths during the Archaean age are now exposed at the surface of the earth as a result of the combined actions of wind, air, sun and water and weathering and denudation over the past several million years.

3.2.1. Geology of the lease applied area:

The dolerite dyke is formed discordant intrusion in the country rock of Hornblende Biotite Gneiss. The quarry lease area contains Hornblende Biotite Gneiss and intruded by dolerite. The dolerite dyke is covered by 1m thickness of reddish soil and followed by fresh black granite. The dyke rock is hard, compact and sheet in nature at the middle and boundary along the contacts due to geological disturbances.

STRUCTURAL SETTINGS OF THE AREA:

The general geological sequence of the rock types in the lease applied area is

Order of super position:-

AGE		FORMATION
Pleistocene to Recent	-	Soil
---------Unconformity--------		
Proterozoic to Late Archean		Dolerites
		Peninsular Gneissic Complex
		Charnockite
		Hornblende Biotite Gneiss

The Hornblende Biotite Gneiss is the host rock trending NW – SE direction with dipping towards NE. The dolerite dyke intruded between the batholithic formation of Hornblende Biotite Gneiss with trending of N75°W – S75°E with vertical dipping with an **average width of 74m** which stretches about entire lease area. The black granite (dolerite) exhibits sub-ophitic texture, which is the special type of poikilitic texture. The Dolerite composed of laths of plagioclase embedded in the plates of Augite. Apatite, magnetite and Ilmenite form the secondary constituents. Based on the formation the recovery of the black granite dimensional stone may possible from 10% to 20%.

The color of the rock changes depending upon the texture of the rock. The Dykes is fine grained at the contact of country rock.

The Physical attitude of the Black Granite deposit of this area is given below:-

Strike direction of Dyke	-	N75°W – S75°E
Dip	-	Vertical dipping

3.3 Details of Exploration:

3.3.1. Already Carried Out:

The Black Granite is clearly visible from the existing quarry pit. As far as Black Granite deposits are concerned, the only practical method is the systematic geological mapping and delineation of commercial Black Granite bodies within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.

Such an exploration study has already been conducted regionally in this area by the Geological Survey of India (GSI) in the year 1966 and Department of Geology and Mining of Tamil Nadu in year 1992 to 1993.

The quarry already attained a maximum depth of 16m in a portion, based on the valuable geological information and by the field experience the estimation of geological resources, mineable reserve is arrived at considering to waste and market potential.

3.3.2 Proposed study to be carried out:

From the Petrogenetic character of the rock the depth persistence of the Black Granite stone may beyond the workable limit, only 45m (1m Topsoil + 4m Weathered Rock + 40m Black Granite) depth persistent has been taken as economically viable (at present scenario considering for the entire lease Period and not for the entire life of the mine) to estimate categories of proved, probable and possible reserves.

The recovery of saleable Black Granite stones has been estimated as 20% and if the recovery percentage is good it may enhance or or bad it may decrease respectively. This estimation is based upon the machenaries available in the market at present scenario and the market demand for this type of granite.

No definite programs for future exploration have been proposed. The quarrying activities for the next five years with deep cut as envisaged in the mining plan may render additional data as may be required for future planning. The attributes of the geological formation with repect to the saleable granite and waste ratio will be discussed in the ensuing scheme period.

3.4 Method of Estimation of Reserves:

The Geological plan demarcating the commercially marketable granite body has been prepared in 1:1000 Scale, totally five sections have been drawn, one along the strike direction as (X-Y) length wise and other four cross sections are drawn perpendicular to strike as (A-B, C-D, E-F and G-H) width wise, Which are suitably chosen to cover the maximum area, in the scale of 1:1000 (Refer Plate No. IV).

The cross sectional area for the proved depth persistence of 45m for each section. The cross sectional area multiplied by its length x breadth x Depth gives the volume (insitu) in the area wise. The sum total of the insitu reserves available within the block gives the geological resources of the quarry lease applied area.

From the total geological insitu resources, the quantity of saleable granite stones, quantity of rejects and waste generation are estimated by applying recovery factor as 20% by its volume. High efficient technology machineries, quarry masters, Market demand significantly determine the recovery percentage of granite quarries. The estimated recovery is based on today market scenario and available technology. This estimated recovery has been considered as only normative recovery. When the market demands, the applicant may take necessary steps to deploy a quarry masters with latest innovative machineries technology. So the recovery enhancement may raise to the peak production resulting more than 20%. During the operation the method of quarry, deployment of men and machineries will not have any significant impact on the Environment. It is worth mentioning the recovery anticipate the normative production has been scientifically converted into commercial production resulting in the decrease dump of waste inside the quarry. Due to the micro fractures, flaws, patches, xenoliths, required dimension, dressing, etc., the recovery in the granite may not be 100% of the R.O.M.

An average bulk density of Black Granite has been estimated at 3.10 and 2 for over burden. As the sale of Black Granite stone are in terms of tonnage as in the case of major industrial mineral, the geological resources, Mineable reserves and quantum of waste generated etc are given only in terms of Metric Tonnes.

The details of estimation of geological resources and mineable reserves with reference to the geological plan & cross sections and conceptual plan and sections as shown in Plate No. IV respectively has been furnished.

3.5 Estimation of Geological Resources and Grade:

Maximum Length = 69m
Maximum Width = 210m
Maximum Depth = 45m (1m Topsoil + 4m Weathered + 40m Granite)

Table – 3

GEOLOGICAL RESOURCES												
Section	**Bench**	**Length (m)**	**Width (m)**	**Depth (m)**	**Volume (m^3)**	**Bulk Density**	**ROM (MT)**	**Recoverable Reserves @ 20% in (MT)**	**Granite Waste @ 80% in (MT)**	**Side Burden (MT)**	**Weathered Rock (MT)**	**Topsoil (MT)**
XY-AB	i	39.5	210	1	8295	2	-	-	-	-	-	16590
	ii	39.5	210	4	33180	2	-	-	-	-	66360	-
	iii	55.7	74	5	20609	3.1	63888	12777	51111		-	-
		55.7	137	5	38155	2.75	-	-	-	104925	-	-
	iv	69	74	5	25530	3.1	79143	15828	63315		-	-
		69	137	5	47265	2.75	-	-	-	129979	-	-
	v	69	74	5	25530	3.1	79143	15828	63315		-	-
		69	137	5	47265	2.75	-	-	-	129978	-	-
	vi	69	74	5	25530	3.1	79143	15829	63314		-	-
		69	137	5	47265	2.75	-	-	-	129978	-	-
	vii	69	74	5	25530	3.1	79143	15829	63314		-	-
		69	137	5	47265	2.75	-	-	-	129979	-	-
	viii	69	74	5	25530	3.1	79143	15829	63314		-	-
		69	137	5	47265	2.75	-	-	-	129979	-	-
	ix	69	74	5	25530	3.1	79143	15829	63314		-	-
		69	137	5	47265	2.75	-	-	-	129979	-	-
	x	69	74	5	25530	3.1	79143	15829	63314		-	-
		69	137	5	47265	2.75	-	-	-	129979	-	-
Total							**617889**	**123578**	**494311**	**1014776**	**66360**	**16590**
XY-CD	i	54	49	1	2646	2	-	-	-	-	-	529
	ii	54	49	4	10584	2	-	-	-	-	168	-
	iii	54	32	5	8640	3.1	26784	5357	21427			
		54	62	5	16740	2.75	-	-	-	46035		
	iv	54	38	5	10260	3.1	31806	6361	25445			

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		54	62	5	16740	2.75	-	-	-	46035	-	-
	v	54	74	5	19980	3.1	61938	12387	49551		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
	vi	54	74	5	19980	3.1	61938	12387	49551		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
	vii	54	74	5	19980	3.1	61938	12388	49550		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
	viii	54	74	5	19980	3.1	61938	12388	49550		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
	ix	54	74	5	19980	3.1	61938	12388	49550		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
	x	54	74	5	19980	3.1	61938	12388	49550		-	-
		54	64	5	17280	2.75	-	-	-	47520	-	-
Total							**430218**	**86044**	**344174**	**377190**	**21168**	**5292**
XY-EF	i	50	74	1	3700	2	-	-	-	-	-	7400
	ii	50	74	2	7400	2	-	-	-	-	14800	-
		50	141	2	14100	2	-	-	-	-	28200	-
	iii	50	62	5	15500	3.1	48050	9610	38440	-	-	-
		50	78	5	19500	2.75	-	-	-	53625	-	-
	iv	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	v	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	vi	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	vii	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	viii	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	ix	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
	x	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	104	5	26000	2.75	-	-	-	71500	-	-
Total							**449500**	**89900**	**359600**	**554125**	**43000**	**7400**

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XY-GH	i	10	97	1	970	2	-	-	-	-	-	1940
	ii	10	97	2	1940	2	-	-	-	-	3880	-
		10	103	2	2060	2	-	-	-	-	4120	-
	iii	29	28	5	4060	3.1	12586	2517	10069	-	-	-
		29	103	5	14935	2.75	-	-	-	41071	-	-
	iv	29	28	5	4060	3.1	12586	2517	10069	-	-	-
		29	103	5	14935	2.75	-	-	-	41071	-	-
	v	57	28	1	1596	3.1	4948	989	3959	-	-	-
		57	74	4	16872	3.1	52303	10460	41843	-	-	-
		57	103	1	5871	2.75	-	-	-	16145	-	-
		57	127	4	28956	2.75	-	-	-	79629	-	-
	vi	57	74	5	21090	3.1	65379	13076	52303	-	-	-
		57	127	5	36195	2.75	-	-	-	99537	-	-
	vii	57	74	5	21090	3.1	65379	13076	52303	-	-	-
		57	127	5	36195	2.75	-	-	-	99537	-	-
	viii	57	74	5	21090	3.1	65379	13076	52303	-	-	-
		57	127	5	36195	2.75	-	-	-	99536	-	-
	ix	57	74	5	21090	3.1	65379	13076	52303	-	-	-
		57	127	5	36195	2.75	-	-	-	99536	-	-
	x	57	74	5	21090	3.1	65379	13076	52303	-	-	-
		57	127	5	36195	2.75	-	-	-	99536	-	-
Total							**409318**	**81863**	**327455**	**675598**	**8000**	**1940**
Grand Total							**1906925**	**381385**	**1525540**	**2621689**	**138528**	**31222**

Total Geological Resources in ROM = 19,06,925 MT
Total Recoverable Resources @ 20% = 3,81,385 MT
Granite waste @ 80% (GW) = 15,25,540 MT
Side Burden (SD) = 26,21,689 MT
Weathered Rock (WR) = 1,38,528 MT
Total Waste (GW + SD + WR) = 42,85,757 MT
Topsoil = 31,222 MT
Granite : Waste ratio = 1:11.2

The Geological resources estimated based on the geological cross sections up to the economically workable depth of 45m below from the ground level at the rate of 20% recovery yields 3,81,385 MT and 19,06,925 MT of ROM.

Geological Resources has been estimated based on the physical investigation and filed survey data.



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3.6 Tentative Mineable Reserves and Grade:

Maximum Length = 57m
Maximum Width = 145m
Maximum Depth = 45m (1m Topsoil + 4m Weathered + 40m Granite)

Table – 4

MINEABLE RESERVES												
Section	**Bench**	**Length (m)**	**Width (m)**	**Depth (m)**	**Volume (m^3)**	**Bulk Density**	**ROM (MT)**	**Recoverable Reserves @ 20% in (MT)**	**Granite Waste @ 80% in (MT)**	**Side Burden(MT)**	**Weathered (MT)**	**Topsoil (MT)**
XY-AB	i	12	145	1	1740	2	-	-	-	-	-	3480
	ii	11	142	4	6248	2	-	-	-	-	12496	-
	iii	23	74	5	8510	3.1	26381	5276	21105	-	-	-
		23	59	5	6785	2.75	-	-	-	18659	-	-
	iv	31	74	5	11470	3.1	35557	7111	28446		-	-
		31	49	5	7595	2.75	-	-	-	20886	-	-
	v	26	74	5	9620	3.1	29822	5965	23857		-	-
		26	39	5	5070	2.75	-	-	-	13943	-	-
	vi	21	74	5	7770	3.1	24087	4818	19269		-	-
		21	29	5	3045	2.75	-	-	-	8374	-	-
	vii	16	74	5	5920	3.1	18352	3670	14682		-	-
		16	19	5	1520	2.75	-	-	-	4180	-	-
	viii	11	74	5	4070	3.1	12617	2524	10093		-	-
		11	9	5	495	2.75	-	-	-	1361	-	-
	ix	6	72	5	2160	3.1	6696	1339	5357		-	-
Total					**82018**		**153512**	**30703**	**122809**	**67403**	**12496**	**3480**
XY-CD	i	54	30	1	1620	2	-	-	-	-	-	3240
	ii	54	27	4	5832	2	-	-	-	-	11664	-
	iii	16	32	5	2560	3.1	7936	1587	6349p	-		-
		16	31	5	2480	2.75	-	-	-	6820		-
	iv	16	38	5	3040	3.1	9424	1885	7539	-		-
		16	21	5	1680	2.75	-	-	-	4620		-
	v	54	74	5	19980	3.1	61938	12387	49551	-		-
		54	14	5	3780	2.75	-	-	-	10395		-

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	vi	54	74	5	19980	3.1	61938	12388	49550	-	-	-
		54	4	5	1080	2.75	-	-	-	2970	-	-
	vii	54	67	5	18090	3.1	56079	11216	44863	-	-	-
	viii	54	57	5	15390	3.1	47709	9542	38167	-	-	-
	ix	54	47	5	12690	3.1	39339	7868	31471	-	-	-
	x	54	37	5	9990	3.1	30969	6194	24775	-	-	-
Total					**118192**		**315332**	**63067**	**252265**	**24805**	**11664**	**3240**
XY-EF	i	50	36	1	1800	2	-	-	-	-	-	3600
	ii	50	34	2	3400	2	-	-	-	-	6800	-
		50	101	2	10100	2	-	-	-	-	20200	-
	iii	50	62	5	15500	3.1	48050	9610	38440	-	-	-
		50	35	5	8750	2.75	-	-		24062	-	-
	iv	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	51	5	12750	2.75	-	-		35063	-	-
	v	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	41	5	10250	2.75	-	-		28187	-	-
	vi	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	31	5	7750	2.75	-	-		21313	-	-
	vii	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	21	5	5250	2.75	-	-		14437	-	-
	viii	50	74	5	18500	3.1	57350	11470	45880		-	-
		50	11	5	2750	2.75	-	-		7563	-	-
	ix	50	69	5	17250	3.1	53475	10695	42780		-	-
		50	5	5	1250	2.75	-	-		3438	-	-
	x	50	64	5	16000	3.1	49600	9920	39680		-	-
Total					**205300**		**437875**	**87575**	**350300**	**134063**	**27000**	**3600**
XY-GH	i	9	39	1	351	2	-	-	-	-	-	702
	ii	9	36	2	648	2	-	-	-	-	1296	-
		9	42	2	756	2	-	-	-	-	1512	-
	iii	9	28	5	1260	3.1	3906	781	3125	-	-	-
		9	33	5	1485	2.75	-	-	-	4084	-	-
	iv	9	28	5	1260	3.1	3906	781	3125		-	-
		9	30	5	1350	2.75	-	-		3712	-	-
	v	9	28	1	252	3.1	781	156	625		-	-

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		33	74	4	9768	3.1	30281	6056	24225		-	-
		9	25	1	225	2.75	-	-	-	619	-	-
		33	37	4	4884	2.75	-	-	-	13431	-	-
	vi	28	74	5	10360	3.1	32116	6423	25693		-	-
		28	27	5	3780	2.75	-	-	-	10395	-	-
	vii	23	74	5	8510	3.1	26381	5276	21105		-	-
		23	17	5	1955	2.75	-	-	-	5376	-	-
	viii	18	70	5	6300	3.1	19530	3906	15624	-	-	-
		18	10	5	900	2.75	-	-	-	2475	-	-
	ix	13	65	5	4225	3.1	13098	2620	10478	-	-	-
		13	5	5	325	2.75	-	-	-	894	-	-
	x	8	60	5	2400	3.1	7440	1488	5952	-	-	-
Total					**60994**		**137439**	**27487**	**109952**	**40986**	**2808**	**702**
Grand Total					**466504**		**1044158**	**208832**	**835326**	**267257**	**53968**	**11022**

Total Mineable Reserves ROM = 10,44,158 MT

Total Mineable Recoverable Reserves @ 20% = 2,08,832MT

Granite waste @ 80% (GW) = 8,35,326 MT

Side burdern (SD) = 2,67,257 MT

Weathered Rock (WR) = 53,968 MT

Total Waste (SB + GW + WR) = 11,56,551 MT

Topsoil = 11,022 MT

Granite : Waste Ratio = 1:5.5

Mineable reserves have been estimated as 2,08,832 MT at the rate of 20% recovery and 10,44,158 MT of ROM upto a depth of 45m from the ground level. The mineable reserves are estimated by deducting the mineral locked up area under safety distance and bench loss. Hence, the remaining area is taken for estimation of mineable reserves.

The Black granite body occurring in this area exhibits more or less uniform color, texture and sold in par with commercial granite deposit. If any variations occur locally during quarrying such as cracks flaws and patches, the defective area is removed during dressing and marketed. The deposit is uniform and no gradational change is noticed except shear and cracks.



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4.0 MINING:

Open cast semi mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter is being proposed.

Under the regulation 106 (2) (a) of the Metalliferous Mines Regulation 1961, in all open cast mining, the bench height should not exceed, 6.0 meter and bench width should not be less than bench height of the vertically cut face.

But as far as the mining of granite dimension stones are concerned, observance of the provisions of Regulation 106(2) (a) and (b) is available with Director General of Mines Safety. If the applicant intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (a) and (b) of Metalliferous Mines Regulations, 1961. If any relaxation is required the applicant may apply to the Director of Mines Safety for which the provisions of relaxation of working on benches is possible as per the Regulation of Mines and Minerals (Development and Regulation) Act, 1957. This relaxation will be applied and obtained after the execution of lease/Commencement of quarry operation. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission.

The production of Black Granite dimension stone in this quarry involves the following method which is typical for granite stone quarrying in contrast to other major mineral mining. Splitting of rock body of considerable volume from the parent rock formation by carefully avoiding visibly seen defects such as patches veins, etc., is done by adopting the method of "diamond wire cutting" along the horizontal as well as two vertical sides on the front face of the formation.

This liberation of huge volume of granite body from the parent sheet rock is called "primary cutting". This huge portion is further split in to several blocks of desirable dimensions. The blocks thus splitted are removed from the pit to the dressing yard by using Crawler crane for further dressing.

Removing the defective portions and dressing them in to the dimension blocks are done manually using feather and wedges and chiseling respectively by the experienced skilled labours or by innovative machineries. The defect free, dimensional stone of different sizes as approved in the market are thus produced by the method as described above, and the process is continuously monitored by applicant's experienced quality control personnel.

The waste material generated during quarrying activity includes rock fragments of different sizes, and also during dressing of the blocks. As and when there is accumulation of waste, the same is loaded into the tipper by loading machines and dumped in the respective places ear-marked for the purpose (Plate. No. VI).

The quarried out topsoil will be preserved all along the safety zone and utilized for bund formation and green belt purpose.

4.1 Year Wise Development and Production for the First Five Years:

Total Length = 50m
Maximum Width = 74m
Maximum Depth = 40m (1m Topsoil + 4m Weathered + 35m Granite)

Table – 5

Year Wise Development and Production

Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Volume (m^3)	Bulk Density	ROM in (MT)	Recoverable Reserves @ 20% (MT)	Granite Waste @ 80% (MT)	Weathered Rock (MT)
I	XY-GH	iii	9	28	5	1260	3.1	3906	781	3125	-
		iv	9	28	5	1260	3.1	3906	781	3125	-
		v	9	23	1	207	3.1	642	128	514	-
			33	69	4	9108	3.1	28235	5647	22588	-
	XY-EF	ii	50	62	2	6200	2	-	-	-	12400
		iii	12	58	5	3480	3.1	10788	2158	8630	-
		iv	5	65	5	1625	3.1	5037	1008	4029	-
	Total							**52514**	**10503**	**42011**	**12400**
II	XY-EF	iii	20	58	5	5800	3.1	17980	3596	14384	-
		iv	20	65	5	6500	3.1	20150	4030	16120	-
		v	20	55	5	5500	3.1	17050	3410	13640	-
	Total							**55180**	**11036**	**44144**	-
III	XY-EF	iii	18	58	5	5220	3.1	16182	3236	12946	-
		iv	20	65	5	6500	3.1	20150	4030	16120	-
		v	15	55	5	4125	3.1	12788	2558	10230	-
	Total							**49120**	**9824**	**39296**	-
IV	XY-EF	vi	30	45	5	6750	3.1	20925	4185	16740	-
		vii	25	35	5	4375	3.1	13563	2713	10850	-
	XY-GH	vi	28	59	5	8260	3.1	25606	5121	20485	-
	Total							**60094**	**12019**	**48075**	-

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V	XY-EF	viii	20	25	5	2500	3.1	7750	1550	6200	-
		ix	15	15	5	1125	3.1	3487	697	2790	-
	XY-GH	vii	23	49	5	5635	3.1	17469	3494	13975	-
		viii	18	39	5	3510	3.1	10881	2176	8705	-
		ix	13	29	5	1885	3.1	5843	1169	4674	-
	Total							**45430**	**9086**	**36344**	-
Grand Total								**262338**	**52468**	**209870**	**12400**

Total Proposed Reserves ROM = 2,62,338 MT

Total Year wise Recoverable Reserves @ 20% = 52,468 MT

Granite waste @ 80% (GW) = 2,09,870 MT

Weathered Rock (WR) = 12,400 MT

Total waste (GW+WR) = 2,22,270 MT

Granite : waste ratio = 1: 4.2

Estimated Life of Quarry

Total Mineable Recoverable Reserves @ 20% = 2,08,832 MT

Average Production per Year @ 20% = 52,468 MT/5 = 10,494 MT

Estimated Life of the Quarry = 2,08,832 MT/ 10,494 MT

= 20 Years.

The average annual production per year would be 10,494 MT for first five year plan period considering at the rate of 20% recovery. The **Annual peak production capacity of the quarry is 12,019 MT @ 20% recovery in 60,094 MT of ROM**. The proposed production schedule is arrived as per requirement by the applicant and the EIA and EMP will be prepared for an annual peak production.

The proposed year wise quantum of excavation and the details of estimation of production quantity and generation of waste are furnished with reference to the year wise development and production plan (Plate No.V) More details of the year wise production parameters are explained with bench length, width and height in Plate No. V.

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4.2 Proposed rate of production when the mine is fully developed:

The proposed rate of production where the quarry is fully developed is 10,494 MT per annum @ 20% recovery. The production schedule in the subsequent five years are drawn mainly in consideration of reserves position, market demand and the cost of production.

4.3 Mineable reserves and anticipated life of quarry:

The depth persistence of the formation will be beyond the economically workable depth. The method of extraction from the sheet rock is highly expensive affair at greater depths at present scenario.

An optimum depth of 45m depth has been proposed as economically viable depth. Eventually this depth is the optimum for safe and scientific quarrying.

The mineable reserves are calculated by excluding the quarry loss due to formation of benches with suitable height & width upto ultimate depth of quarry and the mineral reserve held up within the safety distance all along the area boundary.

The Mineable Reserves for this Black Granite quarry is thus arrived as **2,08,832MT @ 20% recovery** and **10,44,158 MT of ROM** for an assumed **depth of 45m** below from the ground level. The details of estimation of five years development Production plan (Plate no.V) is furnished.

The average rate of production of Black Granite from this quarry is **10,494 MT per year** and Mineable Reserves **2,08,832 MT** considering 20% recovery for the entire life of the quarry.

Based on the above, and taking into consideration of the available Mineable reserves, **the life of quarry is anticipated about 20 years** (considering all the safety factors) at 20% recovery, if the quarry is being worked continuously with an average annual production of 10,494 MT. This calculation is based on the plan approved by Director of Mines Safety leaving Benches and Safety barriers. If the annual production increases considerably and consistently a modified mining plan will be prepared under Granite Conservation and Development Rules, 1999 the same will be submitted to the relevant authorities for subsequent clearance and approval.

4.3.1 CONCEPTUAL MINING PLAN

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

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

The ultimate pit dimension of the quarry is given below.

ULTIMATE PIT DIMENSIONS

Table – 6

Maximum Dimensions in meters		
Length	Width	Depth
193	145	45

However, during extraction of blocks each bench will be of 5m height with vertical slope for proper dimension cutting. The quantum of excavation is estimated to be 13,76,408 MT (ROM 10,44,158 MT + Side Burden 2,67,257 + Weathered Rock 53,968 MT + Topsoil 11,022 MT) to a depth of 45m. The generation of total waste is estimated about 3,22,270 MT and marketable Black Granite as 52,468 MT.

During the first five years the excavated mineral reject (2,09,870 MT) will be proposed to dump over the existing Granite waste dump-1 situated on the Northwestern side with maximum dimension of 3,973m^2 x (Height) 29.98m and excavated over burden (12,400 MT) will be proposed to dump over the existing over burden dump-2 situated on the Southern side with maximum dimension of 7,676m^2 x (Height) 12.83m, which will asct as temporary waste dump. After expiry of the lease period if the mineral reserves available and Market persist, the applicant may apply a renewal of quarry lease as to develop and conserve mineral reserves. If the applicant attains the permission form the competent authiorities to dump the waste in the non mining zone the attributes of the waste dump will be disussed in the ensuing scheme period.

As per G.O.(Ms)No.04, Natural Resources (MMC.1) Department, Dated: 22.08.2023, if permission is granted for removal of waste from concerned authorities, the waste material will be supplied to the needy crusher to making the M-Sand, building and road construction material after paying the seniorage fee and obtained necessary clearance and approval from concerned department for handling the waste. When the entire mineral reserves will be completely exhausted the overburden will be utilized for backfilling in the part of the pit and remaining pit will be allowed to collect seepage and rain water which will act as a temporary reservoir. This activituy will be carried out only after obtaining permission from the competent authorities and local community. If the mined out pit is been allowed to behave as a reservoir the same will be done after due procedure for the protection of reservoir.

If permission not obtained for handling of waste, backfilling will be carried out nearly existing ground profile with entire waste material and spread out the preserved topsoil over the backfilled area to facilitate green belt development purpose. The Conceptual Mining is based upon the entire ROM proposed for the life of the Mine.

The quarry area will be fenced with barbed wire fencing also safety bund will be formed around the quarry to prevent inadvertent entry of public and cattle (Refer plate No. VII and IX).

4.4.0 METHOD OF MINING

4.4.1 OPEN CAST WORKING

In accordance with the Regulation 106 (2) (b) of the Metalliferous Mines Regulations 1961, in all open cast working where the ore body forms hard rock, the working faces and sides should be adequately benched and sloped; a bench height not exceeding 5m and a bench width not less than the bench height has to be maintained. The slope angle of such benches and sides should not exceed 60° from horizontal. However, observance of these statutory provisions in granite dimensional stone quarrying is difficult to maintain the 60° slope due to the field difficulties and technical reasons as below:

1. Recovery of the granite mineral is to be as undamaged rectangular dimensional blocks. In the attempt to form the benches and sides with the above statutory parameters haphazard blasting may be involved. In which case the commercial granite body may get spoiled inevitably due to generation of blasting cracks.
2. In the exercise of forming the benches with 60° slope within the granite deposit, the portion confined within the 60° as well as its complimentary part in the extricated block will become as mineral waste while shaping them into rectangular blocks.
3. The granite industry need blocks as huge as a few cubic meter volumes with measurements up to 3m x 2m x 2m. Production of such huge blocks in turn increases the recovery and reduces the mineral waste during dressing. Blocks of smaller size of certain varieties of granite are now marketable and have a good commercial value.
4. Formation of too many benches with more height and the width equal to the height may lead to mineral lock up.

Hence, in order to avoid granite waste and to facilitate economical mining operations, it is proposed to obtain relaxation to the provisions of Regulation 106 (2) (b) upto a bench parameter of 5m height & 5m width with vertical faces. Such a provision of relaxation of the Regulation has been provided within the regulation 106 (2) (b). The entire terrain is made up of hard rock, compact sheet and possess high stability on slope even at higher vertical angles. The same will be inspected by the Director of Mines Safety and permission to be obtained under Regulation 106(2)(b) of the Metalliferous Mines Regulation, 1961. The factor of safety is anticipated as 1.2 to 1.5 which has a high stability even if it attains the ultimate pit limit. The overall pit slope angle as proposed will always be maintained from 40° to 50° in order to have a safe movement of men and machinaries working in the quarry. Hence, the slope stability of the quarry is well within the prescribed standards. Gradient of the ramps is proposed in such a way that it is not steeper than 1 in 10 and its length shall be more than 50m at one stretch.

4.4.2 EXTENT OF MECHANIZATION

The following machineries are proposed for the development and production work at this quarry. The proposed and adopted machinery make may variable, if machinery making companies provide upgraded machines the same will be apllied as per availability of market.

Table – 7

I. DRILLING AND CUTTING MACHINE

S.No.	Type	No.	Dia Hole mm	Size Capacity	Make (same or any other similar model)	Motive power
1	Jack hammer	5	35	1.2m to 6m	Atlas Copco	Compressed air
2	Compressor	2	-	400psi	Atlas Copco	Diesel drive
3	Diamond Wire saw	1	-	20m^3/day	Optima	Diesel Generator
4	Diesel Generator	1	-	125kva	Kirloskar	Diesel

Table – 8

II. LOADING EQUIPMENT

S.No.	Type	Nos	Capacity	Make (same or any other similar model)	Motive Power
1	Crawler Crane	1	855	Tata	Diesel Drive
2	Excavator	1	280 HP	Kobelco-350	Diesel Drive

III. HAULAGE WITHIN THE QUARRY & TRANSPORT EQUIPMENT

Table – 9

S.No.	Type	Nos	Capacity	Make	Motive Power
1	Tipper	3	20 tons	Tata	Diesel Drive
2	Water Sprinkler	1	6000 ltrs	Tata	Diesel Drive

IV. TRANSPORT FROM THE QUARRY HEAD TO DESTINATION

Transportation from quarry head to customer destination is done by truck or by trailors.

V. MISCELLANEOUS:

Apart from the above the following tools and tackles are required for quarry operation.

For operation

The operation of granite quarry requires the following loose tools material and have to be kept sufficiently in stock for non - interruption of the quarry work.

1. Drill rods - 0.3m, 0.5m, 0.75m, 1.65m, 2.25m, 3m, 3.6m, 5m upto 9m.
2. Steel Alloy chains of sufficient length of 10m, 12m, 16m, 18m etc., sizes.
3. 'D' shackles to link the chain lengths.
4. Rubber hose of required length.
5. Hose clamps to link the compressor delivery hoses.
6. Feather and wedges of 6" and 12" dia sizes utilize for splitting the block from the mother rock. This is an important tool in the operation of a quarry.
7. Crow bars.
8. Spades.
9. Sludge Hammer.
10. Iron Pans.
11. Pitcher Hammer.
12. Chisels.
13. Consumables, such as diesel, Hydraulic oil, grease, abrasive wheels, welding machines etc.,
14. Stock of essential spare parts of machinery.
15. Explosive as per the licensed quantity.
16. Diamond Wire required length.
16. Besides diamond wire saw equipment and new innovative machine specifically for granite with accessories are required to liberate the rock from to parent body to minimize damage and to obtain good recovery.

Splitting the sheet rock by Diamond wire sawing which increases substantial recovery potential. Hence it is proposed to adopt "Diamond wire saw cutting" for best recovery.

The above machineries are adequate to meet out the development and production schedule drawn out during this mining plan period.

5.0 BLASTING:

a. Broad Blasting Parameters:

In general for granite quarrying does not involved deep hole drilling and heavy blasting, only secondary blasting is proposed with Jackhammer drilling by 35mm dia hole for removal of overburden and secondary fragmentation for handling the wastes.

The granite industry needs blocks for about 3m x 2m x 2m for International buyers hence small blocks blasting pattern is not followed. In granite quarrying it is very difficult to prescribe the blasting pattern and charge/ hole as it depends upon the various factors like type of rock, texture, planes of weakness, required size of block, etc. Hence, it is difficult to pronounce a definite pattern of holes with regard to spacing, burden and depth for secondary fragmentation. Hence, only blasting is proposed for secondary fragmentation for handling the wastes and not for production of granite blocks.

Now-a-days Diamond wire saws are used for splitting the blocks from parent sheet mass. It is a new innovative Eco-friendly splitting technique without involving blasting. This is increase the recovery percentage of granite blocks and reduces from induce fissures due to blasting. Besides those are noise free Eco friendly machineries and it optimizes the usage of explosives. Splitting within the sheet rock is by diamond wire sawing which increases substantial recovery potential. Hence it is proposed to follow diamond wire saw cutting for better recovery of granite dimensional stone.

b. Type and use of explosives

In granite quarries, only diamond wiresaw machines are deployed for liberating the granite blocks from parent sheet mass. The waste thus generated after diamond wiresaw cutting will be fragmented by using low intensity explosives. This explosives are used only for size reduction to handle the waste from pit mouth to waste dumps. The aim is to recovery as large block as possible. During future development of quarrying, removal of over burden will be done by blasting with explosives that will be used are NONEL and 25mm Slurry explosives are proposed in 35mm dia holes drilled by Jackhammer.

Hence only low intense explosives like NONEL and Gelatin Sticks are used. Nonel initiation provides reasonably good solution to fly rock problem. The main objectives of Nonel Blasting are to reduce the ground vibration, noise, flyrocks generated due to blasting operations. The overall cost of blasting in NONEL is very less compared to electrical blasting and hence it optimizes the cost of blasting.

c) Storage of explosives:

Authorized explosive dealers supply the explosive at site as per the day's requirement. However, portable magazine 'M' type has been proposed to install in the ear marked places and the applicant is advised to get necessary license from Controller of Explosives (Petroleum and Explosives safety Organization) for storing explosives in the above area after the grant of quarry lease.

The blasting and quarrying operation is advised to handle by competent qualified statutory personnels approved by the DGMS and competent authorities. The Competent Qualified Statutory personnel appointed by the applicant will maintain the records of Explosives as per the Indian Explosives Act, Mines Act and Environment Protection Act.

6.0 MINE DRAINAGE:

a) Depth of water table based on observations from nearby wells and water bodies:

Water level is found at a depth of 72m - 77m, which is observed with water level indicator from the nearby bore wells. The water table fluctuation is observing the water levels during rainy seasons in the nearby wells.

b) Depth of Working:

The quarry operations are confined to well above the water table. The quarry operation is proposed to a depth of 45m below from the ground level.

c) Quantity and Quality of Water Likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged:

The Black granite consisting of no chemical effluent and toxic elements, hence there will be effluent discharge from Granite quarry is non-toxic. Hence the quality of water would not be affected by mining activities. Anyhow, Garland drain will be constructed all along the boundary to prevent surface run-off water entering into the quarry pit. If seepage water may encounter during rainy season, the same will be pumped out from the pit to settling tank through the garland drain by 5 HP motor pumps. After settling of particles from the drained water, the same will be utilized for Greenbelt development and water sprinkling on dust prone areas through the water sprinkler.

7.0 STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:

i) Nature of Quality of Topsoil:

There is no topsoil generated during this plan period.

ii) Nature of Over Burden:

Topsoil and Weathered rock is the overburden in the applied area.

iii) Nature of Waste/ Rejects generate during first five years:

The Proposed generation of waste is 2,09,870 MT of mineral reject and 12,400 MT of Weathered Rock for first five years.

iv) Sub Grade Mineral:

There is no sub grade mineral.

v) Land Chosen for Disposal of Waste / Manner of Disposal of Waste / Year wise:

During the first five years of the mining plan period the generated Mineral Reject will be proposed to dump over the existing Granite waste dump-1 situated on the Northwestern side and excavated over burden will be proposed to dump over the existing over burden dump-2 situated on the Southern side. The year wise proposed generated waste is given table below.

Table – 10

Year	Granite Waste @ 80% (MT)	Weathered Rock (MT)	Total Waste (MT)
I	42,011	12,400	54,411
II	44,144	-	44,144
III	39,296	-	39,296
IV	48,075	-	48,075
V	36,344	-	36,344
Total	**2,09,870**	**12,400**	**2,22,270**

The maximum dimension of the Existing and proposed waste dump is given table below (Refer Plate Nos. V, VI & VII).

Table – 11

Existing and proposed waste Dump	Area m^2	Height(m)
Existing & Proposed Waste Dump -1	3,973	29.98
Existing & Proposed Over burden Dump - 2	7,676	12.83

Manner of Disposal of Waste:

As and when there is accumulation of waste, the same is loaded into the tipper by loading machines and dumped in the respective places ear-marked for the purpose.

The waste management plan with reference to the quantum of waste generated is shown in quarry layout and Afforestation plan (Plate No.VI).

There is no slurry anticipated in the quarry operation. Besides the granite waste does not produce any toxic effluent in the form of solid, liquid or gas.

8.0 USE OF THE MINERAL:

a) Describe briefly the End Use of the Mineral:

The quarried out Black granite rough blocks are exported as raw blocks and also processed as value added products such as slabs, tiles, fancy items, Monuments, precision surface plates for engineering application.

b) Indicate physical and chemical specifications stipulated by buyers:

No chemical parameters specified by the buyers, but the buyers are preferred Gang saw size blocks of dimensional stone such as having measurements of 3m x 2m x 2m.

i. Quality Control:

The Black Granite deposit occurring in this quarry shows uniform quality throughout and hence quarried and marketed as a single variety.

The exploited blocks are carefully examined for any natural defects such as joints, cracks, xenoliths, growth etc., and such defects is removed manually using feather and wedges and the blocks are then shaped into perfect rectangular dimensional stone blocks by chiseling. Different price for each quality material have been fixed and the entire production quantity is marketed accordingly.

ii. Sale Price of Mineral:

The sale prize of the black granite varies from Rs. 5,000 to Rs. 15,000/MT based on their respective sizes and quality at present market scenario.

iii. Captive Consumption:s

No captive use, the quarried out Black Granite blocks will be sold to the needy customers through out the contry in the form of required dimentional blocks. No processing is proposed in the applied area.

iv. Export or Industrial use:

The Granite dimensional stone is proposed to either exported as rough blocks or trading as raw form to the needy domestic customers for making value added products.

v. Surface Transport

The mode of transport of the granite blocks produced and marketed is by road to various customer destinations and granite processing units located at different parts of the country. The Black Granite blocks approved for export market are shipped from Chennai Port to various countries and if required the blocks may be shifted from Thoothukudi Port which depend upon the exporter's destination from time to time.

9.0 OTHERS:

9.1 Site Services:

The simple methods adopted and the limited scale of activities involved in granite dimensional stone quarrying does not require High Tension Electric Power supply or huge workshop facilities. The quarry office, storeroom, first aid room, Rest room, Hygienic modern Sanitary etc. are are already constructed in the lesses's own patta land situated on the southeast side (Please refer Plate No. VI). The quarrying operation is restricted to one general shift during day time only. Major Machinery repair works are attended at Krishnagiri (19.7km-NW) and minor repairs are carried out by the applicant's personnel at the quarry site itself.

9.1.1 Welfare measures:

a) Drinking water:

Packaged Drinking water will be brought from the water venders in the Kannandahalli which is located at 4.4km on the Southwestern side of the area.

b) 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 will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle.

c) Labors Health:

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

d) Precautionary safety measures to the Workers:

All Personal Protective Device with Safety Helmets, Mine Goggles, Ear Plugs, Ear Muffs, Nose Mask, Reflector Jackets and Safety Shoes will be provided to the workers as per the specification of Director of Mine Safety. Besides also conducting pre medical checkup for all workers for any health related problems proper training and induction will be given to quarrying personal to create awareness of conventional Eco friendly quarrying operations. Also the applicant ensure to registered in ongoing Labour Welfare Board insurance scheme to all the workers working under its control.



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

Table – 12

S.No.	Description- Nearest	Particulars	Aerial Distance & Direction
1	National Highway	Krishnagiri – Uthangarai (NH – 77)	2.4km – SW
2	State Highways	Bargur – Tirupathur (SH – 131)	6.3km – NE
3	Railway station	Kagankarai	14.5km – SE
4	Airport	Bangalore	110km – NW
5	Habitation	10m – West – 50m Safety distance Provided	
6	Town	Bargur	10.3km – NW
7	Government School	Gadampalli - Govt. Elementary School	2.5km – SE
8	Government Hospital	Bargur	10.4km – NW
9	Reserved Forest	Thogarapalli R.F. – 3.3km – NW.	
10	Defense Installation/Historical Monuments/ Archaeological	Nil within 500m radius.	
11	Nearby Water Bodies	Tank - 250m - SE	
12	Interstate Boundary	Around 19 km – North (Andhra pradesh border).	
13	Critically Polluted areas identified by the CPCB	Around 87 km – NW (Bengaluru, Jigani – KIADB).	
14	Protected areas Notified under wildlife (Protection) Act, 1972.	Around 44.6 km – Southwest (Cauvery North Wildlife sanctuary) Eco Sensitive zone – 43.6 km – Southwest.	
15	Applicability of CRZ, Notification 2011 as amended.	Not Applicable.	
16	Applicability of Hill Area Conservation Authority (HACA) Clearance.	Not Applicable.	
17	Housing area, EB line (HT & LT Line)	There is an EB-LT line passing on the south and Western side of the lease area hence, a safety distance of 50 has been provided. There is no other EB-HT line or Housing area situated within 50m radius.	
18	Boundaries of the permitted area.	The boundaries of the permitted areas are as follows (Refer Plate No. II): North - S.F.Nos. 581 and 582/1. East - S.F.Nos. 569, 583, 598 and 595. South - S.F.Nos. 597 and 600, West - S.F.Nos. 579/1A, 578/2 and 607.	
19	Adjacent Patta lands / Govt. Land	(Refer Plate No. II):	

Direction	Classification	Safety Distance
North	Patta land	7.5m
East	Patta land	7.5m
	Govt. Land	10m
South	Patta land	7.5m & 10m to the Mud road
West	Govt. Land	10m & 50m to the residential area
	Patta land	7.5m

STRUCTURE WITHIN **100m** Number of Structures - 9. Table – 13					
Number of Structure	**Type of Structure**	**Usage Purpose**	**Commercial / industry/ residential/ farm house/ Govt. building**	**Occupants of Building/ Structure**	**Remarks**
3	House	Resident	Residential	Local peoples	Nil
2	Shed	Labour shed and office	Non residential	No resident	Nil
4	House	Resident	Residential	Local peoples	Nil
STRUCTURE WITHIN **100 -200m** Number of Structures - 12.					
Number of Structure	**Type of Structure**	**Usage Purpose**	**Commercial / industry/ residential/ farm house/ Govt. building**	**Occupants of Building/ Structure**	**Remarks**
10	House	Resident	Residential	Local peoples	Nil
2	House	Farm House	Farm House	No resident	Nil
STRUCTURE WITHIN **200 -300m** Number of Structures – 4.					
Number of Structure	**Type of Structure**	**Usage Purpose**	**Commercial / industry / residential / farm house / Govt. building**	**Occupants of Building/ Structure**	**Remarks**
4	House	Resident	Residential	Local peoples	Nil

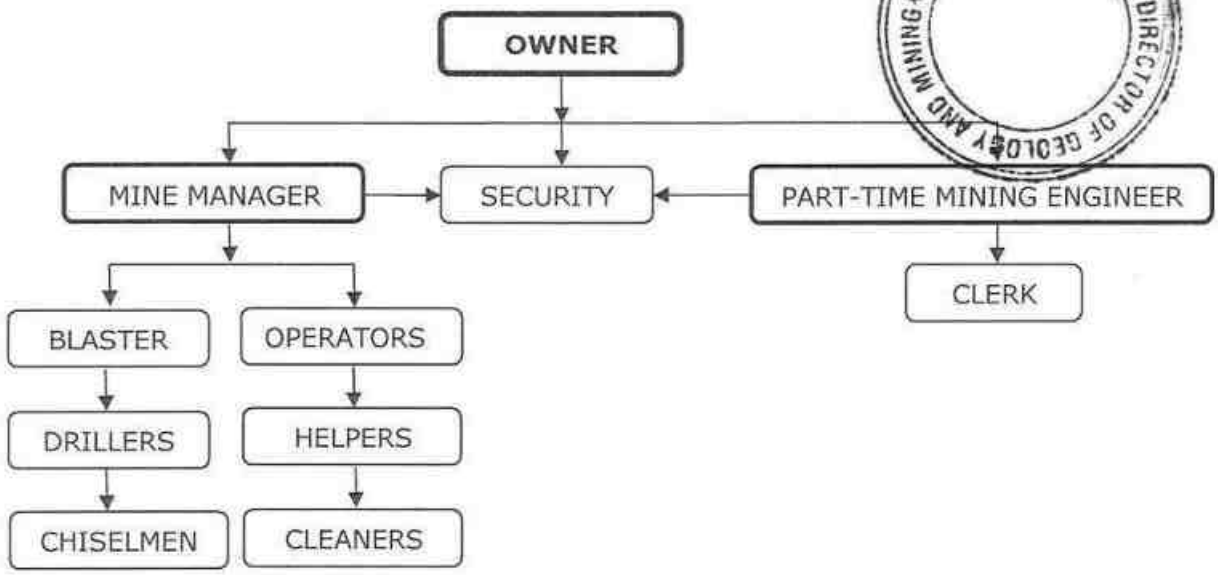
9.2 Employment Potential:

The following manpower for machinaries as well as for operational activities are proposed to carry out the day-to-day quarrying activities at the peak production capacity aimed and also to comply with the statutory provisions of the metalliferous mines regulations, 1961.

Table – 14

Designation	Present Employment position	Employees Requirement	Total
a) Supervisory category			
Mine Manager	-	1	1
Geologist	-	1	1
Mine Foreman	-	1	1
Blaster/Mate	-	1	1
b) Skilled labour			
Excavator – Operator	-	1	1
Crane Operator	-	1	1
Wire Saw Operator		1	1
Tipper Driver	-	3	3
Water sprinkler Driver	-	1	1
Jack-Hammer Drillers	-	10	10
c) Unskilled			
Security	-	1	1
Helper	-	2	2
Co-operator and Cleaner	-	6	6
Total	-	**30**	**30**

ORGANIZATION CHART



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

The proposed output per man shift:

Table – 15

Peak Production		12,019 MT
No. of days likely to be worked		300 days
Average production per day		40 MT
OMS =	Daily Production/Daily employment	40/30 = 1.3 MT

10.0 MINERAL PROCESSING:

No mineral processing/beneficiation involved.

The exploited blocks are carefully examined for any natural defects such as joints, cracks, xenoliths, secondary Pegmatitic growth etc and such defects is removed manually using feather and wedges and the blocks are then shaped into perfect rectangular dimensional stone blocks by manual chiseling.

11.0 ENVIRONMENTAL MANAGEMENT PLAN:

11.1 Baseline Information:

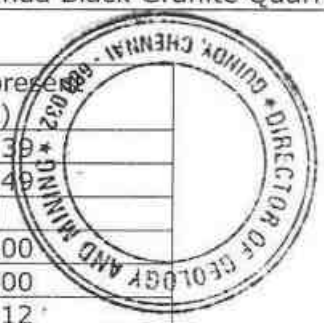
The EMP is prepared based on the Mines act, Rules & amendment from by state & central government. If the SEIAA/SEAC instructed the modification and alter the EMP the outcome of their recon would be final and the applicant is instructed to followed the EIA / EMP for its compliance as per the CPCB / TNPCB Norms.

i) Existing Land Use Patterns:

The area was previously utilized for quarry operation purpose. Hence, the area having existing pit and dumps.

Table – 16

Description	Area at present (ha)
Area under quarry	1.60.39
Waste dump	1.16.49
Infrastructure	Nil
Roads	0.03.00
Green Belt	0.25.00
Unutilized	1.32.12
Grand Total	**4.37.00**



ii) Water regime:

Ground water is about 72m - 77m depth below ground level. The quarrying is restricted up to 45m below from the ground Level, hence the quarry operation will not intersect the ground water. Garland drains will be constructed all along the boundary barriers to prevent the surface water flow inside the quarry and also to divert the surface water flow to the nearby natural drains.

iii) Flora and Fauna:

The main floras are observed in the area is Palm, Mango, Cocos nucifera, Neem, Banyon, Bamboo, Pongamia pinnata, Eucalyptus, Calotropis, Tamarind, Omla, Sapodilla and Guava trees and crops like groundnut growing in the surrounded area. No plants of botanical interest or scheduled fauna are recorded within the impact zone.

iv) Climatic conditions:

The area receives an Normal rainfall of about 851mm/per annum and the rainy season is mainly from Oct - Jan during North East, monsoon. The summer is hot with maximum temperature of 40°C and winter encounters a minimum temperature of 22°C.

v) Human settlement:

There is no approved habitation located within 300m radius of the area. There are few villages located within 5km radius of the lease area. The direction, approximate distance and population are given below.

Table – 17

S.No.	Name of the Village	Direction	Approximate Distance	Approximate population
1.	Thogarapalli	West	3.3km	1,800
2.	Perugobanapalli	SW	2.8km	1,300
3.	Battlapalli	NE	1.6km	800
4.	Perumaikuppam	SE	3km	860

vi) Public buildings, Monuments and Places of Worships:

There is no public building, place of worship or archaeological or Historical monument within 300m radius of the area.

vii) Weather the area falls under notified area under water (Prevention and Control of Pollution) act, 1974:

The area falls under notified area under water (Prevention and Control of Pollution) Act, 1974.

11.2 Environment Impact Assessment:

The mining plan is proposed for very small production of granite dimensional stone without involving deep hole drilling and heavy blasting. Such limited quarrying activity is not likely to cause any significant impact adversely on environment as far as pollution of air, water and noise is concerned. If any significant variation found during the Half year compliance, the Environment Management Plan will be altered accordingly. Anyhow, the impacts are anticipated due to the mining operations and its mitigation measures are given below:

Environment	Anticipated impact	Mitigation measure
Land Environment	i. Topography of the area will change due to mining and dumping of waste.	i. Backfilling is only mitigation measure for topographical changes. The part of the mine pit will be backfilled with mined waste at the end of life of quarry and preserved topsoil will be spread out over the backfilled area for reclamation and rehabilitation. If permission is granted by the state Government for disposal of waste to the crushing unit, there is no possibility of Backfilling. The mined out pits will act as a water reservoir. ii. The excavated benches shall be developed for plantation with grasses, herbs and shrubs of local species to improve aesthetic of the area and to prevent any soil erosion and landslide. iii. Mining benches will not exceed beyond the approved height and width.
	ii. Quality of soil on surrounding land environment will impact due to: a) Dust propagation during quarry operation like drilling, blasting, loading, unloading and movement of men, Vehicle and machineries. b) Vehicular and machineries emissions. c) Non-Degradable waste materials dumping like polythene bag, Plastic water and cool drink containers. iii. Inappropriate dumping of mined out soil and waste will impact the Soil quality of non-mining area.	i. Quarried out topsoil will be preserved separately in non-mining area (safety barriers) also grass cover and plantation will be forming to sustain the quality and quantity of soil also soil based organisms. ii. Regular water sprinkling on dust prone area like haul road and other active area to arrest dust generation. iii. Green belt will be developed in the safety barriers with thick long leave plants to prevent dust and vehicular emissions propogation. iv. Wet drilling with dust extractor unit will be carried out and quarry material will be handled under wet condition to minimize the dust generation. v. Non-Degradable materials like polythene bag, useless articles, plastic water and cool drink containers will not be allowed within quarry premises. vi. The waste material will be properly dumped in area earmarked for the purpose only to sustain the quality of soil on non-mining area.
Water Environment	i. Alteration of natural flow direction of surface run off rain water during rainy season due to modification of topography. ii. Inappropriate dumping of waste material shall affect the natual flow direction of surface run	i. Garland drain with check dam and settling tank will be constructed around the quarry to prevent surface run off rain water entering into the pit. ii. The waste material will be properly dumped on area earmarked for the purpose only and retaining wall with weep holes will be constructed around the dump. iii. Mining will be completely stopped during the monsoon for free flow of surface run off

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	off rain water. iii. Contamination of surface water course due to dust and vehicle emission propagation due to quarry operation and movement of machinery and Vehicles. iv. Contamination of surface water course during rainy season due to quarry operation and movement of machinery and Vehicles. v. Contamination of groundwater if mining intersects with the water table. vi. A small amount of water will be contaminated due to utilization of water for wire saw cutting.	and allowing natural recharge of groundwater. iv. The pit water collected due to rain will be utilized for water sprinkling on the haul Roads and plantations after settling of silt and other particles. v. Septic tanks and soak pits will be provided for the disposal of domestic/ washroom effluents. The sewage water will be collected from the soak pit and disposed to the authorized wastewater treatment plant. vi. The contaminated water during wire saw cutting will be collected in a sump and the same will be recycled to reduce the water consumption.
Air Environment	In surface mining operations, the source of air pollution may cause deterioration of air quality due to the fugitive dust emissions from drilling, blasting, scooping, loading- unloading operation of extracted mineral and its transportation. Drilling/blasting and loading of quarry material would be associated with the fugitive dust emission in the active area whereas fugitive emission during transportation would affect the areas/villages situated adjacent to the road side. Another source of air pollution would be emission from the drilling machinery and excavators/Trucks/vehicles to be used for loading.	i. Regular water sprinkling to the haul road to arrest the dust generation. ii. Green belt will be developed in the safety barrier which will be act as an acoustic barrier, the plants with thick long leaves to arrest the fugitive dust and vehicular emissions propagations. iii. Diamond wire saw cutting method does not produce dust. Anyhow, during development wet drilling/ dust extractor unit will be carried out to minimize the dust generation. iv. Controlled blasting with Nonel initiation by Proper blasting techniques will be followed for removing the waste during development to reduce the fine dust propagation. v. Quarry material will be handled under wet condition during loading and unloading to minimize the dust generation, besides loaded materials are covered by tarpaulin until reaches its destination during transportation. vi. Provision of dust filters/ mask (PPE) to workers working at dust prone areas. vii. Vehicular emission as a result of combustion of diesel generates small particulate matter (PM_{10} & $PM_{2.5}$), Nitrogen oxides and Sulphur dioxide (NO_2, SO_2). High quality diesel will be used in the motor vehicles to control these pollutants. viii. PUC (Pollution under control) certified vehicles will be used for transportation.

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		ix. CPCB Prescribed emission standards for the vehicles would be followed. x. All vehicles and their exhausts would be well maintained and regularly tested for pollutant concentrations.
Noise and Vibration	In the present mining activity for building material, noise will be generated from drilling machinery, blasting and vehicular movement. Noise level in the working environment is compared with the standards prescribed by Central Pollution Control Board as adopted and enforced by the Govt. of India through Noise Pollution (Regulation and Control) Rules, 2000.	i. Selection of new low – noise equipments under BS-VI for the quarry operation. ii. The noise levels shall be maintained within the permissible levels by involving all the noise regulating measures in vehicles and drilling/blasting operations. iii. Diamond wire saw cutting is proposed for mining activity, which is eco-friendly noise and vibration free machine. Anyhow, to ensure minimum noise and vibrations due to blasting during mine development, NONEL delay blasting is proposed to control the Noise, Vibration and fly rock. iv. Personnel Protective Equipment (PPE) like earmuffs and earplugs shall be provided to the employees whose in critical operation like drilling, blasting and excavation as occupational safety measures. v. Proper maintenance done with regular interval by the Oiling and greasing for the machineries and vehicles to control the Source of noise during operation and transportation. vi. Transporting vehicles are enforcing the speed limits of 25km/hour within quarry area and not exceed 40km per hour from quarry to destination for reduce Noise and vibration level. vii. There would be restrictions on mining activity and vehicular movement during night hours.
Biological Environment	No plants of botanical interest or animals of zoological interest recorded within 500m radius. The anticipated impacts on biological environment as follows: i. Disrupt the living insects in the overburden due to mining activity also which will induce the diversity of existing ecosystem. ii. Natural habitats of the existing faunas will change due to the noise and vibration during operation.	i. The barbed wire fencing and safety bund will be constructed around the quarry to prevent inadvertent entry of public and cattle. ii. The natural habitats of the existing flora and fauna will not be disturbed by adopting well maintained machineries, equipments and diamond wire cutting for mining. iii. Fruit bearing trees will be planted to survive the existing native Faunas. iv. There is no proposal for cutting any trees within the proposed area. v. Water sprinkling on haul roads would be arrest the dust generation, thus avoiding damage to the crops and plants.

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	iii. Deposition of dust on the plant and crop leaves is affecting the photosynthesis, Pollination, growth ratio and agriculture productivity.	
Socio – Economic Environment	Any activity during mining will have adverse impact on Environment, careful mitigation measures are proposed to balance the impact on the existing environment and the applicant is always instruct to carry out safe, sustainable, eco-friendly mining operations at all times. The following positive impact on the society due to this mining activity. i. It is proposed to provide employment to about 30 persons for carrying out mining operations and give preference for employment to the local peoples. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. ii. The employment opportunities both direct and indirect will contribute to enhanced money incomes to job seekers with minimal skill sets especially among the local communities and their economic status will be enhanced. iii. Improvement of Physical structure like Road Transport facilities, Communications, Medical, Educational and social benefits will be made available to the nearby civilian in addition to the workmen employed in the mine. iv. The continuation of opportunity for the employments, the nearby villages, living peoples and their life style would be improved. v. The applicant is advised to invest the CER cost (@ 2% from the total Project Cost) to develop the local Panchayat.	i. Preference employement will be given to the local community. This quarring activity will also indirectly provide employement to the local community by the way of petty shops, hotels, etc. ii. The CER activity proposed by the applicant will enhance the requirement of the local community. iii. The improvement of physical structure like road transport facilities, medical, social benefits will get enhanced. iv. There will be a positive enhancement of lifestyle of the nearby village.



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11.3 Monitoring schedule for different Environmental Components after commencement of mining and other activities:

i) Environmental impact assessment statement describing impact of mining on the next five years:

The mining plan is proposed for small production of granite dimensional stone without involving deep hole drilling and heavy blasting. Such limited quarrying activity is not likely to cause any impact adversely on 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 B Category mine. The compliance monitoring will be carried out for every six months as prescribed by the MOEF&CC and with state concerned authorities.

ii) Proposal for waste management:

The mine waste in the mine includes, rock fragments, rock chips, rubbles generated as mineral waste during production work.

The quarried out mineral reject (2,09,870 MT) will be proposed to dump over the existing Granite waste dump-1 situated on the Northwestern side with maximum dimension of 3,973m^2 x (Height) 29.98m and excavated over burden (12,400 MT) will be proposed to dump over the existing over burden dump-2 situated on the Southern side with maximum dimension of 7,676m^2 x (Height) 12.83m during this mining plan period.

The waste management plan with reference to the quantum of waste generated is shown in quarry layout plan (Please refer Plate No.VI). The maintenance of machineries & fueling will be carried out as per the TNPCB Norms and the waste will be disposed in manner.

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

In the proposed mining plan only 45m depth has been envisaged as workable depth for safe & economic quarrying for the entire lease period. After expiry of the lease period, if the mineral reserves available and Market persist, the applicant may apply a renewal of quarry lease as to develop and conserve mineral reserves. If permission is granted for removal of waste, the waste material will be supplied to needy crusher for convert to the M-Sand, building and road construction material from concerned authorities after paying the seniorage fee. When the entire mineral reserves will be completely exhausted if permission obtained for disposal of waste the remaining overburden will be utilized for backfilling in the part of the pit and remaining pit will be allowed to collect seepage and rain water which will act as a temporary reservoir. If permission not obtained for handling of waste, backfilling will be carried out nearly existing ground profile with entire waste material and spread out the preserved topsoil over the backfilled area to facilitate green belt development purpose.
The quarry area will be fenced with barbed wire fencing also safety bund formed around the quarry to prevent inadvertent entry of public and cattle (Refer plate No. VII and IX).

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

The safety barrier along the North, East, South and Western side lease boundary has been identified and utilized for green belt development with 2,500m² area by not less than 1m height saplings with an anticipated survival rate of 80% for first five years and will be maintain atleast 900 plants at the end of life of the quarry. As per the SEIAA recommendation, the plantation will be carried out based on the output Environmental Clearance and the recommended species will be carried out for green belt development. Appropriate species of trees will be planted in a phased manner as described below.

Table – 18

Year	No. of tress proposed to be planted		Area to be covered in applied area (m²)	Name of the species
	Safety zone	Approach Road		
I	180	300	500	Poovarasu, Sarakondrai, Senna auriculata, Thespesia populnea, Nuna, Mantharai, etc.,
II	180	300	500	
III	180	-	500	
IV	180	-	500	
V	180	-	500	

11.4 Proposed financial estimate / budget:

Proposed Financial Estimate for Quarry operations and Environment Management (EMP).

Table – 19

A. Machineries and Equipment Cost

S.No.	Description	Approximate Cost (Rs.)
1.	Land Cost (As per Govt. Guideline value at present)	54,07,000
2.	Labour Shed	5,00,000
3.	Sanitary Facility	1,00,000
4.	Excavator (1 No.)	50,00,000

S.F.No.	Area (Ha.)	Cost/Ha. (Rs)	Cost of the area (Rs.)
579/1B	0.18.5	1238000	229030
579/2B	0.19.0	1238000	235220
579/3B	0.10.0	1238000	123800
579/4B	0.14.0	1238000	173320
579/5B	0.38.5	1238000	476630
582/2	1.21.5	1235500	1501133
599/1	0.59.0	1238000	730420
599/2	0.37.5	1238000	464250
599/3	0.32.0	1238000	396160
599/4	0.44.5	1238000	550910
599/5	0.19.0	1238000	235220
599/6	0.08.0	1238000	99040
599/7	0.05.5	1238000	68090
599/8	0.10.0	1238000	123800
Total	**4.37.0**	-	**5407023**

Round off = Rs. 54,07,000/-.
(source : https://tnreginet.gov.in/portal/)

5.	Crawler Crane (1 No.)	50,00,000
6.	Tipper (3 Nos.)	75,00,000
7.	Wire Saw (1 No.)	40,00,000
8.	Diesel Generator (1 No.)	7,50,000
9.	Compressor with loose tools (2 No.)	15,00,000
10.	Jack Hammer (5 Nos.)	2,50,000
11.	Drinking Water Facility	1,00,000
Total Machineries and Equipment Cost		**2,65,07,000**

B. Proposed financial estimate / budget for (EMP) Environmental Management Plan:

Budget Provision for the first five years period

B. EMP Cost:			**Cost (Rs.)**
1	Environmental Monitoring Program (Air Quality, Water Quality Sampling, Noise and Ground vibration test) Rs. 50,000/ year.		2,50,000
2	Water will be sprinkled in the haul roads by own water sprinkler for dust suppression. The cost would be around.		6,00,000
3	Fencing will be construct to prevent inadvertent entry of public and cattle, the cost is (1000m length x Rs. 300/- per meter).		3,00,000
4	Construction of Garland drain with check dam to prevent surface run-off rain water entering to the quarry pit, the construction cost is around (Total Peripheral length 880m x Rs. 300/meter).		2,64,000
5	First aid room & accessories		50,000
6	Dust extractor unit for Jackhammer (5 Nos.).		1,25,000
7	Safety Kits for workers (Personnel Protective Equipment).		50,000
8	Greenbelt development for dust suppression & Noise control measures	Greenbelt development will be carried out along the safety barrier; the cost would be around (900 saplings x Rs. 200/sapling)	1,80,000
		Greenbelt development will be carried out on haul road; the cost would be around (600 saplings x Rs. 200/sapling).	1,20,000
Total EMP Cost			**19,39,000**

The EMP cost for the five years plan period would be around **Rs. 19,39,000/-**

Total Cost of the Project including EMP Cost	
Description	**Cost (Rs.)**
A. Machineries and Equipment Cost	**2,65,07,000**
B. EMP Cost	**19,39,000**
Total Project Cost (A+B)	**2,84,46,000**

(Total project cost including EMP cost is about rupees two crore eighty four lakhs and fourty six thousand only).

12.0 PROGRESSIVE QUARRY CLOSURE PLAN:

12.1 Introduction:

The Progressive Quarry Closure Plan for Black Granite quarry lease applied area over an extent 4.37.0 Hectares of Patta lands in S.F.No. 579/1B, 579/2B, 579/3B, 579/4B, 579/5B, 582/2, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 and 599/8 of Puligunda Village, Bargur Taluk, Krishnagiri District, Tamil Nadu State has been prepared for **Thiru. B. Sharath,** S/o. K. Bage Gowda, **Proprietor of M/s. Sharath Granites** residing at No. 108, 13th Main, Jayanagar 4th Block East, Bangalore, Karnataka State – 560 011.

12.2 Present Land use pattern:

Land Use Table – 20

Description	Present area in (Ha)
Area under Quarry	1.60.39
Dump	1.16.49
Infrastructure	Nil
Roads	0.03.00
Green Belt	0.25.00
Unutilized	1.32.12
Grand Total	**4.37.00**

12.3 Reasons for closure:

The mineral is not going to be exhausted during the proposed Mining Plan period hence, immediate closure is not planned due to sufficient reserves are available for the entire life of quarry. Hence, the reason for closure will be discussed in Final Mine Closure Plan.

12.4 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations as per the DGMS, Department of Geology and Mines, Labour Enforcement officer, controller of Explosives etc., circulars, Norms, Rules, Regulations and Act.

12.5 Progressive quarry closure plan preparation:

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

Name	:	**B. Vengadagiri, M.Sc.,** Qualified Person (Under Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	No.105, 5th Cross, Alagapuram Salem District
State with PIN Code	:	Tamil Nadu – 636 010.
Mobile	:	+91 86953 32233
Email	:	vengatb6@gmail.com

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

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

The Mining Plan and Progressive quarry closure plan are being submitted for the first time. In the mining plan is discussed for Reclamation and Rehabilitation will be carried out only at the end of life of quarry. The Black Granite mineral reserves are available for the entire life of quarry. Hence, review of implementation of progressive quarry closure does not arise at present. However, if any work done for progressive quarry closure during this Mining Plan period, it will be discuss an ensuing Scheme period.

12.7 Closure Plan:

(i) Mined Out Land:

At the end of mining plan period the quarry operation carried out 1.60.39Ha area to a depth of 40m only out of 2.70.20 Ha of total mineable area upto a depth of 45m. When the remaining reserves will be completely exhausted, the mine closure plan will be prepared and submitted to the competent authority to obtain approval and the same will be implemented. Land use at various stages is given in the table below.

Land use pattern

Table – 21

Description	Present area (Ha)	Area required during Mining Plan period (ha)	Area at the end of life of quarry (Ha)
Area under quarry	1.60.39	Nil	2.70.20
Waste dump	1.16.49	Nil	# Backfilled
Site Services	*Nil	*Nil	*Nil
Roads	0.03.00	Nil	0.03.00
Green Belt	0.25.00	0.25.0	0.50.0
Unutilized/ Stocking Blocks	1.32.12	1.07.12	1.13.80
Grand Total	**4.37.00**	**-**	**4.37.00**

If permission is granted for disposal of waste from the State Government, the quarried out overburden only utilized for backfilling. If permission not obtained for disposal of waste, backfilling will be carried out with total waste and spread out the preserved topsoil to facilitate green belt development in the backfilled area.

*The Site Services are are already constructed in the applicant's own patta land situated on the southeast side as semi - permanent structures.

(ii) Disposal of mining machinery:

All the Machineries are purchased fresh, the same has been maintained in good condition during entire life of quarry, if required the machinaries will be replaced or repaired. After completion of quarry operation all machineries will be utilized at another quarry area or sold out to the second hand. Hence, disposal or decommissioning of mining machinery does not arise.

(iii) Safety & Security:

Safety measures will be implemented to prevent access in the excavation area an unauthorized 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 if the applicant intends to increase the height of the bench, necessary permission will be obtained from the concerned authority and implemented.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of equipments.
- Personnel Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the working personnel.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries. Sufficient caution and sign boards will be kept in and around the quarry to induct public for awareness.
- Blasting will be carried out in a specific time after giving sufficient caution to the public such as danger signs shall be displayed near the excavations and siren alarm signal will be provide before small amount of blasting time for precautionary action of accident (blasting is carried out only for secondary fragments and not to liberate the Granite body from the parent rock mass).
- Security guards will be posted to prevent inadvertent entry of public.
- In the event of temporary closer, approaches will be fenced off and notice displayed.
- Installation of CCTV cameras in the quarry and entrance of the quarry.
- Monitoring of Quarrying operation by accredited external agency as directed by authorities.

(iv) 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.
- The complete mining 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 temporarily 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.

Environmental Monitoring Cell:

A dedicated team nominated by the mine manager or Agent will monitor and maintaine the environmental compliances of the quarry as per the approved Environment Management Plan and report the Compliance to the competant authority from time to time.

Disaster Management Cell:

The Competent Qualified Statutory managers appointed by the applicant as per the Director of Mines Safety will be responsible for Disaster Management. It care of any eventualities his mobile number will be displayed and he will take all the precautions and safety measures as per Mines and Minerals (Development and Regulations) Act, 1957.

(v) 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:

Mine roads and approach roads,
Fencing on approach roads,
Checking and maintenance of machines and equipment,
Drinking water arrangements,
Mine office, first aid stations etc.

- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB 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, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

(vi) Economic Repercussion of Closure of Quarry and manpower Retrenchments:

The quarry lease is granted for a period of twenty years only. As per the production Program 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.

(vii) Time Scheduling For Abandonment:

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

(viii) 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:

Table – 22

ACTIVITY		YEAR					RATE	Cost (Rs.)
		I	II	III	IV	V		
Plantation proposed under safety zone	Nos.	180	180	180	180	180	Rs.200 Per sapling	1,80,000
	Cost	36,000	36,000	36,000	36,000	36,000		
Plantation proposed in the Haul road	Nos.	300	300	-	-	-		1,20,000
	Cost	60,000	60,000	-	-	-		
Barbed wire fencing 1000 Mtrs		3,00,000	-	-	-	-	Rs. 300 Per Meter	3,00,000
Garland drain 880 Mtrs		2,64,000	-	-	-	-	Rs. 300 Per Meter	2,64,000
TOTAL								**8,64,000**

13.0 MINERAL CONSERVATION AND DEVELOPMENT:

The mining plan proposed has fully covered all the aspects of Granite Conservation and development rules 1999, with a future plan to extend the proposed working of the quarry to the maximum possible workable depth of the deposit. Extreme care is taken to ensure proper supervision of quality control of the Granite dimensional stone aimed at the recovery of the maximum saleable quality and quantity of granite dimensional stones suitable for full utilization of the consumers.

Care is been taken for each process just to safeguard the material quarried in an economical and efficient manner by adopting systematic and scientific quarrying with the consultation and supervision of well experienced quarry persons.

14.0 STATUTORY COMPLIANCE TO BE FOLLOWED DURING THE COURSE & CLOSURE OF QUARRY LEASE:

The Applicant after execution of lease deed should ensure to carryout that the quarry operation in accordance to the Approved Mining plan and as per TNMMCR, 1959, GCDR, 1999, Mine Act 1952 & as per MMR 1961.

The conditions in the nutshell as follows.

1. The quarry operation should be fenced with the barbed wire and three tier Greenbelt has to be carried out all along the boundary barriers and should be maintained till the end of the life of the mine.
2. The quarry operation should be carried out as per the regulation 3,4,5 of MMR 1961 as prescribed in the form I, II, III, IVA, IVB, IVC, V, VI.
3. Statutory competent qualified person as per regulation 39, 40, 41, 42, 43, 44, 47, 48 of MMR 1961 should be appointed to carryout day today quarrying operation in scientific & systematic manner.
4. Blasting has to be carried out during the designated timing as per the approved mining plan with sufficient warning all around the mines by only the Qualified blaster as indicated in the regulations 153, 154, 156, 160, 166, 167, 169 of MMR 1961.
5. During the Quarrying operations the benches has to be maintained and haul roads should be maintained as per the regulations 60, 61, 62, 65, 66, 95, 96, 105, 106, 110, 115, 118, 124 of MMR 1961. When the quarry attains 30mts depth from the general ground profile a slope stability study should be carried out with competent authorized agencies only.
6. All PPE should be provided to the employees and periodic Medical Examination has to be carried out as per the regulation 124, 127, 177, 178, 181, 183, 185, 188, 190, 191A of MMR 1961.
7. The Applicant should submit the quarterly, half yearly & Annual returns to the concerned Authorities as per regulation 3, 4, 5, 9 &10 MMR 1961 on time and HYCR self-compliance reports should be submitted to the State Pollution control Board.
8. Periodical Hydrology & Hydrogeological Studies has to be carried out during the course of quarrying operation. if any significant seepages is inferred, the applicant should carry out a comprehensive Hydrogeological studies to ensure the impact of agricultural activities in and around the mine (Open well & Tube well). If the impact is noticed considerably the quarry had to be continued only after obtaining permission clearances and approval from the competent regulatory authorities.
9. The lessee should utilize green energy / Solar energy as far as possible for operation of machineries, equipment and illumination in the mine's office, quarry boundaries and avenue roads.
10. The lessee should ensure all the skilled and semi-skilled workers should be provided trainings in nearby Vocational Training center as per the MVTR 1966 and should be registered in Shram Suvidha portal as directed by the Ministry of labour.
11. The lessee should carry out the quarrying operation keeping the view of mineral conservation, development and sustainable mining.
12. If the lessee intends to deviate from the approved mining plan, a modified mining plan has to be prepared submitted and approved from the concerned authority before making any significant changes in in the mining operations.
13. The lessee should carry out the mining operation in Eco friendly environment with good hygienic conditions to the employees deployed and maintain good harmony with local communities in the impact zone.
14. The conditions stipulated in the lease deed and Environmental clearance especially the mitigation measures as proposed in EMP to the SEIAA has to be followed during the course of quarrying operation and also to as per the rules of TNMCR

1959, GCDR 1999, Mine act 1952, MMR 1961, Mine Rule 1955, EP act 1986 and Indian Explosive act 1884 and Indian Explosive Rules, 2008 and all the amendments issued by the concern State and Central Government authorities from time to time.

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, Chennai. As per amendment notification in the EIA notification 2006 is given by Ministry of Environment, Forest and Climate Change vide S.O.1807(E), dated:12.04.2022, the validity of environmental clearance is through out end of lease period. Any violation pointed out by the inspecting authorities shall be rectified and modified after scrutiny comments as per the guidelines of the Concerned Department and Authorities.

This Mining Plan and mine design is prepared based on the requirement and full consultation by the applicant to me. If there is any change in the production schedule, change of technology, change in product mix during the course of operations, the applicant is advice to prepare a modified mining plan and get approval by the concerned authority for subsequent clearance and approval. The same will be monitored by the inspecting authority of Department of Geology and mining and other Concerned Departments under Rule 25 and sub rule (5)(d) in Rule 36 of Tamil Nadu Minor Mineral Concession Rules, 1959.

I hereby ensure that the information provided is correct to best of my knowledge and experience, some of the information contained in this report has been provided by external sources and by the applicant and is presented as the form as submitted by the applicant. The information is not intended to serve as legal advice related to the individual situation. I do not owe and specifically disclaim any liability resulting from the use during the course of quarrying operations after the approval of Mining plan or grant of lease. The document may be scrutinized by the competent authority before approval.

Prepared by

B. Vengadagiri, M.Sc.,
Qualified Person

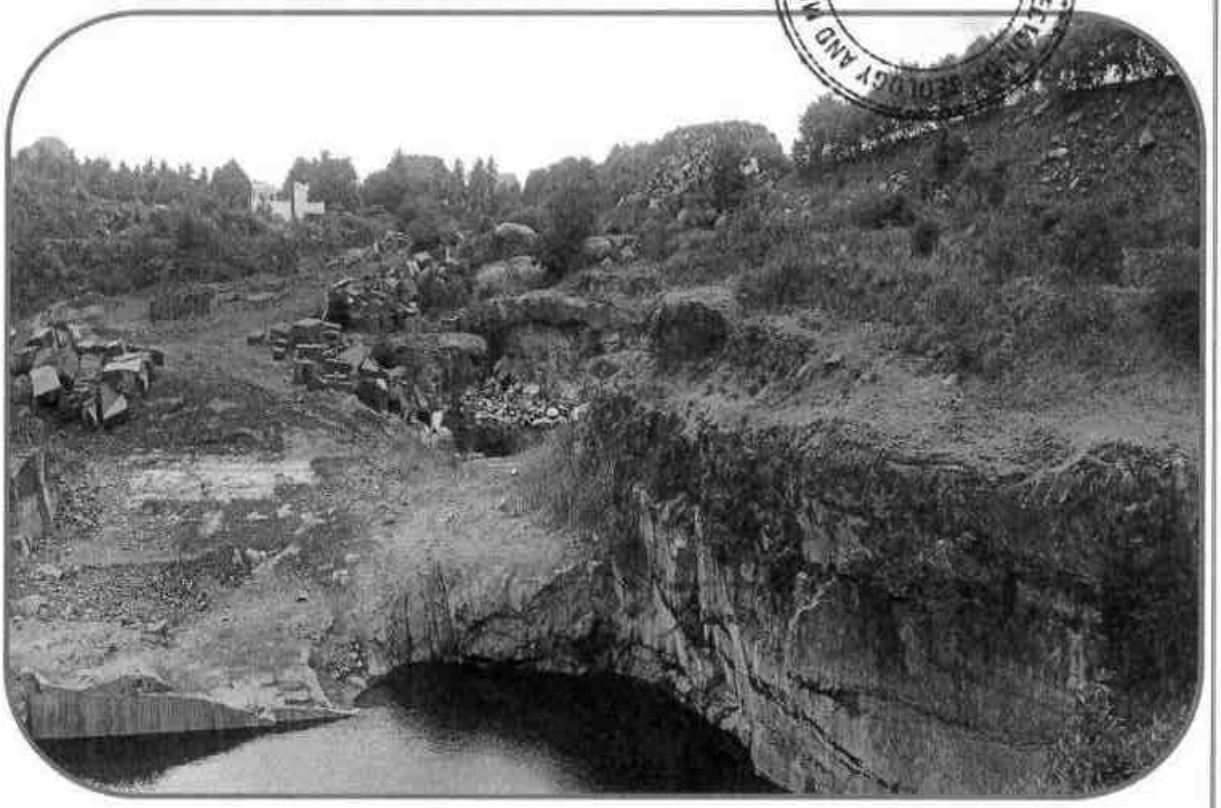
Place: Salem
Date: 11.08.2025.

DIRECTOR
Department of Geology & Mining
Guindy, Chennai - 600 032

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

Letter No. 2996/MM4/2025 Dated 29.01.2026.

TOPOGRAPHICAL VIEW OF PULIGUNDA BLACK GRANITE (DOLERITE) QUARRY LEASE APPLIED AREA





DIRECTOR OF GEOLOGY AND MINING • GUINDY, CHENNAI - 600 032

ANNEXURES

ANNEXURE I

Natural Resources (MMB.2) Department
Secretariat, Chennai-600 009.

Letter No.1186/MMB.2/2025-1, dated:05.08.2025

From
Thiru.Shunchonngam Jatak Chiru, I.A.S.,
Additional Chief Secretary to Government (FAC).

To
Thiru.B.Sharath,
S/o.K.Bage Gowda,
(Proprietor: M/s.Sharath Granites)
108, 13th Main, Jayanagar,
4th Block East, Bengaluru,
Karnataka-560 0011.

Sir,

Sub: Natural Resources – Minor Mineral – Black Granite - Quarry lease application preferred by Thiru.B.Sharath, M/s.Sharath Granites for quarrying of Black Granite over an extent of 4.37.00 hectares of patta lands in S.F.Nos.579/1B etc., of Puligunda village, Bargur Taluk and Krishnagiri District – Precise area communicated - Approved Mining Plan and Environmental Clearance – Called for.

Ref:
1. Your Quarry Lease Application dated: 19.08.2024.
2. From the District Collector, Krishnagiri, Note File Roc.No.1117/2024/Mines, dated: 17.03.2025.
3. From the Commissioner of Geology and Mining, Chennai, Note File No.2976/MM4/ 2025, dated:05.07.2025.

I am directed to invite attention to the references second and third cited, wherein the District Collector, Krishnagiri and the Commissioner of Geology and Mining, Chennai have recommended and forwarded your quarry lease application for grant of quarry lease for quarrying of Black Granite over an extent of 4.37.00 hectares of patta lands in S.F.Nos.579/1B (0.18.50 hectares), 579/2B (0.19.00 hectares), 579/3B (0.10.00 hectares), 579/4B (0.14.00 hectares), 579/5B (0.38.50 hectares), 582/2 (1.21.50 hectares), 599/1 (0.59.00 hectares), 599/2 (0.37.50 hectares), 599/3 (0.32.00 hectares), 599/4(0.44.50 hectares), 599/5 (0.19.00 hectares), 599/6 (0.08.00 hectares), 599/7 (0.05.50 hectares) and 599/8 (0.10.00 hectares) of Puligunda Village, Bargur Taluk,

Krishnagiri District for a period of 20 years under Rule 19-A of the Tamil Nadu Minor Mineral Concession Rules, 1959.

2. The Government carefully examined the recommendations of the District Collector, Krishnagiri and the Commissioner of Geology and Mining, to communicate precise area for quarrying Black Granite over an extent of 4.37.00 hectares of patta lands in S.F.Nos.579/1B (0.18.50 hectares), 579/2B (0.19.00 hectares), 579/3B (0.10.00 hectares), 579/4B (0.14.00 hectares), 579/5B (0.38.50 hectares), 582/2 (1.21.50 hectares), 599/1 (0.59.00 hectares), 599/2 (0.37.50 hectares), 599/3 (0.32.00 hectares), 599/4(0.44.50 hectares), 599/5 (0.19.00 hectares), 599/6 (0.08.00 hectares), 599/7 (0.05.50 hectares) and 599/8 (0.10.00 hectares) of Puligunda Village, Bargur Taluk, Krishnagiri District and accordingly, the Government hereby communicate Precise Area for the above said area under sub-rule (13) of Rule 19-A of the Tamil Nadu Minor Mineral Concession Rules, 1959 for grant of quarry lease.

3. I, therefore, request you to furnish the Approved Mining Plan for the above-mentioned Precise Area through the Commissioner of Geology and Mining within a period of 3 months as per sub-rule (13) of Rule 19-A of the Tamil Nadu Minor Mineral Concession Rules, 1959 and to produce Environmental Clearance obtained from the competent authority for the above said area for grant of quarry lease subject to the following conditions to the Government: -

(i) A safety distance of 7.5 metres shall be maintained for the adjacent patta lands.

(ii) A safety distance of 50 metres shall be maintained between the applied area and the EB line.

(iii) A safety distance of 50 metres shall be maintained to the residential area situated in South Western and Western sides of the applied area.

(iv) Barbed wire fencing or Compound wall should be erected all along the boundary of the lease granted area and the boundary pillars should be erected as per DGPS norms.

(v) Environment Clearance should be obtained from the competent authority in respect of the subject area as per rule 42 of TNMMCR, 1959 and as per the notification of the Ministry of Environment and Forest and any other clearances if any.

(vi) As per rule 12 (V) of Mineral (other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, the applicant firm shall at his own expenses erect, maintain and keep in repair of all the boundary pillars with DGPS readings.

(vii) A green belt should be constructed to prevent sound and air pollution due to the proposed quarrying activity by planting at least 500 seedlings of neem and pungan all around the area.

(viii) The applicant should fence the lease granted area with barbed wire before the execution of lease deed as follows:

- The pillar post shall be firmly grounded with concrete foundation of height not less than 2 metres with a distance between two pillars shall not be more than 3 metres.
- The applicant shall incorporate the DGPS readings for the entire boundary Pillars of the area and the same should be clearly shown in the mining plan.
- A soft copy of the digitalized map with DGPS readings should be submitted in the CD to the Deputy Director, (G&M), Krishnagiri.

(ix) The applicant should carry out DGPS survey and erection of RCC boundary pillars as per the norms stipulated in the EOI notification in Rc.No.2921/MM4/2019, dated.01.02.2018 and subsequent corrigendum dated 13.08.2019 using the empanelled agencies before execution of quarry lease.

(x) The quarry operation should be restricted only in the area granted on lease.

(xi) Quarry activity should be carried out from 6.00 a.m. to 6.00 p.m. only.

(xii) Quarried materials should be transported only with permits issued by the Assistant Director / Deputy Director (G&M) and they should be produced before the forest check post officials and necessary entries should be made in the register.

(xiii) The waste materials generated during the course of quarrying should be dumped only within the lease hold area.

(xiv) The applicant should not damage the Government land situated around the applied area if any.

(xv) The District administration and the Geology and Mining department should ensure the conditions imposed in G.O.(Ms).No.79 Industries Department dated 06.04.2015.

(xvi) No pollution should be caused to the water bodies situated near the applied area if any.

(xvii) The applicant should use mild explosives during quarrying.

(xviii) As per the Hon'ble Supreme court of India order dated:08.01.2020 in W.P.(C) No.144/2014, after ceasing quarrying operation, re-grassing the quarry area and any other

area which may have been disturbed due to the quarrying activity should be restored to a condition which is fit for growth of fodder, flora, fauna etc.,

(xix) Child labourers should not be engaged for quarry works and all the quarry labourers should be registered with the Labour Welfare Board of Government of Tamil Nadu and should be enrolled in the Group Insurance Scheme.

(xx) The applicant shall strictly adhere to the statutory and safety requirements.

(xxi) 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.

(xxii) The applicant shall submit scheme of mining; mine closure plan and other statutory requirements within the time stipulated for submission of the above, as per rules.

(xxiii) If any violation is found during quarrying operation, the penal provisions of the Tamil Nadu Minor Mineral Concession Rules, 1959 and other Rules and Act in force will attract.

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

Yours faithfully,

06/08/25

for Additional Chief Secretary to Government (FAC).

Copy to:
The Director of Geology and Mining,
Guindy, Chennai- 600 032.
The District Collector,
Krishnagiri District, Krishnagiri.

ANNEXURE II

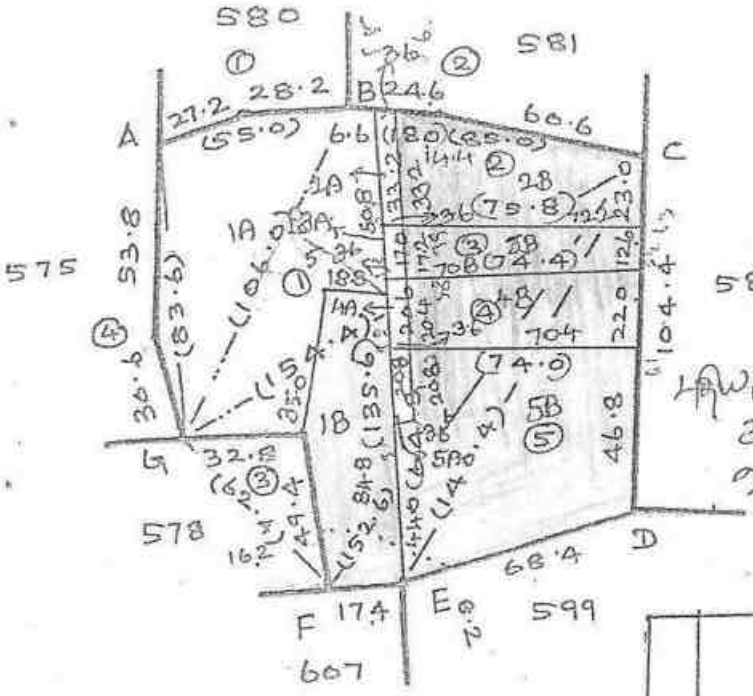
கிராமம்

மாவட்டம். திருவள்ளூர் திருவண்ணாமலை

வட்டம். திருவண்ணாமலை போளூர்

புல எண். 579

பரப்பு : ஹெக்டேர் 1 ஏர். 5 0



			C					
			152.4					
			12.0			13.4		E
			F					
			E					
			140.4					
			48.8			49.0		D
			E					
			C					
			85.0					
			83.6					
4	4.6	30.2		2	2.6	24.6		
		G				B		
		F				A		
		62.4				55.0		
3	25.8	20.0				28.0	4.0	1
		G				B		

C 154.4 C 152.4
5 15.0 54.4 6 108 48.2
G F

Lease Applied Area-

அளவு. 1:2000 அ.மீ

கிராம நிர்வாக அலுவலர்
25, புலிகண்டா கிராமம்,
போளூர் வட்டம், திருவண்ணாமலை மாவட்டம்.

மாவட்டம். திருவள்ளூர் விருத்தாசலம்

வட்டம். திருத்தணி பீர்கேட்

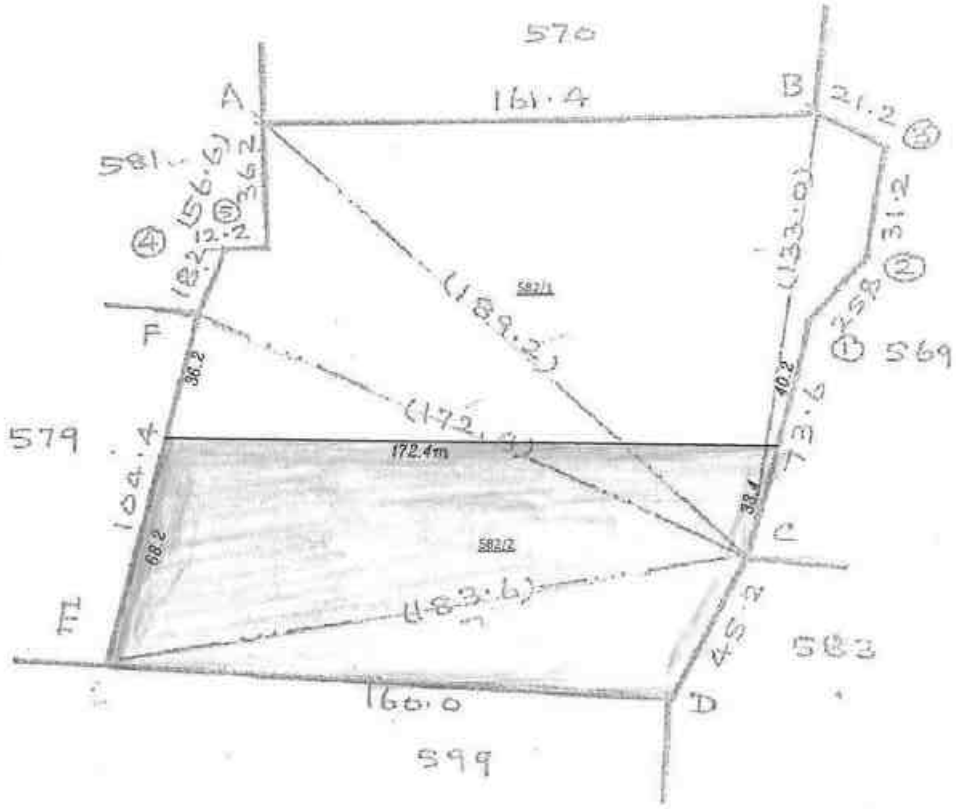
புல எண். 582

பரப்பு: ஹெக்டேர் 86.5

DIRECTOR OF GEOLOGY & MINING * GUINDY, CHENNAI-32 *

எண்.

பெயர்.



		A		
		56.6		
		22.2	12.2	5
		17.8	1.0	4
		F		
		B		
		133.0		
		124.0	22.0	3
		94.0	21.8	2
		73.4	6.2	1
		C		
		E		
		183.6		
D	358	27.2		
		C		

கிராம நிர்வாக அலுவலர்
25, புதுநல்லூர் கிராமம்,
விருத்தாசலம் வட்டம்.

Lease Applied Area-

அளவு 1 : 2000 அடி

95 A

மாவட்டம். திருவள்ளூர்

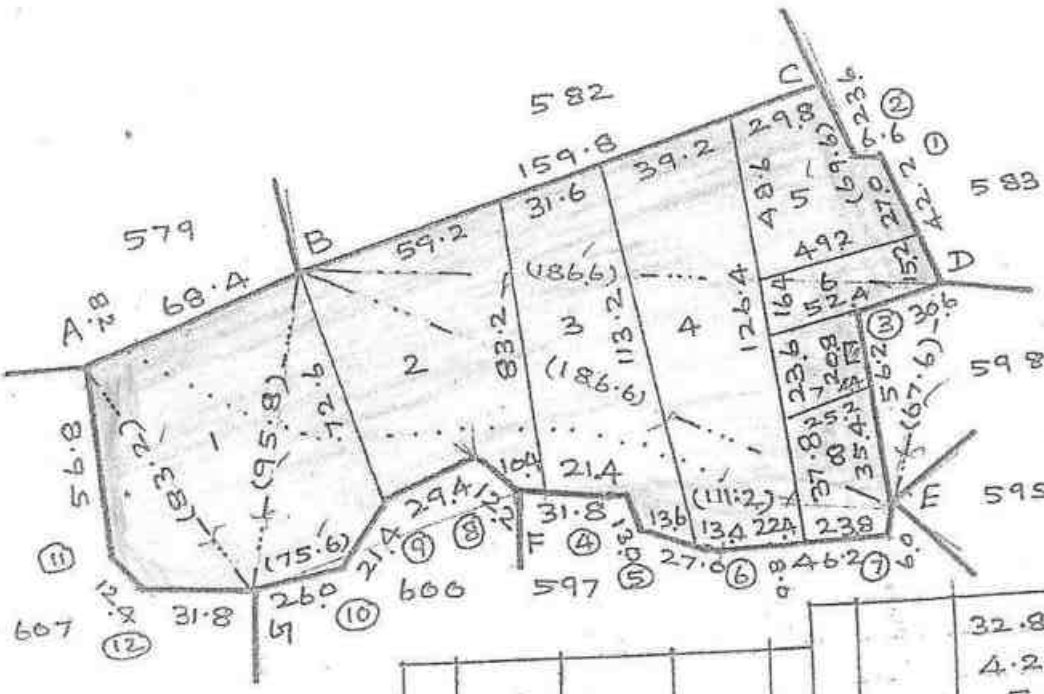
வட்டம். திருத்தணிகை

புல எண். 599

கிராமம் { எண். புச்சிரெட்டிபள்ளி

பரப்பு: ஹெக்டேர் ஏ. 1 5.

DIRECTOR OF SURVEY AND SETTLEMENT



							32.8	10.2	9
							4.2	11.2	8
		E					F		
		186.6					E		
							111.2		
H	32.8	156.4					110.0	5.6	7
	36.4	152.8					65.4	15.6	6
		80.6	33.8	F			38.6	10.6	5
		B			4	6.2	31.6		
		G					F		
		83.2							
		62.6	24.0	12			D		
		50.4	25.0	11			67.6		
		A			3	24.4	50.8		
		B					E		
		95.8					C		
							69.6		
A	58.6	58.8							
		G			2	1.4	46.0		
		78.6					42.0	4.4	1
							D		
10	3.0	50.0							

தயாரித்தது அளவு 1:2000 மிமீ

திருத்தணிகை

31/12/97

Lease Applied Area-

கிராம நிர்வாக அலுவலர்

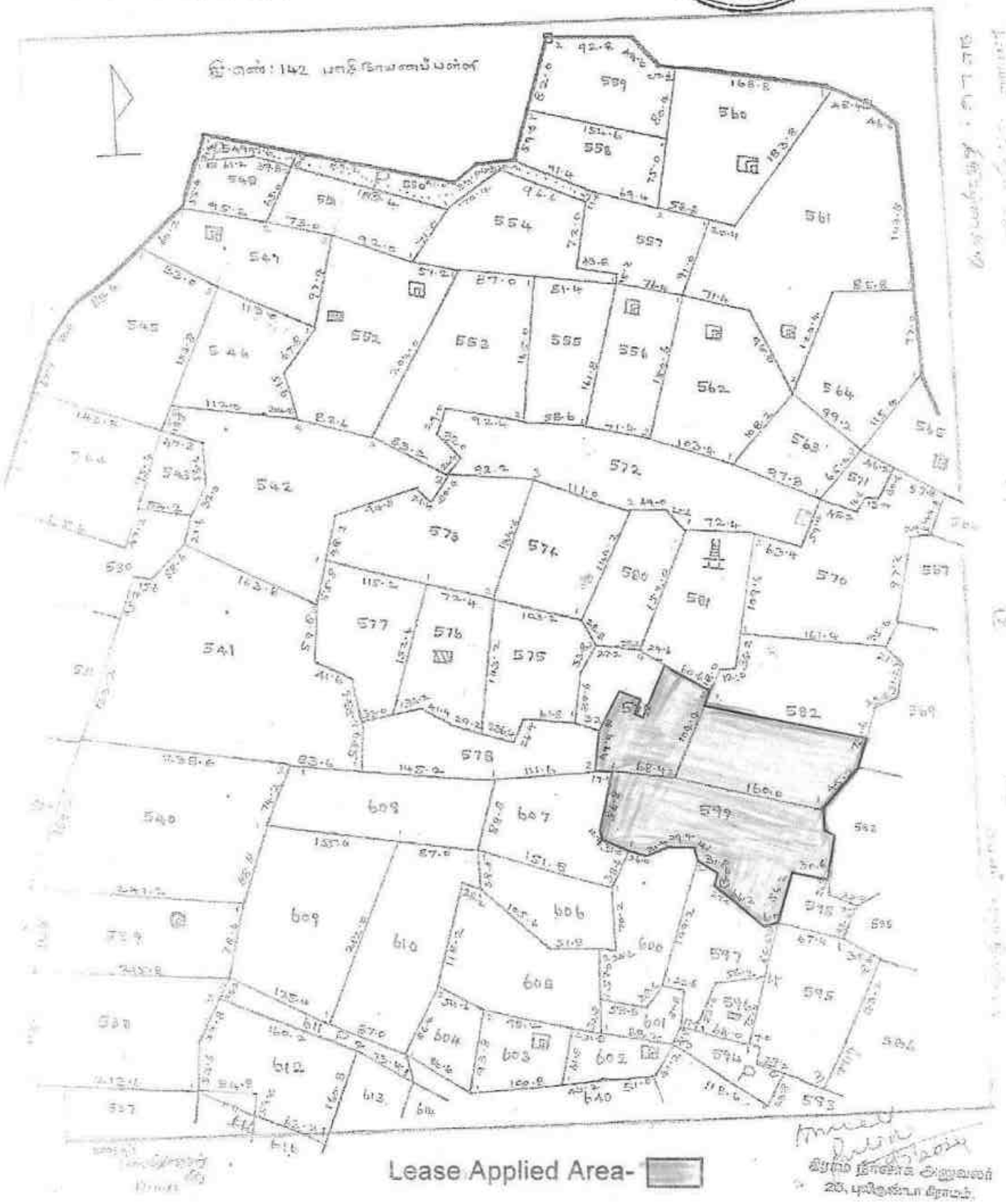
25, புதிருண்டா கிராமம்,

தாசில் வட்டம், திருத்தணி மாவட்டம்.

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ANNEXURE III

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032.



ANNEXURE IV

தமிழ்நாடு அரசு

வருவாய்த் துறை

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

மாவட்டம் : கிருஷ்ணகிரி வட்டம் : பர்கூர்

வருவாய் கிராமம் : புலிகுண்டா பட்டா எண் : 3240

உரிமையாளர்கள் பெயர்

1. K.பாகே கவுடா மகன் ஏக்க

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	
579	1B	0 - 18.50	0.39	--	--	--	--	2024/0103/31/338460--293/1416 -------- 11-07-2024
579	2B	0 - 19.00	0.43	--	--	--	--	2024/0103/31/338460--293/1416 -------- 11-07-2024
579	3B	0 - 10.00	0.21	--	--	--	--	2024/0103/31/338460--293/1416 -------- 11-07-2024
579	4B	0 - 14.00	0.30	--	--	--	--	2024/0103/31/338460--293/1416 -------- 11-07-2024
579	5B	0 - 38.50	0.80	--	--	--	--	2024/0103/31/338460--293/1416 -------- 11-07-2024
582	2	1 - 21.50	0.75	--	--	--	--	2024/0103/31/338460--516/1415 -------- 11-07-2024
599	1	0 - 59.00	1.27	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	2	0 - 37.50	0.81	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	3	0 - 32.00	0.69	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	4	0 - 44.50	0.96	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	5	0 - 19.00	0.41	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	6	0 - 8.00	0.17	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	7	0 - 5.50	0.12	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
599	8	0 - 10.00	0.21	--	--	--	--	2024/0103/31/338460-- -------- 11-07-2024
		4 - 37.00	7.52					

குறிப்பு :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் 31/06/139/03240/40969 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 01-08-2024 அன்று 02:33:20 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

1434 – ஆம் பகுதியில் திருவள்ளூர் மாவட்டம் பூந்தி வட்டம் கிராமக் கணக்கு 25 பூவிருந்தவல்லி

நில வரித் திட்டத்தின்படி புலகங்களின் விபரம்.						சாகுபடி வாரியின் பெயர்.	முதல் போகம்.				
நில அளவை எண்.	உட்பிரிவு எண்.	பரப்பு.	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.	வகைப்பாடு தரவரிசை மொழும் என்னும் அல்லது அனுபோக தாரருடைய பெயர்.	நிலத்தில் எந்த பகுதி வாரி சாகுபடியாளரால் பயிரிடப்பட்டுள்ளதோ,	எந்த வகுத்தில் பயிர் செய்யப்பட்டது எந்த காலத்தில் அறுவடை செய்யப்பட்டது	பயிரின் பெயர்.	பயிராக / அறுவடை யான பரப்பு.	உள்ளகையான பாய்ச்சல் ஆதாரம்.	விவசாயிகள் ஆளவு விடுங்காரம்.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
579	1B	0.16.5	0.39	–	பயிரகம்: 32402		–	–	–		
					தரிசு B						
579	2B	0.19.0	0.45	–	″		″	″	″		
579	3B	0.10.0	0.24	–	″		″	″	″		
579	4B	0.14.0	0.33	–	″		″	″	″		
579	5B	0.38.0	0.90	–	″		″	″	″		
582	2	1.12.5	0.27	–	″		″	″	″		
577	1	0.53.0	1.27	–	″		″	″	″		
577	2	0.37.5	0.89	–	″		″	″	″		
577	3	0.32.0	0.77	–	″		″	″	″		
579	4	0.43.5	0.96	–	″		″	″	″		
577	5	0.19.0	0.41	–	″		″	″	″		
577	6	0.08.0	0.17	–	″		″	″	″		
577	7	0.05.5	0.12	–	″		″	″	″		
579	8	0.10.0	0.24	–	″		″	–	″		

ஆணை நிர்வாக அலுவலர்
23, பூவிருந்தவல்லி கிராமம்,
பூந்தி வட்டம், திருவள்ளூர் மாவட்டம்.

350/ 1-R.F. III-A-10-20,00,000 Cps.-GBP.-Mdu.-7-2022.

99 A

எண் 2

கிராமத்தில் வருடவாரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

இரண்டாம் போகம்.							
எந்த வகுத்தில் பயிர் செய்யப்பட்டது எந்த வகுத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிராக / அறுவடையான பரப்பு.	உள்ளகையான பாய்ச்சல் ஆதாரம்.	விவசாயிகள் ஆளவு விடுங்காரம்.	கிராம அலுவலரின் குறிப்புரை: (1) பயிரிடப்பட்ட நிலங்களின் பதிவுகளில் ஏதேனும் திருத்தம் இருப்பின் அவை பற்றி. (2) கலப்பு பயிர்களை நிலம் வாரியாக பிரித்துக் காட்டுவதில் ஏதேனும் சிரமம் இருப்பின் அவை பற்றி. (3) முதல்வரு வகுத்தில் பயிரிடப்பட்டதாக உறுதிசெய்யப்பட்டுள்ள எரிபு பூச்சிகளின் தாக்குதல் ஏதேனும் இருப்பின் அவை பற்றி.	கிழ்க்கண்ட வகையில் பயிரிடப்பட்டது உள்ள நிலத்தின் தன்மை மற்றும் பயிரின் விவரங்கள் ஒவ்வொரு நில அளவை எண் அல்லது அதன் பகுதியில். (அ) வளம், (ஆ) பயன்று பயிர் செய்ய இயலாத நிலம், (இ) விவசாயம் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தப் படும் நிலம், (ஈ) பயிரிடத்தக்க தரிசு (உ.) நிலையான புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும். (ஊ) விலக்கப்பட்ட நிகர பயிரில் சேர்க்கப்பட்டது (சரமகை) பயிர்களும் தோப்புகளும். (எ) நடப்பு தரிசுகள் (ஏ) இதர தரிசு நிலங்கள்.
(13)	(14)	(15)	(16)	(17)	(18)	(18அ)	
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			
				கூவிகுவார்			

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ANNEXURE V)

District:Krishnagiri Taluk:BARGUR Village:PULIGUNTA

புல எண்	உட்பிரிவு எண்	பழைய புல எண் - உட்பிரிவு எண்	பகுதி	அரசு - ரயத்துவாரி	நிலத்தின் வகை	பாசன ஆதாரம்	இரு போகமா	மண் வயனமும் ரகமும்	மண் தரம்	தீர்வை - ஹெக்		பரப்பு		மொத்த தீர்வை		பட்டா எண்	குறிப்பு
										ரூ	பை	ஹெக்	எர்	ரூ	பை		
578	7			அரசு	புறம்போக்கு		0	0 - 0		0	00	0	1.50	0	00		கலலாங் குத்து
578	8			அரசு	புறம்போக்கு		0	0 - 0		0	00	0	2.00	0	00		கலலாங் குத்து
578	9			அரசு	புறம்போக்கு		0	0 - 0		0	00	0	1.50	0	00		கலலாங் குத்து
									TOTAL FOR SURVEY NUMBER- 578			1	47.00	0	00		
578	1A	579	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	47.00	1	06	1097-கோவிந்தன் மற்றும் 1 நபர்(கள்)	
578	1B	579	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	18.50	0	39	1755-ஆ.கே.ர மேஷ்	
579	2A		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	2.50	0	06	105-கண்ணு கான(எ) ராமசாமி நாயகு	
579	2B		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	19.00	0	43	1755-ஆ.கே.ர மேஷ்	
579	3A		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	1.00	0	06	75[illegible]	

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கிராம நிர்வாக அலுவலர்
25, புலிதண்டா கிராமம்,
பாகூர் வட்டம், கிருஷ்ணகிரி மாவட்டம்.

ANNEXURE VI

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																னைப்ப நாயு டு
579	3B		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	10.00	0	21	1755-ஆ ர்.கே.ர மேஷ
579	4A		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	1.00	0	06	265-கோத ண்டன (எ)ரம்ப ப நாயு டு
579	4B		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	14.00	0	30	1755-ஆ ர்.கே.ர மேஷ
579	5A		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	0.50	0	06	361-சி னைதல வாடன (எ)சின் னப்பன
579	5B		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	38.50	0	80	1755-ஆ ர்.கே.ர மேஷ
									TOTAL FOR SURVEY NUMBER- 579			1	52.00	3	43	
580	-	580	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	1	9.50	2	36	485-ஜெ யபால
581	-	581	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	1	34.00	2	88	485-ஜெ யபால
582	1	582	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	1	65.00	02		திரா னைட் ஸ் நிறு வனம் மற்றும் 1 நபர(க ள)
582	2	582	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	1	21.50	0	75	ர்.கே.ர மேஷ

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[illegible] மாவட்டம்.

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					தரிசு													
																		குத்து
598	2	598	P	அரசு	புறம்போக்கு			0 -	0	0	00	0	2.50	0	00		நத்தம்
598	3	598	P	அரசு	புறம்போக்கு			0 -	0	0	00	0	6.50	0	00		நத்தம்
												TOTAL FOR SURVEY NUMBER- 598		0	35.50	0	00		
599	1	599	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	59.00	1	27	1747-ஆ ர்.கே.ர மேஷ்	
599	2		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	37.50	0	81	1747-ஆ ர்.கே.ர மேஷ்	
599	3		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	32.00	0	69	1747-ஆ ர்.கே.ர மேஷ்	
599	4		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	44.50	0	96	1747-ஆ ர்.கே.ர மேஷ்	
599	5		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	19.00	0	41	1747-ஆ ர்.கே.ர மேஷ்	
599	6		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	8.00	0	17	1747-ஆ ர்.கே.ர மேஷ்	
599	7		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	5.50	0	12	1747-ஆ ர்.கே.ர மேஷ்	
599	8		P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	10.00	0	21	1747-ஆ ர்.கே.ர மேஷ்	
												TOTAL FOR SURVEY NUMBER- 599		2	15.50	4			
600	1	600	P	ரயத்துவாரி	புஞ்சை			8 - 3	8	2	15	0	66.00	1		1099-அ பாபன் னன்(ர) ருகிலி மாபுடு மிஞ்சு பாக்கி ள்)	

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1	2	3	4	5	6	7	8	9			12
								கு.மை.	மெ.டன்	கு.மை.	
77	1	577-பா	ழ	ச	...	8-3	8	2 15	0 19·0	0 40	103 கா. [illegible]
	2	-பா	ழ	ச	...	8-3	8	2 15	0 10·5	0 23	255 கா. கோவித் தன்.
	3	-பா	ழ	ச	...	8-3	8	2 15	0 11·0	0 24	103 கா. காளி யப்பன்.
	4	-பா	ழ	ச	...	8-3	8	2 15	0 14·5	0 31	711 கா. பெரிய தம்பி.
	5	-பா	ழ	ச	...	8-3	8	2 15	0 02·5	0 06	255 கா. கோவித் தன்.
	6	-பா	ழ	ச	...	8-3	8	2 15	0 12·5	0 27	255 கா. கோவித் தன்.
	7	-பா	ழ	ச	...	8-3	8	2 15	0 19·0	0 41	352 கோ. சின்ன முனியப்பன்.
	8	-பா	ழ	ச	...	8-3	8	2 15	0 14·5	0 31	264 பெ. கோவித்த சாமி.
	9	-பா	ழ	ச	...	8-3	8	2 15	0 16·5	0 35	104 பெ. கண்ணன்.
	10	-பா	ழ	ச	...	8-3	8	2 15	0 05·5	0 12	883 பெ. மாமுது.
	11	-பா	ழ	ச	...	8-3	8	2 15	0 20·0	0 43	825 கோ. முனி யப்பன்.
									1 45·5	3 13	
578	...	578	அ	நீ.எ.த.	...	...	...	...	1 47·0	...	... [illegible] குத்து.
579	1	579-பா	ழ	ச	...	8-3	8	2 15	0 65·5	1 40	1097 ந. கோவித்தன் (1), மு. நிப்பம் மாள் (2).
	2	-பா	ழ	ச	...	8-3	8	2 15	0 21·5	0 46	105 பி. கன்னுகான் என்ற இராம சாமி நாயுடு.
	3	-பா	ழ	ச	...	8-3	8	2 15	0 11·0	0 24	712 பி. பெரிய தல்லாடன் என்ற சென்னப்ப நாயுடு.
	4	-பா	ழ	ச	...	8-3	8	2 15	0 15·0	0 32	265 பி. கோதாடன் என்ற எர்ரப்பன்.
	5	-பா	ழ	ச	...	8-3	8	2 15	0 39·0	0 84	361 பி. சின்ன தல்லாடன் என்ற சென்னப்பன்.
									1 52·0	3 26	

[illegible]

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[illegible]

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தி. ஊண். 141. புலிகுண்டா.

1	2	3	4	5	6	7	8	9	10	11	12
							ஏ. மை.	தொ. எண்ணு. மை.			
...	580	ர	மி	..	8-3	8	2 15	1 09·5	2 36	... தென்மேல்.	
...	581	ர	மி	...	8-3	8	2 15	1 34·0	2 88	485 கி. தென்மேல்.	
...	582	ர	மி	...	8-3	8	2 15	2 86·5	1 77	826 கி. புலிரத்தினை நாயடு.	
...	583	ர	மி	....	8-3	8	2 15	0 93·0	2 00	982 வ. வடமேல் மூலை.	
1	584-பா	ர	மி	...	8-2	7	2 77	0 06·0	0 17	982 வ. வடமேல் மூலை.	
2	-பா	ர	மி	...	8-2	7	2 77	1 91·5	5 30	930 மி. இராம திருஷ்ணன்.	
								1 97·5	5 47		
1	585-பா	ர	மி	...	8-2	7	2 77	0 95·0	2 63	946 வி. இராம திருஷ்ணன்.	
2	-பா	ர	மி	...	8-2	7	2 77	0 38·5	1 07	260 கி. கோவிந்த ராஜீலு நாயடு.	
								1 33·5	3 70		
1	586-பா	ர	மி	...	8-2	7	2 77	0 71·0	1 97	260 கி. கோவிந்த ராஜீலுநாயடு.	
2	-பா	ர	மி	...	8-2	7	2 77	0 03·0	0 08	1098 கி. கோவிந்த ராஜீலு நாயடு (1). நா. வரத ராஜீலு நாயடு (2).	கூட்டு பிரை.
3	-பா	ர	மி	...	8-2	7	2 77	0 93·5	2 59	972 நா. வரத ராஜீலு நாயடு.	
								1 67·5	3 64		
...	587	அ	புற	...	...	..	...	0 17·5	...	.....	பாறை.
...	586	ர	ர E	...	4-2	11	12 35	0 42·5	5 25	500 கி. புரீபால்.	
1	589-பா	ர	மி	...	8-2	7	2 77	0 01·0	0 06	983 நா. வரத ராஜீலு நாயடு.	
2	-பா	ர	மி	...	8-2	7	2 77	0 25·5	0 71	500 கி. புரீபால்.	
								0 26·5	0 77		

E—மோட்டர் ஆறு இரண்டாவது எழுப்பு.

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1	2	3	4	5	6	7	8	9	10	11
							ஆ. மை.	இலை. எச்சரு. மை.		
1	596-பா	ஓ	ப	...	8-2	7	2 77	0 18·5	0 51	564 [illegible] மரம்.
2	-பா	ஓ	ப	...	8-2	7	2 77	0 01·5	0 06	470 ஓ. சென்றாய மரம்.
3	-பா	ஓ	ப	...	8-2	7	2 77	0 17·0	0 47	19 ஓ. அப்பணை எச்சு ஒலிலி மரம்.
								0 37 0	1 04	
1	597-பா	ஓ	ப	...	8-2	7	2 77	0 26·5	0 73	470 ஓ. சென்றாய மரம்.
2	-பா	ஓ	ப	...	8-2	7	2 77	0 15·5	0 43	19 ஓ. அப்பணை எச்சு ஒலிலி மரம்.
3	-பா	ஓ	ப	...	8-2	7	2 77	0 17·0	0 47	470 ஓ. சென்றாய மரம்.
4	-பா	ஓ	ப	...	8-2	7	2 77	0 50·5	1 39	564 ஓ. நிப்பம் மரம்.
								1 09·5	3 02	
...	598	ஓ	இ.எ.த.	...	...	...	...	0 35·5	...	... கல்லாங் குத்து.
1	599-பா	ஓ	ப	...	8-3	8	2 15	0 59·0	1 27	827 இல. முனி பாய்ச்சு.
2	-பா	ஓ	ப	...	8-3	8	2 15	0 37·5	0 81	370 இல. குழந்தை
3	-பா	ஓ	ப	...	8-3	8	2 15	0 32·0	0 69	184 இ. கூச்சி எச்சு குழந்தை.
4	-பா	ஓ	ப	...	8-3	8	2 15	0 44·5	0 96	609 இல. நுனை சாமி.
5	-பா	ஓ	ப	...	8-3	8	2 15	0 19·0	0 41	184 இல. கூச்சி எச்சு குழந்தை.
6	-பா	ஓ	ப	...	8-3	8	2 15	0 08·0	0 17	795 கு. மொரியம் மரம்.
7	-பா	ஓ	ப	...	8-3	8	2 15	0 05·5	0 12	184 இல. கூச்சி எச்சு குழந்தை.
8	-பா	ஓ	ப	...	8-3	8	2 15	0 10·0	0 21	827 இல. முனியப் பாய்ச்சு.
								2 15·5	4 64	
1	600-பா	ஓ	ப	...	8-3	8	2 15	0 66·0	1 42	1099 ஓ. சென்றாய தாயுடு (1), அப்பணை எச்சு ஒலிலிதாயுடுஜோம் நிம்மாக அலுவலர்

25, புலிகுண்டா கிராமம்,
பருவ் மடம், திருவள்ளூர் மாவட்டம்

ANNEXURE VII

ABSTRACT

Natural Resources – Minor Mineral – Black Granite – Krishnagiri District – Bargur Taluk – Puligunda Village – Over an extent of 4.37.0 hectares of patta land in S.F.Nos.579/1A(P) (0.18.5 ha), 579/2B (0.19.0 ha), 579/3B (0.10.0 ha), 579/4B (0.14.0 ha), 579/5B(0.38.50 ha), 582/2 (1.21.50 ha), 599/1(0.59.0 ha), 599/2(0.37.50 ha), 599/3 (0.32.0 ha), 599/4 (0.44.50 ha), 599/5 (0.19.0 ha), 599/6 (0.08.0 ha), 599/7 (0.05.50 ha) & 599/8 (0.10.0 ha) – Surrender of quarry lease granted to Tvl.B.M. Continental Granites and Minerals Ltd – Accepted – Orders – Issued.

Natural Resources (MME.2) Department

G.O. (D) No.48 **Dated: 16.03.2024**

சோபகிருது வருடம் பங்குனி 3
திருவள்ளுவர் ஆண்டு 2055

Read:

1. G.O. (3D) No.56, Industries, (MME.1) Department, dated 23.11.2011.
2. G.O. (Ms) No.117, Industries (MME2) Department, dated 21.08.2014.
3. From Tvl.B.M. Continental Granites and Minerals Ltd, application dated 15.12.2022.
4. From the District Collector, Krishnagiri Rc.No. 2190/ 2022/ Mines, dated 11.10.2023.
5. From the Commissioner of Geology and Mining, Chennai Rc.No.7454/MM4/2023, dated 21.02.2024.

ORDER:

In the Government Order first read above, a quarry lease was granted to Thiru.R.K.Ramesh for quarrying Black Granite over an extent of 4.37.0 hectare of patta land in S.F.Nos.579/1A(P), 2B, 3B, 4B, 5B, 582/2, 599/1,2,3,4,5,6,7 & 8 of Puligunda Village, Bargur Taluk, Krishnagiri District for a period of 20 years under Rule 19-A of the Tamil Nadu Minor Mineral Concession Rules, 1959. The lease deed was executed on 14.12.2011 and the lease period is valid up to 13.12.2031.

2. In the Government order 2nd read above quarry lease was transferred from Thiru.R.K.Ramesh to M/s. B.M. Continental Granites and Minerals Limited.

3. In his application 3rd read above, Tvl.B.M.Continental Granites and Minerals Ltd has stated that they have acquired the said quarry raw material quarry for their proposed Export Unit SEZ project at Tamil Nadu Industrial Complex- SIPCOT at Pochampalli and due to practical / personal problems they are unable to start the said project, hence, it is resolved in their Board to surrender the lease. Therefore, he has requested the Government to accept the surrender of quarry lease granted to them in the Government order first read above.

4. In the reference 4th read above the District Collector, Krishnagiri, has stated the following:-

I) Based on the surrender proposal, the Revenue Divisional Officer, Krishnagiri had submitted as follows:-

i. A quarry lease had been granted in favour of B.M.Continental Granites & Minerals limited, to quarry Black granite over an extent of 4.37.0 hects of patta lands in S.F. Nos 579/1A(P)(0.18.5), 579/2B(0.19.0), 579/3B(0.10.0), 579/4B(0.14.0), 579/5B (0.38.50), 582/2(1.21.50), 599/1(0.59.0), 599/2(0.37.50), 599/3(0.32.0), 599/4(0.44.50) 599/5 (0.19.0), 599/6(0.08.0), 599/7(0.05.50), 599/8 (0.10.0) of Puligunda Village of Bargur Taluk of Krishnagiri District for a period of 20 years from 14.12.2011 to 13.12.2031.

ii. The SF Nos.579/1A (0.47.00 ha) stands jointly registered in the name 1. Thiru Govindan s/o Nadusennappan 2. Thippammal D/o. of Munusamy Naidu vide patta No. 1097 of Puligunda Village records.

iii. The SF.Nos. 579/2B, 3B, 4B, 5B, 582/2, 599/1,2,3,4,5,6,7 & 8 over an extent of 4.18.5 hectares stands registered in the name of B.M.Continental Granites & Minerals limited vide patta No.2757 of Puligunda Village records.

iv. The lease deed was executed on 14.12.2011 and the lease period is valid up to 13.12.2031. The subject quarry was non operation from the year 2015 onwards.

v. The lessee has carried out quarry operation within the lease area and there is no violation noticed in the subject quarry.

Finally, the Revenue Divisional Officer, Krishnagiri has recommended the surrender of quarry lease preferred by the lessee B.M.Continential Granites & Minerals limited, for Black granite quarry lease area over an extent 4.37.0 hects of patta lands in SF.Nos.579/1A (P)(0.18.5), 579/2B (0.19.0), etc.,of Puligunda Village of Bargur Taluk, krishnagiri District.

II) Based on the surrender proposal , the Assistant Geologist, Geology and Mining, Krishnagiri has inspected the subject quarry on 29.03.2023 and reported the following:-

i. During inspection it is noticed that the quarry pit is water logged, no men and machinery were available at the subject quarry site. Topsoil & Weathered rock thickness varies from 1.00 meter to 5.5 meters. Waste dump is noticed within the lease granted area.

ii. No violation of lease deed conditions is noticed.

iii. The lessee is not having valid environment Clearance. Penalty of Rs. 10,03,326/-levied and collected for EC violation.

iv. The lessee has not operated the subject quarry for the past seven years and last permit date was 02.02.2016.

v. There is a 26 numbers of granite blocks stocked with 85.450 cbm in the lease area.

vi. On verification of available records no mining dues / no arrears is payable by the lessee.

vii. The boundary of the lease granted area was surrounded by fencing to protect the entry of men and animal.

In view of the above, the Assistant Geologist, Geology and Mining, Krishnagiri has recommended to accept the surrender proposal, subject to the following conditions :-

a) The boundary of the area already fenced and rejected blocks to protect the entry of men and animals should not be disturbed.

b) As per rule 32 of GCDR 1999 restoration, reclamation and rehabilitation of land affected by the mining operation should be completed by the lessee.

c) The lessee shall follow the above condition and submit the compliance report to the Government through the Deputy Director of Geology and Mining within a period of three months from the date of acceptance of the surrender proposal.

III) Based on the surrender proposal, the Sub-Inspector of Survey (Mines), Krishnagiri had inspected the subject area and reported the following:-

i) The quarry was not in operation and the pit was water logged.

ii) During the lease period from 14.12.2011 to 02.02.2016, 2821.911 CBM of granite blocks were transported by getting valid transport permit.

iii) 26 dressed and undressed granite blocks with a volume of 85.450 CBM is available in the quarry site.

iv) The dimension of pit quantity for which the permit issued, actual recovery, percentage of black granite quarried, waste dump / rejected blocks available etc., were verified and is found to be tallied with present field condition. The details are given as under:-

Pit	Pit Volume (CBM)		Total Pit Volume (cbm) (for granite)	Permit obtained (cbm)	Stock blocks kept in quarry site (cbm)	Total Quantity (cbm)	% of recovery	Waste Dump
	Top Soil weat hered	Black Granite	54237	2736.461	85.450	2821.911	5.20	95% (51415cbm – waste stone and 92285 cbm-over burden + weathered zone)
Pit-1	66781	-						
Pit-2	14707	28077						
Pit-3	3427	4050						
Pit-4	7370	22110						
Total	**92285**	**54237**						

5. Based on the recommendation of the Revenue Divisional Officer, Krishnagiri, Sub Inspector of Survey (Mines), the Assistant Geologist (Mines), Krishnagiri, the District Collector, Krishnagiri has recommended and forwarded the surrender proposal of Tvl.B.M.Continental Granites and Minerals Ltd through the Director of Geology and Mining subject to conditions imposed by the Assistant Geologist (Mines), Krishnagiri.

6. In her reference 6th read above, the Commissioner of Geology and Mining has also recommended the surrender proposal of Tvl.B.M.Continental Granites and Minerals Ltd to the Government as per rule 24 (3) of the Granite Conservation and Development Rules, 1999 for passing orders on the surrender of quarry with certain conditions.

7. The Government carefully examined the request of Tvl.B.M.Continental Granites and Minerals Ltd in detail with the reports of the District Collector, Krishnagiri and the Commissioner of Geology and Mining and have decided to accept it. Accordingly, the Government hereby accept the surrender of the quarry lease granted to Tvl.B.M.Continental Granites and Minerals Ltd for quarrying the Black Granite over an extent of 4.37.0 hectares of Patta land in S.F.Nos.579/1A(P) (0.18.5 ha), 579/2B (0.19.0 ha), 579/3B (0.10.0 ha), 579/4B (0.14.0 ha), 579/5B (0.38.50 ha), 582/2 (1.21.50 ha), 599/1

(0.59.0 ha), 599/2 (0.37.50 ha), 599/3 (0.32.0 ha), 599/4 (0.44.50 ha), 599/5 (0.19.0 ha), 599/6 (0.08.0 ha), 599/7 (0.05.50 ha) & 599/8 (0.10.0 ha) of Puligunda Village, Bargur Taluk, Krishnagiri District in the G.O. first read above as per rule 24 (3) of the Granite Conservation and Development Rules, 1999, subject to the following conditions:-

a) The boundary of the area already fenced to protect the entry of men and animals should not be disturbed.
b) As per rule 32 of the Granite Conservation and Development Rules, 1999, restoration, reclamation and rehabilitation of land affected by mining operation should be completed by the lessee.
c) The lessee shall follow the above conditions and submit the compliance report to the Government through the Deputy Director of Geology and Mining within a period of 3 months from the date of acceptance of the surrender proposal.

8. The District Collector, Krishnagiri and the Commissioner of Geology and Mining are requested to take necessary action in this regard.

(BY ORDER OF THE GOVERNOR)

K. PHANINDRA REDDY
ADDITIONAL CHIEF SECRETARY TO GOVERNMENT (FAC)

To
Tvl.B.M.Continental
SIRE Mansion, First Floor,
Khivraj Motors Building,
621, Anna Salai, 1st Floor,
Chennai – 600 006.

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

The District Collector, Krishnagiri.

Copy to:
The Special Personal Assistant to Hon'ble Minister (Water Resources),
Secretariat, Chennai – 600 009.

The Natural Resources (OP) Department,
Chennai – 600 009.
SF/SC.

//FORWARDED BY ORDER //

S. Ganmuganathan
SECTION OFFICER 16/3/24.

ANNEXURE VIII



ಭಾರತ ಸರ್ಕಾರ
Government of India

ವಿಶಿಷ್ಟ ಗುರುತಿನ ಪ್ರಾಧಿಕಾರ
Unique Identification Authority of India

ನೋಂದಣಿ ಸಂಖ್ಯೆ Enrolment No.: 0206/31329/00157

To
ಶರತ್ ಬಿ
Sharath B
S/O: K Bage Gowda
108
13th Main
Jayanagar 4th Block East
Jayanagar 4th Block
Jayangar III Block
Bengaluru Karnataka - 560011
9901177799

Download Date: 13/03/2020

Issue Date: 10/02/2015

Signature invalid

barcode image

ನಿಮ್ಮ ಆಧಾರ್ ಸಂಖ್ಯೆ / Your Aadhaar No. :
5310 8328 9849
VID : 9113 4442 4510 0077

ನನ್ನ ಆಧಾರ್, ನನ್ನ ಗುರುತು

ಭಾರತ ಸರ್ಕಾರ
Government of India



ಶರತ್ ಬಿ
Sharath B
ಜನ್ಮ ದಿನಾಂಕ/DOB: 13/09/1980
ಪುರುಷ/ MALE

Download Date: 13/03/2020

Issue Date: 10/02/2015

5310 8328 9849
VID : 9113 4442 4510 0077

ನನ್ನ ಆಧಾರ್, ನನ್ನ ಗುರುತು

ಆಧಾರ್

- ಆಧಾರ್ ಗುರುತಿನ ಪುರಾವೆಯೇ ಹೊರತು ಪೌರತ್ವದಲ್ಲ
- ಮುದ್ರಿತ ಕ್ಯೂ ಆರ್ ಕೋಡ್/ಆಫ್‌ಲೈನ್ XML /ಆನ್‌ಲೈನ್ ದೃಢೀಕರಣ ಬಳಸಿ ಗುರುತನ್ನು ಪರಿಶೀಲಿಸಿ
- ಎಲೆಕ್ಟ್ರಾನಿಕ್ ಪ್ರಕ್ರಿಯೆ ಮೂಲಕ ಮುದ್ರಿತವಾದ ವಿದ್ಯುನ್ಮಾನ ರೂಪದ ಪತ್ರ

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- Verify identity using Secure QR Code/ Offline XML/ Online Authentication.
- This is electronically generated letter.

- ಆಧಾರ್ ದೇಶದಾದ್ಯಂತ ಮಾನ್ಯತೆಯನ್ನು ಪಡೆದಿದೆ
- ಸೌಲಭ್ಯಗಳಿಗೆ ಸರ್ಕಾರಿ ಹಾಗೂ ಸರ್ಕಾರೇತರ ಸೇವೆಗಳನ್ನು ಪಡೆಯಲು ಆಧಾರ್ ಸಹಾಯವಾಗಲಿದೆ.
- ನಿಮ್ಮ ಮೊಬೈಲ್ ಸಂಖ್ಯೆ ಮತ್ತು ಇ-ಮೇಲ್ ಐಡಿ ಅನ್ನು ಆಧಾರ್ ನಲ್ಲಿ ನವೀಕರಿಸಿರಿ
- ಆಧಾರ್ ನ್ನು ನಿಮ್ಮ ಸ್ಮಾರ್ಟ್ ಫೋನ್ ನಲ್ಲಿ ಕೊಂಡೊಯ್ಯಿರಿ- mAadhaar ಅಪ್ಲಿಕೇಶನ್ ಬಳಸಿ

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- Aadhaar helps you avail various Government and non-Government services easily.
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ಭಾರತೀಯ ವಿಶಿಷ್ಟ ಗುರುತು ಪ್ರಾಧಿಕಾರ
Unique Identification Authority of India

ವಿಳಾಸ:
ತಂದೆ / ತಾಯಿಯ ಹೆಸರು: ಕೆ ಭಾಗೇ ಗೌಡ, 108, 13ನೇ ಮೇನ್, ಜಯನಗರ 4ನೇ ಬ್ಲಾಕ್ ಈಸ್ಟ್, ಜಯನಗರ 4ನೇ ಬ್ಲಾಕ್, ಬೆಂಗಳೂರು ಉರ್ಬನ್ ಬೆಂಗಳೂರು, ಕರ್ನಾಟಕ - 560011

barcode image

Address:
S/O: K Bage Gowda, 108, 13th Main, Jayanagar 4th Block East, Jayanagar 4th Block, Bengaluru, Karnataka - 560011

5310 8328 9849
VID : 9113 4442 4510 0077

1947 | help@uidai.gov.in | www.uidai.gov.in

DIRECTOR OF GEOLOGY AND MINING • GUINDY, CHENNAI - 600 032

आयकर विभाग
INCOME TAX DEPARTMENT

भारत सरकार
GOVT. OF INDIA



स्थायी लेखा संख्या कार्ड
Permanent Account Number Card

AZJPS2147N



नाम / Name
SHARATH B

पिता का नाम / Father's Name
BAGEGOWDA KEMPAIAH

02042024

जन्म की तारीख /
Date of Birth
13/09/1980

हस्ताक्षर / Signature

ANNEXURE 1X

அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY

Reg. No. : 090895

அறிவியற் புலம்

FACULTY OF SCIENCE

மே, 2011 இல் நடத்திய தேர்வுகளில் பயன்பாட்டு நிலத்தியல் துறையில் வெங்கடகிரி பா/ மதிப்பெண்கள் 10.00 க்கு சராசரியாக 6.03 பெற்று இரண்டாம் வகுப்பில் தேர்ச்சியடைந்து முதன்முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி அறிவியல் நிறைஞர் பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார் என அண்ணாமலைப் பல்கலைக்கழக ஆளுகை இதன்வழி அறிவிக்கின்றது.

The Senate of the அண்ணாமலை பல்கலைக்கழகம் hereby makes known that VENGATAGIRI B. has been admitted to the Degree of MASTER OF SCIENCE in APPLIED GEOLOGY, he/she having secured OGPA of 6.03 out of 10.00 been certified by duly appointed Examiners at the Examination held in MAY,2011 to be qualified to receive the same, and that he/she was placed in SECOND CLASS.

இதற்கான முத்திரை பொறிக்கப்பட்டது.
Given under the seal of the University

அண்ணாமலைநகர்
Annamalainagar
நாள்:
Dated: 09/11/2011

துணை தேர்வாணையர் (கல்வியாளர்)
Dy. Controller of Examinations (Academic)

Dr.M.Rathnasabapathi
பதிவாளர்
Registrar

Dr.M.Ramanathan
துணை வேந்தர்
Vice-Chancellor

ANNEXURE 5

GOVERNMENT OF INDIA
MINISTRY OF LABOUR AND EMPLOYMENT
DIRECTORATE GENERAL OF MINES SAFETY

Certificate of Practical Experience granted by the Manager to a Candidate for a Manager's/ Surveyor's/ Mining foreman/ Mining Mate/ Blasters certificate of competency examination under Metalliferous Mines Regulation, 1961.

I, M.S.Pavel being the Manager of K.Pitchampatti Multicolour Granite Mine belong to M/s. Anupkumar Lohia do hereby certify that Thiru. B.Vengadagiri son of Thiu. Balasubramanian (whose signature is appended) worked in the above mine from 10.07.2012 to 15.08.2018 and is still working. 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.

M.S. Pavel

(Signature with date and official seal)

(Mines Manager(M.S) class)
MANAGER (MINES)
MULTICOLOUR GRANITE MINE
K. PITCHAMPATTI,
KARUR - TALUK & DIST.

(Signature of Candidate)

State the name of the mineral works: Multi Colour Granite



S. No.	Particulars of Practical experience (a)	Place of Experience (b) Opencast	Period of Practical experience (c)		Total Experience (c)		
			From	To	Yrs.	Months	Days
1.	As a trainee in drilling operation	Open cast	16.07.2012	24.10.2013	01	03	16
2.	As a trainee in deep hole blasting operation	Open cast	25.10.2013	31.12.2014	01	02	07
3	Production incharge quality control and Supervisor of Earth moving Mining Machinery	Open cast	01.01.2015	15.08.2018	3	7	15
GRAND TOTAL					06	1	5
In words : Six years one month ten days					Six	One	five

In below ground working	In open cast working	In all
Nil	Average monthly output 250m^3	250m^3
Nil	Average daily employment 25Nos	25Nos

Note: The average employment is less because this is mechanised mines having deep hole drilling, blasting and Heavy Earth Moving Machineries operation.

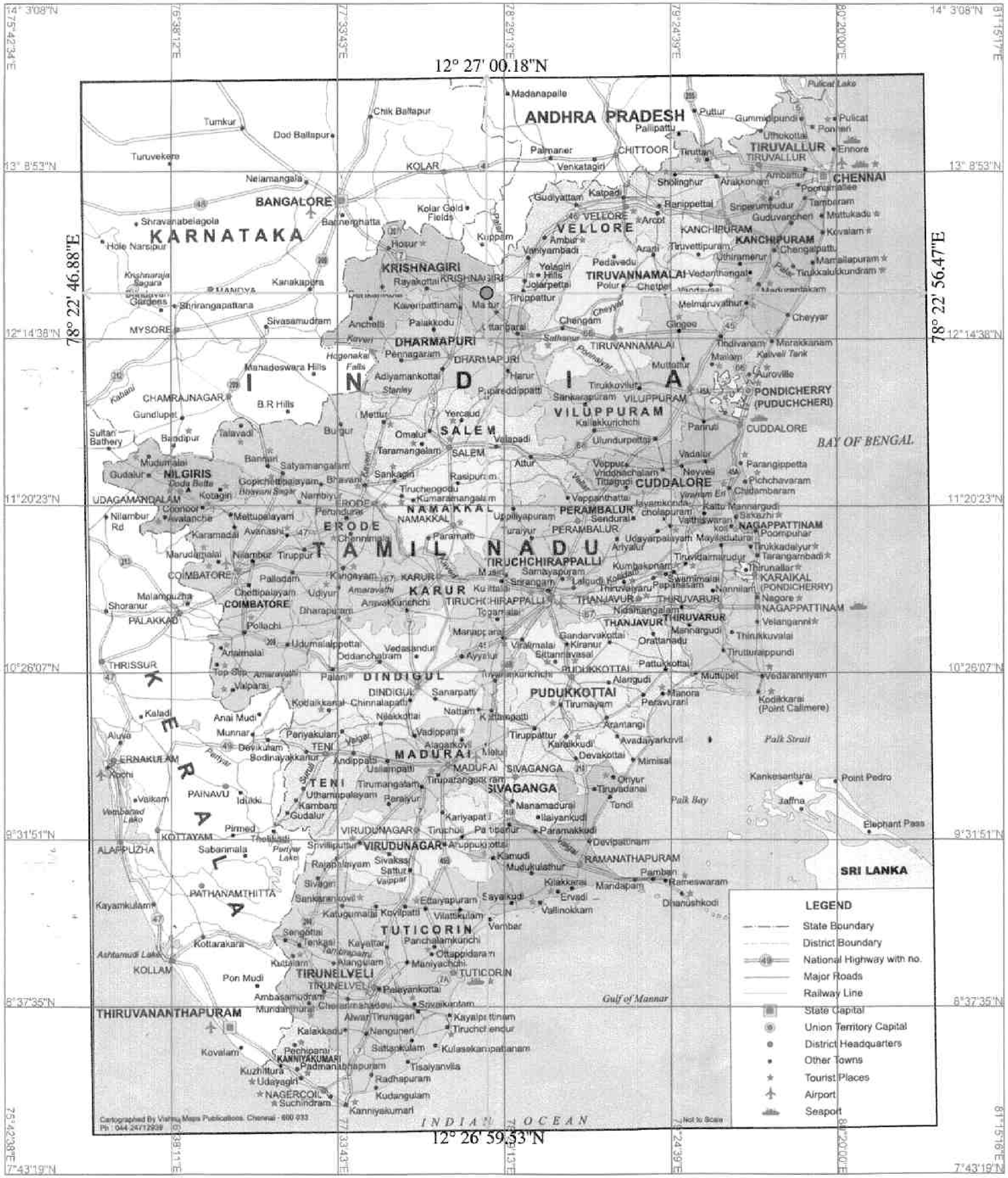
(Signature of Candidate)

(Signature with date and official seal)

(Mines Manager, 1st class)
MANAGER (MINES)
MULTICOLOUR GRANITE MINE
K. PITCHAMPATTI,
KARUR - TALUK & DIST.

DIRECTOR OF GEOLOGY AND MINING
600 032
GUINDY, CHENNAI

PLATES



N

W E

DIRECTOR OF GEOLOGY AND MINING * GUINDY, CHENNAI - 600 032

PLATE NO.I

DATE OF SURVEY : 08.08.2025

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos	:579/1B,2B,3B,4B,5B,582/2, 599/1,2,3,4,5,6,7 & 8,
EXTENT	:4.37.0 Ha,
VILLAGE	:PULIGUNDA,
TALUK	:BARGUR,
DISTRICT	:KRISHNAGIRI.

INDEX

Q. L. AREA : ●

TOPO SHEET NO. : 57 L/07

LATITUDE : 12° 26' 59.53"N to 12° 27' 00.18"N

LONGITUDE : 78° 22' 46.88"E to 78° 22' 56.47"E

LOCATION PLAN

NOT TO SCALE

PREPARED BY :

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

B.VENKADAGIRI,M.Sc.,
QUALIFIED PERSON
Under Rule 15(I)(a)and(b)of MCR,2016

TOPO SHEET NO. : 57 L/07

LATITUDE : 12°26'59.38"N to 12°27'09.17"N

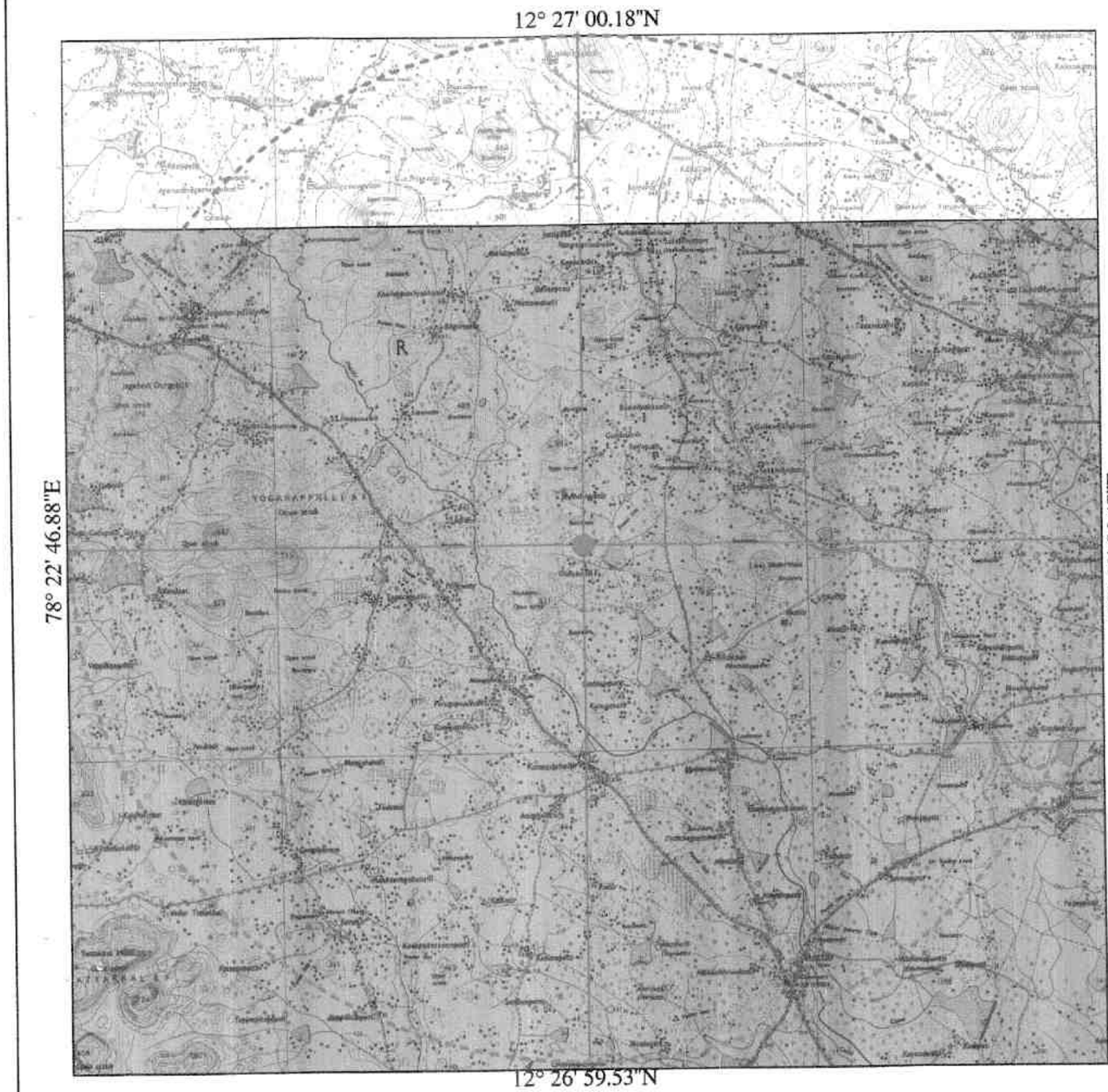
LONGITUDE : 78°22'46.88"E to 78°22'56.47"E

10 KM RADIUS :

QUARRY LEASE AREA:

N

W E



APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF Q.L. AREA:

S.F.NOS :579/1B,2B,3B,4B,5B,582/2, 599/1,2,3,4,5,6,7 & 8,
EXTENT :4.037.0 Hect
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

INDEX

Roads,metalled:according to importance:distance stone.....
Roads unmetalled: do do :bridge.....
Cart–Track,with piers:without,Causeway,Ford with bridge.....
Streams with track in bed:Undefined,canal.....
Dams: masonry or rock–filled:earth,weir.....
River banks:Shelving:steep,3 to 6 metres:over 6 metres.....
River dry with water channel:with island & rocks.Tidal river.....
Submerged rocks,Shoal,Swamp,Reeds.....
Wells:lined:unlined.Tube–well,Spring.Tanks:perennial:dry.....
Embankments:road or rail:tank.Broken Ground.....
Railways,broad gauges:double:single with station:under constrn.....
Railways,other gauges: do : do.with distance stone:do.....
Minerals line or tramway.Telegraph line cutting with tunnel.....
Contours with sub–features.Rocky slopes.cliffs.....
Sand features:(1)flat.(2)sand–hills and surveyed.(3)shifting dunes
Towns or villages:inhabited:desarted.Fort.....
Hunts:permanent temporary.Town.Antiquities.....
Temple.Chhatri.Church.Mosque.Idgah.Tomb.Graves.....
Lighthouse.Lightchip.Bueys:lighted:unlighted.Anchorage.....
Mine.Vine on trellis. Grass.Scrub.....
Palms:Palmyra:other.Plantation.Conifer.Bamboo.Other trees.....
Boundary,international.....
Boundary,state:demarcated:undemarcated.....
Boundary,district:subdivin,tahsil or taluk:forest.....
boundary pollars:surveyed:unlocated:village trijunction.....
Heights.triangulated:station,point:approximate.....
Bench–mark:geodetic:tertiary:canal.....
Post office.Telegraph office.combined officw.Police station.....
Bungalows:dak or travellers;inspections.Rest house.....
Circuit house.Camping ground.Forest:reserved:protected.....
Spaced names:administrative:locality or tribal.....

PLATE NO:I-A
DATE OF SURVEY : 08.08.2025

KEY PLAN

SCALE– 1:1,00,000

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

B.VENKADAGIRI,M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(c)and(b)of MCR,2016



PLATE NO:I-B

DATE OF SURVEY : 08.08.2025

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF Q.L. AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

INDEX

Q.L.APPLIED BOUNDARY

APPROACH ROAD

MAJOR ROAD

TANK

DIRECTOR OF GEOLOGY AND MINING * CHENNAI - 600 032 *

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 LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

B.VENKADAGIRI, M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(a) and (b) of MCR,2016

BOUNDARY CO-ORDINATES

S.N.	LATITUDE	LONGITUDE
1	12° 27' [illegible] N	78° 22' 46.92"E
2	[illegible]	78° 22' 46.88"E
3	12° 27' 05.15"N	78° 22' 47.70"E
4	12° 27' 05.28"N	78° 22' 47.14"E
5	12° 27' 06.85"N	78° 22' 47.46"E
6	[illegible]	78° 22' 48.12"E
7	12° 27' [illegible] N	78° 22' 48.73"E
8	12° 27' 06.48"N	78° 22' 48.24"E
9	12° 27' 06.41"N	78° 22' 48.33"E
10	12° 27' 09.17"N	78° 22' 49.46"E
11	12° 27' 08.95"N	78° 22' 49.89"E
12	12° 27' 07.78"N	78° 22' 51.50"E
13	12° 27' 06.73"N	78° 22' 50.95"E
14	12° 27' 05.30"N	78° 22' 56.47"E
15	12° 27' 04.32"N	78° 22' 55.99"E
16	12° 27' 03.23"N	78° 22' 54.99"E
17	12° 27' 02.47"N	78° 22' 54.84"E
18	12° 27' 02.33"N	78° 22' 55.00"E
19	12° 27' 00.97"N	78° 22' 54.76"E
20	12° 27' 01.22"N	78° 22' 53.77"E
21	12° 26' 59.53"N	78° 22' 53.07"E
22	12° 26' 59.38"N	78° 22' 52.94"E
23	12° 27' 00.18"N	78° 22' 51.65"E
24	12° 27' 00.85"N	78° 22' 51.07"E
25	12° 27' 01.27"N	78° 22' 51.13"E
26	12° 27' 01.94"N	78° 22' 50.32"E
27	12° 27' 02.32"N	78° 22' 50.20"E
28	12° 27' 02.49"N	78° 22' 49.25"E
29	12° 27' 02.24"N	78° 22' 48.59"E
30	12° 27' 02.46"N	78° 22' 47.76"E

DATUM WGS-84

DIRECTOR OF GEOLOGY AND MINING CHENNAI

INDEX

- QUARRY LEASE AREA BOUNDARY
- 50m & 7.5m SAFETY DISTANCE
- TBM TEMPORARY BENCH MARK
- APPROACH ROAD
- MUD ROAD
- INFRASTRUCTURE
- POWER LINE

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - II

DATE OF SURVEY : 08.08.2025

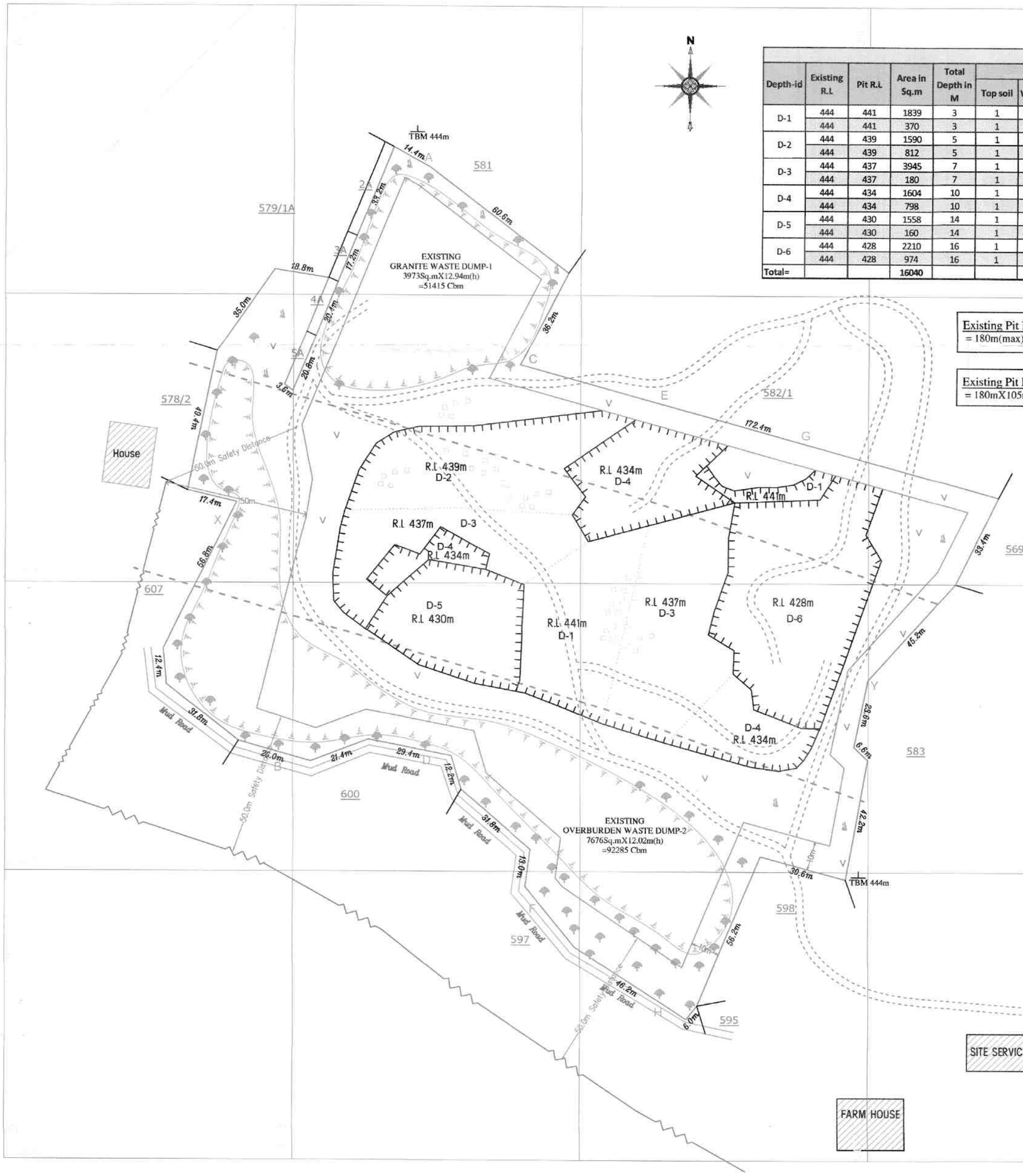
QUARRY LEASE PLAN

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

R.VENKATAGIRI,M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(a)and(b)of MCR,2016



Existing Pit Details

Depth-id	Existing R.L	Pit R.L	Area in Sq.m	Total Depth in M	Depth in Meter				Volume in M^3				Total Excavation in M^3
					Top soil	Weathered	Granite	Side Burden	Top soil	Weathered	Granite	Side Burden	
D-1	444	441	1839	3	1	2	-	-	1839	3678	-	-	5517
	444	441	370	3	1	2	-	-	370	740	-	-	1110
D-2	444	439	1590	5	1	4	-	-	1590	6360	-	-	7950
	444	439	812	5	1	4	-	-	812	3248	-	-	4060
D-3	444	437	3945	7	1	4	2	-	3945	15780	7890	-	27615
	444	437	180	7	1	4		2	180	720	-	360	1260
D-4	444	434	1604	10	1	4	5	-	1604	6416	8020	-	16040
	444	434	798	10	1	4		5	798	3192	-	3990	7980
D-5	444	430	1558	14	1	4	9	-	1558	6232	14022	-	21812
	444	430	160	14	1	4		9	160	640		1440	2240
D-6	444	428	2210	16	1	4	11	-	2210	8838	24305	-	35353
	444	428	974	16	1	4		11	974	3896	-	10715	15586
Total=			16040						16040	59740	54237	16505	146523

Existing Pit Dimension
= 180m(max)X90m(avg)X9m(d)(avg)

Existing Pit Dimension (max)
= 180mX105mX16m(d)

INDEX

- QUARRY LEASE AREA BOUNDARY
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- QUARRY PIT
- DUMP
- SHRUBS & TREES
- QUARRY HAUL ROAD
- APPROACH ROAD
- MUD ROAD
- INFRASTRUCTURE
- POWER LINE
- STOCKING BLOCKS

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - III

DATE OF SURVEY : 08.08.2025

SURFACE PLAN

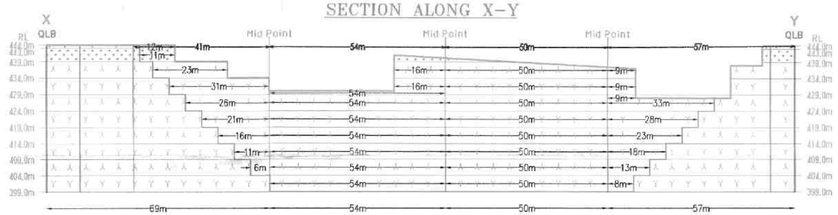
SCALE. 1:1000

PREPARED BY :

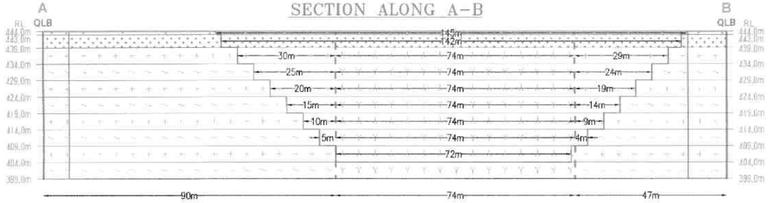
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

B.VENKADAGIRI,M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(a)and(b)of MCR,2016

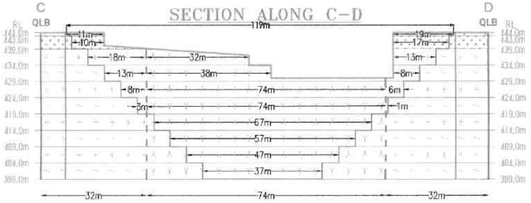
SECTION ALONG X–Y



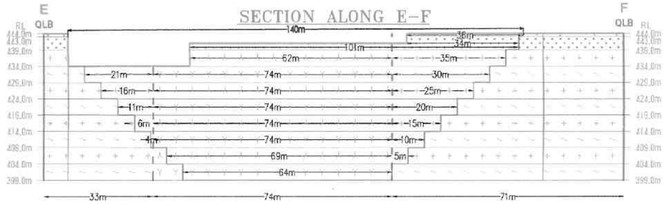
SECTION ALONG A–B



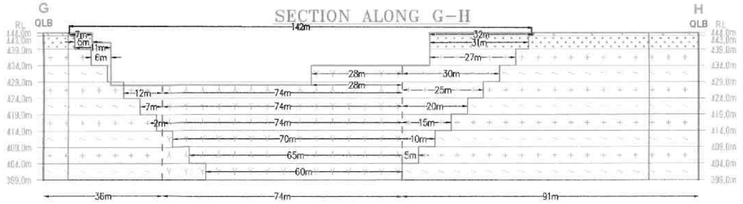
SECTION ALONG C–D



SECTION ALONG E–F



SECTION ALONG G–H







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- GRANITE GNEISS
- QUARRY PIT
- DUMP
- SHRUBS & TREES
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- APPROACH ROAD
- MUD ROAD
- INFRASTRUCTURE
- POWER LINE
- STOCKING BLOCKS
- MID POINT

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

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EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - IV

DATE OF SURVEY : 08.08.2025

GEOLOGICAL PLAN & SECTIONS

SCALE. 1:1000

PREPARED BY :

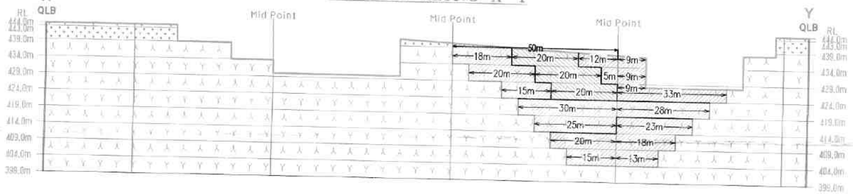
THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

B.VENKADAPURI,B.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(a)and(b)of MCR,2016

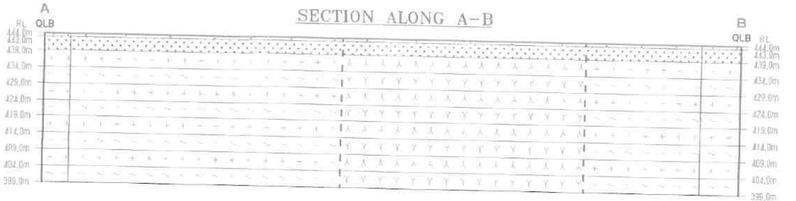
1st Year Proposed to be Planted
2nd Year Proposed to be Planted
3rd Year Proposed to be Planted
4th Year Proposed to be Planted
5th Year Proposed to be Planted

1st Year Proposed to be Excavated
2nd Year Proposed to be Excavated
3rd Year Proposed to be Excavated
4th Year Proposed to be Excavated
5th Year Proposed to be Excavated

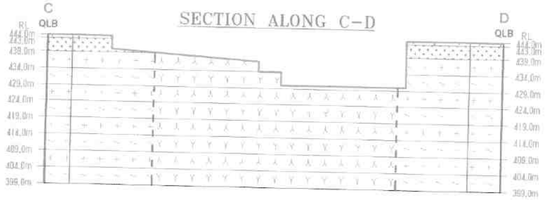
SECTION ALONG X-Y



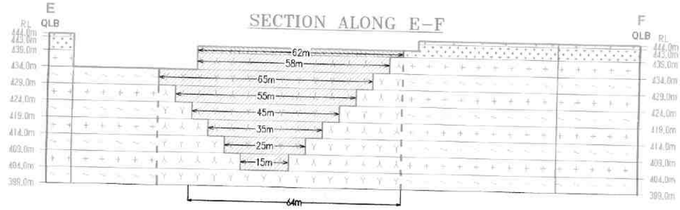
SECTION ALONG A-B



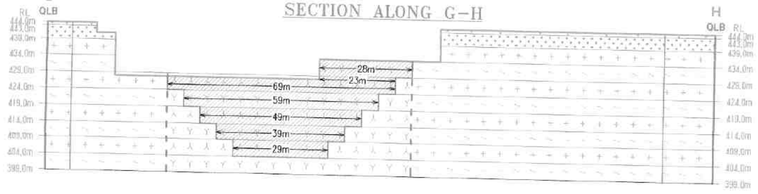
SECTION ALONG C-D

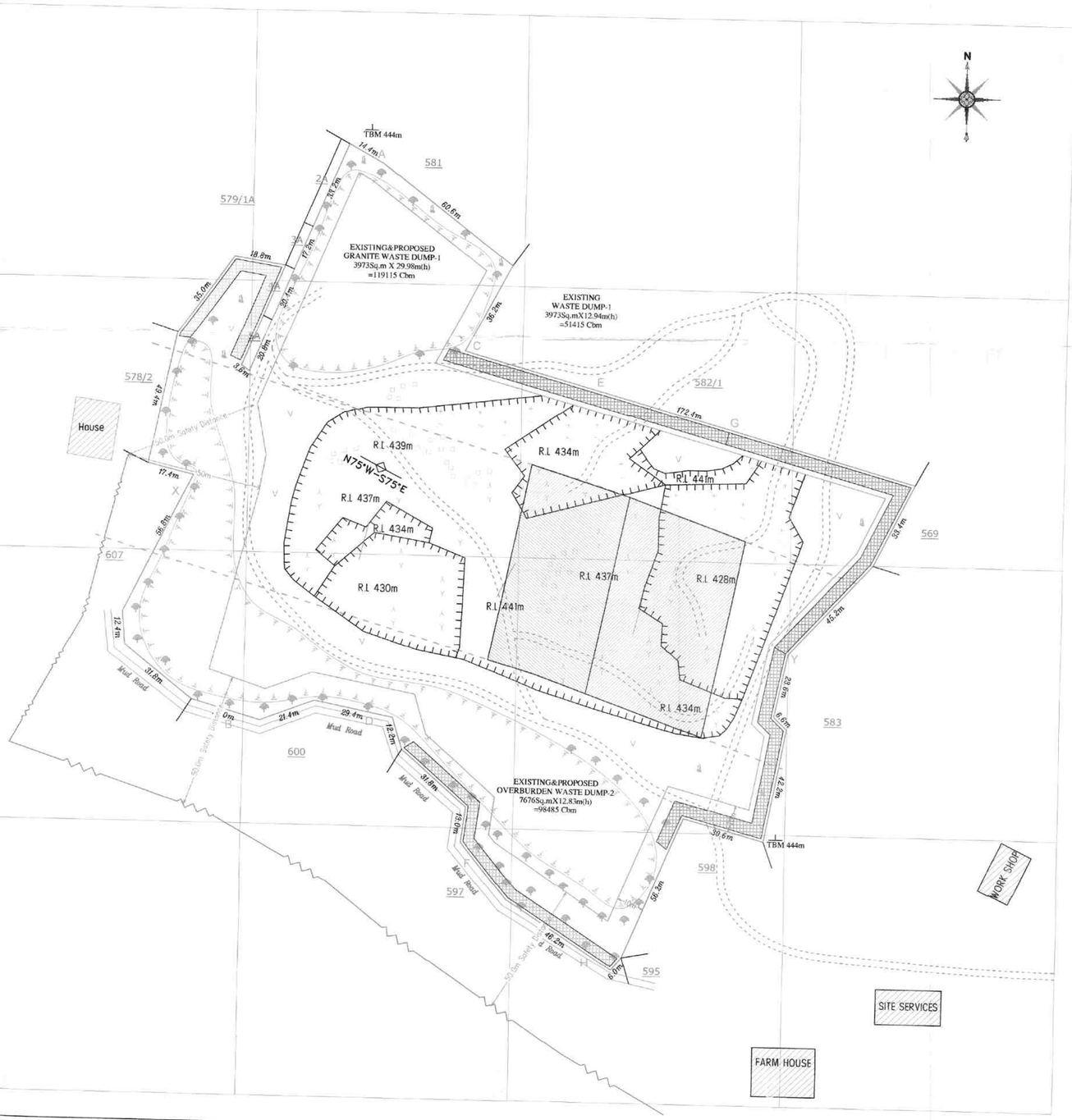


SECTION ALONG E-F



SECTION ALONG G-H





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- DUMP
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- QUARRY HAUL ROAD
- APPROACH ROAD
- MUD ROAD
- INFRASTRUCTURE
- POWER LINE
- STOCKING BLOCKS
- MID POINT

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - V

DATE OF SURVEY : 08.08.2025

YEARWISE DEVELOPMENT & PRODUCTION 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 LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

B.VENKATA RAMANA,
QUALIFIED PERSON
Under Rule 15(1)(a)and(b)of MCR,2015

N

TBM 444m

EXISTING&PROPOSED
GRANITE WASTE DUMP-1
3973Sq.m X 29.98m(h)
=119115 Cbm

EXISTING&PROPOSED
OVERBURDEN WASTE DUMP-2
7676Sq.mX12.83m(h)
=98485 Cbm

House

WORK SHOP

SITE SERVICES

FARM HOUSE

R.L 439m
R.L 437m
R.L 434m
R.L 430m
R.L 441m
R.L 434m
R.L 428m

579/1A
578/2
581
582/1
583
569
607
600
598
597
595

50.0m Safety Distance

Mud Road

INDEX

- QUARRY LEASE AREA BOUNDARY
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- QUARRY PIT
- DUMP
- SHRUBS & TREES
- QUARRY HAUL ROAD
- APPROACH ROAD
- MUD ROAD
- INFRASTRUCTURE
- POWER LINE
- STOCKING BLOCKS
- GREEN BELT

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - VI

DATE OF SURVEY : 08.08.2025

QUARRY LAYOUT , LANDUSE & AFFORESTATION PLAN

SCALE. 1:1000

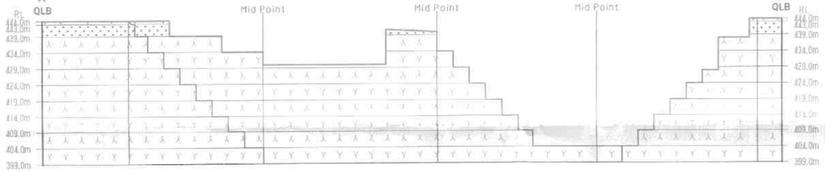
PREPARED BY :

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.

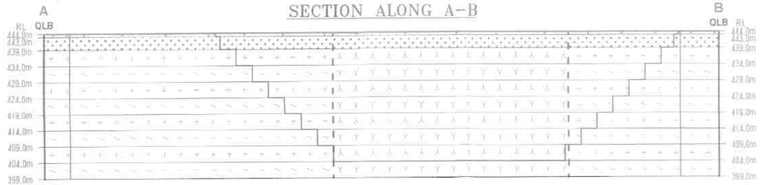
PROPOSED LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Ha)	ADDITIONAL AREA REQUIRED DURING THIS MINING PLAN PERIOD (Ha)	AREA AT THE END OF LIFE OF QUARRY (Ha)	Color code
AREA UNDER MINING	1.60.39	NIL	2.70.20	
DUMP	1.16.49	NIL	Backfilled	
INFRASTRUCTURE	NIL	NIL	NIL	
ROADS	0.03.00	NIL	0.03.00	
GREEN BELT	0.25.00	0.25.00	0.50.00	
STOCKING BLOCKS	1.32.12	1.07.12	1.13.80	
TOTAL	4.37.00	1.32.12	4.37.00	

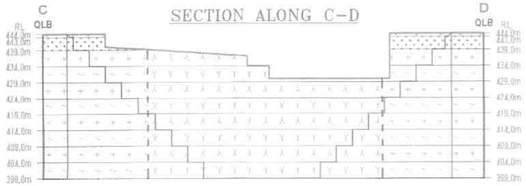
SECTION ALONG X–Y



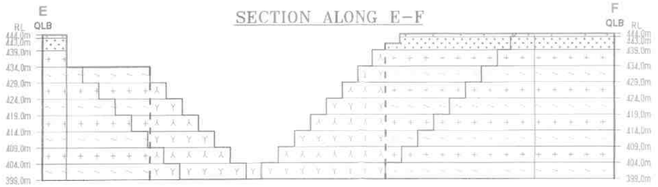
SECTION ALONG A–B



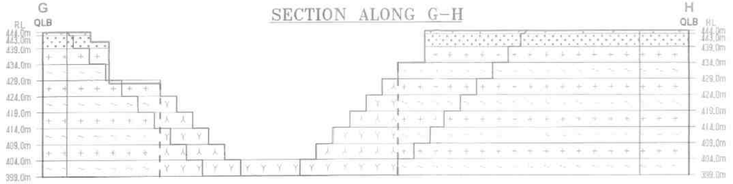
SECTION ALONG C–D

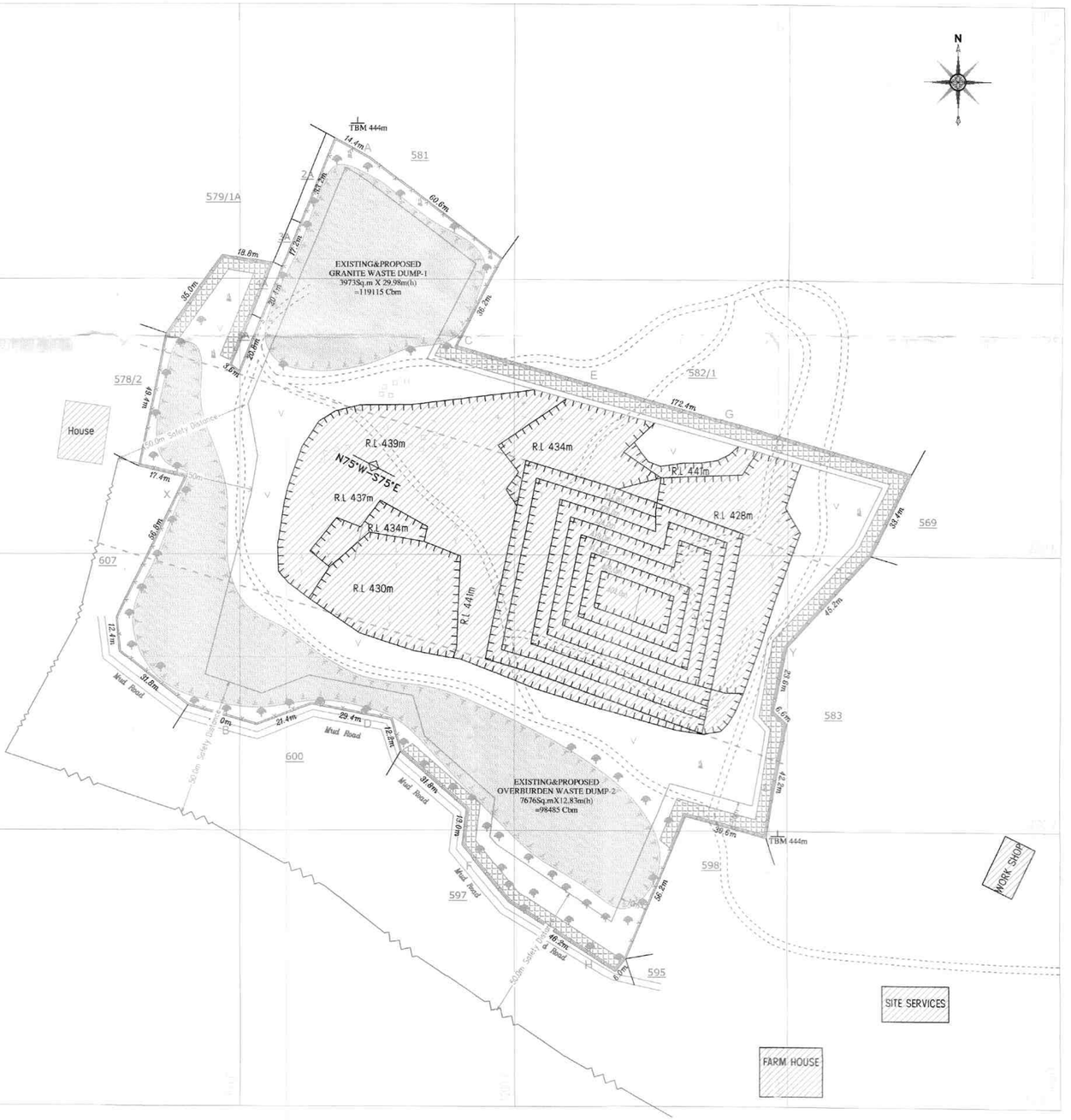


SECTION ALONG E–F



SECTION ALONG G–H





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- MUD ROAD
- INFRASTRUCTURE
- POWER LINE
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- MID POINT
- GREEN BELT
- BARBED WIRE FENCING

DIRECTOR OF GEOLOGY AND MINING GUINDY, CHENNAI

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU.KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha.
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - VII

DATE OF SURVEY : 08.08.2025

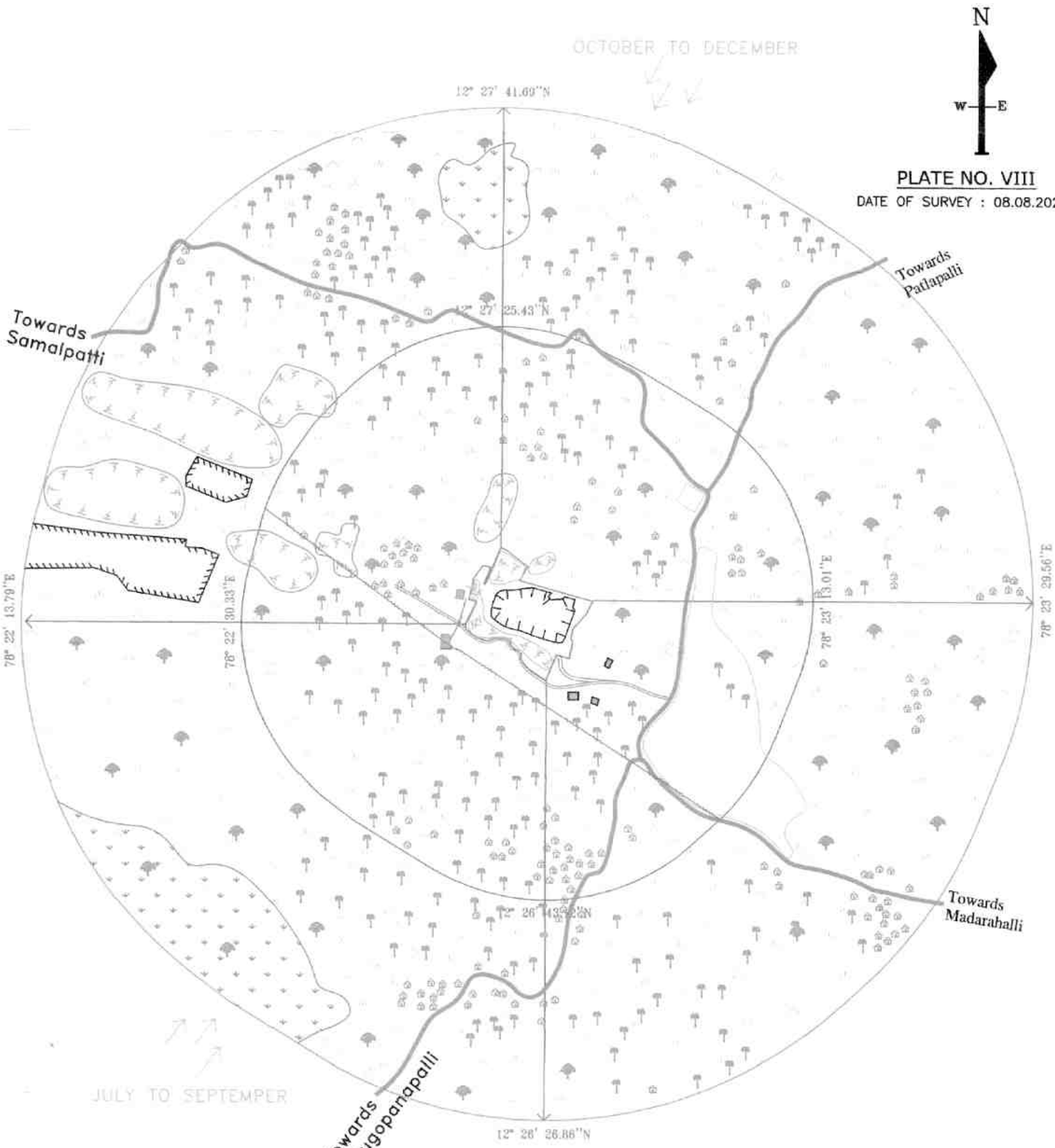
PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS

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 LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

B.VENKATARAMAN M.Sc.,
DESIGNATED PERSON
Under Rule 15(1)(c)and(e)of MCR,2016



N

W — E

PLATE NO. VIII

DATE OF SURVEY : 08.08.2025

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU,KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2, 599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

TOPO SHEET NO. : 57 L/07

LATITUDE : 12° 26' 59.53"N to 12° 27' 30.18"N

LONGITUDE : 78° 22' 46.88"E to 78° 23' 56.47"E

INDEX

- Q.L BOUNDARY
- 1KM RADIUS
- 500m RADIUS
- WIND DIRECTION
- TREES
- POWER LINE
- PANCHAYAT ROAD
- MUD ROAD
- AGRICULTURAL LAND
- HABITATION
- HILLLOCK
- QUARRY PIT
- TANK
- DUMP

LAND USE PATTERN		
DESCRIPTION	PERCENTAGE	INDEX
ROADS\DUMP	(15%)	
HABITATION	(10%)	
SEASONAL AGRICULTURAL LAND	(50%)	
TREES	(20%)	
HILL LOCK AREA	(05%)	

ENVIRONMENTAL AND LANDUSE PLAN FOR 1Km RADIUS

SCALE 1:10000

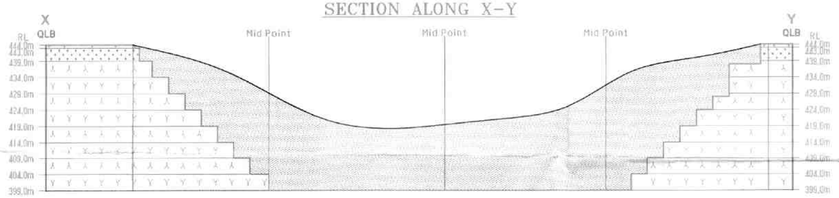
PREPARED BY:

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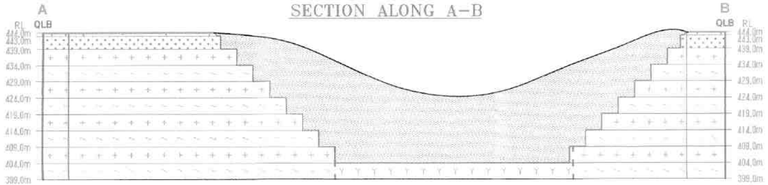
B.VENKADAGIRI,M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(a)and(b)of MCR.2016

Ultimate Pit Dimension (max)
= 193mX145mX45m(d)

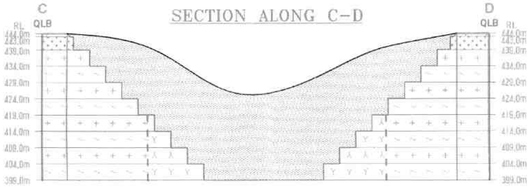
SECTION ALONG X–Y



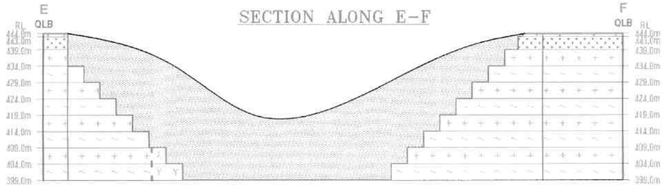
SECTION ALONG A–B



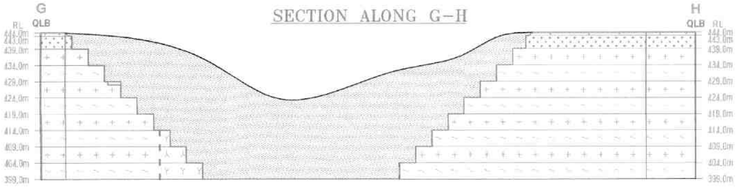
SECTION ALONG C–D

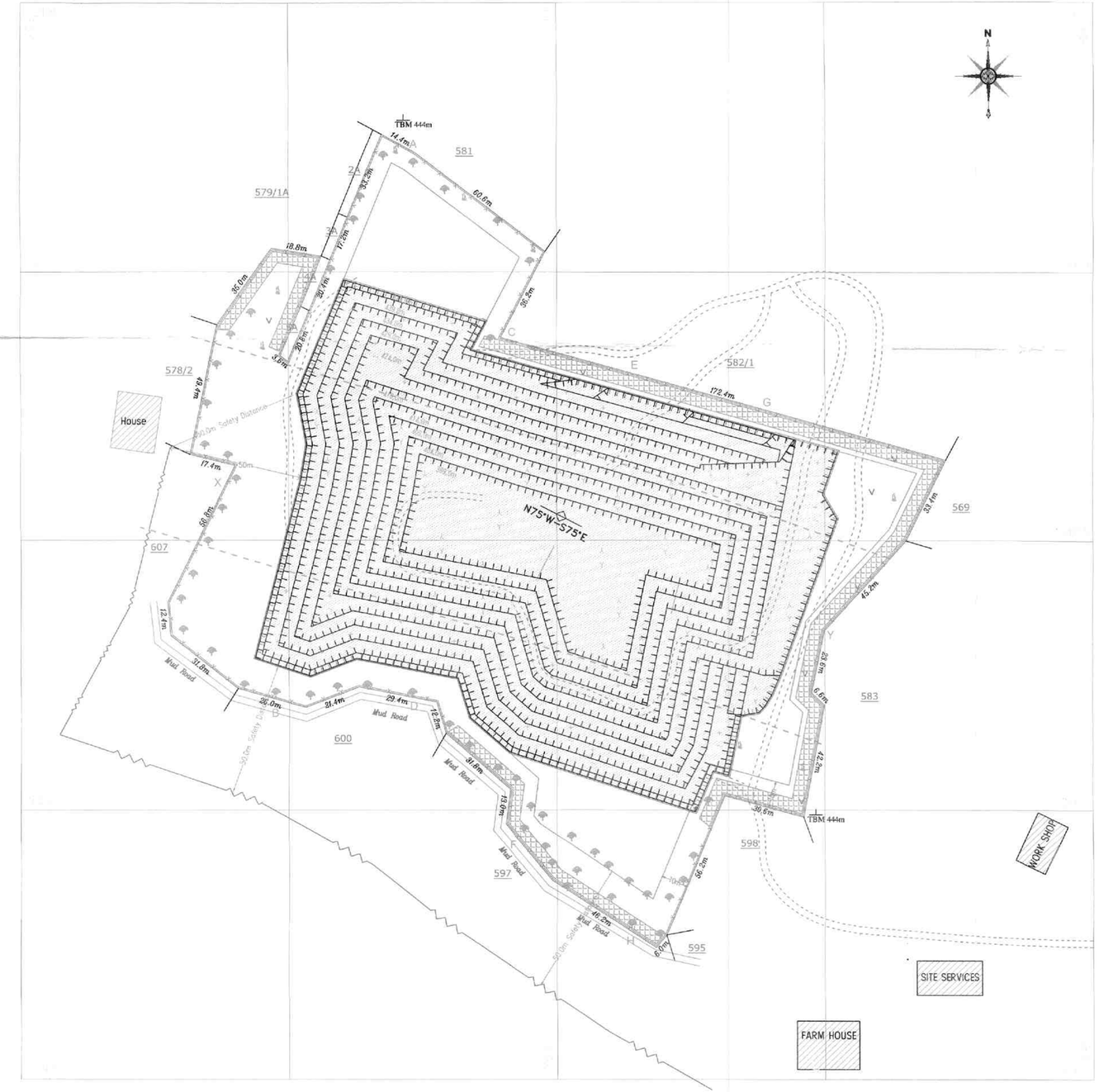


SECTION ALONG E–F



SECTION ALONG G–H





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- MID POINT
- PROPOSED BACKFILLING
- GREEN BELT
- BARBED WIRE FENCING
- PROPOSED GARLAND DRAIN

APPLICANT :

THIRU.B.SHARATH,
S/O.K.BAGE GOWDA,
108,13th MAIN, JAYANAGAR 4th Block(E),
JAYANGAR III BLOCK,
BENGALURU.KARNATAKA-560011.

LOCATION OF QUARRY LEASE AREA:

S.F.Nos :579/1B,2B,3B,4B,5B,582/2,
599/1,2,3,4,5,6,7 & 8,
EXTENT :4.37.0 Ha,
VILLAGE :PULIGUNDA,
TALUK :BARGUR,
DISTRICT :KRISHNAGIRI.

PLATE NO - IX

DATE OF SURVEY : 08.08.2025

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 LEASE MAP AUTHENTICATED BY STATE GOVERNMENT

B.V.PRADAP KUMAR M.Sc.,
QUALIFIED PERSON
Under Rule 15(1)(c)and(b)of MCR,2016

கிராம நிர்வாக அலுவலர் சான்று

திருப்பூர் மாவட்டம் பர்கூர் வட்டம் மற்றும் உப்பிலிபாளையம் 25 புலிகுண்டா வருவாய் கிராம புல எண்கள்: 579/1B (0.18.50 hec), 579/2B (0.19.0 hec), 579/3B (0.10.0 hec), 579/4B (0.14.0 hec), 579/5B (0.38.5 hec), 582/2 (1.21.5 hec), 599/1 (0.59.0 hec), 599/2 (0.37.5 hec), 599/3 (0.32.0 hec), 599/4 (0.44.5 hec), 599/5 (0.19.0 hec), 599/6 (0.08.0 hec), 599/7 (0.05.5 hec), 599/8 (0.10.0 hec) அக மொத்தம் பரப்பு 4.37.0 ஹெக்டேர் நிலமானது K. பாலகேகவுடர் மகன் திரு. B பெயரில் கணக்கினில் நீர்க்கோகுடியுள்ளது. மேற்படி புலங்களில் உள்ள மொத்த பரப்பு 4.37.0 ஹெக்டேர் நிலத்திற்கு சுமார் தினசரி குடிநீர் தேவையும் புலத்தேவையும் 300 மீட்டர் சுற்றுவட்டத்திற்குள் சுமார் (2 மீட்டர் ஆழமுள்ள) 30 திறந்தவெளி கிணறுகள் உள்ளது. அனால் அதிகாரிக்கப்பட்ட மீட்டருக்கான திறனுடைய, பராமரிக்கப்படாத சிக்னைகள், மோட்டார்கள் ஏதுமில்லை என விண்ணப்பதாரரிடமிருந்து எனது சான்றளிக்கிறேன்.

கிராம நிர்வாக அலுவலர்
25, புலிகுண்டா கிராமம்,
பர்கூர் வட்டம், கிருஷ்ணகிரி மாவட்டம்.

தொலைபேசி எண். 04344-296500
இமெயில்-dfohosur@gmail.com

தமிழ்நாடு வனத்துறை

அனுப்புநர்
திருமதி.க.கார்த்திகேயனி,இ.வ.ப.,
வனஉயிரினக்காப்பாளர்,
ஓசூர் வனக்கோட்டம்.
மத்திகிரி, ஓசூர் 635 110.

பெறுநர்
மாவட்ட ஆட்சியர்,
திருவ்ஷ்ணகிரி.

ந.க.எண்.11095/2024/எல் நாள். 08.10.2024.
(ஸ்ரீ குரோதி வருடம் புராட்டாசி மாதம் திருவள்ளுவராண்டு 2055)

அம்மையீர்,

பொருள் : கனிமங்களும் குவாரிகளும் கிருஷ்ணகிரி மாவட்டம் – பர்கூர் வட்டம் – புலிகுண்டா கிராமம் பட்டா புல எண்கள். 579/1B (0.18.5), 579/2B(0.19.0), 579/3 B (0.10.0), 579/4 B (0.14.0), 579/5 B (0.38.5), 582/2 (1.21.5), 599/1 (0.59.0), 599/2(0.37.5), 599/3(0.32.0), 599/4(0.44.5) 599/5 (1.19.0), 599/6 (0.08.0),599/7 (0.05.5) மற்றும் 599/8 (0.10.0) விஸ்தீரணம் 4.37.0 ஹெக்டர் பரப்பளவில் இருபது ஆண்டுகளுக்கு கருப்பு கிரானைட் கற்கள் குத்தகை அனுமதி கோரி தி/ள் சரத் கிரானைட்ஸ் உரிமையாளர், திரு.சரத் த/பெ.பாகே கவுடா என்பவர் குவாரி அனுமதி கோரப்பட்ட புலத்திற்கு அருகிலுள்ள காப்புக்காடுகள், காவேரி வடக்கு வன உயிரின சரணாலயம், யானைகளின் வலசை பாதை ஆகியவற்றின் தொலைவு விவரம் கோரியது – தொடர்பாக.

பார்வை :
1. தி/ள்.சரத் கிரானைட்ஸ் உரிமையாளர் திரு.சரத் த/பெ.பாகேகவுடா, எண்.108, 13வது மெயின், ஜெயநகர், 4வது ப்ளாக் ஈஸ்ட், பெங்களூரு, கர்நாடகா 560 011 என்பவரின் மனு நாள்.19.08.2024.
2. மாவட்ட ஆட்சியர், கிருஷ்ணகிரி ந.க.எண். 1117/2024/கனிமம் நாள். 23.08.2024.
3. வனச்சரக அலுவலர், கிருஷ்ணகிரி ந.க.எண். 178/2024 நாள். 21.09.2024.

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பார்வை 1ல் காணும் கடிதத்தில் கிருஷ்ணகிரி மாவட்டம், பர்கூர் வட்டம், புலிகுண்டா கிராமம் பட்டா புல எண்கள். 579/1B (0.18.5), 579/2B (0.19.0), 579/3 B (0.10.0), 579/4 B (0.14.0), 579/5 B (0.38.5), 582/2 (1.21.5), 599/1 (0.59.0), 599/2(0.37.5), 599/3(0.32.0), 599/4(0.44.5), 599/5 (1.19.0), 599/6 (0.08.0), 599/7 (0.05.5) மற்றும் 599/8 (0.10.0) விஸ்தீரணம் 4.37.0 ஹெக்டர் பரப்பளவில் இருபது ஆண்டுகளுக்கு கருப்பு கிரானைட் கற்கள் குத்தகை அனுமதி கோரியுள்ள புலத்திற்கு அருகிலுள்ள காப்புக்காடுகள், காவேரி வடக்கு வன உயிரின சரணாலயம், யானைகளின் வலசை பாதை ஆகியவற்றின் தொலைவு விவரம், பார்வை 2ல் காணும் மாவட்ட ஆட்சித்தலைவர் அவர்கள் கடிதத்தில் கோரப்பட்டுள்ளது.

மேற்படி புலத்தின் அருகிலுள்ள காப்புக்காடுகள், காவேரி வடக்கு வன உயிரின சரணாலயம், யானைகளின் வலசை பாதை ஆகியவற்றின் தொலைவு விவரம் பின்வருமாறு தெரிவிக்கப்படுகிறது.

1. மேற்படி தொலைவு விவரம் கோரியுள்ள இடத்தின் GPS அளவுகள் N12.450834, E78.38102 ஆகும்.

2. மேற்படி தொலைவு விவரம் கோரியுள்ள புலமானது புளிகுண்டா –I காப்புக்காட்டின் எல்லையிலிருந்து 800 மீ தொலைவிலும், காவேரி வடக்கு வன உயிரின சரணாலய எல்லையிலிருந்து (மாரண்டஹள்ளி விரிவாக்கம் காப்புக்காடு) 44.75 கி.மீ தொலைவிலும் மற்றும் காவேரி வடக்கு வன உயிரின சரணாலயத்திற்கான சூழல் உணர்திறன் மண்டலத்தின் எல்லையிலிருந்து (Eco-Sensitive Zone) 43.75 கி.மீ தொலைவில் அமைந்துள்ளது.

3. மேலும், மேற்படி தொலைவு விவரம் கோரியுள்ள புலமானது, காவேரி தெற்கு வன உயிரின சரணாலய எல்லையிலிருந்து (கேசர்குள காப்புக்காடு) 48.60 கி.மீ தொலைவில் அமைந்துள்ளதனால், சரணாலயம் அறிவிக்கை செய்து, Eco-Sensitive Zone எல்லை நிர்ணயம் செய்யப்படாத நிலையில், நடைமுறையிலுள்ள வழிகாட்டுதல்களின்படி சரணாலய எல்லையிலிருந்து 10 கிலோ மீட்டர் சுற்றளவிற்கு Eco-Sensitive Zone-ஆக கருத்தில் கொண்டு நடவடிக்கை மேற்கொள்ளப்பட வேண்டும் என்ற அடிப்படையில், இப்புலமானது காவேரி தெற்கு வன உயிரின சரணலயத்திற்கான Eco-Sensitive Zone எல்லைக்குள் வருவதில்லை.

மேற்படிஅனுமதி கோரியுள்ள கிருஷ்ணகிரி மாவட்டம், பர்கூர் வட்டம், புலிகுண்டா கிராமம் பட்டா புல எண்கள். 579/1B (0.18.5), 579/2B (0.19.0), 579/3 B (0.10.0), 579/4 B (0.14.0), 579/5 B (0.38.5), 582/2 (1.21.5), 599/1 (0.59.0), 599/2(0.37.5), 599/3(0.32.0), 599/4(0.44.5), 599/5 (1.19.0), 599/6 (0.08.0), 599/7 (0.05.5) மற்றும் 599/8 (0.10.0) விஸ்தீரணம் 4.37.0 ஹெக்டர் பரப்பளவு புலத்திலிருந்து 25 கி.மீ சுற்றளவிற்குள் கீழ்கண்ட காப்புக்காடுகள் அமைந்துள்ளன.

வ. எண்.	கோட்டம்	சரகம்	காப்புக்காட்டின் பெயர்
1.	ஓசூர்	கிருஷ்ணகிரி	புலிகுண்டா வன வட்டாரம் –1
2.	”	”	புலிகுண்டா வட்டாரம் –2
3.	”	”	தொகரப்பள்ளி
4.	”	”	தொகரப்பள்ளி விரிவாக்கம்
5.	”	”	தொகரப்பள்ளி
6.	”	”	பாலேகுளி வட்டாரம் –2
7.	”	”	வரட்டனப்பள்ளி
8.	”	”	வரட்டனப்பள்ளி விரிவாக்கம்

வ. எண்.	கோட்டம்	சரகம்	காப்புக்காட்டின் பெயர்
9.	"	"	பர்கூர்
10.	"	"	நேரலகோட்டா
11.	"	"	மேடுகம்பள்ளி
12.	"	"	நந்திபெண்டா விரிவாக்கம்
13.	"	"	நந்திபெண்டா
14.	"	"	கொத்தூர்
15.	"	"	மகாராஜாகடை விரிவாக்கம்.
16.	"	"	மகாராஜாகடை
17.	"	"	நாரலப்பள்ளி
18.	"	"	நந்திபெண்டா
19.	"	"	பெத்ததாளப்பள்ளி
20.	"	"	குந்தாரப்பள்ளி
21.	"	"	பெண்ணேஸ்வர மடம்
22.	"	"	சௌட்டஹள்ளி
23.	"	"	தல்லிஹள்ளி
24.	"	"	தட்டக்கல்
25.	"	"	சாலமரத்துப்பட்டி
26.			சாலமரத்துப்பட்டி கூடுதல்
27.	"	"	காமாட்சிப்பட்டி
28.	"	"	கே. பாப்பாரப்பட்டி
29.	"	"	கல்லாவி
30.	"	"	சுண்டமலை
31.	"	இராயக்கோட்டை	சோக்காடி
32.	திருப்பத்தூர்	வாணியம்பாடி	கொத்தூர் (பகுதி)
33.	"	"	நந்திபெண்டா (பகுதி)
34.	ஆந்திர மாநிலம்	குப்பம்	பைப்பாளயம் நேரலகோட்டா காப்புக்காட்டை ஒட்டி உள்ளது.
35.	"	"	நடமூர் (மகாராஜாகடை காப்புக்காட்டை ஒட்டி உள்ளது.

தங்கள் அன்புள்ள
ஒம்/–க.கார்த்திகேயனி,
வன உயிரினக்காப்பாளர்,
ஓசூர் வனக்கோட்டம்

நகல்– உறுப்பினர் செயலர், மாநில சுற்றுச்சூழல் வாரியம் – தமிழ்நாடு, 3வது தளம், எண்.1, பனகல் மாளிகை, ஜீனிஸ் சாலை, சைதாபேட்டை, சென்னை அவர்களுக்கு பணிந்து சமர்ப்பிக்கப்படுகிறது. மின்அஞ்சல்: seiaamstn@gmail.com and tamilnadudoe@gmail.com.

நகல்– தி/ள்.சரத் கிராணைட்ஸ் உரிமையாளர் திரு.சரத் த/பெ.பாகேகவுடா, எண்.108, 13வது மெயின், ஜெயநகர், 4வது ப்ளாக் ஈஸ்ட், பெங்களூரு, கர்நாடகா 560 011.

நகல்– வனச்சரக அலுவலர், கிருஷ்ணகிரி வனச்சரகம்.

//.உ.ந.உ.ப//

கண்காணிப்பாளர்

8/11/24

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

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY –TAMILNADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet
Chennai-600015
Phone No.044-24359974
Fax No. 044-24359975

ENVIRONMENTAL CLEARANCE

Lr. No.SEIAA-TN/F.No.4809/1(a)/EC.No: 4449/2020 dated:10.12.2020

To

The Director
Tvl. Imperial Granites Pvt Ltd,
No.76, Cathedral Road
Chennai-86.

Sir/Madam,

Sub: SEIAA-TN – Proposed Black Granite Quarrying in an extent of 2.77.5 Hectare at S.F No. 540/1 of Puligunda Village, Krishnagiri Taluk, Krishnagiri District by Tvl. Imperial Granites (Pvt) Limited - issue of Environmental Clearance – Reg.

Ref:
1. Application seeking Environment Clearances dated 05.01.2016.
2. Online Proposal No.SIA/TN/MIN/34962/2015.
3. Minutes of the 79th SEAC Meeting dated 08.08.2016.
4. The Hon'ble Supreme Court, vide its order dated 27.02.2012 in I.A.No.1213 of 2011 in SLP (C) No.19628-19629 of 2009.
5. Hon'ble NGT (PB), New Delhi order dated 04.05.2016 in O.A.No. 34 of 2016.
6. Lr.No.SEIAA-TN/4809/2016 Dated: 26.09.2016 Addressed to AD/DD of Department of Geology Mining.
7. Lr.No.SEIAA-TN/F.No. 4809/2016 date: 26.09.2016.
8. MoEF&CC Notification dated 14.03.2017 regarding cases of violations.
9. Hon'ble NGT (P&B), New Delhi order dated 18.04.2017 in M.A.No.260 of 2017 in O.A.No.123 of 2014.
10. Letter. No. SEIAA-TN/F. 4809/2016/NGT/ dated: 15.05.2017.
11. Hon'ble NGT (SZ), Chennai in Application No.114 of 2017 and 115 of 2017 order dated 22.05.2017.
12. Hon'ble NGT (SZ), Chennai, in Application No.139 of 2017 and 140 of 2017 order dated 11.07.2017 received on 18.07.2017.
13. Hon'ble NGT(SZ), Chennai in Application No.139 of 2017 and 140 of 2017 order dated 06.09.2017.
14. Minutes of the 238th SEIAA meeting held on 11.09.2017.

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15. Lr.No.SEIAA-TN/F.No. 4807/2017-1dated:11.09.2017 to MoEF&CC, New Delhi.
16. Hon'ble NGT(SZ), Chennai in Application No.139 of 2017 and 140 of 2017 order dated 07.11.2017.
17. Minutes of the 251st SEIAA meeting held on 15.11.2017.
18. D.O.Lr. No. SEIAA-TN/F.4807/2017/NGT/ dated: 23.11.2017.
19. Hon'ble NGT, SZ in the M.A.No. 220 of 2017 in M.A.No.134 of 2017 in Application No.139 of 2017 (SZ) and M.A.No. 221 of 2017 in M.A.No.135 of 2017 in Application No. 140 of 2017 dated 07.12.2017.
20. Minutes of the 299th SEIAA meeting held on 15.05.2018
21. Hon'ble NGT, SZ order dated 16.03.2020
22. Minutes of the 378th SEIAA meeting held on 28.05.2020.
23. ASGI legal opinion dated 17.06.2020.
24. MoEF&CC clarification dated 16.07.2020.
25. Minutes of the 391st SEIAA meeting held on 03.09.2020.
26. Minutes of the 413th SEIAA meeting held on 02.12.2020.
27. Advocate and Standing Counsel for MoEF&CC and NGT(SZ), Chennai legal opinion dated 05.12.2020
28. Minutes of the 414th SEIAA meeting held on 07.12.2020.

Details of Minor Mineral Activity:-

This has reference to your application 1st & 2nd cited. The proposal is for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	**Name of Project Proponent and address**	The Director Tvl. Imperial Granites Pvt Ltd, No.76, Cathedral Road Chennai-86.
2	**Location of the Proposed Activity**	
	Survey Number	540/1
	Latitude and Longitude	12°27'03"N to 12°27'08"N 78°22'27"E to 78°22'36"E
	Village	PuligundaVillage
	Taluk	Krishnagiri Taluk
	District	Krishnagiri District
3	**Proposed Activity**	
	i. Minor mineral	Black Granite Quarrying

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	ii. Mining Lease Area	2.77.5 Ha
	iii. Approved quantity	8013 cu.m of Black Granite for the period of four years
	iv. Depth of Mining	22 m (2m top soil + 20m black granite)
	v. Type of mining	Opencast Semi Mechanized Method
	vi. Category(B1/B2)	B2
	vii. Precise area communication approved by the Secretary to Government with date	G.O.(3D) No.42, Industries (MME-II) Department dated: 13.03.2007
	viii. Mining Plan approved by the Commissioner of Geology and Mining with date	Lr.No. 13376/MM5/2005 dated 23.02.2007(Un approval shechme for the period 2018-2019 to 2021-2022)
	ix. Mining period	4 years
4	**Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:-**	Not attracted. Affidavit furnished.
5	**Man Power requirement per day:**	33 Employees
6	**Utilities**	
	i. Source of Water :	Water Vendors & Borehole
	ii. Quantity of Water Requirement in KLD:	0.3 KLD
	a. Domestic & Drinking purpose **b.** Green Belt & Dust Suppression	0.7 KLD
	iii. Power Requirement: **a.** Domestic Purpose **b.** Industrial Purpose	 TNEB 48352 Litres of HSD
7	**Cost** i. Project Cost ii. EMP Cost	 Rs. 43.00 lakhs Rs. 2.75 lakhs

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8	**Validity:** **This Environmental Clearance is granted for the production of 8013cu.m of Black Granite for the period of 4 years from the date of recommissioning of the mining operation**

The Proponent has furnished affidavit in Twenty Rupees stamp paper attested by the Notary stating that

I, Tvl. Imperial Granites Pvt Ltd, No.76, Cathedral Road, Chennai-86, solemnly declare and sincerely declare and sincerely affirm that

We have applied for getting Environmental clearance to SEIAA, Tamil Nadu for quarry lease for quarrying Black Granite Quarrying in at S.F No. 540/1 of Puligunda Village, Krishnagiri Taluk, Krishnagiri District.

We swear to state and confirm that within 10km area of the quarry site, we have applied for Environmental Clearance, none of the following is situated.

1. Protected areas notified under the Wild Life (Protection) Act, 1972.
2. Critically polluted areas as notified by the Central Pollution Control Board constituted under Water (Prevention and Control of Pollution) Act, 1974.
3. Eco sensitive areas as notified.
4. Interstate boundaries and international boundaries within 10km radius from the boundary of the proposed site.
   a. There are few operating quarries located within the radius of 500 mts from the periphery of proposed site

S.No	Applicant name	Survey no	Extent(in hect)	Quarry status
1	M/s. Bannariamman Sugars Ltd, Coimbatore	532/1A1, 528/1A & 527/1	3.43.5	Existing quarry
2	M/s. Bannariamman Sugars Ltd, Coimbatore	530/1, 2	1.91.0	Existing quarry
3	M/s. Bannariamman Sugars Ltd, Coimbatore	528/1B1 etc	1.01.0	Existing quarry
4	M/s. Bannariamman Sugars Ltd, Coimbatore	745, 780, 786/1	4.80.5	Existing quarry
5	M/s. B.M. Continental Granites & Minerals Ltd, Chennai	582/2, 579/1A to 5B etc.	4.37.0	Existing quarry

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b. There will not be any hindrance or disturbance to the people during transportation. No villages are enrooted during transportation.
c. No habitation/villages are located within radius of 500m. Radius from the periphery of our quarry
d. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
e. The required insurance will be taken in the name of the labourers working in our quarry site.
f. Approach road belongs to me only and no other private patta roads encountered.
g. I will not engage any child labour in our quarry site and I aware that engaging child labour is punishable under the law.
h. All types of safety/protective equipment will be provided to all the labourers working in our quarry.
i. No permanent structures, temples etc., are located within 500m radius from the periphery of our quarry.

We ensure to do all the social and environment commitment as mentioned in the mining plan to the best of our knowledge.

Details of 500M radius Proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director, Department of Geology & Mining, Krishnagiri District in his Roc.No.335/2015(Mines-1) dated 30.06.2016 has stated that the details of other quarries (Proposed / Existing / Abandoned Quarries) within a radius 500m from the boundary of the proposed quarry site as follows:

Sl.No.	Name of the lessee/Applicant	Village	S.F. No	Extent (in Hects)	G.O. No	Lease Period
1	Tvl. Imperial Granite (P) Ltd, No. 76 Cathedral road, Chennai 86. (Instant Proposal)	Puligunda	540/1	2.77.5	G.O. (3D) No. 42 Ind. (MME.III) Dept. Dt: 16.04.2007	24.04.2007 to 23.04.2027
2	Tvl. Bannairamman	Puligunda	532/1A1, 528/1A,	3.43.5	G.O. 3D No. 78 Ind. (MME-II	11.12.2006 to

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	sugars, Limited No. 1212 Trichy Road, Coimbatore District 641 018		527/1		Detp. Dt: 06.11.2006	10.12.2026
3	Tvl. Bannariamman Sugars. Limited No. 1212Trichy Road, Coimbatore Dt 641 018	Puligunda	530/1, 530/2	1.91.0	G.O. 3D No. 63 Ind. (MME.II Dept. dt: 23.10.2006	11.12.2006 to 10.12.2026
4	Tvl. Bannariamman Sugars. Ltd, No. 1212Trichy Road, Coimbatore Dt 641 018	Puligunda	528/1B1, 528/1B2, 528/2(P), 532/1B, 532/1C, 532/1D, 532/1A2	1.01.0	G.O. 3D No. 44 Ind. (MME-2 Dept. dt: 27.06.2008	25.07.2008 to 24.07.2028
5	Tvl. Bannariamman Sugars Ltd, No. 1212 Trichy Road, Coimbatore Dt 641 018	Puligunda	745, 780 786/1	4.80.5	G.O. 3D No. 62 Ind. (MME-2 Dept. dt: 23.01.2006	11.12.2006 to 10.12.2026
6	M/s. B.M. continental Granites and Minerals Limited, SIRE Mansion, First Floor, 621 Anna Salai, Chennai 600 006.	Puligunda	582/2, 579/1A, 579/2B, 579/3B, 579/4B, 579/5B, 599/1, 599/2, 599/3, 599/4, 599/5, 599/6, 599/7 &599/8	4.37.0	G.O. (3D) No. 56 Ind. (MME-2) Dept. 6 Dt: 23.11.2011	14.12.2011 to 13.12.2031
Total				18.30.5		

Appraisal by SEAC:-

The proposal was placed in this 79th SEAC Meeting held on 08.08.2016 for appraisal and the Committee has recommended the projects subject to the following conditions.

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1. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
2. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
3. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
4. The Proponent has to carry out the Resistivity survey through authorized experts/institutes for Ground water table and based on the report, the Assistant/Deputy Director of Department of Geology & mining shall ensure that the depth of mining shall be restricted as per the MMCR, 1959 before execution of the mining lease.
5. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
6. Permission may be obtained from the competent authority for using heavy earth machineries wherever required.
7. Adequacy of dumping site proposed in the lease area.

Discussion by SEIAA and the Remarks:-

The subject was placed in the 414th SEIAA meeting held on 07.12.2020. After detailed discussion, the Authority observed as follows;

- The Minutes of the 79th SEAC meeting was communicated to the proponent through online. The applicant has not furnished the above said additional details as recommended by the State Level Expert Appraisal Committee.
- Based on the Hon'ble National Green Tribunal Principal Bench, New Delhi in its order dated 04.05.2016 on the original application No. 34 of 2016 filed by Thiru. Naresh Zargar, the letter was addressed to Deputy Director / Assistant Director, Department of Geology and mining vide Lr. No. SEIAA-TN/01940/2016 Dt: 26.09.2016 to re-examine the proposals seeking Environmental Clearance for the existing quarries with an intimation to the proponent vide Lr.No.SEIAA-TN/F.No.5519/2016 date: 26.09.2016.

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- As per the MoEF&CC Notification dated 14.03.2017 regarding cases of violations cited and as per the Hon'ble National Green Tribunal Principal Bench, New Delhi in its order dated 18.04.2017 in M.A.No.260 of 2017 in O.A.No.123 of 2014, the proponent was informed that the application seeking Environmental Clearance could not be processed at SEIAA-TN and was requested to submit the proposal to MoEF&CC for Environmental Clearance vide this office Lr. No. SEIAA-TN/F.5519/2016/NGT/ dated: 11.05.2017.
- In Application No.139 of 2017 and 140 of 2017, filed by M/s. Gem Granites & M/s. Imperial Granites represented by Thiru.S.R.Asaithampi, Chennai, before the Hon'ble National Green Tribunal Southern Zone, Chennai in order dated 11.07.2017 stated that,

  "In such circumstances, we are unable to accept the contention of the learned counsel appearing for SEIAA that in respect of 12(16-4) units the proposals applications were made beyond the cut off date. Needless to state that in the light of the recommendations by SEAC, it is the duty of SEIAA to consider the applications on merits and pass orders. We make it clear that while passing orders, SEIAA shall impose all the conditions which are recommended by SEAC as stated in the Note submitted by the learned counsel appearing for SEIAA. The SEIAA shall pass orders in the light of the recommendations of SEAC within two weeks from the date of receipt of copy of this order".

- In this regard, the above matter was placed before the 238th SEIAA meeting held on 11.09.2017 and the following decision was taken and communicated to the Hon'ble National Green Tribunal, Southern Zone, Chennai.

  1. It was already informed that the applications filed by M/s. Gem Granites, M/s.Imperial Granites for seeking Environmental Clearance could not be processed at SEIAA-TN and they were requested to submit the proposal to MoEF&CC for Environmental Clearance as per the Ministry of Environment, Forest and Climate Change (MoEF&CC) Notification S.O.No.804 (E) dated 14.03.2017.
  2. In the M.A. No. 134 of 2017 and M.A. No. 135 of 2017 in Application No.139 of 2017 and 140 of 2017 filed by M/s.Gem Granites, M/s.Imperial Granites before the Hon'ble National Green Tribunal, Southern Zone, Chennai, the Ministry of Environment, forests and Climate Change, New Delhi is the first respondent and the applicants were also directed to approach MoEF&CC, as

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directions of the first respondent needs to be obtained. On receipt of the direction from MoEF & CC, further action will be taken by the authority.

- The Ministry of Environment, forests and Climate Change, New Delhi is the first respondent in M.A.No.134 of 2017 and M.A.No.135 of 2017 in Application No.139 and 140 of 2017 filed by M/s. Gem Granites & M/s. Imperial Granites represented by Thiru.S.R.Asaithampi, Chennai, before the Hon'ble National Green Tribunal Southern Zone, Chennai. In this regard , necessery directions was requested from MoEF & CC vide Lr.No.SEIAA-TN/F.No.5519/2017-2 dated:11.09.2017 to take further action so as to have similar views of respondent 1 & 2 and to comply the order of the of the Hon'ble National Green Tribunal Southern Zone, Chennai in M.A.No.134 of 2017 and M.A.No.135 of 2017 in Application No.139 and 140 of 2017.
- Further based on the Hon'ble NGT, SZ, Chennai order dated 12.10.2017, the proposal was placed before the 244th SEIAA meeting held on 19.10.2017 and following decision were taken;
    1. The MoEF to direct the ASGI before 23.10.2017 in this matter to appear before the NGT and appraise the court the decision of the MoEF to avoid non compliance of the court directions and to avoid contempt of NGT order & violations of direction.
    2. For appropriate future directions from MoEF to the SEIAA in this matter.
    3. The Member Secretary, SEIAA is requested to personally appraise the MoEF & CC to ensure the decisions of the MoEF to reach the ASGI by 24.10.2017 in order to appraise the NGT and get clear directions in this matter and keep the Authority informed.
    4. The Authority is also requesting the MoEF & CC to appeal the decision of NGT, Chennai.
- In the meanwhile, the Hon'ble NGT, SZ, Chennai in their order dated: 24.10.2017 has stated as follows

"On behalf of the 2nd respondent, SEIAA, typed set of papers filed, it is clear that in spite of our earlier direction, made in the presence of learned Additional Solicitor General of India who has informed formally before this Tribunal that SEIAA will pass appropriate orders, no orders have been passed by the SEIAA as on date.

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When the Tribunal felt that the Member Secretary of SEIAA should be present to explain for non compliance of our directions, Mr.Gokul Krishnan, the learned counsel appearing for SEIAA would submit that if orders are not passed by the SEIAA before 27.10.2017, the Member Secretary SEIAA shall be present before this Tribunal and explain. Post these applications on 30.10.2017"

- Further, the Hon'ble National Green Tribunal Southern Zone, Chennai in its order dated 07.11.2017 in the M.A.No.134 of 2017 and 135 of 2017 in Applications No.139 of 2017 and 140 of 2017 filed by M/s. Gem Granites & M/s. Imperial Granites has ordered as follows:

"The learned Additional Solicitor General of India submits that necessary Environment Clearance (EC) could not be granted as necessary particulars were not furnished. The learned Additional Solicitor General of India made available the note for discussion showing that 13 particulars which are yet to be furnished. It is also submited that without those particulars EC cannot be granted

The learned counsel appearing for the applicant submits that they were not directed to furnish the details till this day and they are ready to furnish the same within one week. The learned counsel expressed apprehension that even if they are furnished, the EC may not be granted.

The applicant is permitted to furnish the materials detailed in the Note for discussion submitted by the Learned Additional Solicitor General of India today within a week from today. Once the materials are furnished by the applicant, learned Additional Solicitor General of India submitted that 2nd respondent shall pass necessary orders in accordance with the directions in Application No.139 of 2017 within 2 weeks thereafter."

Based on this order, the proponent furnished the following reply on 14.11.2017

- The lease area does not fall nearby any forest area, hence the filling of NBWL clearance does not arise.
- Since the quarry is working with a valid mining lease, affidavit for any court order for the functioning of the quarry does not arise.

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- During the SEIAA meeting held on 23.07.2016, 06.08.2016 and 08.08.2016 it was appraised that sufficient tree plantations had already been made. The photocopies of tree plantations around the lease are submitted. The same has been accepted by SEAC.
- In respect of CSR activities, we had already done in the following places/villages in various instances. To substantiate this photographs and certificates of benevolence and the same it was produced during the course of SEIAA meeting.
- There is no habitation within 300m radius and the quarry operation carried out by diamond wire saw cutting method only. Moreover, the downside land are patta land of the Company.
- Blasting is not being done in this quarry. Wire saw cutting and feather & wedges technologies are only used.
- The authorized agency has informed that they will issue concerned certificate as early as possible. To this effect they have also given a letter dt: 11.11.2017.
- The lease boundaries co-ordinates are mentioned at quarry lease plan in the scheme of mining. The pillars area already erected.
- The authorized agency has informed that they will issue concerned certificate as early as possible. To this effect they have also given a letter dt: 11.11.2017. Submitted the assurance/commitment letter to the said effect.
- No heavy earth moving machines are being used in this quarry and that it does not necessitate obtaining 'HEMM' permission from the competent authority.
- PP has clarified that as the dump site of quarries lie within the lease hold area and the question of "proposed dump site" does not arise.
    - In view of the above, the Hon'ble NGT order dated 07.11.2017 was placed in the 251st SEIAA Meeting held on: 15.11.2017 and as per the decision of the Authority, directions were requested vide SEIAA letter dated 23.11.2017 from MoEF&CC, GoI to take further action so as to comply the Hon'ble National Green Tribunal Southern Zone, Chennai order dated 07.11.2017 in M.A.No.134 of 2017 and M.A.No.135 of 2017 in Application No.139 and 140 of 2017.
    - In continuation, another Miscellaneous Application was filed before the Hon'ble National Green Tribunal Southern Zone, Chennai (NGT, SZ) in the M.A.No. 220 of 2017 in M.A.No.134 of 2017 in Applications No.139 of 2017 and M.A.No. 221 of

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2017 in M.A.No.135 of 2017 in 140 of 2017 by M/s. Gem Granites & M/s. Imperial Granites and the Hon'ble NGT in order dated 07.12.2017 issued instruction as follows

"Learned counsel appearing for the applicants submitted that notice need be issued only to the 2nd respondent SEIAA. Mr. Gokul Krishna takes notice for SEIAA. Copy of the application has already been furnished to the respondent . Respondent shall file reply within a week.

As it is submitted that in spite of direction of the Tribunal, orders have not been passed, the Member Secretary of SEIAA is directed to appear.

- Whereas, the MoEF&CC is the first respondent in the M.A.No. 220 of 2017 in M.A.No.134 of 2017 and M.A.No. 220 of 2017 in M.A.No.135 of 2017 in Applications No.139 of 2017 and 140 of 2017 filed by M/s. Gem Granites & M/s. Imperial Granites filed before the Hon'ble National Green Tribunal, Southern Zone, Chennai, a detailed letter was submitted to MoEF & CC Lr. No. SEIAA-TN/F.4807/2017/NGT/ dated: 13.12.2017 with a request to issue the following.
  a. Suitable instructions to the M/s.Gem Granites and M/s.Imperial Granites to submit the proposal to MoEF&CC, GoI as the project is considered by the SEIAA as violation project (or) to issue suitable instruction/ directions to deal the project to SEIAA as requested in this office letter dated 23.11.2017
  b. To file the counter affidavit in the above said cases before the Hon'ble National Green Tribunal, Southern Zone, Chennai immidiately.
- The Authority has filed an appeal before the Hon'ble Supreme Court of India, New Delhi against the order of Hon'ble National Green Tribunal, Southern Zone, Chennai dated 07.11.2017 in Diary No.41473/2017.
- Since the project proponent has filed application for environmental Clearance under the violation Notification S.O.1030 (E) dated 08.03.2018 within the time frame, the appeal filed before the Hon'ble Supreme Court of India, New Delhi by SEIAA-TN against the order of Hon'ble National Green Tribunal, Southern Zone, Chennai order dated: 07.11.2017 in Diary No.41473/2017 was withdrawn. Accordingly, ToR has been issued for the preparation of EIA Report along with additional ToR as recommended by SEAC.

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- In the meantime, the Hon'ble NGT, SZ, Chennai in the M.A.No.220 of 2017 and 221 of 2017 in M.A.No.134 of 2017 and 135 of 2017 in Applications No.139 of 2017 and 140 of 2017 filed by M/s. Gem Granites & M/s. Imperial Granites issued order on 03.01.2020 & 16.03.2020 and ordered as follows;

"M.A.Nos.220 and 221 of 2017 have been filed by the applicants for initiating contempt proceedings against SEIAA for non complying with the directions issued by this Tribunal by the order in M.A.Nos.134 and 135 of 2017 in O.A.Nos.139 and 140 of 2017 respectively.

2. O.A.Nos.281 and 282 of 2017 were filed by the same applicant praying to permit the applicants to continue the mining operation and also to direct the respondents to issue transport permit for transporting the mined materials on the ground that though the applications have been filed within time, as directed by this Tribunal, the SEIAA has not considered their applications for issuance of Environment Clearance though the State Expert Appraisal Committee had recommended for issuance of Environment Clearance and so they wanted to treat the same as deemed clearance and permit them to quarry.

3. It may be mentioned here that as far as the Environment Clearance is concerned, there cannot be any deemed clearance, unless the Environment Clearance is given, as per the decision of the Hon'ble Supreme Court, they cannot operate the unit That period commences from the date of issuance of Environment Clearance and not prior to that. So without getting Environment Clearance, applicants are not entitled to get the relief of permitting them to proceed with mining.

4. The SEIAA has filed a common counter stating that they preferred an appeal before the Hon'ble Apex Court against the order passed by this Tribunal in M.A.Nos.134 and 135 of 2017 in O.A.Nos.139 and 40 of 2017 dated 7.11.2017 and while those appeals were pending, the applicants filed the applications for issuance of Environment Clearance and so they withdrew the appeal.

5. The applicant filed a common rejoinder in these applications stating that the Terms of Reference was issued and so they are not violators. The Member Secretary of the second respondent forced the applicants to file fresh application on the basis of the violation notification, in order to avoid the delay

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and future complications. Otherwise, they would not have filed the application. However, earlier the applications filed by them were pending with SEIAA and in fact the State Expert Appraisal Committee has recommended the project, treating them as not violators. But inspite of that SEIAA has not passed any orders. So there is no violation. There is no liberty granted by the Hon'ble Supreme Court. The appeal was not even numbered when withdrawing the same.

6. When the matter came up for hearing today, learned counsel appearing for SEIAA submitted that applicants have filed the application, as directed by this Tribunal and if that date is taken, it will be deemed to have been filed within the cutoff date, as per the judgment of this Tribunal dated 11.7.2017 and the applications were filed prior to 31.3.2016 which was the cut off date stipulated by the Hon'ble Apex Court for applying for the Environment Clearance on the basis of DEEPAK KUMAR case. Further, this Tribunal has already found that the applications filed by the applicants were pending and they cannot be treated as violators. So even if any application has been filed by the applicants on compulsion, it cannot be treated as application filed voluntarily, foregoing their earlier application which has already been considered by the State Expert Appraisal Committee.

7. So under these circumstances, we close these applications with a direction to SEIAA to reopen the matter, if it is already closed and consider the application filed by the applicants for granting Environment Clearance, as though it is not a case of violation and pass appropriate orders in accordance with law. If any of the parties are aggrieved by the order to be passed, they are at liberty to challenge the same before the appropriate forum in accordance with law.

8. Since the State Expert Appraisal Committee has already considered the issue and recommended the matter for the grant of Environment Clearance, it is for SEIAA to consider the recommendations of the State Expert Appraisal Committee and pass appropriate orders. A representation is made that it will take a long time. So SEIAA is directed to dispose of the application which was filed prior to the cut-off date which they closed, not treating this as a violation case, within a period of three weeks.

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With the above directions and observations these applications are disposed of.

- Based on the above Hon'ble NGT order dated 16.03.2020, the proposal was placed before the 378th SEIAA meeting held on 28.05.2020, the authority has decided as follows:

  1. *The Authority decided to request MS-SEIAA to communicate the orders Dt. 16.3.2020 of Hon'ble NGT SZ to MoEF&CC and to obtain necessary clarifications and instructions at the earliest for SEIAA to proceed further, since MoEF&CC is the first respondent.*
  2. *The Authority decided to request Member Secretary -SEIAA to obtain legal opinion from ASG at the earliest, as to whether an appeal can be preferred in court of law as ordered by Hon'ble NGT SZ and put up to SEIAA in the ensuing meeting for discussion.*
  3. *The Authority also decided to request Member Secretary – SEIAA to put up the clarification /instruction obtained from MoEF&CC as well as legal opinion of ASG in the next Authority meeting for taking further course of action.*
  4. *The Authority also decided to request Member Secretary – SEIAA to file a action taken reply to Hon'ble NGT SZ."*

- In view of the above, a detailed letter was submitted to MoEF & CC on 29.05.2020 with a request to issue necessary clarifications & directions to take further action as to have similar views of respondent 1 & 2 so as to comply the order of the of the Hon'ble National Green Tribunal Southern Zone, Chennai and a reminder letter also sent to ministry on 18.06.2020 and Additional Solicitor General of India, Hon'ble High Court of Madras, Chennai on 29.05.2020 for obtaining legal opinion for comply the order of Hon'ble National Green Tribunal Southern Zone.
- The Ministry of Environment Forests & Climate Change, New Delhi on 16.07.2020 has stated that

  " This has to reference to your lr.No.SEIAA-TNF.No.4807/ 2017/NGT/dated: 29.05.2020 regarding clarifications & directions on the orders of the Hon'ble National Green Tribunal, Southern Zone, Chennai in M.A.No.134 of 2017 and 135 of 2017 in Applications No.139 of 2017 and 140 of 2017.

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In the present matter Hon'ble Tribunal vide order dated 16.03.2020 directed to SEIAA to reopen the matter, if it is already closed and consider the application filed by the applicants for granting environment clearance, as sought it is not a case of violation and pass appropriate orders accordance with law. If any of the parties are aggrieved by the order to be passed, they are at liberty to challenge the same before the appropriate forum in accordance with law.

In view of the above it is requested to take further necessary action, as deemed fit, as per the direction passed by the Hon'ble National Green Tribunal in the present matter.

This issue with approval of Competent Authority."

- The Authority decided to request Member Secretary -SEIAA to obtain legal opinion from ASG. The Additional Solicitor General of India, Hon'ble High Court of Madras, Chennai has furnished legal opinion 17.06.2020 has stating that

'I have gone through your letter dated 29.05.2020 regarding Gem Granites matter. When a direction is issued by the National Green Tribunal, there are two options open to the Department, namely (a) to file an appeal before the Supreme Court or (b) to comply with the order. Earlier it was the stand of the Department that certain documents were not furnished by the petitioners and this issue came to be referred and order of the Tribunal dated 07.11.2017 which has been referred to in your letter. It is also apparent from para 18 of the letter that the appeal filed against the order dated 07.11.201 7 before the Supreme Court had been withdrawn by the Department. In the circumstances I am of the opinion that the State Level Environment Impact Assessment Authority Tamilnadu have to consider the matter on merits and pass suitable orders.'

- The signed affidavit after legal vetting was sent to the legal counsel to file before the Hon'ble NGT through E- Mail on 04.07.2020 and was filed before the Hon'ble NGT (SZ) on 26.07.2020.
- The Legal Opinion and clarrification received from MoEF & CC was placed before the 386th SEIAA meeting held on 03.08.2020 and as per the decision taken,

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the recorded file was reopened and scrutinised. And the proponent was requested to furnish the following details as per the present environmental settings and prevailing Rules & Regulations.

1. Mining plan was approved by the Commissioner of Geology mining vide Rc.No: 10527/MM5/2005 dated 28.03.2007 for a period of five years with a condition the lessee shall submit a scheme of mining for every five years after review of approved mining plan as per the rule 18 of Granite Conservation and Development Rule, 1999.
2. The proponent has submitted the unapproved scheme of Mining plan for the year 2012-13 to 2016-17 at the time of application.
3. Hence, proponent has to submit the copy of approved scheme of mining for the period 2012-13 to 2016-17 and approved scheme of mining for the current period of 2017-18 to 2021-22.
4. The Proponent has applied for ToR on March 2018 under violation as per the MoEF&CC Notification dated 14.03.2017 regarding cases of violations along with submission of the unapproved scheme of Mining plan for the year 2017-18 to 2021 -22, and Terms of Reference was issued to the proponent vide SEIAA Lr.No.SEIAA-TN/F.No.5519/TOR-558/2018 dated 07.08.2018.
5. The details of quarries within 500m radius of the quarry lease area were given by the Deputy Director vide Roc No. 235/2015 Minies-A Dated: 28.06.2016 (5.08.0 Ha). Hence the proponent has to submit the present details of abandoned/expired, existing and proposed quarries located within 500m radius of the quarry lease area in the prescribed format obtained from AD/DD of the Department of Geology and Mining.
6. Latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.

- The proposal was placed before 391st SEIAA meeting held on 03.09.2020. Based on the minutes of the meeting and the letter addressed to the Proponent vide letter dated 08.09.2020, the proponent has submitted the reply received on 22.09.2020 stating that all the details were already submitted during the earlier application itself.

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- Hence, the reply furnished by the Proponent was placed before the 413th Authority Meeting held on 02.12.2020. After detailed discussion, the Authority noted, the Authority could not proceed further regarding re-opening of cases expressing that the re-opening may amounts to fresh file situation and those applications might be processed as per the existing rules and provisions of various Acts as on date. Hence the Authority requested the Member Secretary, SEIAA to get legal opinion from the Standing Counsel for MoEF&CC at NGT, whether the all the above 16 proposals have to be processed as per the prevailing EIA Notification and prevailing Rules & Regulations applicable at the time of filing of applications/date of recommendation of SEAC for those proposals or as per the present existing EIA Notification and Rules & Regulations as amended time to time subsequent to the date of filing of applications by the proponent/date of recommendation of SEAC including cluster approach, validity of mining plan etc.
- As per the decision of the Authority, letter was sent vide Lr.No.SEIAA-TN/C.No.003488/2017 dated 04.12.2020 to the Standing Counsel for Ministry of Environment, Forest & Climate Change to furnish legal opinion. The standing counsel has given legal Opinion vide in his letter dated 05.12.2020 received by SEIAA on 05.12.2020 which states as follows:

" I am of the opinion that SEIAA TN shall consider the applications in non violation category as per the order of the Hon'ble Green Tribunal, Southern Zone and recommendations of SEAC as per the rules and regulations as the State Expert Appraisal Committee while appraising and recommending have considered all the aspects applicable including cluster and all other technical issues, Hence at this stage , it does not necessitate SEIAA TN to consider them again as per present rules as it has already recommended the applications for grant of Environment Clearance to TN SEIAA.

Therefore it for the TN SEIAA now to consider the recommendations of State Expert Appraisal Committee as pass necessary orders as early as possible as the time granted by the Hon'ble National Green Tribunal, Southern Zone 0at Chennai for SEIAA TN to pass orders was 3 weeks from the date of order i.e., 16.03.2020 which lapsed on 06.04.2020.

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Since the Government of TN had declared lockdown due to the Covid 19 Pandemic, the SEIAA TN can cite the same for non compliance of the orders of the Hon'ble Tribunal at Chennai and pass orders."

- Further it is also informed that unit of M/s. GEM Granites Exporters & Importers vide letter dated 03.11.2020 requested the Member Secretary, SEIAA-TN to comply with the order of NGT(SZ), Chennai dated 16.03.2020 and to pass appropriate orders in their applications on merits, immediately stating that failing which please take notice that they will be constrained to initiate contempt proceedings against your good self for not complying with the order dated 16.03.2020 of NGT(SZ), Chennai dated 16.03.2020. please do the needful
- The subject was placed in the 414th SEIAA meeting held on 07.12.2020. The Authority discussed in detail based on the Orders dated 16.3.2020 issued by Hon'ble National Green Tribunal, Southern Zone, Chennai in the MA NO.134 of 2017 AND 135 OF 2017 in Application No.139 of 2017 and 140 of 2017 filed by M/s. Gem Granites and M/s. Imperial Granites and also based on the legal opinion furnished by Additional Solicitor General of India dt.17.6.2020 and the legal opinion of the Advocate and Standing Counsel for Ministry of Environment Forests and Climate Change and NGT, Southern Zone at Chennai dated 05.12.2020, the Authority decided to issue Environmental Clearance as recommended by SEAC subject to the conditions issued by SEAC, general conditions and the following conditions.

1. **The Director of Geology and Mining is requested to look into all the approvals to be issued by them with validity before starting of Mining operation.**
2. Tamil Nadu Pollution Control Board shall verify the validity of lease deed, approved mining scheme before issue of CTE/CTO.
3. The Member Secretary, SEIAA-TN shall obtain an affidavit from the Project Proponent for withdrawal of application filed under violation category before issue of Environment Clearance.
4. The Member Secretary, SEIAA-TN shall obtain an affidavit from the proponent to the extent that there will not be any litigations or claims from their side on SEIAA, GOI or its members in future.

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Part-A: Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
   - I. The project has been accorded Environmental Clearance.
   - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
   - III. Environmental Clearance may also be seen on the website of the SEIAA.
   - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
5. The proponent shall ensure that First Aid Box is available at site.
6. The excavation activity shall not alter the natural drainage pattern of the area.
7. The excavated pit shall be restored by the project proponent for useful purposes.
8. The proponent shall quarry and remove only in the permitted and approved areas.
9. The proponent shall do the quarrying as per the approved mining plan.
10. It shall be ensured that the quarrying operation shall be carried out between 7AM and 5 PM.
11. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
12. The mined out pits should be backfilled wherever warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in

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the proposal shall be strictly followed. The District administration should ensure the fully implementation of mine closure plan before release of lease deed.

13. Free silica test should be conducted and reported.
14. Air Sampling at intersection point should be conducted and reported.
15. Bunds to be provided at the boundary of the project site.
16. Rainwater shall be pumped out via settling tank only
17. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area
18. Earthen bunds and barbed wire fencing around the pits all along the boundary shall be maintained.
19. The CSR funds should be channelized for planting programme, nature conservation support, tribal development and activities that support forest and environment.
20. As per MoEF & CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wildlife angle including clearance from obtaining committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
21. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Chennai.
22. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site.
23. The Assistant Director of Geology & Mining shall monitor the quantity of minerals excavated and ensure that resources other than the approved minerals shall not be excavated from the approved Mining area. The Department of Geology & Mining is responsible for the enforcement of Tamil Nadu Minor Mineral Concession Rules, 1959 and any violation shall be punished according to the said Act.
24. The Project Proponent shall obtain & furnish the letter /certificate from the Assistant Director of Geology and Mining stating that there is no other Minerals/resources like sand in the quarrying area below the approved depth of Mining before execution of Mining lease.

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25. The Proponent shall ensure that the project activity including mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
26. The Project Proponent is also directed to strictly adhere to the Sustainable Sand Mining Management Guidelines, 2016, wherever applicable.
27. Floor of excavated pit should be levelled and sides to be sloped gently in the mine closure phase.
28. All the commitment made by the project proponent in the proposal shall be strictly followed.
29. The mining lease holder shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

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8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

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17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules,2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act,2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

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Copy to:

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

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY
10 DEC 2020
Panagal Maligai, Saidapet, Chennai-15

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007496F

Report Number : GLCS/TR01129/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01129/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.20 - 09.20	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'1.48"N** **78°22'54.40"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.20	39.7	57.3	54.36
2	11.20	40.8	56.1	53.22
3	12.20	40.2	55.5	52.62
4	13.20	41.5	54.4	51.61
5	14.20	39.2	59.9	56.93
6	15.20	38.4	58.8	55.83
7	16.20	38.5	55.2	52.28
8	17.20	37.9	56.6	53.65

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions. The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007496F

Report Number : GLCS/TR01129/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01129/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.20 - 09.20	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'1.48"N** **78°22'54.40"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.20	35.8	55.3	52.34
10	19.20	35.1	56.9	53.92
11	20.20	36.3	53.7	50.77
12	21.20	35.7	52.2	49.29
13	22.20	33.4	40.7	38.43
14	23.20	34.9	41.1	39.02
15	00.20	33.2	46.8	43.98
16	01.20	33.8	38.5	36.76

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007496F

Report Number : GLCS/TR01129/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
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TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
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Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.20	32.3	39.7	37.42
18	03.20	33.7	38.6	36.81
19	04.20	34.1	35.2	34.68
20	05.20	33.2	34.1	33.67
21	06.20	33.5	37.7	36.09
22	07.20	35.9	36.6	36.26
23	08.20	33.7	37.2	35.79
24	09.20	38.1	46.1	43.73
		Day Mean dB(A)		**49.6**
		Night Mean dB(A)		**37.0**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Industrial Area)				**Day Time : 75 dB (A)** **Night Time : 70 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions.

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BRANCH OFFICES : **CHENNAI (Mobile :** 7094453636 **) & COIMBATORE (Mobile :** 7094454646 **)**

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007497F

Report Number : GLCS/TR01130/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01130/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.40 - 09.40	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.51"N** **78°22'49.12"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.40	40.2	55.2	52.32
2	11.40	41.1	57.7	54.78
3	12.40	42.6	56.6	53.76
4	13.40	39.2	59.9	56.93
5	14.40	40.8	57.2	54.29
6	15.40	41.9	52.3	49.67
7	16.40	42.7	51.1	48.68
8	17.40	39.7	46.6	44.40

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007497F

Report Number : GLCS/TR01130/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01130/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.40 - 09.40	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.51"N** **78°22'49.12"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.40	40.4	48.8	46.38
10	19.40	42.5	47.2	45.46
11	20.40	39.7	40.1	39.90
12	21.40	35.3	39.9	38.18
13	22.40	34.1	38.8	37.06
14	23.40	35.9	37.3	36.66
15	00.40	34.2	37.5	36.16
16	01.40	36.3	38.2	37.35

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

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TC-6060

TEST REPORT

ULR-TC606026000007497F

Report Number : GLCS/TR01130/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 2	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01130/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.40 - 09.40	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.51"N** **78°22'49.12"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.40	34.4	39.3	37.51
18	03.40	35.9	38.1	37.14
19	04.40	32.3	36.9	35.18
20	05.40	34.5	37.7	36.39
21	06.40	32.6	36.6	35.05
22	07.40	34.2	37.2	35.95
23	08.40	33.8	38.8	36.98
24	09.40	37.7	58.7	55.72
		Day Mean dB(A)		**46.9**
		Night Mean dB(A)		**36.3**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Industrial Area)				**Day Time : 75 dB (A)** **Night Time : 70 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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BRANCH OFFICES : **CHENNAI (Mobile : 7094453636) & COIMBATORE (Mobile : 7094454646)**

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TC-6060

TEST REPORT

ULR-TC606026000007415F

Report Number : GLCS/TR01131/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01131/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.55 - 09.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'7.64"N** **78°22'36.23"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	10.55	40.2	60.2	57.23
2	11.55	41.1	61.4	58.43
3	12.55	39.9	60.8	57.82
4	13.55	42.2	63.3	60.32
5	14.55	40.9	59.6	56.65
6	15.55	41.1	60.1	57.14
7	16.55	39.1	58.2	55.24
8	17.55	35.4	60.8	57.80

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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E-Mail: lab@glcs.in; Web: www.glcs.in
for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007415F

Report Number : GLCS/TR01131/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01131/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.55 - 09.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'7.64"N** **78°22'36.23"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	18.55	34.4	61.5	58.50
10	19.55	33.9	57.3	54.31
11	20.55	34.2	54.9	51.93
12	21.55	35.5	37.1	36.37
13	22.55	36.1	38.2	37.28
14	23.55	36.9	37.4	37.16
15	00.55	34.3	40.9	38.75
16	01.55	35.2	38.2	36.95

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
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TC-6060

TEST REPORT

ULR-TC606026000007415F

Report Number : GLCS/TR01131/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 3	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01131/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	09.55 - 09.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'7.64"N** **78°22'36.23"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	02.55	36.4	39.6	38.29
18	03.55	35.9	37.1	36.54
19	04.55	34.1	38.5	36.83
20	05.55	33.3	36.2	34.99
21	06.55	32.2	35.9	34.43
22	07.55	31.1	39.3	36.90
23	08.55	34.4	51.4	48.48
24	09.55	37.2	50.9	48.07
		Day Mean dB(A)		**52.0**
		Night Mean dB(A)		**36.7**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Industrial Area)				**Day Time : 75 dB (A)**
				Night Time : 70 dB (A)

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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BRANCH OFFICES : **CHENNAI (Mobile : 7094453636) & COIMBATORE (Mobile : 7094454646)**

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007498F

Report Number : GLCS/TR01132/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Attention**	-
Location Name	"Batlapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01132/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.15 - 10.15	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'50.26"N** **78°23'31.05"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	11.15	40.1	56.1	53.20
2	12.15	42.9	55.7	52.91
3	13.15	41.2	55.6	52.74
4	14.15	40.5	54.2	51.37
5	15.15	39.3	55.9	52.98
6	16.15	39.4	53.3	50.46
7	17.15	37.2	54.4	51.47
8	18.15	32.6	53.2	50.23

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007498F

Report Number : GLCS/TR01132/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Attention**	-
Location Name	"Batlapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01132/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.15 - 10.15	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'50.26"N** **78°23'31.05"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	19.15	35.1	54.1	51.14
10	20.15	33.5	52.8	49.84
11	21.15	34.4	52.2	49.26
12	22.15	33.9	38.1	36.49
13	23.15	34.1	37.4	36.06
14	00.15	32.8	35.5	34.36
15	01.15	34.5	36.6	35.68
16	02.15	35.9	37.9	37.01

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007498F

Report Number : GLCS/TR01132/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 4	**Attention**	-
Location Name	"Batlapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01132/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.15 - 10.15	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'50.26"N** **78°23'31.05"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	03.15	32.2	39.4	37.15
18	04.15	33.3	36.1	34.92
19	05.15	34.1	37.7	36.26
20	06.15	35.5	36.8	36.20
21	07.15	34.1	37.1	35.85
22	08.15	35.3	38.4	37.12
23	09.15	35.6	39.9	38.26
24	10.15	37.1	47.5	44.87
		Day Mean dB(A)		**47.4**
		Night Mean dB(A)		**35.9**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Silence Zone)				**Day Time : 50 dB (A)**
				Night Time : 40 dB (A)

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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BRANCH OFFICES : **CHENNAI (Mobile :** 7094453636 **) & COIMBATORE (Mobile :** 7094454646 **)**

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TC-6060

TEST REPORT

ULR-TC606026000007499F

Report Number : GLCS/TR01133/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01133/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.35 - 10.35	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.32"N** **78°21'51.17"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	11.35	40.5	52.4	49.66
2	12.35	39.2	55.5	52.59
3	13.35	38.8	51.2	48.43
4	14.35	41.1	53.9	51.11
5	15.35	39.6	50.3	47.64
6	16.35	39.9	52.2	49.44
7	17.35	37.2	48.1	45.43
8	18.35	36.4	46.7	44.08

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007499F

Report Number : GLCS/TR01133/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01133/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.35 - 10.35	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.32"N** **78°21'51.17"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	19.35	35.3	47.8	45.03
10	20.35	36.9	43.4	41.27
11	21.35	33.1	39.9	37.71
12	22.35	31.9	38.6	36.43
13	23.35	32.7	39.2	37.07
14	00.35	33.8	35.3	34.61
15	01.35	32.4	37.7	35.81
16	02.35	33.3	36.9	35.46

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007499F

Report Number : GLCS/TR01133/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 5	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01133/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.35 - 10.35	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.32"N** **78°21'51.17"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	03.35	34.2	38.8	37.08
18	04.35	35.5	39.1	37.66
19	05.35	36.4	37.4	36.93
20	06.35	35.2	38.7	37.29
21	07.35	41.1	48.6	46.30
22	08.35	40.3	49.9	47.34
23	09.35	41.8	52.2	49.57
24	10.35	40.2	52.5	49.74
		Day Mean dB(A)		**46.4**
		Night Mean dB(A)		**36.5**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Silence Zone)				**Day Time : 50 dB (A)** **Night Time : 40 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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BRANCH OFFICES : **CHENNAI (Mobile : 7094453636) & COIMBATORE (Mobile : 7094454646)**

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

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TC-6060

TEST REPORT

ULR-TC606026000007437F

Report Number : GLCS/TR01134/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Attention**	-
Location Name	"Madarahalli (Residential)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01134/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.55 - 10.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'50.62"N** **78°24'7.09"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	11.55	40.6	55.7	52.82
2	12.55	41.9	58.3	55.39
3	13.55	41.7	54.2	51.43
4	14.55	35.8	53.4	50.46
5	15.55	38.2	54.6	51.69
6	16.55	36.4	55.5	52.54
7	17.55	36.1	57.2	54.22
8	18.55	35.3	56.1	53.13

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007437F

Report Number : GLCS/TR01134/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Attention**	-
Location Name	"Madarahalli (Residential)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01134/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.55 - 10.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'50.62"N** **78°24'7.09"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	19.55	36.6	52.4	49.50
10	20.55	33.1	51.5	48.55
11	21.55	34.4	48.8	45.94
12	22.55	31.7	42.6	39.93
13	23.55	31.2	40.1	37.62
14	00.55	33.9	39.4	37.47
15	01.55	32.4	35.5	34.22
16	02.55	33.8	38.8	36.98

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions. The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

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TC-6060

TEST REPORT

ULR-TC606026000007437F

Report Number : GLCS/TR01134/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 6	**Attention**	-
Location Name	"Madarahalli (Residential)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01134/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	10.55 - 10.55	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'50.62"N** **78°24'7.09"E**
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	03.55	34.7	37.2	36.13
18	04.55	35.9	37.3	36.66
19	05.55	34.4	36.6	35.64
20	06.55	35.5	37.2	36.43
21	07.55	36.6	39.9	38.56
22	08.55	40.1	50.1	47.50
23	09.55	43.3	53.3	50.70
24	10.55	41.9	50.4	47.96
		Day Mean dB(A)		**49.4**
		Night Mean dB(A)		**36.4**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)** **Night Time : 45 dB (A)**

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

BRANCH OFFICES : **CHENNAI (Mobile :** 7094453636 **) & COIMBATORE (Mobile :** 7094454646 **)**

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TC-6060

TEST REPORT

ULR-TC606026000007438F

Report Number : GLCS/TR01135/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Attention**	-
Location Name	"Kondappanayanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01135/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	11.20 - 11.20	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	- °C
Location Co-ordinates	**12°29'22.12"N 78°21'37.55"E**	**Avg Humidity**	- %
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
1	12.20	38.4	58.4	55.43
2	13.20	37.6	59.1	56.12
3	14.20	35.1	55.5	52.53
4	15.20	34.7	56.9	53.92
5	16.20	33.9	48.9	46.02
6	17.20	35.8	52.2	49.29
7	18.20	35.3	49.8	46.94
8	19.20	36.7	52.2	49.31

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007438F

Report Number : GLCS/TR01135/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Attention**	-
Location Name	"Kondappanayanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01135/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	11.20 - 11.20	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	- °C
Location Co-ordinates	**12°29'22.12"N** **78°21'37.55"E**	**Avg Humidity**	- %
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
9	20.20	34.2	48.8	45.94
10	21.20	34.9	45.9	43.22
11	22.20	35.4	37.1	36.33
12	23.20	35.6	39.4	37.90
13	00.20	33.3	37.3	35.75
14	01.20	34.6	35.7	35.18
15	02.20	34.2	38.8	37.08
16	03.20	32.8	35.3	34.23

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007438F

Report Number : GLCS/TR01135/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE-560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri-**
Sample Name	AMBIENT NOISE LEVEL MONITORING - 7	**Attention**	-
Location Name	"Kondappanayanapalli (School)"	**Other Details (If any)**	NA

Laboratory Provided Details:			
TRF No.	TRF/0243/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01135/2026-27	**Sampling Method**	GLCS/SOP/N/014
Sample Description	-	**Sample Receipt Date**	24-04-2026
Sampling Date	22-04-2026 - 23-04-2026	**Date of Analysis**	17-05-2026
Sampling Hours	11.20 - 11.20	**Date of Completion**	17-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	- °C
Location Co-ordinates	**12°29'22.12"N 78°21'37.55"E**	**Avg Humidity**	- %
Other Details (If any)	NA		

Sl.No.	Time(Hrs)	Min dB (A) Day	Max dB (A) Day	Leq dB (A) Day
17	04.20	33.5	38.9	36.99
18	05.20	34.7	37.2	36.13
19	06.20	34.1	35.6	34.91
20	07.20	36.9	41.1	36.49
21	08.20	38.8	47.5	45.04
22	09.20	39.2	54.4	51.52
23	10.20	39.6	55.9	52.99
24	11.20	40.8	54.2	51.38
		Day Mean dB(A)		**48.5**
		Night Mean dB(A)		**36.0**
Limits as per The Noise Pollution (Regulation & Control) Rules, 2010 of MoEFCC / CPCB (Residential Area)				**Day Time : 55 dB (A)**
				Night Time : 45 dB (A)

Note : MoEFCC - Ministry of Environment, Forest and Climate Change, **CPCB -** Central Pollution Control Board,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000007504F

Report Number : GLCS/TR01158/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01158/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.50	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.81"N** **78°22'51.00"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	347.0
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	3.8
3	Boron	USEPA-6010D:2014	mg/kg	0.80
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.00
5	Cadmium	USEPA-6010 D-2014	mg/kg	0.88
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	44.7
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	3.3
8	Chromium	USEPA-6010D-2014	mg/kg	0.80

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007504F

Report Number : GLCS/TR01158/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01158/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.50	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.81"N** **78°22'51.00"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.7
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	0.9
12	Iron	USEPA-6010 D-2014	mg/kg	3.36
13	Lead	USEPA-6010D-2014	mg/kg	0.59
14	Manganese	USEPA-6010 D-2014	mg/kg	2.24
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.28
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.48

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Salem – 636 016. Tamil Nadu. India.
Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007504F

Report Number : GLCS/TR01158/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01158/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.50	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.81"N** **78°22'51.00"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	6.8
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.68
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	225.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	6.3
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	15.03
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	40.46
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	44.51
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	37.0

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007504F

Report Number : GLCS/TR01158/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 1	**Attention**	-
Location Name	Core Zone	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01158/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.50	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.81"N** **78°22'51.00"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	2.40

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000007505F

Report Number : GLCS/TR01159/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 2	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01159/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.45"N** **78°22'36.29"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	259.3
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	6.1
3	Boron	USEPA-6010D:2014	mg/kg	0.72
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.001
5	Cadmium	USEPA-6010 D-2014	mg/kg	BDL(DL:0.5)
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	57.1
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	4.6
8	Chromium	USEPA-6010D-2014	mg/kg	1.70

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007505F

Report Number : GLCS/TR01159/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 2	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01159/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.45"N** **78°22'36.29"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.6
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	0.9
12	Iron	USEPA-6010 D-2014	mg/kg	2.71
13	Lead	USEPA-6010D-2014	mg/kg	BDL(DL:0.5)
14	Manganese	USEPA-6010 D-2014	mg/kg	1.60
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.36
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.63

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For Global Lab and Consultancy Services LLP

Authorised Signatory
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Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007505F

Report Number : GLCS/TR01159/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 2	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01159/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.45"N** **78°22'36.29"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	6.5
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.78
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	401.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	7.8
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	13.15
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	40.22
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	46.33
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	39.6

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007505F

Report Number : GLCS/TR01159/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 2	**Attention**	-
Location Name	Near Existing Quarry	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01159/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'6.45"N** **78°22'36.29"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	BDL(DL:0.5)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000007506F

Report Number : GLCS/TR01160/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL- 3	**Attention**	-
Location Name	"Batlapalli (Agriculture Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01160/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.00	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'48.95"N** **78°23'33.49"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	349.8
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	5.9
3	Boron	USEPA-6010D:2014	mg/kg	BDL(DL:0.5)
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.00
5	Cadmium	USEPA-6010 D-2014	mg/kg	1.08
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	36.5
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	5.2
8	Chromium	USEPA-6010D-2014	mg/kg	0.71

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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GLOBAL LAB AND CONSULTANCY SERVICES LLP
S.F No.92/3A2, Geetha Nagar, Alagapuram Pudur,
Salem – 636 016. Tamil Nadu. India.
Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in
for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007506F

Report Number : GLCS/TR01160/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL- 3	**Attention**	-
Location Name	"Batlapalli (Agriculture Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01160/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.00	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'48.95"N** **78°23'33.49"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.6
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.1
12	Iron	USEPA-6010 D-2014	mg/kg	1.08
13	Lead	USEPA-6010D-2014	mg/kg	0.53
14	Manganese	USEPA-6010 D-2014	mg/kg	1.55
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.55
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.95

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007506F

Report Number : GLCS/TR01160/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
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Sample Name	SOIL- 3	**Attention**	-
Location Name	"Batlapalli (Agriculture Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01160/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.00	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'48.95"N** **78°23'33.49"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	5.8
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.62
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	296.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	8.1
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	20.54
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	32.21
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	47.25
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	40.0

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For Global Lab and Consultancy Services LLP

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L.Sudha Priya
Technical Manager

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007506F

Report Number : GLCS/TR01160/2026-27 **Report Date** : 25-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL- 3	**Attention**	-
Location Name	"Batlapalli (Agriculture Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01160/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.00	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'48.95"N** **78°23'33.49"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	2.03

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000007500F

Report Number : GLCS/TR01161/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 4	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01161/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.35	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.46"N** **78°21'50.76"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	222.8
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	6.1
3	Boron	USEPA-6010D:2014	mg/kg	BDL(DL:0.5)
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.00
5	Cadmium	USEPA-6010 D-2014	mg/kg	1.18
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	34.9
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	7.6
8	Chromium	USEPA-6010D-2014	mg/kg	0.84

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007500F

Report Number : GLCS/TR01161/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 4	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01161/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.35	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.46"N** **78°21'50.76"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.3
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	0.8
12	Iron	USEPA-6010 D-2014	mg/kg	3.56
13	Lead	USEPA-6010D-2014	mg/kg	0.59
14	Manganese	USEPA-6010 D-2014	mg/kg	2.33
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.34
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.69

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Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007500F

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Sample Name	SOIL - 4	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01161/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.35	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.46"N** **78°21'50.76"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	5.9
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.56
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	310.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	9.8
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	23.11
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	31.11
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	45.78
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	33.6

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Global Lab and Consultancy Services LLP Laboratory Salem-636016

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TC-6060

TEST REPORT

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Report Number : GLCS/TR01161/2026-27 **Report Date** : 24-05-2026

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Sample Name	SOIL - 4	**Attention**	-
Location Name	"Perugopanapalli (School)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01161/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.35	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°25'52.46"N** **78°21'50.76"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	2.58

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007501F

Report Number : GLCS/TR01162/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 5	**Attention**	-
Location Name	"Madarahalli (Barren land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01162/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'51.08"N** **78°24'8.48"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	283.3
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	6.5
3	Boron	USEPA-6010D:2014	mg/kg	BDL(DL:0.5)
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.00
5	Cadmium	USEPA-6010 D-2014	mg/kg	BDL(DL:0.5)
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	34.38
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	8.3
8	Chromium	USEPA-6010D-2014	mg/kg	2.46

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions. The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

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Phone Nos.: +91 427 2970 989 / 70944 52628
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TC-6060

TEST REPORT

ULR-TC606026000007501F

Report Number : GLCS/TR01162/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 5	**Attention**	-
Location Name	"Madarahalli (Barren land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01162/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'51.08"N** **78°24'8.48"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.8
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	2.2
12	Iron	USEPA-6010 D-2014	mg/kg	3.12
13	Lead	USEPA-6010D-2014	mg/kg	BDL(DL:0.5)
14	Manganese	USEPA-6010 D-2014	mg/kg	2.27
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.519
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.89

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007501F

Report Number : GLCS/TR01162/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 5	**Attention**	-
Location Name	"Madarahalli (Barren land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01162/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'51.08"N** **78°24'8.48"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	6.1
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.58
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	396.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	1.97
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	23.55
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	32.35
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	44.10
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	33.0

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007501F

Report Number : GLCS/TR01162/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 5	**Attention**	-
Location Name	"Madarahalli (Barren land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01162/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.20	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°24'51.08"N** **78°24'8.48"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	0.66

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000007502F

Report Number : GLCS/TR01163/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 6	**Attention**	-
Location Name	"Kondappanayanapalli (Residential Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01163/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	03.10	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°29'21.01"N 78°21'36.21"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Available Nitrogen as N	GLCS/SOP/S/029 ;Issue no.02: 2024	kg/ha	224.2
2	Available Phosphorous(as P)	GLCS/SOP/S/005 ; Issue no:02: 2024	mg/kg	5.8
3	Boron	USEPA-6010D:2014	mg/kg	0.66
4	Bulk Density	GLCS/SOP/S/017; Issue no:02: 2024	g/cc	1.003
5	Cadmium	USEPA-6010 D-2014	mg/kg	BDL(DL:0.5)
6	Cation Exchange Capacity	GLCS/SOP/S/024; Issue no:02: 2024	meq/100g	38.11
7	Chlorides (as Cl-) in saturation extract	GLCS/SOP/S/004; Issue no:02: 2024	meq/l	9.3
8	Chromium	USEPA-6010D-2014	mg/kg	0.78

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007502F

Report Number : GLCS/TR01163/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 6	**Attention**	-
Location Name	"Kondappanayanapalli (Residential Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01163/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	03.10	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°29'21.01"N 78°21'36.21"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Copper	USEPA-6010D :2014	mg/kg	BDL(DL:0.5)
10	Exchangeable Calcium (as Ca)	GLCS/SOP/S/020; Issue no:02: 2024	meq/100g	1.3
11	Exchangeable Magnesium (as Mg)	GLCS/SOP/S/021; Issue no:02: 2024	meq/100g	1.0
12	Iron	USEPA-6010 D-2014	mg/kg	1.27
13	Lead	USEPA-6010D-2014	mg/kg	0.5
14	Manganese	USEPA-6010 D-2014	mg/kg	1.63
15	Organic Carbon	GLCS/SOP/S/003; Issue no: 02: 2024	%	0.48
16	Organic Matter	GLCS/SOP/S/003; Issue no:02: 2024	%	0.84

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007502F

Report Number : GLCS/TR01163/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 6	**Attention**	-
Location Name	"Kondappanayanapalli (Residential Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01163/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	03.10	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°29'21.01"N 78°21'36.21"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	pH Value	IS 2720 (Part 26): 1987(Reaffirmed 2021)	-	6.3
18	Soluble Potassium (as K) in saturation extract	GLCS/SOP/S/006; Issue no:02 : 2024	mg/100g	0.54
19	Specific Electrical Conductivity	IS 14767: 2000(Reaffirmed 2021)	µS/cm	376.0
20	Sulphate (as SO4)	GLCS/SOP/S/009; Issue no:02: 2024	mg/100g	11.7
21	Texture : Clay	GLCS/SOP/S/015 ;Issue no:02: 2024	%	20.21
22	Texture : Sand	GLCS/SOP/S/015; Issue no:02: 2024	%	32.24
23	Texture : Silt	GLCS/SOP/S/015 ; Issue no:02: 2024	%	47.55
24	Water Holding Capacity	GLCS/SOP/S/016; Issue no:02: 2024	%	35.5

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007502F

Report Number : GLCS/TR01163/2026-27 **Report Date** : 24-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SOIL - 6	**Attention**	-
Location Name	"Kondappanayanapalli (Residential Land)"	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0253/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01163/2026-27	**Sampling Method**	GLCS/SOP/S/014
Sample Description	Powder	**Sample Receipt Date**	25-04-2026
Sampling Date	23-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	03.10	**Date of Completion**	21-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°29'21.01"N** **78°21'36.21"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Zinc	USEPA-6010D-2014	mg/kg	2.16

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000006754F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.8 °C
Location Co-ordinates	**12°27'37.09"N** **78°24'27.43"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007456F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'37.09"N** **78°24'27.43"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.012
2	Ammoniacal Nitrogen as NH3-N	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL(DL:1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.035
5	Biochemical Oxygen Demand (BOD) at 27°C for 3 Days	IS 3025 (Part 44): 2023	mg/l	4.0
6	Boron as B	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	0.065
7	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
8	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	56.6

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007456F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'37.09"N** **78°24'27.43"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chemical Oxygen Demand (COD)	IS 3025 (Part 58): 2023	mg/l	29.5
10	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	238.7
11	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
12	Color	IS 3025 (Part 4): 2021	CU	BDL(DL:1.0)
13	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
14	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL(DL:0.01)
15	Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (Reaffirmed 2019)	mg/l	5.2
16	Electrical Conductivity	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1393.0

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007456F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'37.09"N** **78°24'27.43"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Fluoride as F-	GLCS/SOP/W/015; Issue no :02: 2024	mg/l	0.33
18	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL(DL:1.0)
19	Iron as Fe	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL(DL:0.01)
20	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
21	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	16.7
22	Manganese as Mn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
23	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.002)
24	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.001)

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007456F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'37.09"N** **78°24'27.43"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL(DL:2.0)
26	Odor	IS 3025 (Part 5): 2018	-	Agreeable
27	pH	IS 3025 (Part 11): 2022	-	7.82
28	Phenols	IS 3025 PART 43 SECTION 1: 2022	mg/l	BDL(DL:0.1)
29	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.005)
30	Sulphate as SO4	IS 3025 (Part 24) SECTION 1: 2022	mg/l	55.5
31	Sulphide as S (Iodometric Method)	GLCS/SOP/W/066: 2023	mg/l	BDL(DL:1.0)
32	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	94.4

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007456F

Report Number : GLCS/TR01164/2026-27 **Report Date** : 20-05-2026

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Sample Name	SURFACE WATER - 1	**Attention**	-
Location Name	Bargur River	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01164/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.40	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Location Co-ordinates**	**12°27'37.09"N** **78°24'27.43"E**
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	808.0
34	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	210.0
35	Total Suspended Solids	IS 3025 PART 17: 2022	mg/l	BDL(DL:2.0)
36	Turbidity	IS 3025 (Part 10): 2023	NTU	BDL(DL:1.0)
37	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000006755F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions. The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007457F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.010
2	Ammoniacal Nitrogen as NH3-N	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL(DL:1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.020
5	Biochemical Oxygen Demand (BOD) at 27°C for 3 Days	IS 3025 (Part 44): 2023	mg/l	4.4
6	Boron as B	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.039
7	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
8	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	63.1

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007457F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chemical Oxygen Demand (COD)	IS 3025 (Part 58): 2023	mg/l	39.3
10	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	250.2
11	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
12	Color	IS 3025 (Part 4): 2021	CU	BDL(DL:1.0)
13	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
14	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL(DL:0.01)
15	Dissolved Oxygen (DO)	IS 3025 (Part 38): 1989 (Reaffirmed 2019)	mg/l	5.6
16	Electrical Conductivity	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1453.0

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007457F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Fluoride as F-	GLCS/SOP/W/015; Issue no :02: 2024	mg/l	0.37
18	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL(DL:1.0)
19	Iron as Fe	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
20	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
21	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	17.6
22	Manganese as Mn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)
23	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.002)
24	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007457F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL(DL:2.0)
26	Odor	IS 3025 (Part 5): 2018	-	Agreeable
27	pH	IS 3025 (Part 11): 2022	-	7.98
28	Phenols	IS 3025 PART 43 SECTION 1: 2022	mg/l	BDL(DL:0.1)
29	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.005)
30	Sulphate as SO4	IS 3025 (Part 24) SECTION 1: 2022	mg/l	62.7
31	Sulphide as S (Iodometric Method)	GLCS/SOP/W/066: 2023	mg/l	BDL(DL:1.0)
32	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	211.6

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007457F

Report Number : GLCS/TR01165/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	SURFACE WATER - 2	**Attention**	-
Location Name	Karadigollapatti Tank	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01165/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	02.05	**Date of Completion**	20-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.3 °C
Location Co-ordinates	**12°26'53.05"N** **78°23'1.53"E**	**Avg Humidity**	48.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	843.0
34	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	230.3
35	Total Suspended Solids	IS 3025 PART 17: 2022	mg/l	BDL(DL:2.0)
36	Turbidity	IS 3025 (Part 10): 2023	NTU	BDL(DL:1.0)
37	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL(DL:0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000006756F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

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Salem – 636 016. Tamil Nadu. India.
Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007412F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.014
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL: 1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.16
5	Boron as B	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	0.075
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	89.06
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	146.76

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007412F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
10	Color	IS 3025 (Part 4): 2021	CU	2
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL: 0.01)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1364
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.13
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL: 1.0)
16	Iron as Fe	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL (DL: 0.01)

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Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007412F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	39.28
19	Manganese as Mn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	3.81
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.20

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007412F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL: 0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	130.63
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL: 1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	237.6
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	820
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	383.8
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	2.4

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007412F

Report Number : GLCS/TR01166/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	WELL WATER	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01166/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	01.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.5 °C
Location Co-ordinates	**12°27'8.42"N** **78°22'43.19"E**	**Avg Humidity**	49.1 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000006757F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

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TC-6060

TEST REPORT

ULR-TC606026000007413F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
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Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.023
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL: 1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
5	Boron as B	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	93.11
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	136.98

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

Disclaimer: The test results are only to the sample submitted for test. Any Correction of the test report on full or part shall invalidate the report. Samples are not drawn by us unless otherwise stated. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. Perishable samples will be discarded immediately after reporting. We do not accept only liability with regard to origin or source from which the samples are extracted. The Laboratory is not responsible for authenticity of photocopied test reports. Any holder of this report is advised that information contained here on reflects the laboratory's finding at the time of its intervention only and within the limits of client instructions. The authenticity of the test reports issued by us can be verified by submitting on E-mail request with report number and report date along with report copy.

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GLOBAL LAB AND CONSULTANCY SERVICES LLP
S.F No.92/3A2, Geetha Nagar, Alagapuram Pudur,
Salem – 636 016. Tamil Nadu. India.
Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007413F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL: 0.01)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1280
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.13
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL: 1.0)
16	Iron as Fe	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

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TC-6060

TEST REPORT

ULR-TC606026000007413F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	48.58
19	Manganese as Mn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	3.06
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.32

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TC-6060

TEST REPORT

ULR-TC606026000007413F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL: 0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	109.43
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL: 1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	216
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	768
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	343.4
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	2.8

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TC-6060

TEST REPORT

ULR-TC606026000007413F

Report Number : GLCS/TR01167/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 1	**Attention**	-
Location Name	Near Project Area	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01167/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.50	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.0 °C
Location Co-ordinates	**12°27'13.53"N** **78°22'58.73"E**	**Avg Humidity**	49.0 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000006758F

Report Number : GLCS/TR01168/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

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TC-6060

TEST REPORT

ULR-TC606026000007414F

Report Number : GLCS/TR01168/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.020
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL: 1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.017
5	Boron as B	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	0.027
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	72.87
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	141.87

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

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TC-6060

TEST REPORT

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Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL: 0.01)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1427
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.19
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL: 1.0)
16	Iron as Fe	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in

for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007414F

Report Number : GLCS/TR01168/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	36.84
19	Manganese as Mn	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL (DL: 0.01)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL: 2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.24

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

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For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007414F

Report Number : GLCS/TR01168/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL: 0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	114.19
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL: 1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	345.6
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	856
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	323.2
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	2.5

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007414F

Report Number : GLCS/TR01168/2026-27 **Report Date** : 20-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 2	**Attention**	-
Location Name	Perugopanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01168/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	11.30	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	25.6 °C
Location Co-ordinates	**12°25'54.93"N** **78°21'48.69"E**	**Avg Humidity**	49.2 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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TC-6060

TEST REPORT

ULR-TC606026000006759F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 02-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/M/SOP/05
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	29-04-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N 78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Escherichia coli	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent
2	Total Coliforms	IS: 15185 - 2016(Reaffirmed 2021)	Per 100ml	Absent

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
A. Sathishkumar
Technical Manager- Microbiology

****End of Report****

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TC-6060

TEST REPORT

ULR-TC606026000007458F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N** **78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
1	Aluminium	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.021
2	Ammoniacal Nitrogen as NH3-N	IS 3025 PART 34/Sec 1: 2023	mg/l	BDL (DL: 1.0)
3	Arsenic as As	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
4	Barium as Ba	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	0.017
5	Boron as B	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	0.025
6	Cadmium as Cd	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
7	Calcium as Ca	IS 3025 (Part 40): 1991 (Reaffirmed 2019)	mg/l	60.72
8	Chloride as Cl-	IS 3025 (Part 32): 1988 (Reaffirmed 2019)	mg/l	146.76

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007458F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N 78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
9	Chromium as Cr	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
10	Color	IS 3025 (Part 4): 2021	CU	<1
11	Copper as Cu	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
12	Cyanide as CN	IS 3025 part 27/Sec 1: 2021	mg/l	BDL (DL: 0.01)
13	Electrical Conductivity (EC)	IS 3025 (Part 14): 2013 (Reaffirmed 2019)	µS/cm	1507
14	Fluoride as F-	GLCS/SOP/W/015; Issue No:02: 2024	mg/l	0.15
15	Free Residual Chlorine as Cl2	IS 3025 (Part 26): 2021	mg/l	BDL (DL: 1.0)
16	Iron as Fe	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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TC-6060

TEST REPORT

ULR-TC606026000007458F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N** **78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
17	Lead as Pb	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
18	Magnesium as Mg	IS 3025 (Part 46): 2023	mg/l	31.93
19	Manganese as Mn	GLCS/SOP/W/62 Issue No:1: Date:10.09.2022	mg/l	BDL (DL: 0.01)
20	Mercury as Hg	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.002)
21	Molybdenum as Mo	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)
22	Nitrate as NO3	IS 3025 (Part 34)/Sec 1: 2023	mg/l	BDL (DL: 2.0)
23	Odor	IS 3025 (Part 5): 2018	-	Agreeable
24	pH	IS 3025 (Part 11): 2022	-	7.63

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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GLOBAL LAB AND CONSULTANCY SERVICES LLP
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Phone Nos.: +91 427 2970 989 / 70944 52628
E-Mail: lab@glcs.in; Web: www.glcs.in
for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007458F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N** **78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
25	Phenols	IS 3025 PART 43 Section 1: 2022	mg/l	BDL (DL: 0.1)
26	Selenium as Se	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.005)
27	Sulphate as SO4	IS 3025 (Part 24) Section 1: 2022	mg/l	131.64
28	Sulphide as S (IodometricMethod)	GLCS/SOP/W/066: 2023	mg/l	BDL (DL: 1.0)
29	Total Alkalinity as CaCO3	IS 3025 (Part 23): 2023	mg/l	334.8
30	Total Dissolved Solids (TDS)	IS 3025 (Part 16): 2023	mg/l	903
31	Total Hardness as CaCO3	IS 3025 (Part 21): 2009 (Reaffirmed 2019)	mg/l	282.8
32	Total Suspended Solids (TSS)	IS 3025 (Part 17): 2022	mg/l	2.8

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

Global Lab and Consultancy Services LLP Laboratory Salem-636016

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

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for Accreditation

TC-6060

TEST REPORT

ULR-TC606026000007458F

Report Number : GLCS/TR01169/2026-27 **Report Date** : 21-05-2026

Customer Provided Details:			
Issued To	**Thiru.B.SHARATH** S/o.K.Bage Gowda, Prop:M/s.Sharath Granites No:108, 13th Main Jayanagar, 4th Block East **BANGALORE 560011**	**Site Address**	**Thiru.B.SHARATH** Black Granite Quarry, Lease Area:4.37.0Ha, SF.No:579/1B(0.18.50ha), 579/2B(0.19.00 ha), 579/3B(0.10.00ha),579/4B(0.10.00ha),579/5B(0.38.50ha), 582/2(1.21.50ha), 599/1(0.59.00ha), 599/2(0.37.50ha), 599/3(0.32.00ha),599/4(0.44.50ha),599/5(0.19.00ha), 599/6(0.08.00ha), 599/7(0.05.50ha) & 599/8(0.10.00ha) Puligunda Village, Bargur Taluk **Krishnagiri**
Sample Name	BOREWELL WATER - 3	**Attention**	-
Location Name	Kondappanayanapalli	**Other Details (If any)**	NA
Laboratory Provided Details:			
TRF No.	TRF/0254/2026-27	**Sampled by**	Laboratory
Sample Code	GLCS/01169/2026-27	**Sampling Method**	GLCS/SOP/W/028
Sample Description	Liquid	**Sample Receipt Date**	25-04-2026
Sampling Date	24-04-2026	**Date of Analysis**	25-04-2026
Sampling Hours	12.10	**Date of Completion**	19-05-2026
Sample Receipt Condition	Good	**Avg Temperature**	26.1 °C
Location Co-ordinates	**12°29'21.53"N** **78°21'39.72"E**	**Avg Humidity**	48.4 %
Other Details (If any)	NA		

Sl.No.	TEST PARAMETER	TEST METHOD	UNITS	RESULT
33	Turbidity	IS 3025 (Part 10): 2023	NTU	<1
34	Zinc as Zn	GLCS/SOP/W/62 Issue No:1:Dated:10.09.2022	mg/l	BDL (DL: 0.01)

Note : BDL - Below Detection Limit, **DL -** Detection Limit,

for Report

For Global Lab and Consultancy Services LLP

Authorised Signatory
L.Sudha Priya
Technical Manager

******End of Report******

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QUALITY COUNCIL® OF INDIA
QCI Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Geo Exploration and Mining Solutions, Salem

No. 17, Advaitha Ashram Road, Fairlands, Salem, Tamil Nadu – 636 004

*Geo Exploration and Mining Solutions, Salem is Re-Accredited (RA3) **as Category-A organization** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations (Version 3), for the preparation of EIA/EMP reports in the sectors listed below, as per the specified categories*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals including opencast / underground mining	1	1 (a) (i)	A
2.	Mineral beneficiation	7	2 (b)	A
3.	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
4.	Building and construction projects	38	8 (a)	B

Note: Names of approved experts and sectors are mentioned in RAAC minutes dated August 21, 2025, 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/25/3827 dated August 25, 2025. The accreditation needs to be renewed before the expiry date by Geo Exploration and Mining Solutions, Salem following due process of assessment.

Valid up to
August 06, 2028

Issue Date
August 25, 2025

Certificate No.
NABET/EIA/25-28/RA 0424

Varinder Kanwar
Prof (Dr) Varinder S Kanwar
(CEO – NABET)

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