APRIL
2023

COMBINED DRAFT ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENT MANAGEMENT PLAN

For Obtaining

Environmental Clearance under EIA Notification-2006
Schedule Sl. No. 1 (a) (i): Mining Project
"B1" CATEGORY/ MINOR MINERAL/CLUSTER/ NON FOREST LAND/GOVERNMENT LAND

AJJANAHALLI BLACK GRANITE CLUSTER

CLUSTER EXTENT = 8.14.0 ha
(2 PROPOSED QUARRIES)

Proposed Production (Granite) = 55,550m^3 (ROM)

Tvl. Tamilkumaran Productions Private Limited – P1		**M/s. PVI Trading Corporation-P2**	
S.F.No	830 (Part) West & 835/3	S.F.No	830 (Part) East & 834/1
Extent	3.14.0 Ha	Extent	5.00.0 Ha
Village	Ajjanahalli	Village	Ajjanahalli
Taluk	Pennagaram	Taluk	Pennagaram
District	Dharmapuri	District	Dharmapuri
Proponent Address	No. 16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu – 600 017.	Proponent Address	D.No. 62-A, 1st Pulikuthi Street, Gugai, Salem, Tamil Nadu, India, Pin Code – 636 006.

obtained vide

P1-Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022
P2-Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022

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 Cat 'A' & 38 Cat 'B'
Certificate No :NABET/EIA/2225/RA 0276
Phone: 0427-2431989,
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Web: www.gemssalem.com

Baseline Monitoring Period – December 2022 to February 2023

Environmental Lab
EHS 360 LABS PRIVATE LIMITED

For the easy representation the proposed quarries and existing lease quarries are designated as below –

CODE	Name of the Owner	S.F. Nos	Extent	Status
P1	Tvl. Tamilkumaran Productions Private Limited No. 16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu – 600 017.	830 (Part) West & 835/3	3.14.0	Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022.
P2	M/s. PVI Trading Corporation D.No. 62-A, 1st Pulikuthi Street, Gugai, Salem, Tamil Nadu, India, Pin Code – 636 006.	830 (Part) East & 834/1	5.00.0	Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022.
TOTAL CLUSTER EXTENT			**8.14.0Ha**	

TERMS OF REFERENCE (ToR) COMPLIANCE

P1 - Tvl. Tamilkumaran Productions Private Limited

"ToR issued vide P1-Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022"

SPECIFIC CONDITIONS		
1	The PP shall obtain a letter from DFO stating that the details of nearest RF and its distance with respect to the project site.	DFO letter obtained in annexures in page No.131
2	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from ADDD, mines, a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? b) Quantity of minerals mined out. c) Highest production achieved in any one year d) Detail of approved depth of mining e) Actual depth of the mining achieved earlier. f) Name of the person already mined in that leases area. g) If EC and CTO already obtained, the copy of the same sha, be submitted. h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	The quarry lease was granted in favour of M/s. Kabini Granites in S.F.No.830/1 over an extent 3.10.0Ha vide G.O.(2D) 167 Industries Department Dated:12.06.1991 and ten years lease period was from 02.08.1991 to 01.08.2001 and another quarry lease was grated in favour M/s.Pooshya Exports Vide G.O.Ms.2D No.677 Industries Department dated:12.08.1991 and ten years lease period was from 10.09.1991 to 09.09.2001. The quarry lease applied area is containing two existing quarry pits due to quarry operation carried out during the earlier quarry lease period. Pit 1 – 14m (L) x 13m (W) x 3m (D) Pit 2 – 12m (L) x 12m (W) x 3m (D)
3	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Map showing – i). Mine lease area with coordinates-Fig.2.3- ii). Superimposed google imagery –Fig.2.2- iii). Geomorphology-Fig.2.9- iv). Geology- Fig.2.8- v). Land-use and Land Cover-Fig.3.1-
4	The PP shall carry out Drone video survey covering the cluster, green belt, fencing etc.,	Drone video will be submitted along with the Final EIA/EMP Report.
5	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.	Fencing will be erected before the submission of the Final EIA/EMP Report.
6	The project proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, and proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.	Detailed in Chapter No.2, Page No.24
7	The project proponent shall provide the organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act' 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Discussed in Chapter No.6, Page No.161
8	The project proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc., within 1km (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	Discussed in Chapter No.3, Page No.52 Figure No.3.5-3.10

	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.	
9	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.	Discussed in Chapter No.3
10	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be Prepared keeping the concerned quarry and the surrounding habitations in the mind.	Cumulative impact detailed study on Chapter No. 7
11	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted and agreed
12	Issues relating to mine safety, including slope geometry in case of granite quarrying, blasting parameters etc., should be detailed. The proposed safeguard measures in each case should also be provided.	Noted and agreed
13	Land use of the study area delineating forest area, agricultural land. gazing 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/ Land Cover detailed study on Chapter No 3.2.1
14	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.	Storage of overburden/waste Dumps (or) Rejects details on Chapter No. 2.5
15	Since non-saleable waste /OB / intermediate waste etc. is huge in the granite quarry, the Proponent shall provide the details pertaining to management of the above material with year wise utilization and average moving inventory be submitted	The overburden in the form of top soil, about 28,914m^3 will be preserved in the safety barrier for greenbelt development.
16	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.
17	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.
18	Impact on local transport infrastructure due to the project should be indicated.	Discussed in Chapter No.2
19	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.	Greenbelt details available in Chapter No.4.6.2.2.

20	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Mine closure Plan details available at Chapter No. 4.9
21	Public hearing points raised and commitments of the project proponent on the same along with time bound action plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP report of the project and to be submitted to SEIAA/SEAC with regard to the office memorandum of MoEF & CC accordingly.	Noted and agreed
22	The Public hearing advertisement shall be published in one major national daily and one most circulated vernacular daily.	Noted, all the public hearing comments with project proponent response along with budgetary allocation will be submitted during the final EIA.
23	The PP shall produce/display the EIA report, Executive summery and other rerated with respect to public hearing should in Tamil Language also.	Noted and agreed
24	The specific flora & fauna studies shall be carry out with the help of local School/College students and the same shall be included in EIA Report.	Discussed in Chapter No.3
25	The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A.No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No. 102/2017 and O.A.No.404/2016 (M.A.No.758/2016, M.A.No.920/2016, M.A.No. 920/2016, M.A.No. 1122/2016, M.A.No.12/2017 & M.A.No.843/2017) and O.A.No.405/2016 and O.A.No. 520 of 2016 (M.A.No. 981/2016, M.A.No. 982/2016 & M.A.No.384/2017).	Noted and agreed
26	The purpose of Green belt around the project is to capture the fugitive emissions. carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO. State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Noted. Greenbelt development will be carried out as per ToR recommendation. Details of Greenbelt development and recommended species for the plantation is described in Chapter No 4.
27	Taller/one year old Saplings raised in appropriate size of bags. preferably eco-friendly bags should be planted in proper espacement as per the advice of local forest authorities,/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	Details of Greenbelt development and recommended species for the plantation is described in Chapter No 4.
28	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Disaster management Plan in page no.107
29	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.	Risk Assessment and management Plan in Chapter No. 7.3
30	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 in Chapter No. 4.8
31	Public health implications of the project and related	Noted and agreed

	activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	
32	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 he indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	The Socio-economic studies at Chapter No. 3.7
33	Details of litigation pending against the project, if any. with direction/order passed by any Court of Law against the Project should be given.	Nil
34	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.	Project benefits is discussed in Chapter No. 8
35	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.	The quarry lease was granted in favour of M/s. Kabini Granites in S.F.No.830/1 over an extent 3.10.0Ha vide G.O.(2D) 167 Industries Department Dated:12.06.1991 and ten years lease period was from 02.08.1991 to 01.08.2001 and another quarry lease was grated in favour M/s.Pooshya Exports Vide G.O.Ms.2D No.677 Industries Department dated:12.08.1991 and ten years lease period was from 10.09.1991 to 09.09.2001. The quarry lease applied area is containing two existing quarry pits due to quarry operation carried out during the earlier quarry lease period. Pit 1 – 14m (L) x 13m (W) x 3m (D) Pit 2 – 12m (L) x 12m (W) x 3m (D)
36	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.	Noted and agreed
ADDITIONAL CONDITIONS		
1	The proposed black granite quarry over an extent of 3.14.0 Ha at S.F.No.830 (Part) West & 835/3 of Ajjanahalli Village, Pennagram Taluk, Dharmapuri District, Tamil Nadu.	Nil
2	Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby villages, water-bodies/Rivers, & any ecological fragile areas.	Details in Chapter No. 3
3	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.,	Certificate obtained from VAO attached in the Annexure.
4	As per the MoEF&CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and agreed
5	The Environmental Impact Assessment shall study in detail on the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate	Carbon emission due to this project and mitigation measures is discussed in the Chapter No 7.

	mitigation activities.	
6	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem! the soil micro flora. fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Noted & agreed. Detailed under Chapter 3.
7	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	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.
8	The project proponent shall study impact on fish habitats and the food WEB/food chain in the nearby water body and reservoir.	No proposal for the disposal of pit water to the nearby water bodies hence this project will not create impact to the food chain in the water body. After completion of quarry operation, the pit will act as temporary reservoir and pisciculture activities will be involved. Details of Nearest water bodies from the project site is given in Chapter No. 3.
9	The Terms of Reference should specifically study impact on soil health. soil erosion. The soil physical, chemical components and microbial components.	The overburden in the form of top soil, about 28,914m^3 will be preserved in the safety barrier for greenbelt development.
10	The Environmental Impact Assessment should study impact on forest, vegetation. endemic, vulnerable and endangered indigenous flora and fauna.	The area is surrounded by dry barren land. Details of flora and fauna studies given in the Chapter No.3.
11	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection	The entire area is a hilly terrian, No major trees within the project area
12	The Environmental Impact Assessment should study on wetlands. water bodies, rivers, streams, lakes and farmer sites.	Nearest agriculture activity is coconut plantation located North side of the project area.
13	The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.	Budgetary allocation is given in the Chapter No. 4, Table No 4.11
14	The Environmental Impact Assessment should study impact on climate change. temperature rise. pollution and above soil & below soil carbon stock.	The project will not cause significant impact on climatic change. Description about the project and climatic changes is described in Chapter No.4.
15	The Environmental Impact Assessment should study impact on protected areas. Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Anticipated Environment Impact and Mitigation measures are detailed in Chapter No.4.
16	The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.	The project area is bounded by dry barren land no agriculture activities carried out.
17	The project proponent shall study and furnish the details on potential fragment ion impact of natural environment, by the activities.	Details are given in the Chapter No 4.
18	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves. heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Noted & agreed. Detailed under Chapter 3.
19	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities. contemplated during mining may be investigated and reported.	Plastic waste management in the project area detailed in Chapter No.7
20	The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1km radius from the project area. The mining operation will not cause any significant impact to the Reserve Forest and Wild life Sanctuaries

21	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following a) soil health & bio-diversity b) climate change leading to droughts, floods etc. c) pollution leading to release of greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people. d) possibilities of water contamination and impact on aquatic ecosystem health. e) agriculture, forestry & traditional practices. f) Hydrothermal/Geothermal effect due to destruction in the environment. g) Bio-geochemical processes and its foot prints including environmental stress. h) sediment geochemistry in the surface streams.	Discussed under Chapter No.4
22	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within I 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.	Discussed in Chapter No.3, Page No.52 Figure No.3.5-3.10
23	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Discussed in Chapter No.7
24	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of mining.	Discussed in Chapter No.7
25	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Detailed discussed in the chapter 4.
26	Detailed environment management plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Detailed discussed in the chapter 10.

P2 - M/s. PVI Trading Corporation

ToR P2 - Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022.

SPECIFIC CONDITIONS		
1	The project proponent shall furnish a letter from DFO indicating the exact distance of the Masakkal RF from the project site.	DFO letter obtained in annexures in page No.131
2	A detailed study on flora and fauna shall be carried around the proposed mine area by adopting standard procedures by involving the scholars of the nearby science college for providing a comprehensive biodiversity report	Discussed in Chapter No.3
3	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC	It is a new quarry
4	As per the provisions of the Granite Conservation & Development Rules, 1999, the Proponent shall ensure that the overburden, waste rock and non-saleable granite generated during prospecting or mining operations of the granite quarry shall be stored separately in properly formed dumps on grounds earmarked. For this, the pp shall show the details of the ground selected within the mine leasehold area lor dumping of overburden, waste material, the sub-grade or non-saleable ores or minerals is proved for absence or presence of underlying mineral deposits before it is brought into use for dumping.	Noted and agreed
5	The PP shall furnish the proposal to adapt the SOP for wire saw cutting during the operation	Noted and agreed
6	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the pas! either in the same location or elsewhere in the State with video and photographic evidences	Noted and agreed
7	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 f.om AD/DD, mines a. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? b. Quantity of minerals mined out c. Highest production achieved in any one year d. Detail of approved depth of mining e. Actual depth of the mining achieved earlier f. Name of the person already mined in that leases area g. If EC and CTO already obtained, the copy of the same shall be submitted. h. Whether the mining was car ed out as per the approved mine plan (or EC if issued) with stipulated benches	It is a new quarry
8	All corner coordinates of the mine lease are4 superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided.	Map showing – i). Mine lease area with coordinates-Fig.2.3- ii). Superimposed google imagery –Fig.2.2- iii). Geomorphology-Fig.2.9-

	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).	iv). Geology- Fig.2.8- v). Land-use and Land Cover-Fig.3.1-
9	The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,	Drone video will be submitted along with the Final EIA/EMP Report.
10	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	Fencing will be erected before the submission of the Final EIA/EMP Report.
11	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.	Detailed in Chapter No.2, Page No.24
12	The Project Proponent shall provide the Organization cha indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 196l for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment	Discussed in Chapter No.6, Page No.161
13	The Project proponent shall conduct the hydro-geological study considering the contour map of the waler table detailing the number of ground water pumping & open wells, and surface water bodies such as rivets, tanks. canals, ponds etc. within I km (radius) along with the collected water level data for both monsoon and non-monsoon season from the PWD / TWAD so as to assess the impacts on the wells due to mining activity Based on actual monitored dat4 it may clearly be shown whether working will intersect groundwater Necessary data and documentation in this regard may be provided	Discussed in Chapter No.6, Page No.161
14	The proponent shalt 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	Noted and agreed
15	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.	Cumulative impact detailed study on Chapter No. 7
16	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted	Noted and agreed
17	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/ Land Cover detailed study on Chapter No 3.2.1
18	Details of the land for storage of Overburden/Waste	Storage of overburden/waste Dumps (or) Rejects

	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.	details on Chapter No. 2.5
19	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.
20	Description of water conservation measures proposed to be adopted in the project should be given. Details of rain water 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.
21	Impact on local transport infrastructure due to the project should be indicated	Discussed in Chapter No.2
22	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	Greenbelt details available in Chapter No.4.6.2.2.
23	A detailed mine closure plan for the proposed project shall be included in EIA,/EMP report which should be site-specific	Mine closure Plan details available at Chapter No. 4.9
24	Public Hearing points raised and commitments of the project proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the project and to be submitted to SEIAA/SEAC with regard lo the office Memorandum of MoEF& CC accordingly.	Noted and agreed
25	The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily	Noted, all the public hearing comments with project proponent response along with budgetary allocation will be submitted during the final EIA.
26	The PP shall produce/display the EIA report, Executive summery and other related information with respect 10 public hearing in Tamil Language also	Noted and agreed
27	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	Discussed in Chapter No.3
28	The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. 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. Greenbelt development will be carried out as per ToR recommendation. Details of Greenbelt development and recommended species for the plantation is described in Chapter No 4.
29	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities, botanist/Horticulturist with regard to site specific	Details of Greenbelt development and recommended species for the plantation is described in Chapter No 4.

	choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner	
30	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period	Disaster management Plan in page no.107
31	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report. Report for the complete life of the proposed quarry (or) till the end of the lease period	Risk Assessment and management Plan in Chapter No. 7.3
32	Occupational health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the Project in Chapter No. 4.8
33	Public health implications of the project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations	Noted and agreed
34	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-Economic significance and influence to the local community proposed to be provided by the Project Proponent should he indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	The Socio-economic studies at Chapter No. 3.7
35	Details of litigation pending against the project, if any. with direction/order passed by any Court of Law against the Project should be given.	Nil
36	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, Economic, employment potential, etc.	Project benefits at chapter no. 8
37	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	NA
38	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.	Noted and agreed
39	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.	Noted and agreed
ADDITIONAL CONDITIONS		
1	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	Details in Chapter No. 3
2	As per the MoEF& CC office memorandum	Noted and agreed

	F.No.22.6512017JA.llt dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan	
3	The 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.	Carbon emission due to this project and mitigation measures is discussed in the Chapter No 7.
4	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 & agreed. Detailed under Chapter 3.
5	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services	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.
6	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir	No proposal for the disposal of pit water to the nearby water bodies hence this project will not create impact to the food chain in the water body. After completion of quarry operation, the pit will act as temporary reservoir and pisciculture activities will be involved. Details of Nearest water bodies from the project site is given in Chapter No. 3.
7	The Terms of Reference should specifically study impact on soil health. soil erosion. The soil physical, chemical components and microbial components.	The overburden in the form of top soil, about 28,914m^3 will be preserved in the safety barrier for greenbelt development.
8	The Environmental Impact Assessment should study impact on forest, vegetation. endemic, vulnerable and endangered indigenous flora and fauna.	The area is surrounded by dry barren land. Details of flora and fauna studies given in the Chapter No.3.
9	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection	The entire area is a hilly terrian, No major trees within the project area
10	The Environmental Impact Assessment should study on wetlands. water bodies, rivers, streams, lakes and farmer sites.	Nearest agriculture activity is coconut plantation located North side of the project area.
11	The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.	Budgetary allocation is given in the Chapter No. 4, Table No 4.11
12	The Environmental Impact Assessment should study impact on climate change. temperature rise. pollution and above soil & below soil carbon stock.	The project will not cause significant impact on climatic change. Description about the project and climatic changes is described in Chapter No.4.
13	The Environmental Impact Assessment should study impact on protected areas. Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Anticipated Environment Impact and Mitigation measures are detailed in Chapter No.4.
14	The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.	The project area is bounded by dry barren land no agriculture activities carried out.
15	The project proponent shall study and furnish the details on potential fragment ion impact of natural environment, by the activities.	Details are given in the Chapter No 4.
16	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 & agreed. Detailed under Chapter 3.

17	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.	Plastic waste management in the project area detailed in Chapter No.7
18	The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1km radius from the project area. The mining operation will not cause any significant impact to the Reserve Forest and Wild life Sanctuaries
19	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following a) soil health & bio-diversity b) climate change leading to droughts, floods etc. c) pollution leading to release of greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people. d) possibilities of water contamination and impact on aquatic ecosystem health. e) agriculture, forestry & traditional practices. f) Hydrothermal/Geothermal effect due to destruction in the environment. g) Bio-geochemical processes and its foot prints including environmental stress. h) sediment geochemistry in the surface streams.	Discussed under Chapter No.4
20	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 I 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.	Discussed in Chapter No.3, Page No.52 Figure No.3.5-3.10
21	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.	Discussed in Chapter No.7
22	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of mining.	Discussed in Chapter No.7
23	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Detailed discussed in the chapter 4.
24	Detailed environment management plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Detailed discussed in the chapter 10.
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	Not applicable.

	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.	The applied land for quarrying is Government Poramboke land. Government tender copy enclosed 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 – i). Mine lease area with coordinates-Fig.2.3- ii). Superimposed google imagery –Fig.2.2- iii). Geomorphology-Fig.2.9- iv). Geology- Fig.2.8- v). Land-use and Land Cover-Fig.3.1-
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Geomorphological features are incorporated in the Toposheet map covering 10km radius around the project area Figure No. 2.9.
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 is detailed in the EIA Report.	The proponent has framed its Environmental Policy and the same is discussed in the Chapter No 10.
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.
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.
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.	Land use and land cover of the study area is discussed in Chapter No. 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.
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.
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.
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.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Noted and agreed
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.	Cauvery South Wildlife Sanctuary – 8.0km – North West
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	Cauvery South Wildlife Sanctuary – 8.0km – North West
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,
19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli	Not Applicable. Project area / Study area is not declared in ‘Critically Polluted’ Area and does

	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 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.	The proposed project area is devoid of major cultivations and there are no habitations within a radius of 300 meters.
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 One Season (Post-monsoon season) December 2022 to February 2023 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 9.6.1 Model.
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.	Total Water Requirement: 4.5 KLD,

25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits.
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.	The rain water collected in the pits after spell of rain will be used for greenbelt development and dust suppression.
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 Quality 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.	The ground water table inferred 53-58m below ground level.
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.	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.	Elevated terrain altitude ranges from 382m to 436m AMSL. Ultimate depth of the mine is 50 m (30m agl + 20m bgl). Water level of the area is 56-61m BGL
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.	Recommended Species proposed for Greenbelt Development are given in the Chapter 10,
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.	The details of conceptual plan is discussed in 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.	Details in Chapter 10,
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.	Details in Chapter 4,
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.	Details in Chapter-8,
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.	Environment Management Plan 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 is detailed under Chapter 7,
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.	The project cost is detailed in Chapter 2, and EMP cost is detailed in Chapter 10,
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 environmental, social, economic, employment potential, etc.	Details in Chapter 8,
44	**Besides the above, the below mentioned general points are also to be followed: -**	
a)	Executive Summary of the EIA/EMP Report	Page No. A to G
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 given properly.
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	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	Enclosed as Annexure Volume 1.

	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.	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) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	Enclosed as Approved Mining Plan as Annexure Volume 1

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CHAPTER – 1: INTRODUCTION

1.1 PREAMBLE

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.

Granite is the major requirement for construction and ornamental stone industries. This EIA report is prepared for Tvl. Tamilkumaran Productions Private Limited (P1) Black Granite Quarry in S.F. No 830 (Part) West & 835/3 over an extent of 3.14.0 ha in Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu and M/s. PVI Trading Corporation (P2) Black Granite Quarry in S.F.No. 830 (Part) East & 834/1 over an extent of 5.00.0 ha in Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu.

This EIA report is prepared by considering Cumulative load of proposed & existing quarries within a radius of 500 m from this proposal. Consisting of Two Proposed Quarries with total extent of Cluster of 8.14.0 ha; the cluster area is calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016.

Environmental Impact Assessment (EIA) study is a process, used to identify the Environmental, Social and Economic impacts of a project prior to decision-making. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are taken into account during the project designing.

This EIA Report is prepared in compliance with ToR obtained vide letter No for P1 - Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022 and for P2-Lr.No. SEIAA-TN/F.No.8650/SEAC/ TOR-1231/2022 Dated: 24.08.2022.

The Baseline Monitoring study has been carried out during Post-Monsoon (December 2022 to February 2023) considering the provisions of MoEF & CC Office Memorandum Dated: 29.08.2017 and MoEF & CC Notification S.O. 996 (E) Dated: 10.04.2015.

1.2 PURPOSE OF THE REPORT

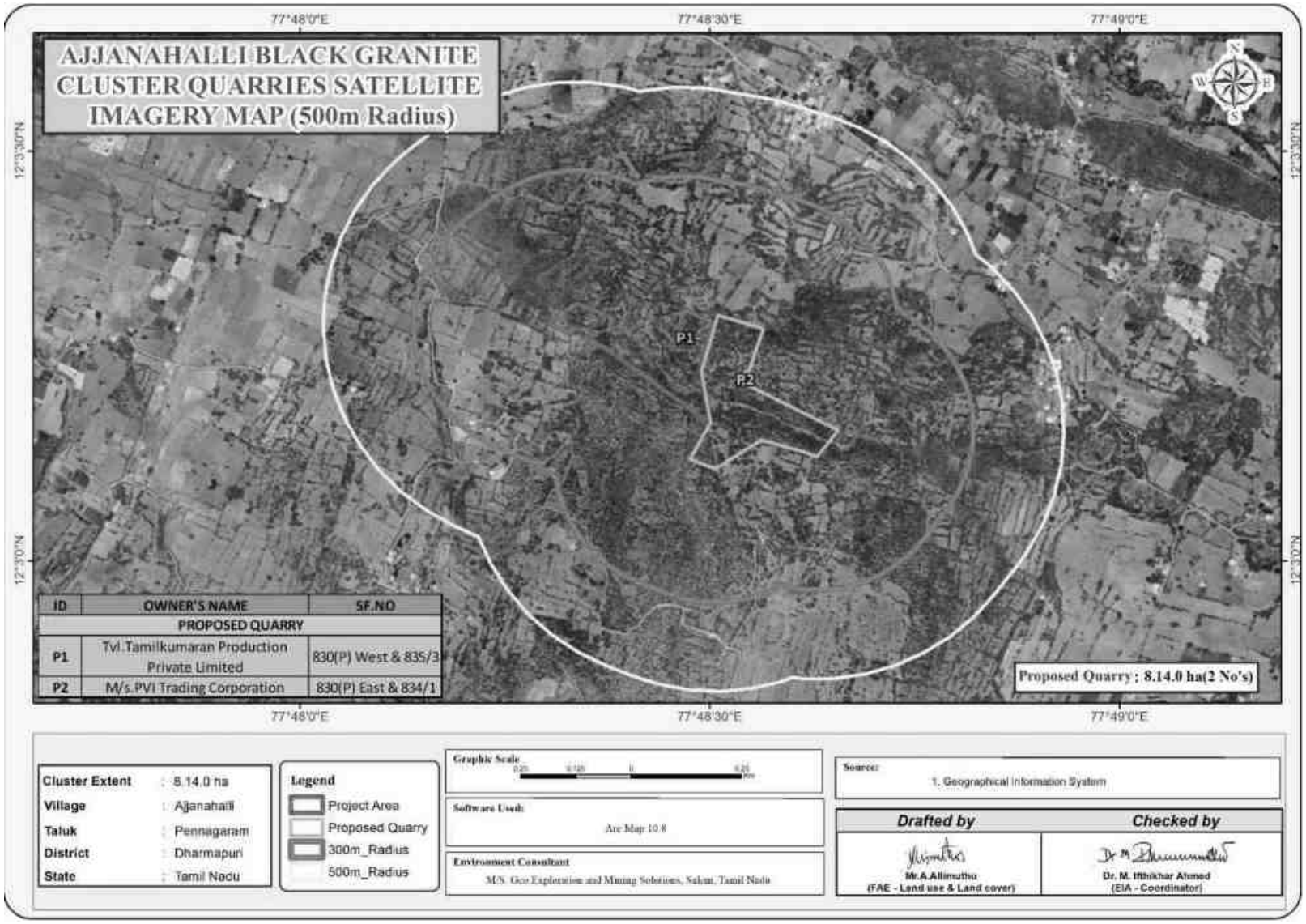
The Ministry of Environment and Forests, Govt. of India, through its EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 3977 (E) of 14thAugust 2018, Mining Projects are classified under two categories i.e., A (> 100 Ha) and B (≤ 100 ha), 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 B- 1 and appraised by SEAC/ SEIAA as well as for cluster situation.

The proposed projects are 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.

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

FIGURE1.1: CLUSTER QUARRIES MAP



1.3 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

1.3.1 Identification of Project

TABLE 1.1: SALIENT FEATURES OF THE PROPOSED PROJECT

Name of the Project	Tvl. Tamilkumaran Productions Private Limited	M/s. PVI Trading Corporation
S.F. No.	830 (Part) West & 835/3	830 (Part) East & 834/1
Extent	3.14.0 Ha	5.00.0 Ha
Land Type	Government Poramboke Land	Government Poramboke Land
Village, Taluk and District	Ajjanahalli, Pennagaram and Pennagaram	Ajjanahalli, Pennagaram and Pennagaram

Source: Approved Mining Plan

1.3.2 Identification of Project Proponent

TABLE 1.2: DETAILS OF PROJECT PROPONENT

Name of the Project Proponent	Tvl. Tamilkumaran Productions Private Limited	M/s. PVI Trading Corporation
Address	No. 16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai.	D.No. 62-A, 1st Pulikuthi Street, Gugai, Salem.
State	Tamil Nadu	Tamil Nadu
Pin code	600 017	636 006
Mobile No	+91 99949 28999	+91 99444 56001

Source: Approved Mining Plan

1.4 BRIEF DESCRIPTION OF THE PROJECT

1.4.1 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–

P1-

Total Mineable Recoverable Reserves of Granite @ 10% = 7,385m^3

Total Proposed Production @ 10% = 1,837m^3

Average Production per year @ 10% = 1,837m^3/5Years

= 368 m^3

P2-

Total Mineable Recoverable Reserves of Granite @ 10% = 14,853m^3

Total Proposed Production @ 10% = 3,713m^3

Average Production per year @ 10% = 3,713m^3/5Years

= 743 m^3

TABLE 1.3: RESOURCES AND RESERVES OF PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited						
Description	**ROM in m^3**	**Granite recovery @10% in m^3**	**Granite waste @ 90% recovery**	**Side burden in m^3**	**Weathered rock in m^3**	**Top Soil in m^3**
Geological Resources	1,64,400	16,440	1,47,960	3,94,120	55,200	27,600
Mineable Reserves	73,845	7,385	66,460	33,290	22,054	12,332
Year wise Production	18,375	1,837	16,538	14,400	22,054	12,332
P2 - M/s. PVI Trading Corporation						
Description	**ROM in m^3**	**Granite recovery @10% in m^3**	**Granite waste @ 90% recovery**	**Side burden in m^3**	**Weathered rock in m^3**	
Geological Resources	3,08,250	30,825	2,77,425	11,20,090	1,43,820	
Mineable Reserves	1,48,525	14,853	1,33,673	1,91,505	54,057	
Year wise Production	37,125	3,713	33,413	99,440	18,252	

Source: Approved Mining Plan

TABLE 1.4: SALIENT FEATURES OF THE PROPOSED PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited				
Name of the Project	Tvl. Tamilkumaran Productions Private Limited Black Granite Quarry			
Toposheet No	57 H/16			
Latitude between	12°03'10.06"N to 12°03'18.69"N			
Longitude between	77°48'18.20"E to 77°48'30.42" E			
Highest Elevation	Elevated terrain altitude ranges from 412m to 472m AMSL			
Proposed Depth of Mining	23m AGL (1m Topsoil + 2m Weathered Rock + 20 m Black Granite)			
Existing Pit Dimension	Pit 1 – 14m (L) x 13m (W) x 3m (D) Pit 2 – 12m (L) x 12m (W) x 3m (D)			
Resources	**ROM (m^3)**	**Side burden (m^3)**	**Weathered rock (m^3)**	**Topsoil (m^3)**
Geological Resources	1,64,400	3,94,120	55,200	27,600
Mineable Resources	73,845	33,290	22,054	12,332
Year wise Production Resources	18,375	14,400	22,054	12,332
Ultimate Pit Dimension	Pit: 316m (L) x 62m (W) x 23m (D) agl			
Water Level measured in the surrounding area	56 - 61m bgl			
Method of Mining	Opencast Mechanized Mining Method involving drilling and blasting			
Topography	The area is an elevated terrain situated in slope of hillock. The gradient is 1 in 6 towards Southeastern side and altitude of the area is ranges from 412 to 472m above from MSL. The area is concealed under reddish gravelly soil having an average thickness 1m, 2m weathered rock and followed by fresh black granite.			
Machinery proposed	Wagon Drill	1		
	Jack Hammer	4		
	Compressor	1		
	Diamond Wire Saw	1		
	Diesel Generator	1		
	Crawler Crane	1		
	Excavator	1		
	Tipper	1		
Blasting method	Controlled blasting using Small dia slurry explosives only for overburden and weathered rock removal			

Proposed Manpower Deployment	25 Nos		
Project Cost	Rs 7,72,01,000/-		
CER Cost @ 2% of Project Cost	Rs.10,00,000/-		
Nearby Water Bodies	Kaveri River	6km West	
	Moongilmaduvu Dam	2.5km East	
	Mettuankottai Dam	5km South East	
	Mathalapallam Dam	6.5km South	
	Odai	7km South	
	Tank	9km North East	
Greenbelt Development Plan	Proposed to plant 1500 trees in Safety Zone, approach and Village roads.		
Proposed Water Requirement	5.5 KLD		
Nearest Habitation	460m North		
P2 - M/s. PVI Trading Corporation			
Name of the Project	M/s. PVI Trading Corporation		
Toposheet No	57 H/16		
Latitude between	12°03'06.1265"N to 12°03'17.3265"N		
Longitude between	77°48'28.5887"E to 77°48'39.5422" E		
Highest Elevation	Elevated terrain altitude ranges from 382m to 436m AMSL		
Proposed Depth of Mining	25m agl		
Resources	**ROM (m^3)**	**Side burden (m^3)**	**Weathered rock (m^3)**
Geological Resources	3,08,250	11,20,090	1,43,820
Mineable Resources	1,48,525	1,91,505	54,057
Year wise Production Resources	37,125	99,440	18,252
Ultimate Pit Dimension	Pit: 217m (L) x 117m (W) x 50m (D) (30m agl + 20m bgl)		
Water Level measured in the surrounding area	56 - 61m bgl		
Method of Mining	Opencast Mechanized Mining Method involving drilling and blasting		
Topography	The area is an elevated terrain situated in slope of hillock. The gradient is 1 in 6 towards southeastern side and altitude of the area is ranges from 382m to 436m above from MSL. The area is concealed under 3m weathered rock and followed by fresh black granite.		
Machinery proposed	Jack Hammer	4	
	Compressor	2	
	Diamond Wire Saw	2	
	Line Drilling Machinery	2	
	Excavator	1	
	Tipper	2	
Blasting method	Controlled blasting using Small dia slurry explosives only for overburden and weathered rock removal		
Proposed Manpower Deployment	27 Nos		
Project Cost	Rs 6,09,70,000/-		
CER Cost @ 2% of Project Cost	Rs.10,00,000/-		
Nearby Water Bodies	Kaveri River	6km West	
	Moongilmaduvu Dam	2.5km East	
	Mettuankottai Dam	5km South East	
	Mathalapallam Dam	6.5km South	
	Odai	7km South	
	Tank	9km North East	
Greenbelt Development Plan	Proposed to plant 2500 trees in Safety Zone, approach and Village roads.		
Proposed Water Requirement	4.5 KLD		
Nearest Habitation	460m North		

Source: Approved Mining Plan

1.4.2 Location of the Project

The Project areas P1 & P2 are fall in Ajjanahalli Village, Pennagaram Taluk and Dharmapuri District. Located – 2.0Km Northwest of Ajjanahalli Village, 13 km Southwest of Pennagaram Taluk and 37km Southwest of Dharmapuri District.

FIGURE 1.2: KEY MAP SHOWING THE LOCATION OF THE PROJECT SITE

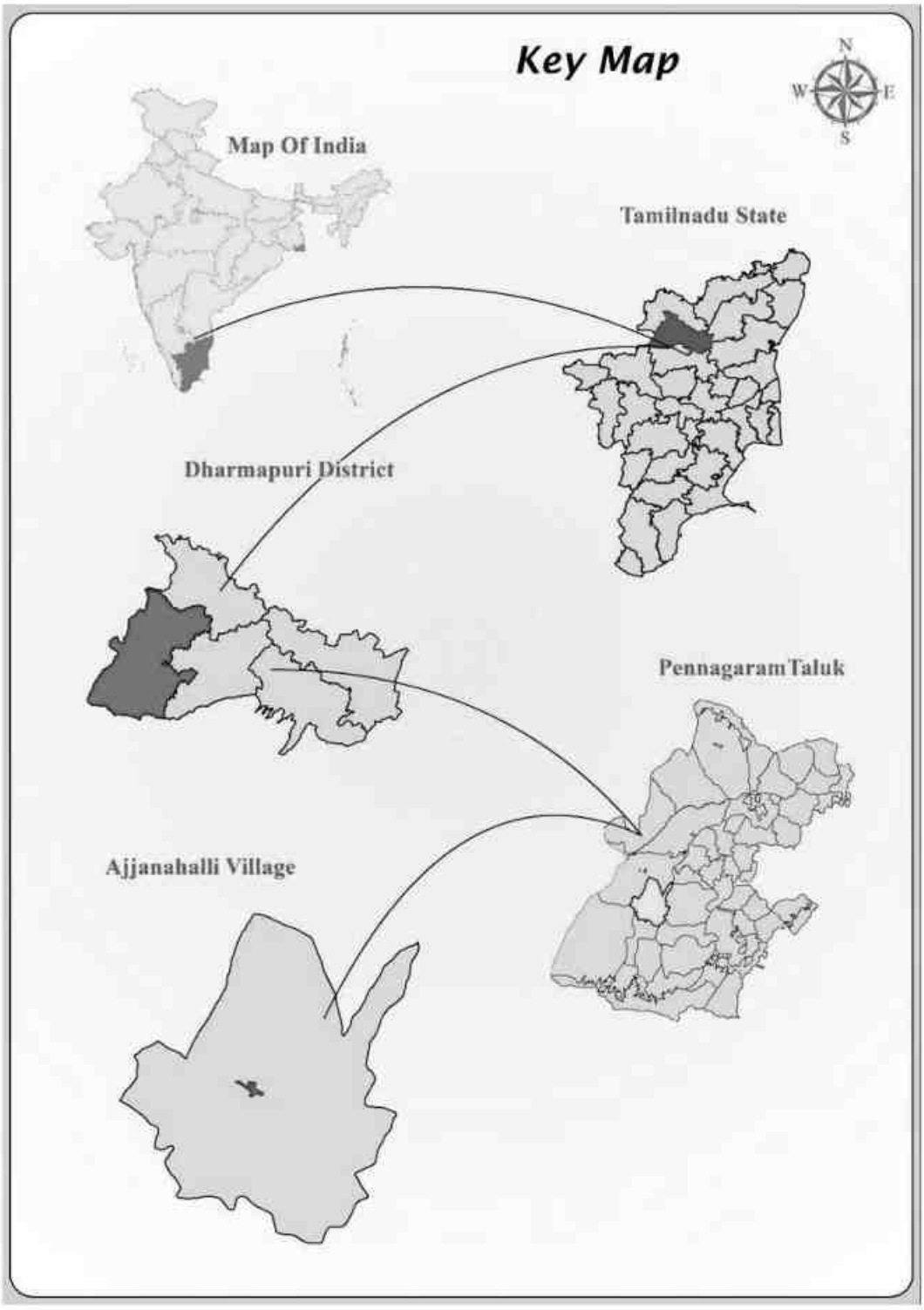
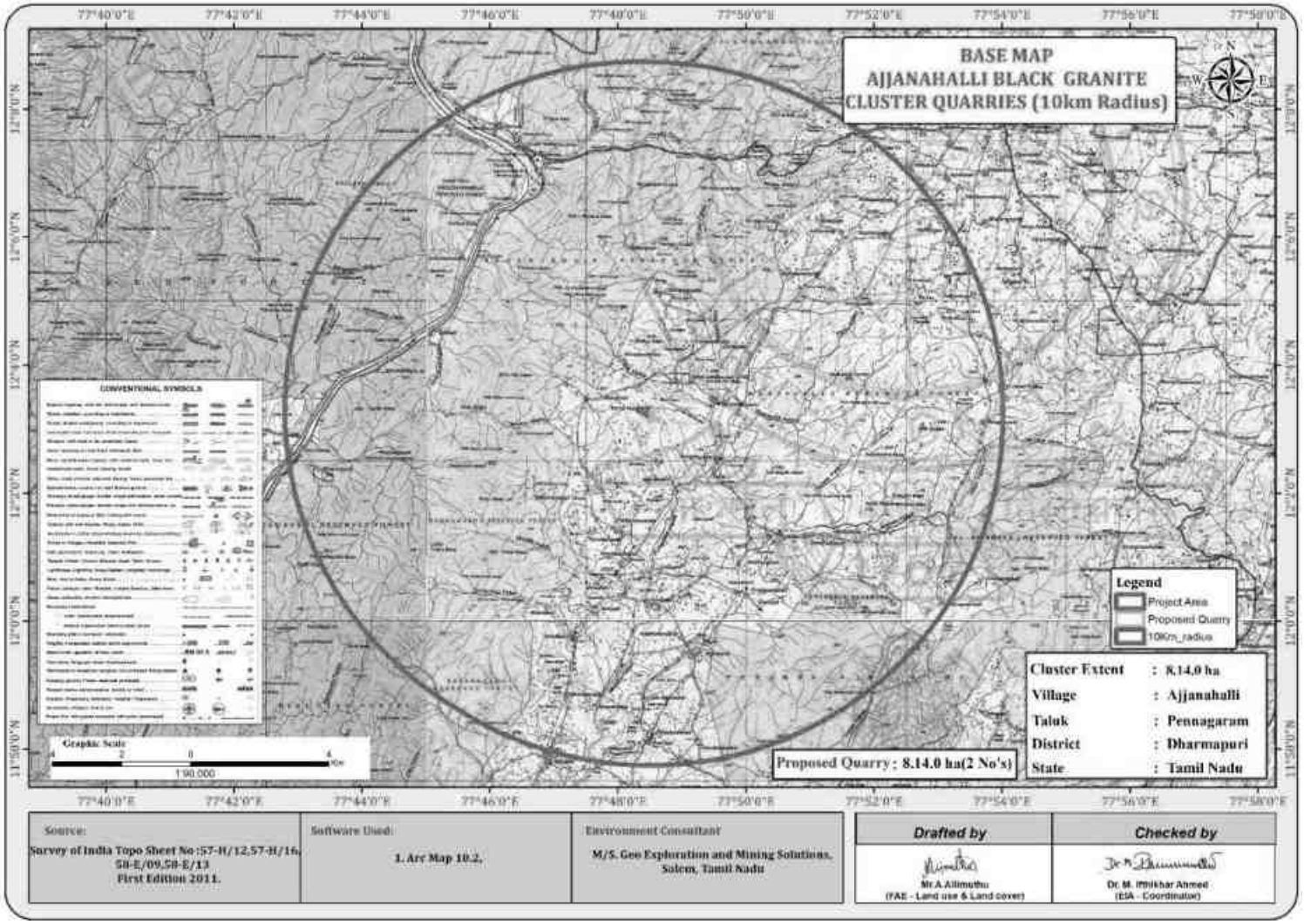


FIGURE 1.3: TOPOSHEET MAP OF THE STUDY AREA 10 KM RADIUS



1.5 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 –

P1 - Tvl. Tamilkumaran Productions Private Limited

- Dharmapuri District Gazette Extraordinary issue in English and Tamil No. 5 on Dated 03.09.2020.
- Precise area communication letter received for the preparation of Mining plan vide Letter No. 273/MME.2/2021-1, Dated 23.02.2021.
- Mining plan got approved by the Commissioner of Geology and Mining, Chennai vide Rc.No. 6163/MM4/2020, Dated 21.05.2021.
- Proponent applied for ToR to get Environmental Clearance vide online Proposal No. SIA/TN/MIN/65944/2021 Dated: 23.07.2021

P2 - M/s. PVI Trading Corporation

- Dharmapuri District Gazette Extraordinary issue in English and Tamil No. 5 on Dated 03.09.2020.
- Precise area communication letter received for the preparation of Mining plan vide Letter No. 272/MME.2/2021-1, Dated 22.02.2021.
- Mining plan got approved by the Commissioner of Geology and Mining, Chennai vide Rc.No. 6162/MM4/2020, Dated 21.05.2021.
- Proponent applied for ToR to get Environmental Clearance vide online Proposal No. SIA/TN/MIN/64515/2021 Dated: 07.07.2021.

SCOPING –

P1 - Tvl. Tamilkumaran Productions Private Limited

- The proposal was placed in 273rd SEAC meeting held on 14.05.2022 and the committee recommended for issue of ToR.
- The proposal was considered in 518th SEIAA meeting held on 06.06.2022 and issued ToR vide Letter No SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022.

P2 - M/s. PVI Trading Corporation

- The proposal was placed in 237th SEAC meeting held on 08.10.2021, 268th SEAC meeting held on 09.04.2022 & 298th SEAC meeting held on 22.07.2022 and the committee recommended for issue of ToR.
- The proposal was considered in 543th SEIAA meeting held on 24.08.2022 and issued ToR vide Letter No SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022.

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 Combined 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
- P1-Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022.
- P2-Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022.
- 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

1.6 POST ENVIRONMENT CLEARANCE MONITORING

The Project Proponent will 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 every year.

1.7 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.

1.8 THE 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 for each individual leases. 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 Post-monsoon season (December 2022 to February 2023) 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	PM_{10}, PM $_{2.5}$, SO_2, NO_2	Continuous 24 hourly samples twice a week for three months at 8 locations (2 Core & 6 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 5 ground water and 1 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 conducted
5	Noise levels	Noise levels in dB(A)	8 locations – data monitored once for 24 hours during EIA study (2 Core & 6 Buffer)
6	Soil Characteristics	Physical and Chemical Parameters	Once at 6 (2 Core & 4 Buffer) 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	Based on data collected from secondary sources as well as hydro-geology study report prepared.

		discharge areas	
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 EHS 360 Labs Pvt Ltd Laboratories

The data has been collected as per the requirement of the ToR issued by SEIAA – TN and Standard ToR Published by MoEF & CC.

1.8.1 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
- P1-Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022.
- P2-Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022.

2. PROJECT DESCRIPTION

2.1 GENERAL

The Proposed Ajjanahalli Black Granite Cluster Quarries (Extent – 8.14.0 ha) requires Environmental Clearance. There are 2 proposed quarries forming a cluster; calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016 and the total extent of cluster is 8.14.0 ha.

As the extent of cluster are 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.

2.2 DESCRIPTION OF THE PROJECT

The area is fresh land, no mining activities carried out before, Topography of the area is elevated terrain with gentle gradient towards Southeast side. No major vegetation or trees within the project area, the project is site specific and there is no additional area required for this project. There is no effluent generation/discharge from the proposed quarry.

Black Granite is proposed to quarry by opencast mechanized method involving Eco-friendly Diamond Wire Saw Cutting. Heavy earth moving machineries like Excavators Trucks will be deployed in this quarrying operation 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.

2.3 LOCATION OF THE PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited

- The Project area P1 is located in S.F.No. 830 (Part) West & 835/3, Ajjanahalli Village, Pennagaram Taluk and Dharmapuri District.
- The project falls in Toposheet No: 57 H/16
- The area falls in the Latitude between 12°03'10.06"N to 12°03'18.69"N and Longitude between 77°48'18.20"E to 77°48'30.42" E
- The project area is Government Poramboke land (Non-Forest Land)

P2 - M/s. PVI Trading Corporation

- The Project area P2 is located in S.F.No. 830 (Part) East & 834/1, Ajjanahalli Village, Pennagaram Taluk and Dharmapuri District.
- The project falls in Toposheet No: 57 H/16
- The area falls in the Latitude between 12°03'06.1265"N to 12°03'17.3265"N and Longitude between 77°48'28.5887"E to 77°48'39.5422" E
- The project area is Government Poramboke land (Non-Forest Land)

TABLE 2.1: SITE CONNECTIVITY TO THE PROJECT AREA

P1 - Tvl. Tamilkumaran Productions Private Limited	
Nearest Roadway	Village road 270m South West (NH 44) Salem – Bangalore – 28km – South East (SH 60) Hogenakkal - Pennagaram – 8km North
Nearest Village	Sigaralahalli – 1.5km- NW
Nearest Town	Pennagaram - 13.0km-NE
Nearest Railway Station & Railway Line	Mettur Railway Station - 29km - South Mettur to Salem – 29km - South
Nearest Airport	Salem Airport - 57.0Km - SE
Seaport	Chennai 291Km NE
P2 - M/s. PVI Trading Corporation	
Nearest Roadway	Village road 460m North East (NH 44) Salem – Bangalore – 28km – South East (SH 60) Hogenakkal - Pennagaram – 8km North

Nearest Village	Ajjanahalli – 1.5km- NE
Nearest Town	Pennagaram - 13.0km-NE
Nearest Railway Station & Railway Line	Mettur Railway Station - 29km - South Mettur to Salem – 29km - South
Nearest Airport	Salem Airport - 57.0Km – SE
Seaport	Chennai 291Km NE

Source: Survey of India Toposheet

The area is bounded by ten corners/ pillars the co-ordinates for all the pillars are given below –

TABLE 2.2: BOUNDARY CO-ORDINATES OF PROPOSED PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited		
Boundary Pillar No.	**Latitude**	**Longitude**
1	12°03’13.85’’N	77°48’29.20’’E
2	12°03’10.06’’N	77°48’29.66’’E
3	12°03’15.46’’N	77°48’22.37’’E
4	12°03’16.24’’N	77°48’20.86’’E
5	12°03’16.78’’N	77°48’21.07’’E
6	12°03’17.03’’N	77°48’19.91’’E
7	12°03’16.53’’N	77°48’19.74’’E
8	12°03’17.24’’N	77°48’18.20’’E
9	12°03’18.69’’N	77°48’20.18’’E
10	12°03’17.79’’N	77°48’22.69’’E
11	12°03’16.53’’N	77°48’22.92’’E
12	12°03’16.73’’N	77°48’24.04’’E
13	12°03’15.24’’N	77°48’25.57’’E
14	12°03’14.66’’N	77°48’27.07’’E
15	12°03’18.31’’N	77°48’28.08’’E
16	12°03’17.32’’N	77°48’30.42’’E
P2 - M/s. PVI Trading Corporation		
1	12°03’9.4289’’N	77°48’39.5422’’E
2	12°03’7.6024’’N	77°48’37.8412’’E
3	12°03’7.8821’’N	77°48’36.7514’’E
4	12°03’8.5256’’N	77°48’33.6293’’E
5	12°03’6.1265’’N	77°48’30.4946’’E
6	12°03’6.6621’’N	77°48’28.5887’’E
7	12°03’10.0671’’N	77°48’29.6612’’E
8	12°03’13.8574’’N	77°48’29.2098’’E
9	12°03’17.3265’’N	77°48’30.4295’’E
10	12°03’16.5772’’N	77°48’33.7062’’E
11	12°03’12.4442’’N	77°48’32.4641’’E

FIGURE 2.1: PHOTOGRAPH OF THE PROJECT AREAS

P1




P2




FIGURE 2.2: GOOGLE IMAGE SHOWING PROJECT AREA P1

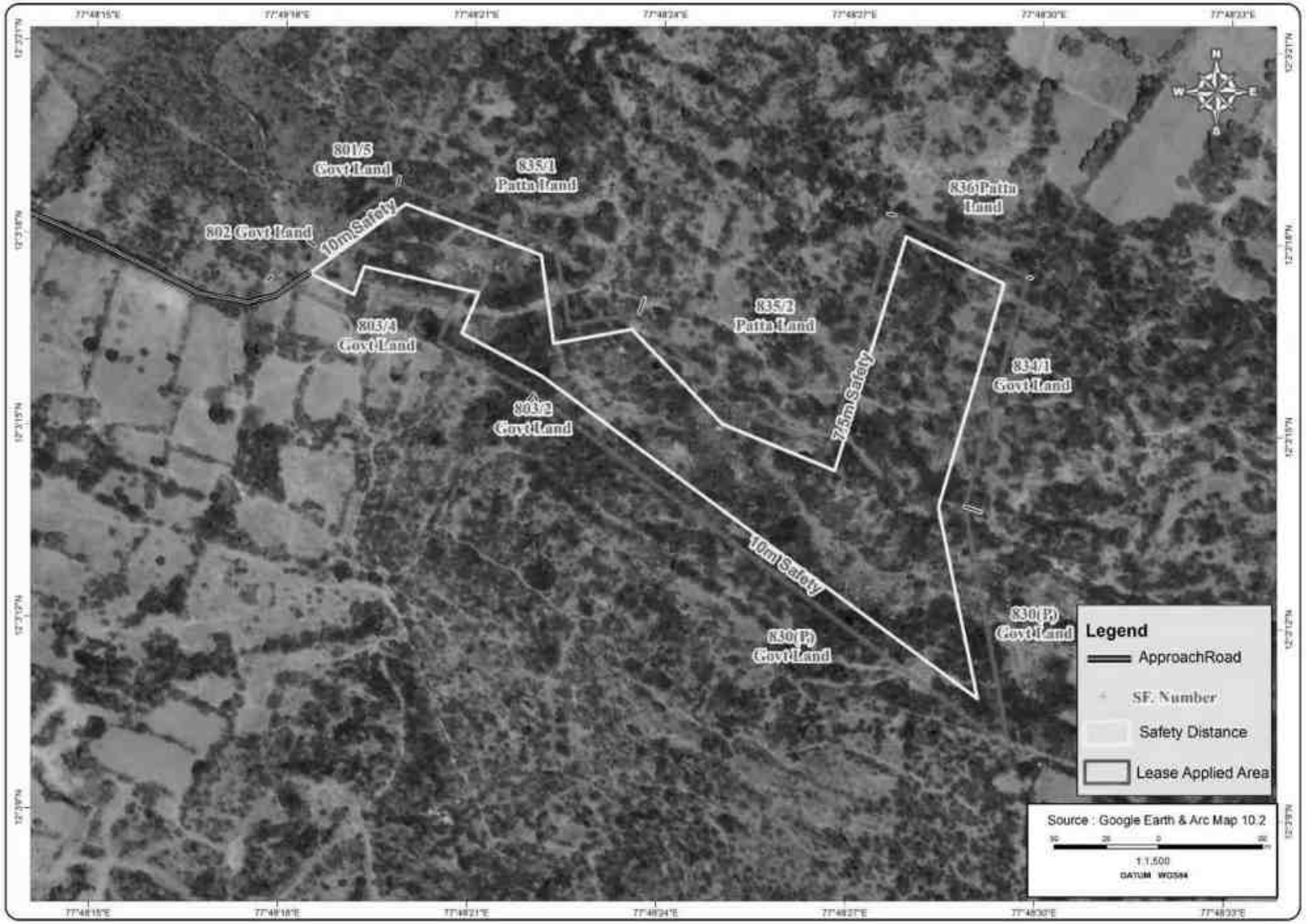


FIGURE 2.2A: GOOGLE IMAGE SHOWING PROJECT AREA P2

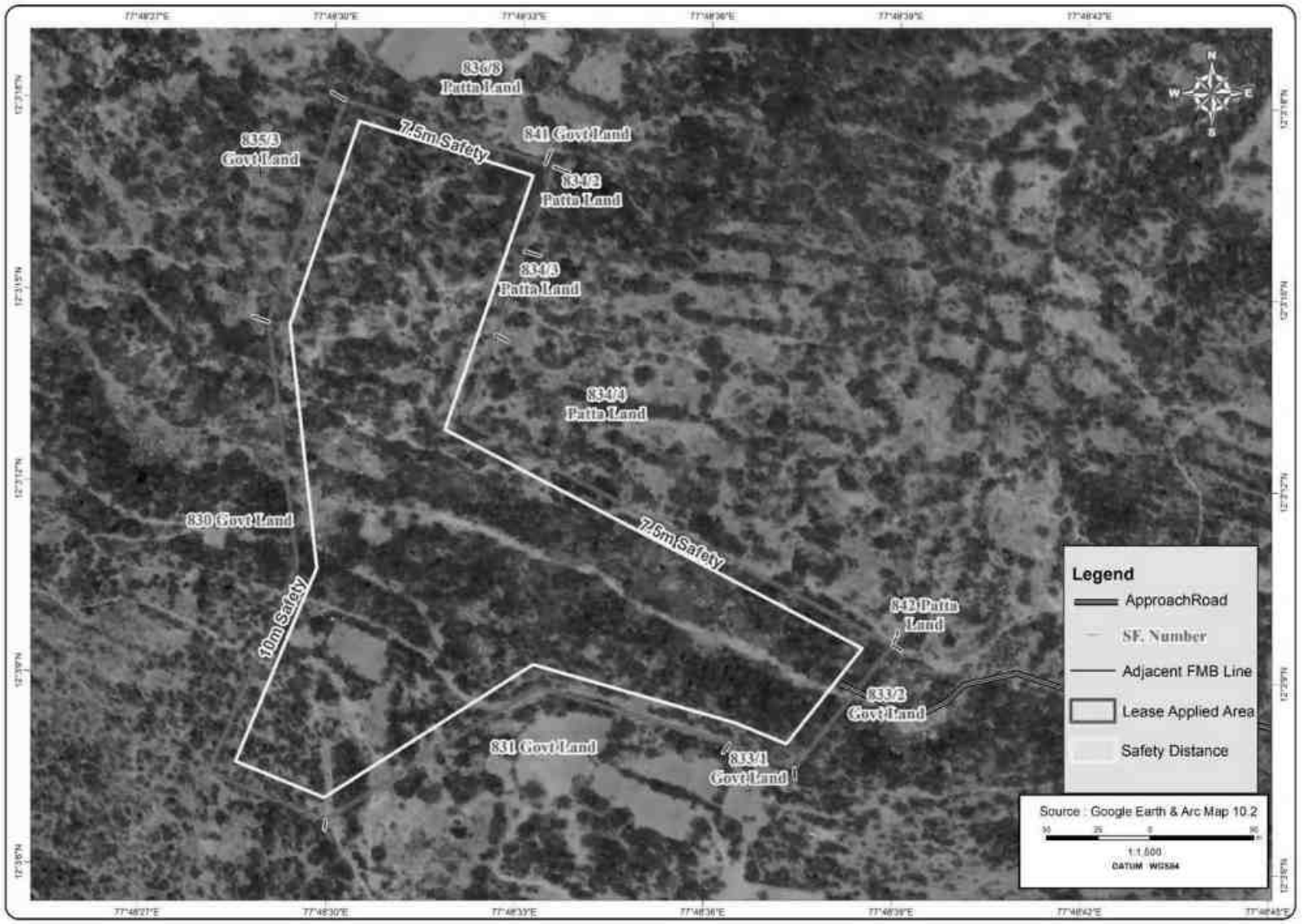
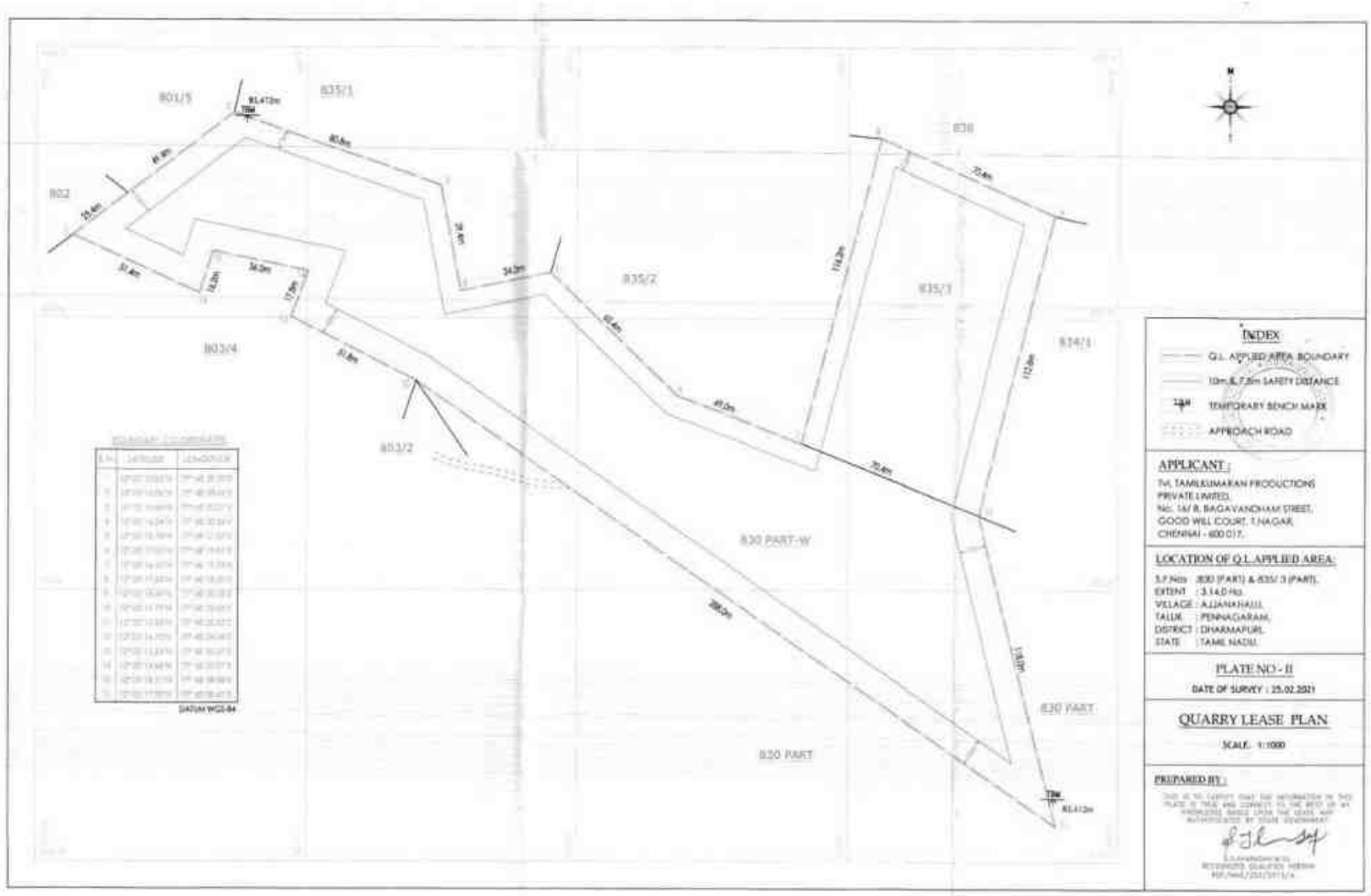


FIGURE 2.3: QUARRY LEASE PLAN



Source: Approved Mining Plan

FIGURE 2.3A: QUARRY LEASE PLAN & SURFACE PLAN P2

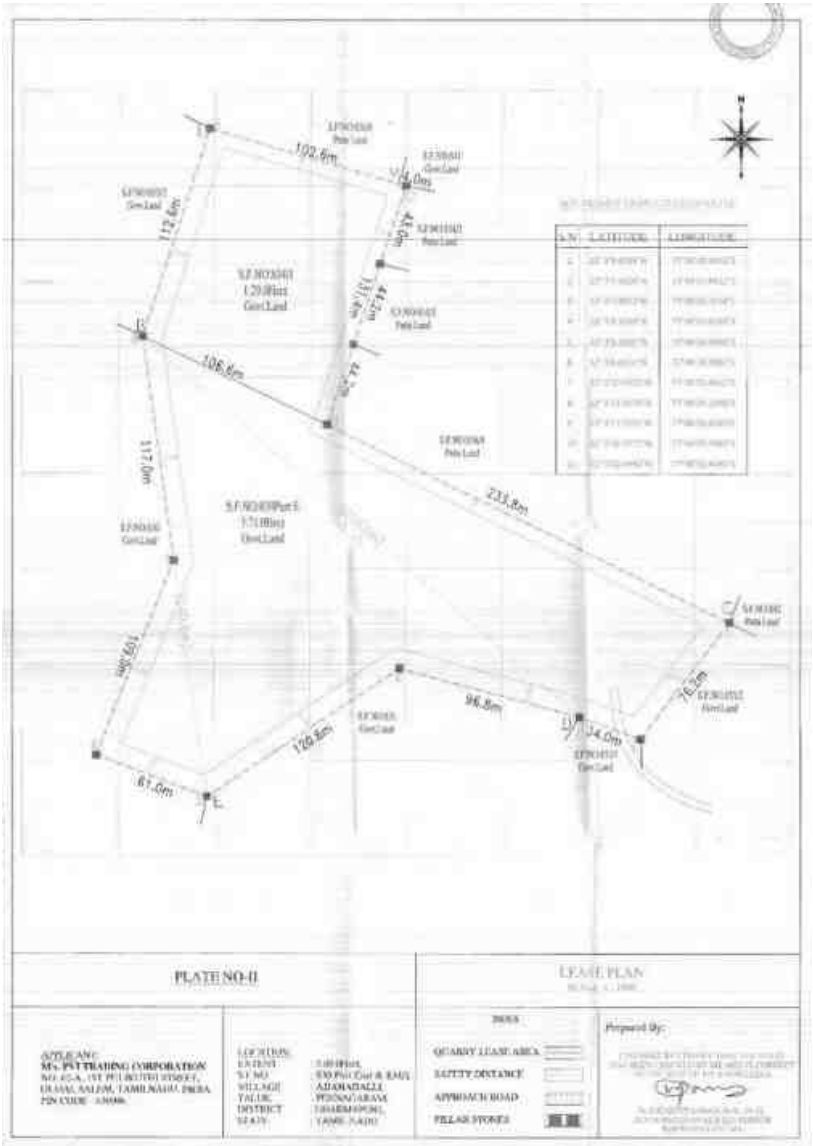


FIGURE 2.4: VILLAGE MAP SUPERIMPOSED ON GOOGLE EARTH IMAGE

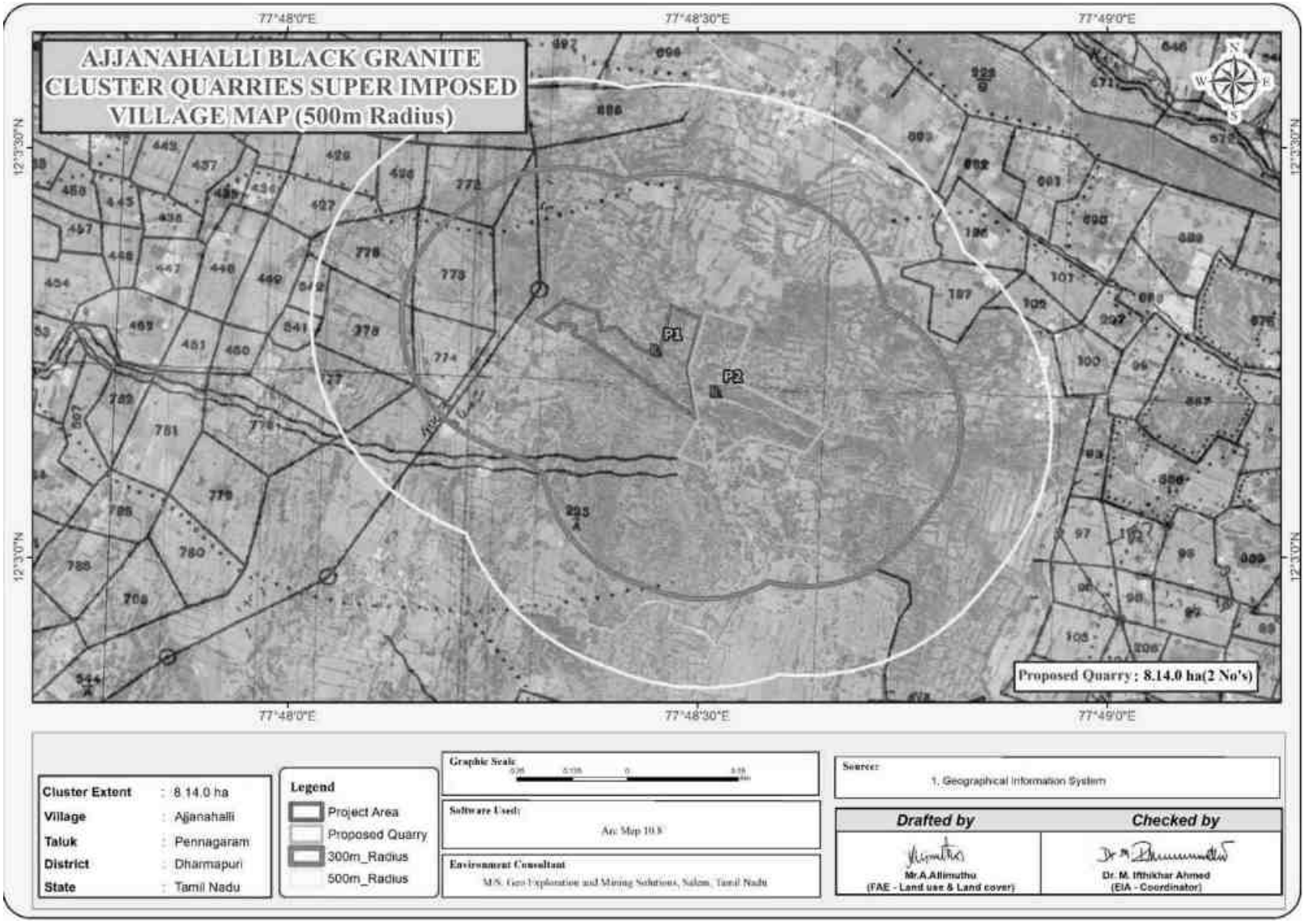


FIGURE 2.5: IMAGE SHOWING SURFACE FEATURES AROUND 10 KM RADIUS

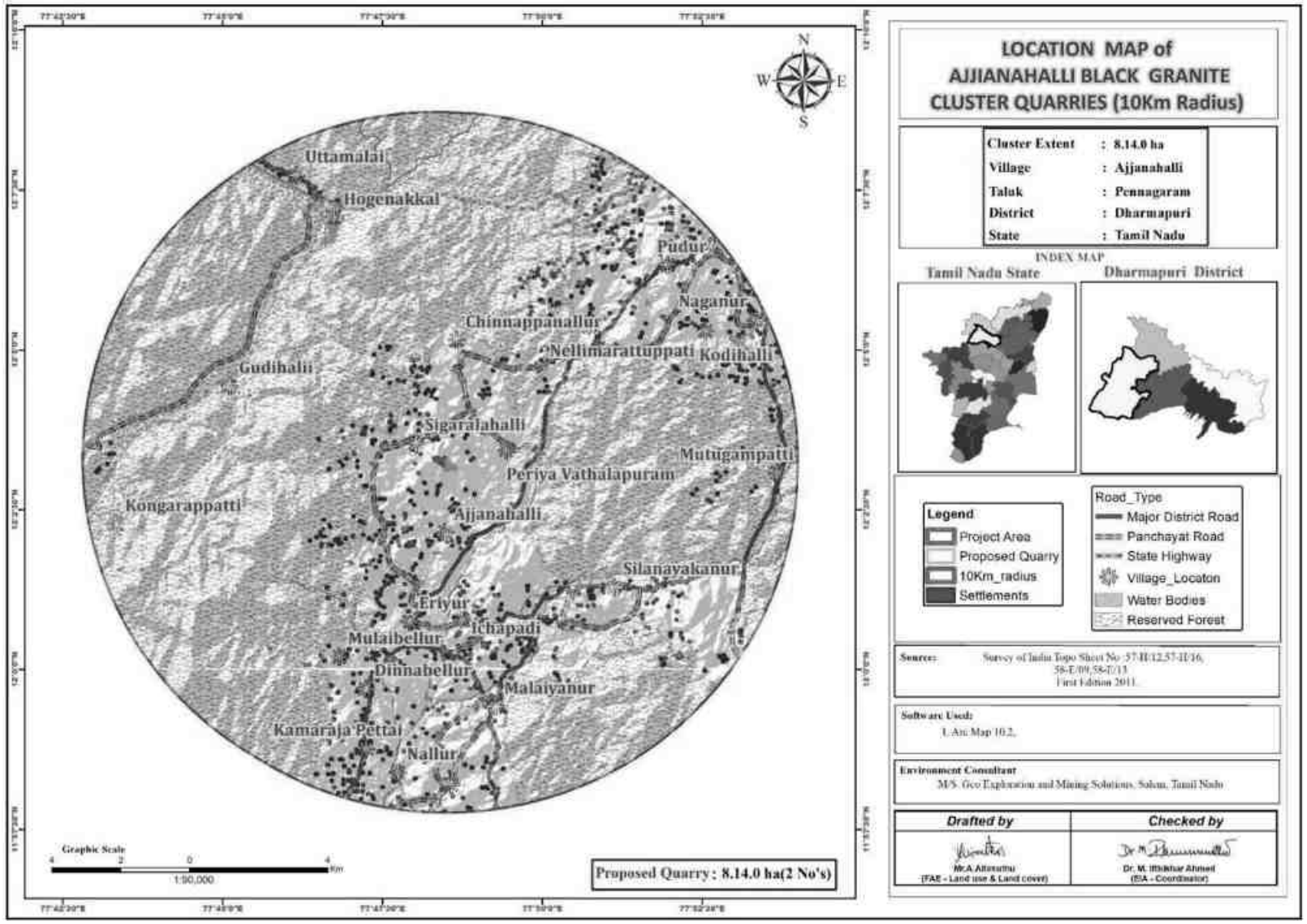


FIGURE 2.6: IMAGE SHOWING SURFACE FEATURES AROUND 5KM RADIUS

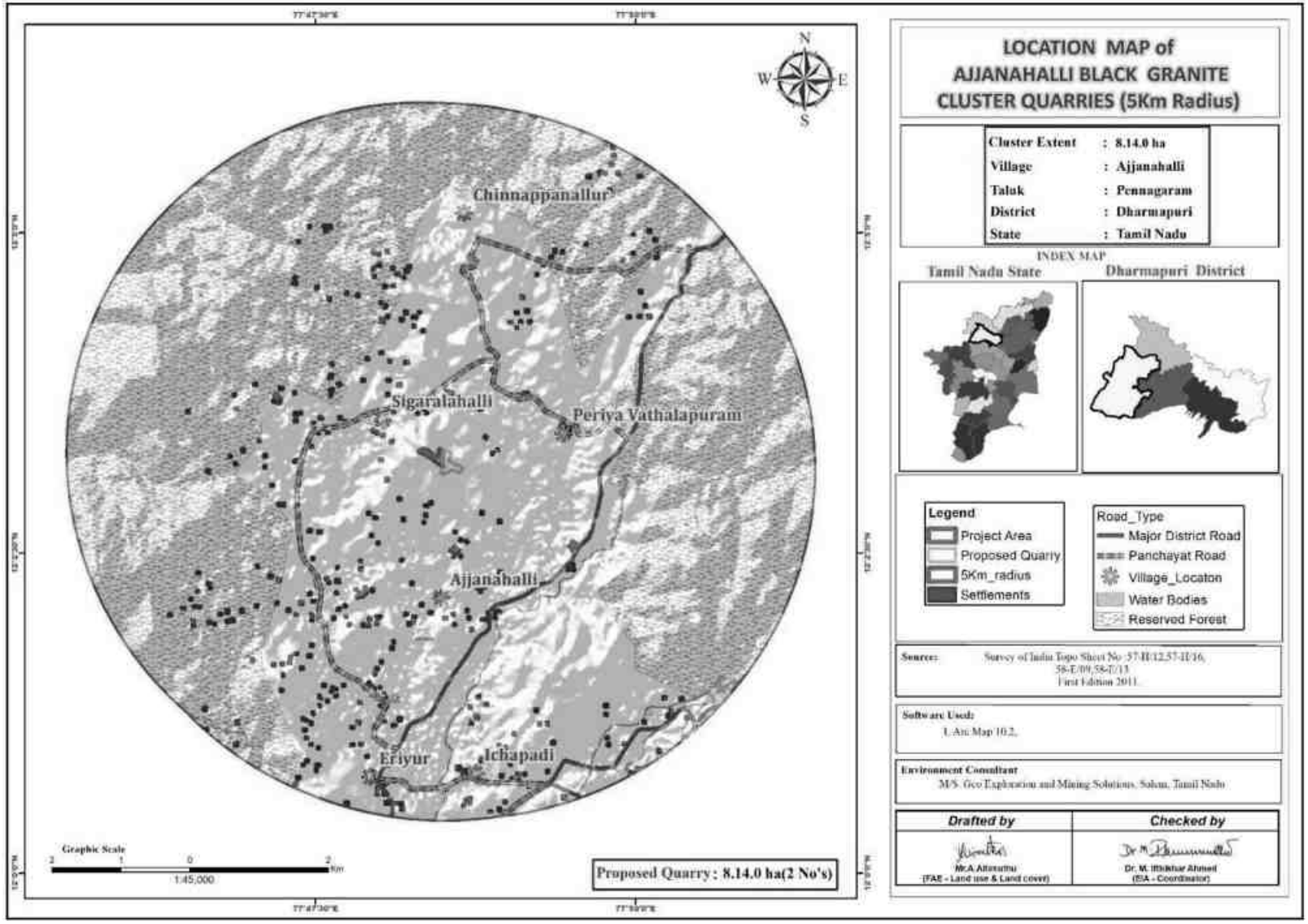
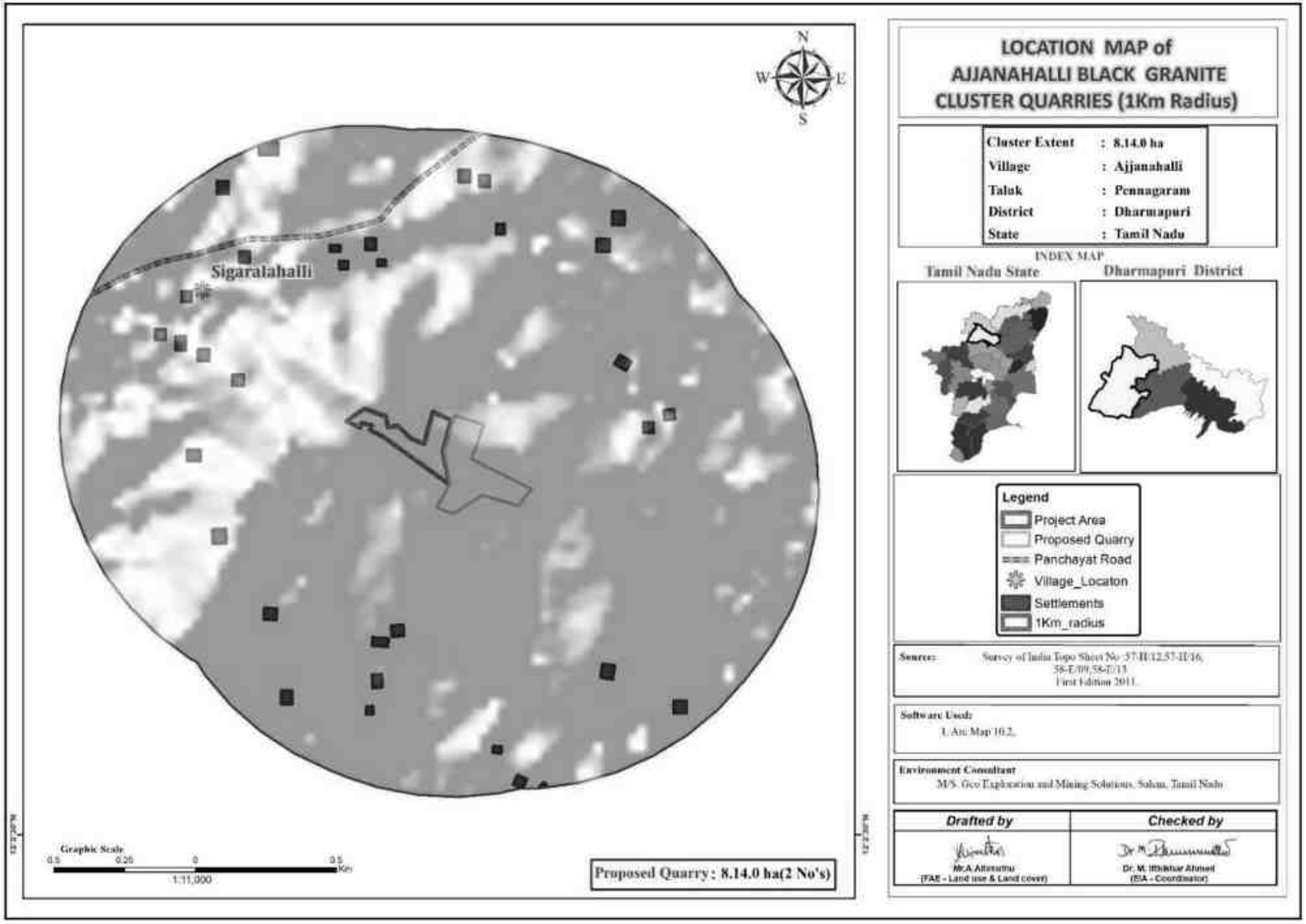


FIGURE 2.7: IMAGE SHOWING SURFACE FEATURES AROUND 1 KM RADIUS



2.3.1 Project Area

P1 - Tvl. Tamilkumaran Productions Private Limited

- The project area is an elevated topography, which is site specific, non – Captive use, opencast Mechanized quarry
- There is No beneficiation or processing proposed inside the project area.
- Elevated terrain altitude ranges from 412m to 472m AMSL
- There is no forest land involved in the proposed project area and the area is devoid of major cultivation.

P2 - M/s. PVI Trading Corporation

- The project area is an elevated topography, which is site specific, non – Captive use, opencast Mechanized quarry
- There is No beneficiation or processing proposed inside the project area.
- Elevated terrain altitude ranges from 382m to 436m AMSL
- There is no forest land involved in the proposed project area and the area is devoid of major cultivation.

TABLE 2.3: LAND USE PATTERN OF THE PROPOSED PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited			
Description	**Present Area (Ha)**	**Area to be required during this Mining Plan period (Ha)**	**Area at the end of life of quarry (Ha)**
Area under quarry	0.03.2	1.20.2	1.20.2
Waste dump	Nil	0.26.0	0.36.0
Infrastructure	Nil	0.01.0	0.01.0
Roads	Nil	0.03.0	0.03.0
Green Belt	Nil	0.14.0	0.50.0
Stocking blocks	3.10.8	1.49.8	1.03.8
TOTAL	**3.14.0**	**3.14.0**	**3.14.0**
P2 - M/s. PVI Trading Corporation			
Description	**Present Area (Ha)**	**Area to be required during this Mining Plan period (Ha)**	
Area under quarrying	Nil	0.79.0	
Infrastructure	Nil	0.02.0	
Roads	Nil	0.03.0	
Unutilized	5.00.0	2.74.5	
Waste dump	-	1.16.5	
Green belt	Nil	0.25.0	
TOTAL	**5.00.0**	**5.00.0**	

Source: Approved Mining plan

2.3.2 Size or Magnitude of Operation

TABLE 2.4: OPERATIONAL DETAILS

P1 - Tvl. Tamilkumaran Productions Private Limited						
Description	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	**Topsoil in m^3**
Geological Resources	1,64,400	16,440	1,47,960	3,94,120	55,200	27,600
Mineable Reserves	73,845	7,385	66,460	33,290	22,054	12,332
Mining Plan Period Production	18,375	1,837	16,538	14,400	22,054	12,332
Number of Working Days	300 Days					
Production per day	12	1	11	10	37	21
No of Lorry loads	2	1	2	2	6	6

(6m^3 per load)						
P2 - M/s. PVI Trading Corporation						
Description	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	
Geological Resources	3,08,250	30,825	2,77,425	11,20,090	1,43,820	
Mineable Reserves	1,48,525	14,853	1,33,673	1,91,505	54,057	
Mining Plan Period Production	37,125	3,713	33,413	99,440	18,252	
Number of Working Days	300 Days					
Production per day	25	2	22	66	61	
No of Lorry loads (6m^3 per load)	6	1	6	11	10	

Source: Approved Mining Plan

2.4 GEOLOGY

2.4.1 Regional Geology

The hard rock terrain of Archaean to Late proterozoic comprises of predominantly Granite, Gneiss, Charnockite, Khondalite group of rocks and their magmatic derivatives, supracrustual 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.

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.

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 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.

The granitic group ranges in composition from granite, through granodiorities 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.

The black granite is a basic igneous rock formed from ulltramafic magmas by partial melting. The composition of the rock is plagioclase (Labradorite) and pyroxene (Augite). The texture is ophitic i.e., large oligoclase of Augite enclose the laths of plagioclase feldspar. The colour is termed as Melanocratic. Free silica is rare or absent. The rock is holocrystalline, black colour, hardness- 6.5 to 7.5, prismatic cleavage.

2.4.2 Local Geology: -

The Dharmapuri district is underlain by hard rock terrain of Achaean to late Proterozoic groups comprises of predominantly gneiss, Charnockite, Khondalite group of rocks and their magmatic derivatives, supracrustal sequences intruded by ultramafic complexes, basic dykes and granites. The northwestern part of Tamil Nadu is characterized by the occurrences of a number of Dolerite dykes. The dolerite dykes in general trending is in NNE- SSW direction and rarely in NNW– SSE directions.

STRUCTURAL SETTINGS OF THE AREA

ROCK TYPE	GROUP	AGE
Reddish Gravelly Soil		Pleistocene to Recent
---------- Unconformity----------		
Carbonatite and alkaline dykes	Alkali complex	Late Archaean to Proterozoic
Syenite complex		
Ultrabasic complex		
Hornblende Biotite gneiss		
Granite Gneiss	Migmatite Complex	
Charnockite,	- Charnockite group	-Late Archaean

2.4.3. Geology of the lease applied area

The area concealed under reddish gravelly soil having an average thickness of 1m and followed by fresh black granite. The Charnockite forms the country rock of the area with trending of N40°E – S40°W with dipping towards SE60° and "Black Granite" (Dolerite) intruded between the batholithic formation of pre-existing country rock of Charnockite discordantly with trending of N60°W – S60°E with vertical dipping with an average width of the dolerite dyke is 25m which stretches about the entire area (Please refer Plate No- III and IV).

The black granite (Dolerite dyke) rock is sub-ophitic, Melanocratic, Grey to black in color, inequigranular, medium to fine grained texture. The color of the rock changes depending upon the texture of the rock. The Dyke is fine grained at the contact of country rock. The Dolerite is composed of laths of plagioclase embedded in the plates of Augite (Ophitic texture), Apatite, magnetite and pyrite forms the secondary mineral. The black granite is clearly visible from the outcrops strike direction of the dyke and existing quarry pits. The black granites boulders are observed with spheroidal weathering and cuboidal joints at the surface level which is likely to decrease in deep seated condition.

The Physical attitude of the Black Granite deposit of this area is given below: -

Strike Direction	-	$N60^0W – S60^0E$
Dip amount and direction	-	Vertical Dip.

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

2.4.4 Hydrogeology

Dharmapuri 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 – Dharmapuri).

FIGURE 2.8: REGIONAL GEOLOGY MAP

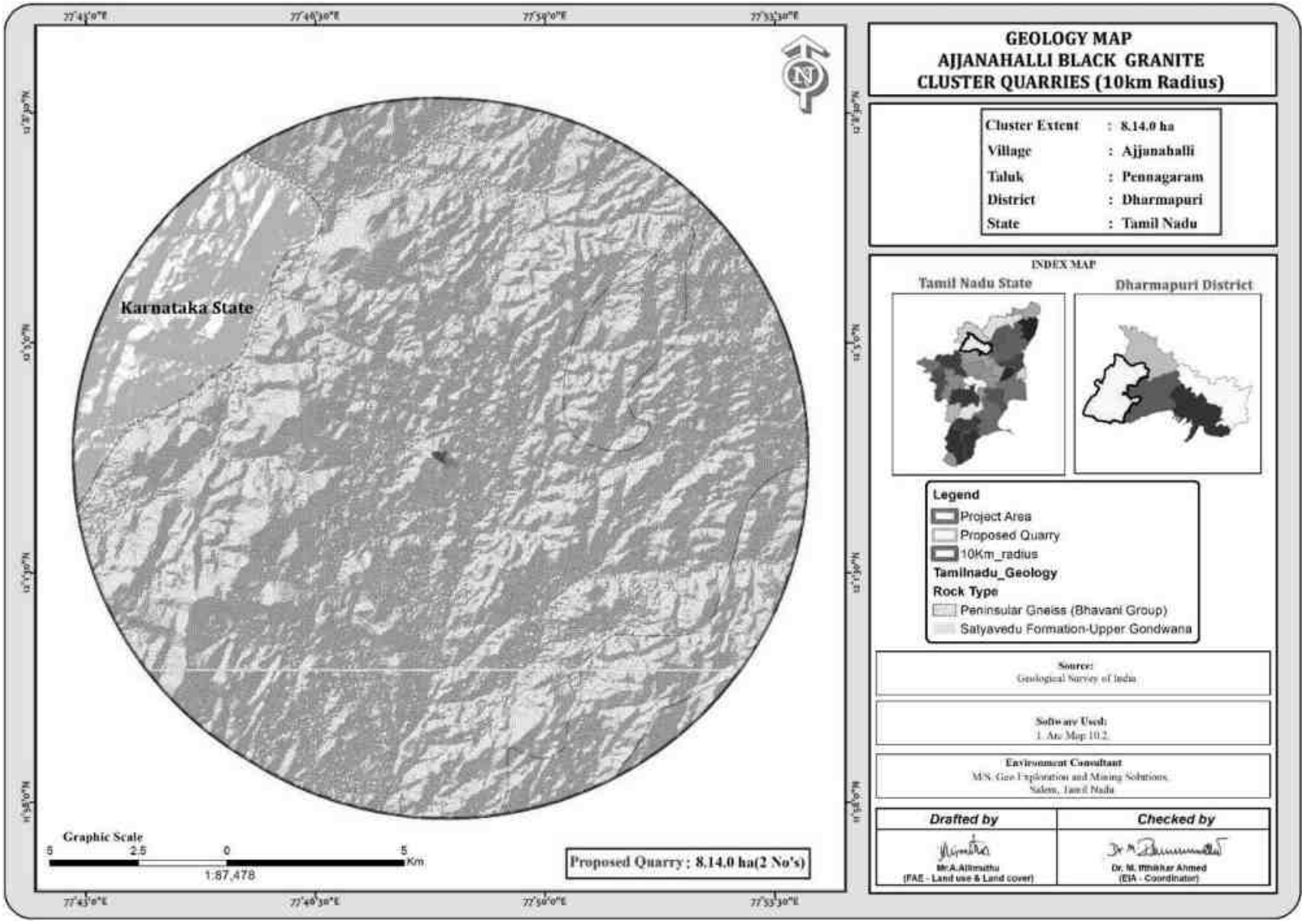


FIGURE 2.9: GEOMORPHOLOGY MAP OF THE STUDY AREA

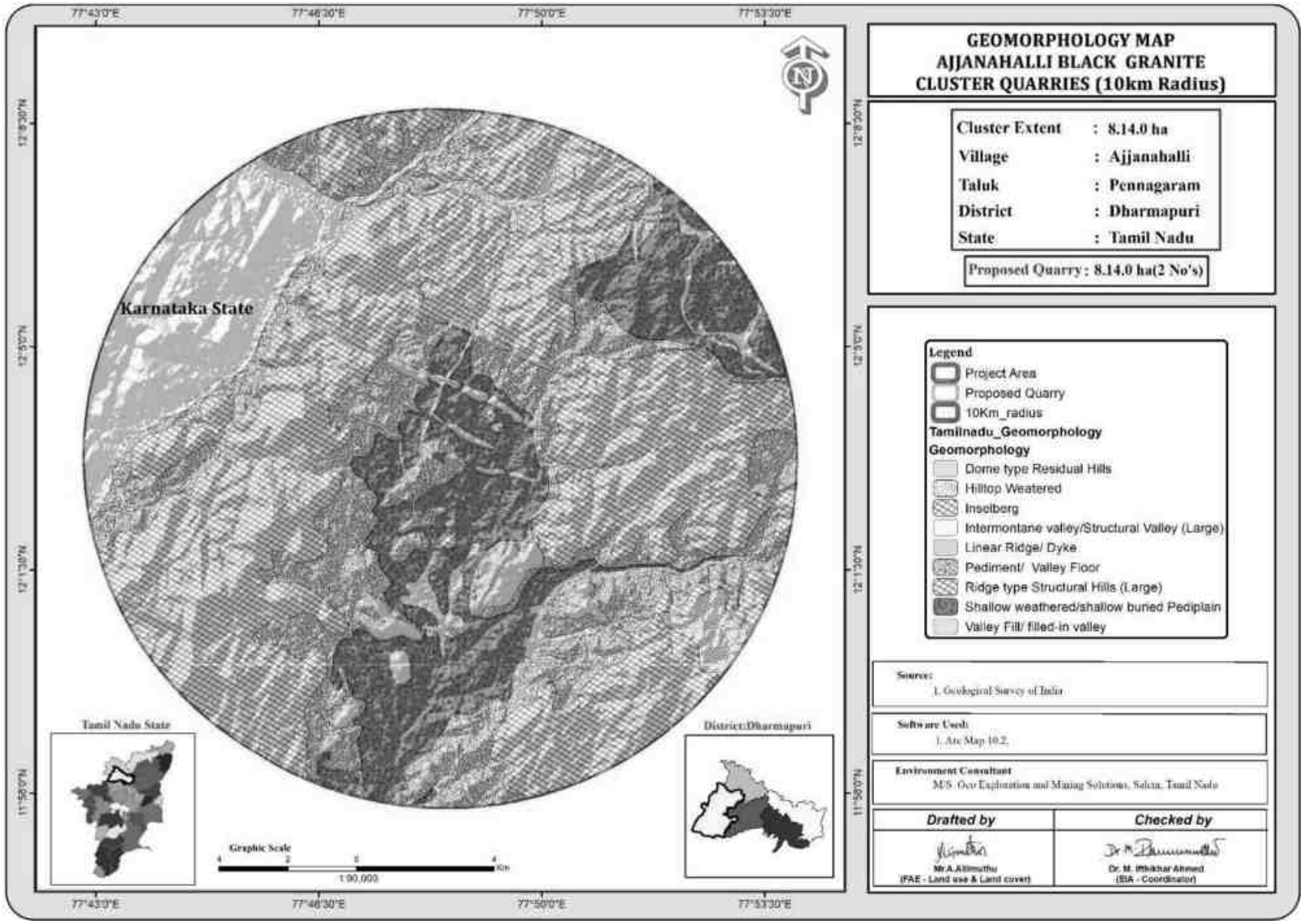


FIGURE 2.10 :P1 TOPOGRAPHY, GEOLOGICAL PLAN AND SECTIONS

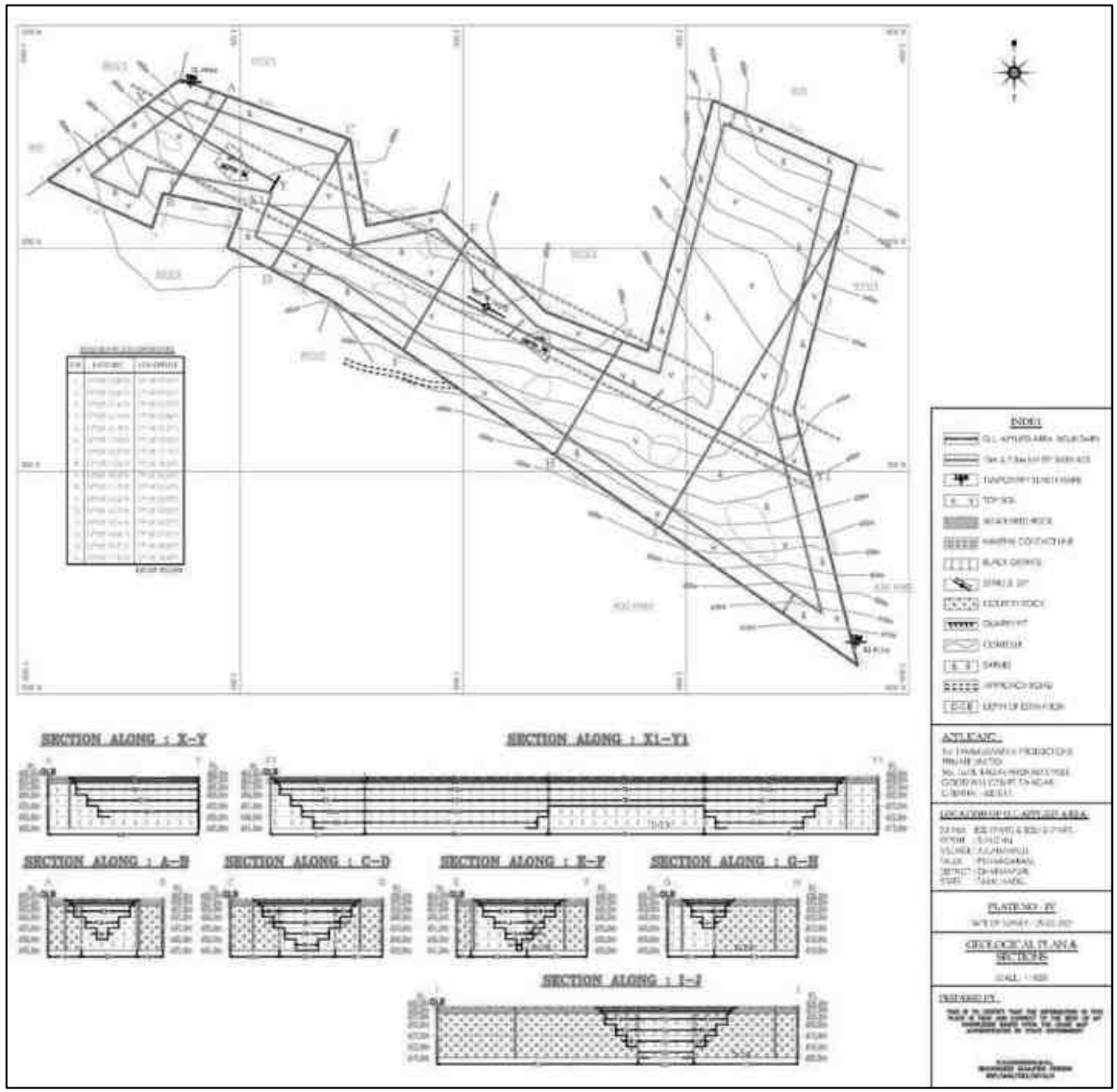


FIGURE 2.10A: P2 TOPOGRAPHY, GEOLOGICAL PLAN AND SECTION

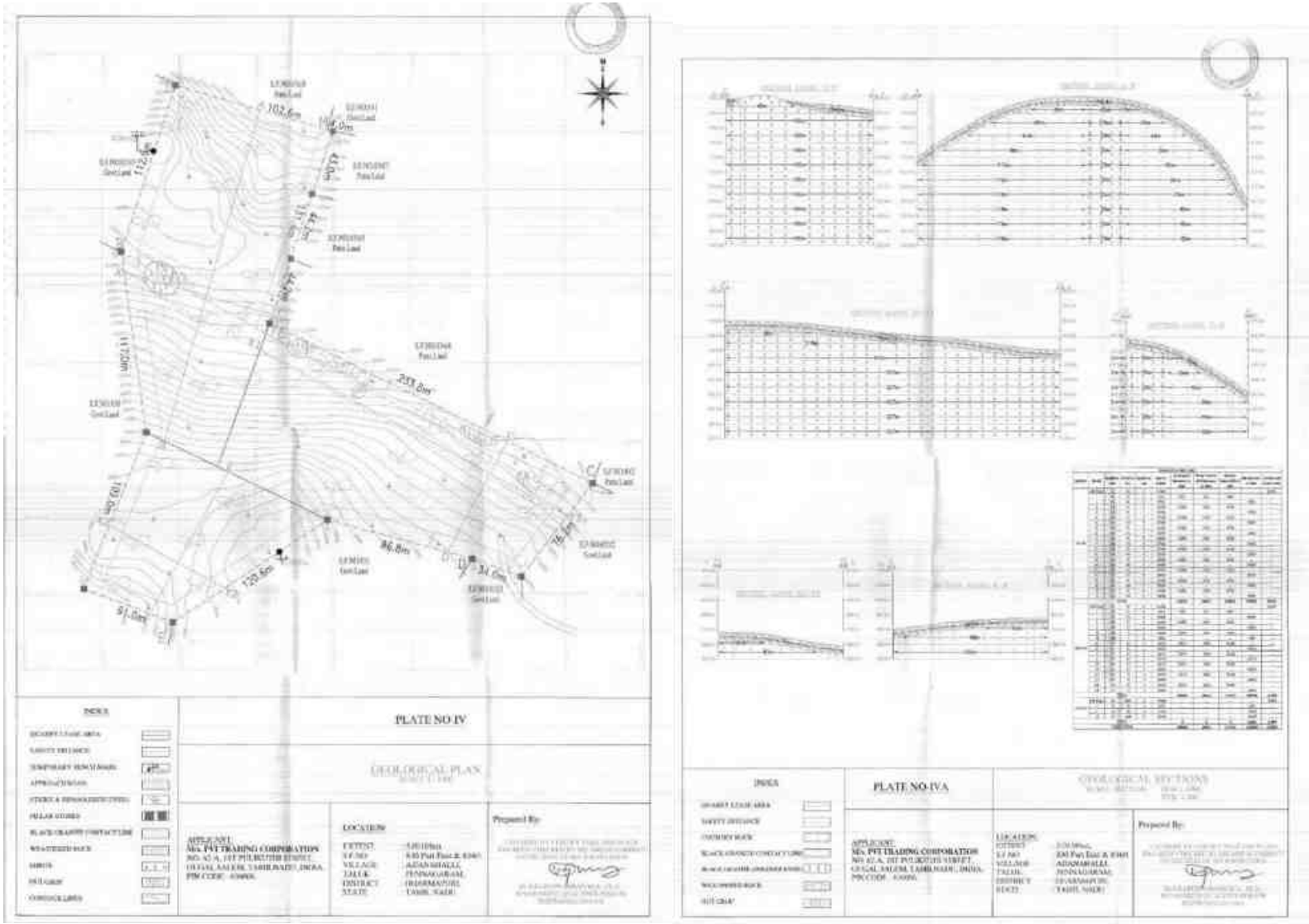


FIGURE 2.11 : P1 YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTION

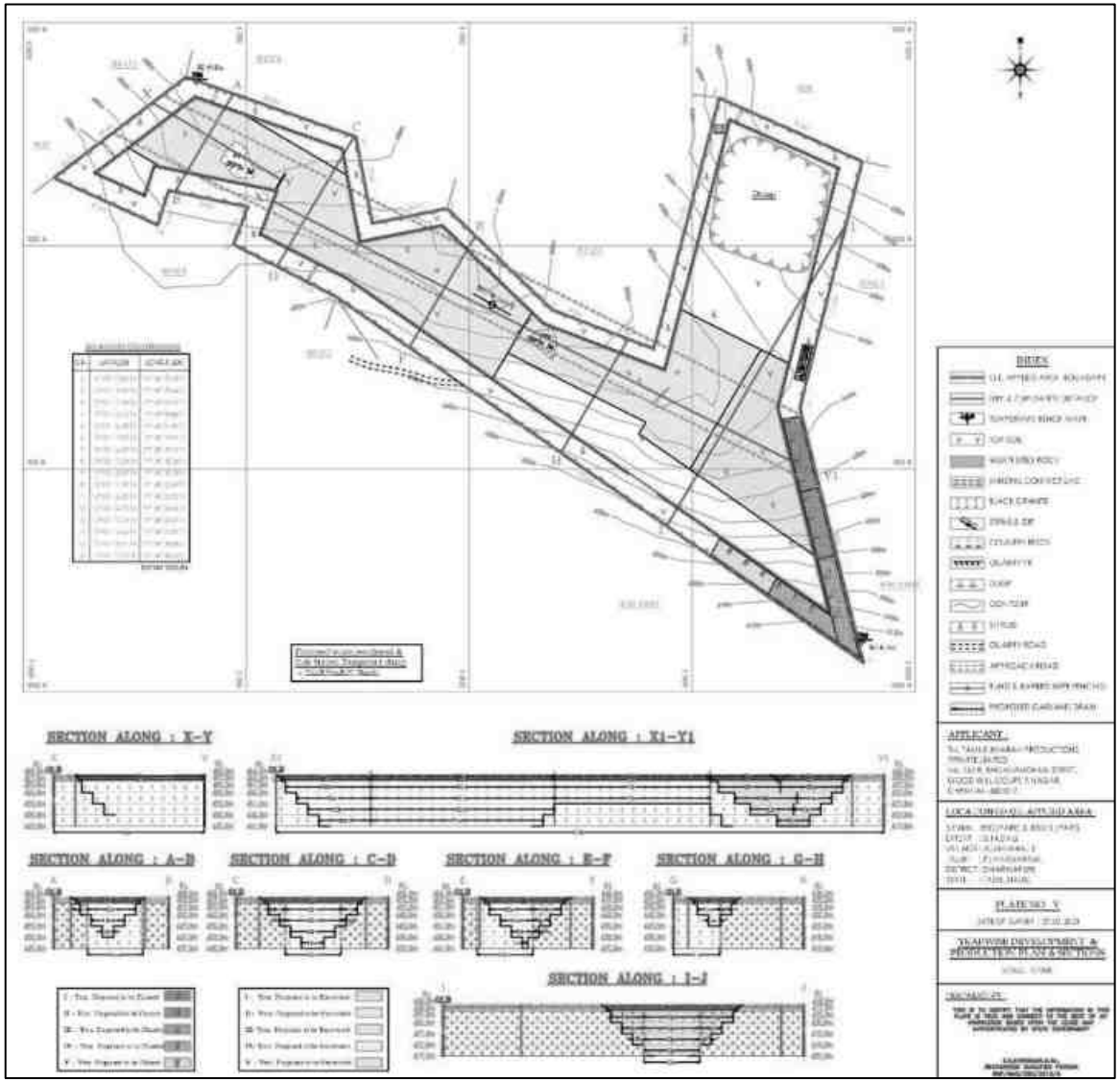
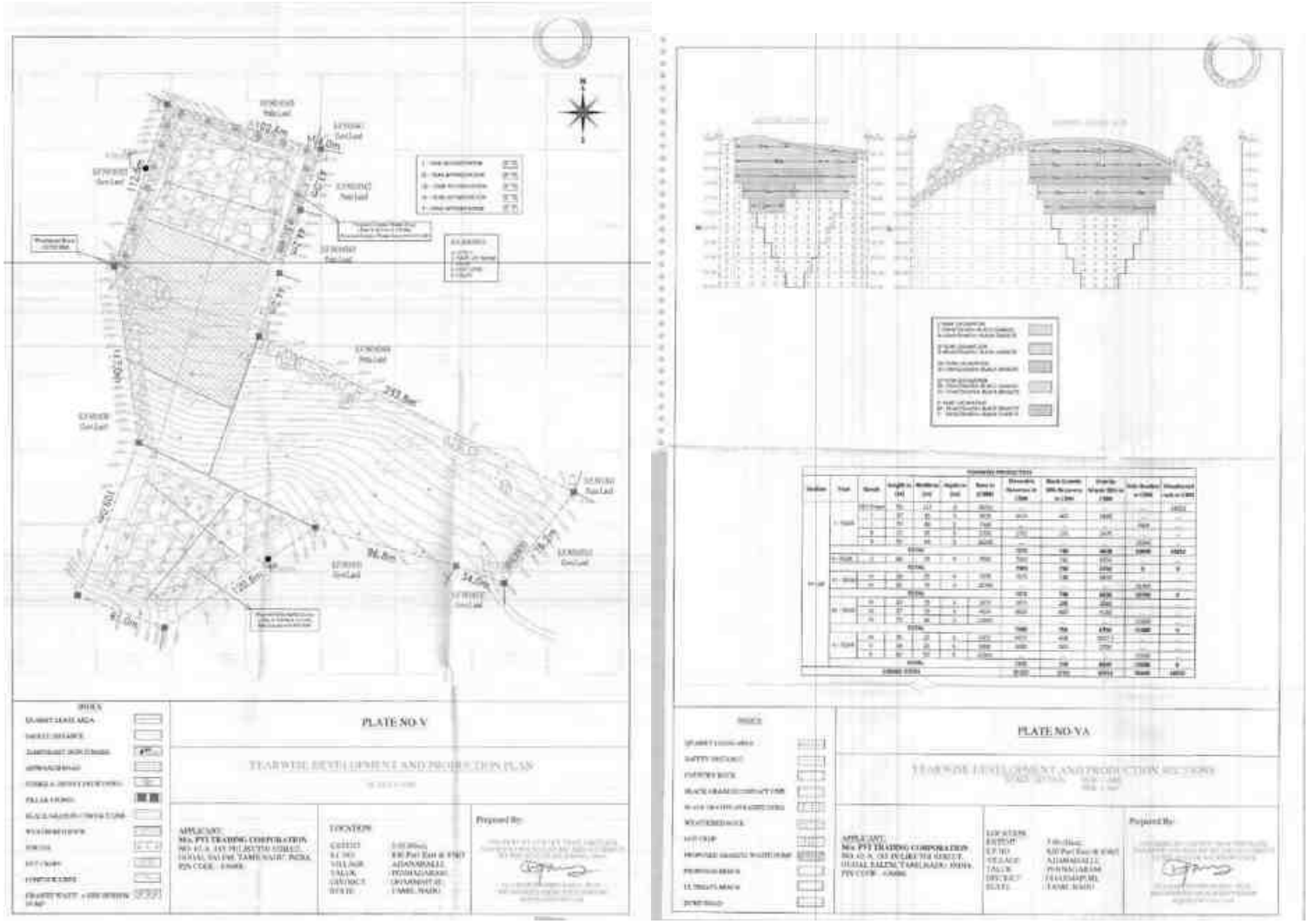


FIGURE 2.11A: P2 YEAR-WISE DEVELOPMENT PRODUCTION PLAN AND SECTION



2.5 RESOURCES AND RESERVES

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

TABLE 2.5 RESOURCES AND RESERVES

P1 - Tvl. Tamilkumaran Productions Private Limited						
Description	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	**Topsoil in m^3**
Geological Resources	1,64,400	16,440	1,47,960	3,94,120	55,200	27,600
Mineable Reserves	73,845	7,385	66,460	33,290	22,054	12,332
Year-wise Production	18,375	1,837	16,538	14,400	22,054	12,332
P2 - M/s. PVI Trading Corporation						
Description	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	
Geological Resources	3,08,250	30,825	2,77,425	11,20,090	1,43,820	
Mineable Reserves	1,48,525	14,853	1,33,673	1,91,505	54,057	
Year-wise Production	37,125	3,713	33,413	99,440	18,252	

Source: Approved Mining plan

TABLE 2.6 YEARWISE PRODUCTION PLAN

P1 - Tvl. Tamilkumaran Productions Private Limited						
Year	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	**Topsoil in m^3**
I	3,500	350	3,150	4,200	3,124	1,844
II	3,500	350	3,150	4,200	18,930	10,488
III	3,500	350	3,150	2,800		
IV	3,500	350	3,150	2,200		
V	4,375	437	3,938	1,000		
Total	**18,375**	**1,838**	**16,538**	**14,400**	**22,054**	**12,332**
P2 - M/s. PVI Trading Corporation						
Year	**ROM in m^3**	**Granite Recovery @ 10 % in m^3**	**Granite Waste @ 90 % in m^3**	**Side Burden in m^3**	**Weathered rock in m^3**	
I	7,375	738	6,638	33,640	18,252	
II	7,500	750	6,750	0	0	
III	7,375	738	6,638	28,700	0	
IV	7,500	750	6,750	21,600	0	
V	7,375	738	6,638	15,500	0	
Total	**37,125**	**3,713**	**33,413**	**99,440**	**18,252**	

Source: Approved Mining plan

Stacking of Granite Rejects and Disposal of Waste

P1 - Tvl. Tamilkumaran Productions Private Limited

There is generation of topsoil, which is about 12,332m^3 during this plan period. It will be preserved all along the safety zone and utilized for construction of bund and greenbelt development purpose. The total waste to be produced during this plan period is around 52,992m^3 (16,538m^3 Granite waste + 14,400m^3 of side burden + 22,054m^3 weathered rock) the same will be proposed to temporarily dump on the North side with Dimensions of (L) 52m x (W) 50m x (H) 20.38m.

P2 - M/s. PVI Trading Corporation

There is no generation of topsoil during this plan period. The total waste to be produced during this plan period is around 1,51,105m^3 (33,413m^3 Granite waste + 99,440m^3 of side burden + 18,252m^3 weathered rock) the Weathered rock in safety barrier of Western side of the area, Granite waste dump on the North side with Dimensions of (L) 82m x (W) 3m x (H) 5.58m and the side burden dump on the South side with Dimension of (L) 95m x (W) 80m x (H) 13.0m.

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

P1	**Length in m**	**Width in m**	**Depth in m**
	316	62	23m agl
P2	**Length in m**	**Width in m**	**Depth in m**
	217	117	50m (30m agl + 20m bgl)

2.6 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 90^0slope
- 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.

2.6.1 Drilling

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

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

2.6.2 Blasting

Blasting will be done as per details below:-

(i) 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.

2.6.3 Extent of Mechanization

Table 2.8: MACHINERY DETAILS PROPOSED

P1 - Tvl. Tamilkumaran Productions Private Limited					
Drilling Equipment's					
Type	No of Unit	Dia of Hole mm	Size capacity	Make	Motive Power
Wagon Drill	1	32	60HP	TAM Rock	Diesel
Jack Hammer	4	32	1.2m to 6m	Atlas Copco	Compressed air
Compressor	1	-	140cfm/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	1	20 tonnes	Tata	Diesel Drive	
P2 - M/s. PVI Trading Corporation					
Drilling Equipment's					
Type	No of Unit	Dia of Hole mm	Size capacity	Make	Motive Power
Jack Hammer	4	32	110cfm	Atlas Copco	Compressed air
Compressor	2	-	600cpm	-	Diesel Drive
Loading Equipment					
Type	No of Unit	Capacity	Make	Motive Power	
Excavator	1	180	Tata Hitachi	Diesel Drive	
Haulage within the Mine & Transport Equipment					
Type	No of Unit	Capacity	Make	Motive Power	
Tipper	2	15 tonnes	BMW	Diesel Drive	

2.7 GENERAL FEATURES

2.7.1 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.

2.7.2 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.

2.7.3 Traffic Density

The traffic survey conducted based on the transportation route of material, the Granite will be transported mainly through the Sigaralahalli-Ajnahalli(Panchayat Road) located 1.5 Km-North East side of the area and Mettur – Pennagaram Major District road -2 Km-East

Traffic density measurements were performed at two locations

1. Approach Road -600 m-North
2. Sigaralahalli-Ajnahalli(Panchayat Road) -1.5 Km- North East

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

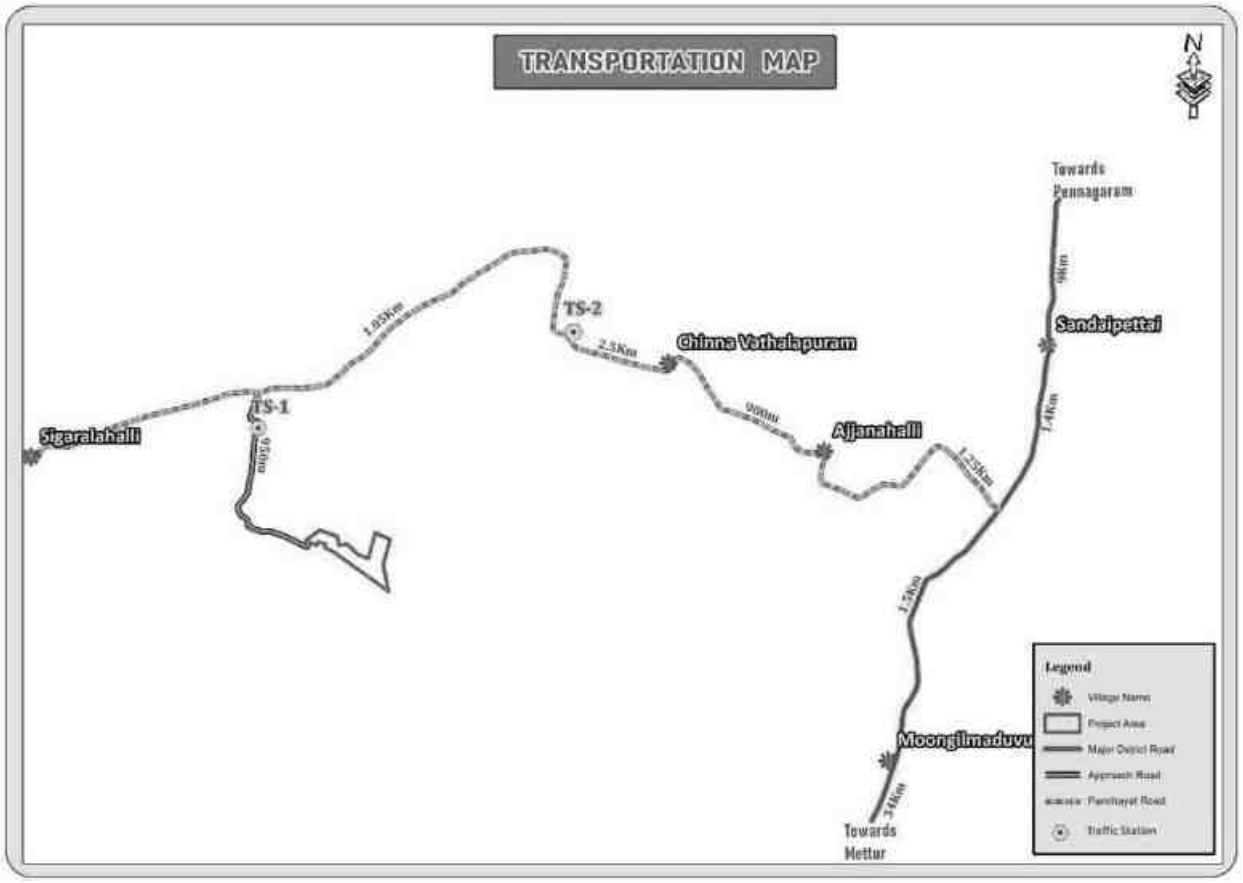


TABLE.2.9: TRAFFIC SURVEY LOCATIONS

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Approach Road	600m North	Approach Road
TS2	Sigaralahalli-Ajnahalli	1.5km 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	40	120	65	130	100	50	300
TS2	125	375	75	150	130	65	590

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

Capacity of Trucks	No of trips per day cumulative	Volume in PCU
20Ton	5	5

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 cluster in PCU	Total Traffic Volume in PCU	Hourly Capacity in PCU as per IRC - 1960
Approach Road	300	5	305	1500
Sigaralahalli-Ajnahalli	590	5	595	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.

2.7.4 Mineral Beneficiation and Processing

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

2.8 PROJECT REQUIREMENT

2.8.1 Water Source & Requirement

Detail of water requirements in KLD as given below:

TABLE 2.13 WATER REQUIREMENT FOR THE PROJECT

P1 - Tvl. Tamilkumaran Productions Private Limited		
Purpose	**Quantity**	**Source**
Dust Suppression	2.5 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Green Belt development	2.0 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
*Drinking and Domestic purpose	1.0 KLD	Approved Water vendors
Total	**5.5 KLD**	
P2 - M/s. PVI Trading Corporation		
Purpose	**Quantity**	**Source**
Dust Suppression	1.5 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Green Belt development	1.6 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
*Drinking and Domestic purpose	1.4 KLD	Approved Water vendors
Total	**4.5 KLD**	

Source: Prefeasibility report

* Drinking water will be sourced from Approved Water Vendors

2.8.2 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.

2.8.3 Fuel Requirement

P1 - Tvl. Tamilkumaran Productions Private Limited

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 excavate	=	20 m^3
For 73,845m^3 (for the entire life period)	=	73,845/20
Diesel consumes 3,692 working hours	=	3,692 hours x 16 liters
	=	59,072 liters of HSD for entire project life
For 18,375m^3 (for Mining Plan period)	=	18,375/20
Diesel consumes 919 working hours	=	919 hours x 16 liters
	=	14,704 liters of HSD for this plan period

P2 - M/s. PVI Trading Corporation

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 excavate	=	20 m^3
For 1,48,525m^3 (for the entire life period)	=	1,48,525/20
Diesel consumes 7,426 working hours	=	7,426 hours x 16 liters
	=	1,18,816 liters of HSD for entire project life
For 37,125m^3 (for Mining Plan period)	=	37,125/20
Diesel consumes 1,856 working hours	=	1856 hours x 16 liters
	=	29,696 liters of HSD for this plan period

2.9 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 FOR THIS PROPOSAL

P1 - Tvl. Tamilkumaran Productions Private Limited		
S.No	**Description**	**Numbers**
1	Mines Manager	1
2	Mines Foreman	1
3	Machinery Operators	4
Workers		
5	Skilled labour	4
6	Semi-skilled	8
7	Co-operator and helper	4
8	Unskilled	2
13	Security	1
	Total	**25**

M/s. PVI Trading Corporation		
S.No	Description	Numbers
Highly Skilled		
1	Mines Manager	1
2	Mines Foreman	-
3	Geologist	1
4	Accountant cum & admin	1
Skilled		
5	Earth Moving Operator	2
6	Driver	4
7	Mechanic	1
8	Blaster/Mat	-
Semiskilled		
9	Helpers, Greaser's	4
Unskilled		
10	Musdoor/labours	10
12	Cleaners	2
13	Attendants	1
	Total	**27**

Source: Approved Mining Plan

2.10 PROJECT IMPLEMENTATION SCHEDULE

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

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 Establish						
3	Consent to operate						Project Establishment Period
							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

TABLE 2.16 CAPITAL COST ESTIMATION

S.No	Description	P1 Expenditure	P2 Expenditure
1	Project cost	Rs. 7,72,01,000	Rs. 6,09,70,000
2	EMP Cost	Rs. 10,00,000	Rs. 10,00,000
Total		**Rs. 7,82,01,000**	**Rs. 6,19,70,000**

Source: Approved Mining Plan & Prefeasibility Report *

3. DESCRIPTION OF ENVIRONMENT

3.1 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 December 2022 to February 2023 with CPCB guidelines. Environmental data has been collected with reference to cluster quarries by EHS 360 Labs Pvt Ltd Approved by AAI, AGMARK, APEDA, BIS, EIC, FSSAI, GAFTA, IOPEPC, MOEF a TEA BOARD Notified Laboratory, 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 Post-monsoon season i.e. December 2022 to February 2023.

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

A 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, PM_{10} and SO_2, NO_X with gaseous attachments & Fine Dust Samplers (FDS) for $PM_{2.5}$ 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's 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 (1 surface water & 5 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
*Ambient Air Quality	PM10 PM2.5 SO2 NOX Fugitive Dust	24 hourly twice a week (December 2022 to February 2023)	8 (2 core & 6 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient Noise	Hourly observation for 24 Hours per location	8 (2 core & 6 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.

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories in association with GEMS
* All monitoring and testing are been carried out as per the Guidelines of CPCB and MoEF & CC.

3.2 LAND ENVIRONMENT

Land environment is a significant criterion which gets degraded due to mining activity. The extent of degradation varies with respect to the topography of the area, soil texture, Geology of the terrain and the method of mining. The degraded lands have significant effect on the watershed and drainage pattern vegetation and ecology of the area.

3.2.1 Land Use/ Land Cover

A visual interpretation technique has been adopted for land use classification based on the keys suggested in the guidelines issued by NNRMS Bangalore & Level III classification with 1:50,000 scale for the preparation of land use mapping.

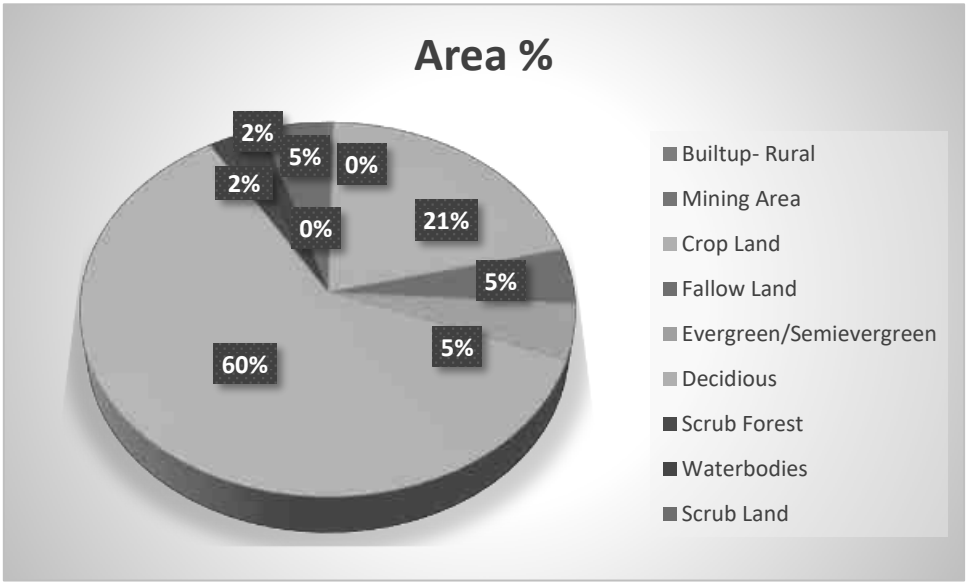
Land use pattern of the area was studied through LISS III imagery of Bhuvan (ISRO). The 10 km radius map of study area was taken for analysis of Land use cover. The main objective of this section is to provide a baseline status of the study area covering 10 km radius around the mine site so that temporal changes due to the mining activities on the surroundings can be assessed in future.

TABLE 3.2: LAND USE / LAND COVER TABLE 10 Km RADIUS

S.No	Classification	Area_Ha	Area_%
BUILTUP			
1	Builtup- Rural	99.092893	0.320285432
2	Mining Area	17.784783	0.057483506
AGRICULTURAL LAND			
3	Crop Land	6450.108218	20.84786945
4	Fallow Land	1472.043026	4.757898595
FOREST			
5	Evergreen/Semievergreen	1476.734486	4.773062209
6	Decidious	18747.56922	60.59539814
7	Scrub Forest	634.09066	2.049491086
WATERBODIES			
8	Waterbodies	580.834488	1.877357894
BARREN/WASTELAND			
11	Scrub Land	1460.674543	4.721153685
		30938.93231	100

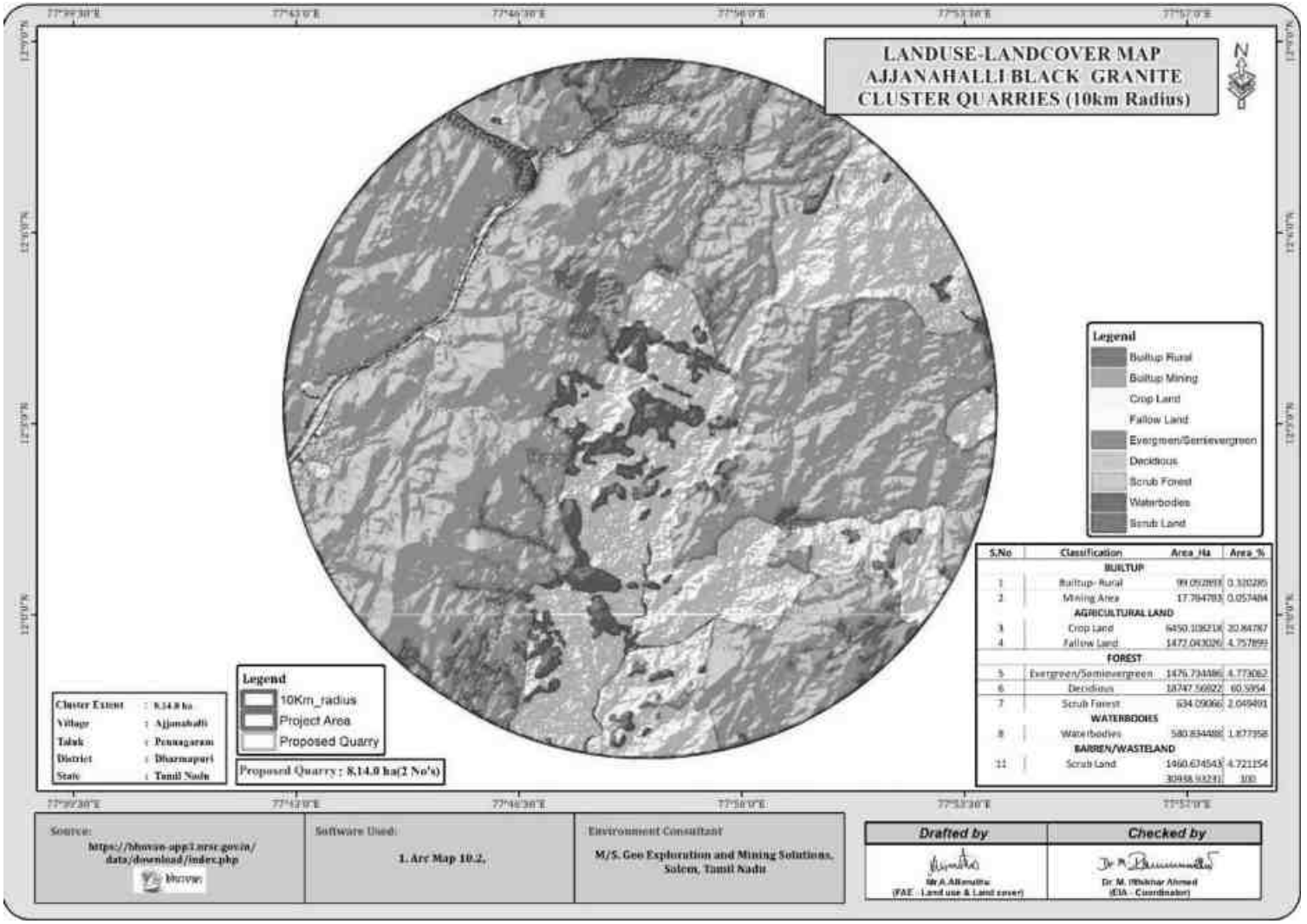
Source: Survey of India Toposheet and Landsat Satellite Imagery

FIGURE 3.1: BAR DIAGRAM OF LAND USE AND LAND COVER IN STUDY AREA



From the above table and bar diagram, it is inferred that the majority of the land in the study area is Crop and fallow land 25.61 % followed by Built-Up land 0.38%, Scrub land 4.72%. The total mining area within the study area is 17.78 ha i.e., 0.06 %. The cluster area of 8.14.0 ha contributes about 45.78 % of the total mining area within the study area. This percentage of Mining Activities shall not have any significant impact on the environment.

FIGURE 3.2: LAND USE LAND COVER MAP 10KM RADIUS



3.2.2 Topography

The project area is situated an elevated terrain and Elevated terrain altitude ranges from 412m to 472m AMSL for P1 and Elevated terrain altitude ranges from 382m to 436m AMSL for P2.

3.2.3 Drainage Pattern of the Area

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.

3.2.4 Seismic Sensitivity

The proposed project site falls in the seismic Zone III (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.

3.2.5 Environmental Features in the Study Area

There is no 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. 10 km radius, are given in the below Table 3.3.

TABLE 3.3: DETAILS OF ENVIRONMENT SENSITIVITY AROUND THE CLUSTER

No	Sensitive Ecological Features	Name	Arial Distance in kms
1	National Park / Wild life Sanctuaries	None	Nil within 10 km Radius
2	Reserve Forest	Bevanurmalai R.F Masakkallu R.F Pennagaram R.F Woddapatti R.F Perumbalai R.F Kalappambadi R.F	1.2km – W 2.8km – E 7.3km – N 7.6km – NW 6.6km – SE 9.4km – SE
3	Lake Reservoir	Kaveri River	6Km & West
		Moongilmaduvu Dam	2.5Km & East
		Metturankottai Dam	5Km & South East
		Mathalapallam Dam	6.5Km & South
		Odai	7Km & South
		Tank	9Km & North East
4	Tiger Reserve/ Elephant Reserve/ Biosphere Reserve	None	Nil within 10KM 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

3.2.6 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 3.4: SOIL SAMPLING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	S-1	Core Zone	South Side	12°03'09.45"N 77°48'30.78"E
2	S-2	Core Zone	West Side	12°03'17.54"N 77°48'19.05"E
3	S-3	Ajjanahalli	1.5km NE	12°03'24.92"N 77°49'31.55"E
4	S-4	Pudusampalli	5.2km South	12°00'18.20"N 77°48'30.62"E
5	S-5	Moongilmaduvu	2km SE	12°02'34.80"N 77°49'32.74"E
6	S-6	Sigaralahalli	1.5km West	12°03'18.88"N 77°47'28.68"E

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories 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 3.5: 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 EHS 360 Labs Pvt Ltd Laboratories 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". The important properties analysed for soil are bulk density, porosity, infiltration rate, pH and Organic matter, kjeldahi Nitrogen, Phosphorous and Potassium. The standard classifications of soil and physio-chemical characteristics of the soils are presented below in Table 3.6 & Test Results in Table 3.7.

FIGURE 3.3: SOIL SAMPLING LOCATIONS AROUND 10 KM RADIUS

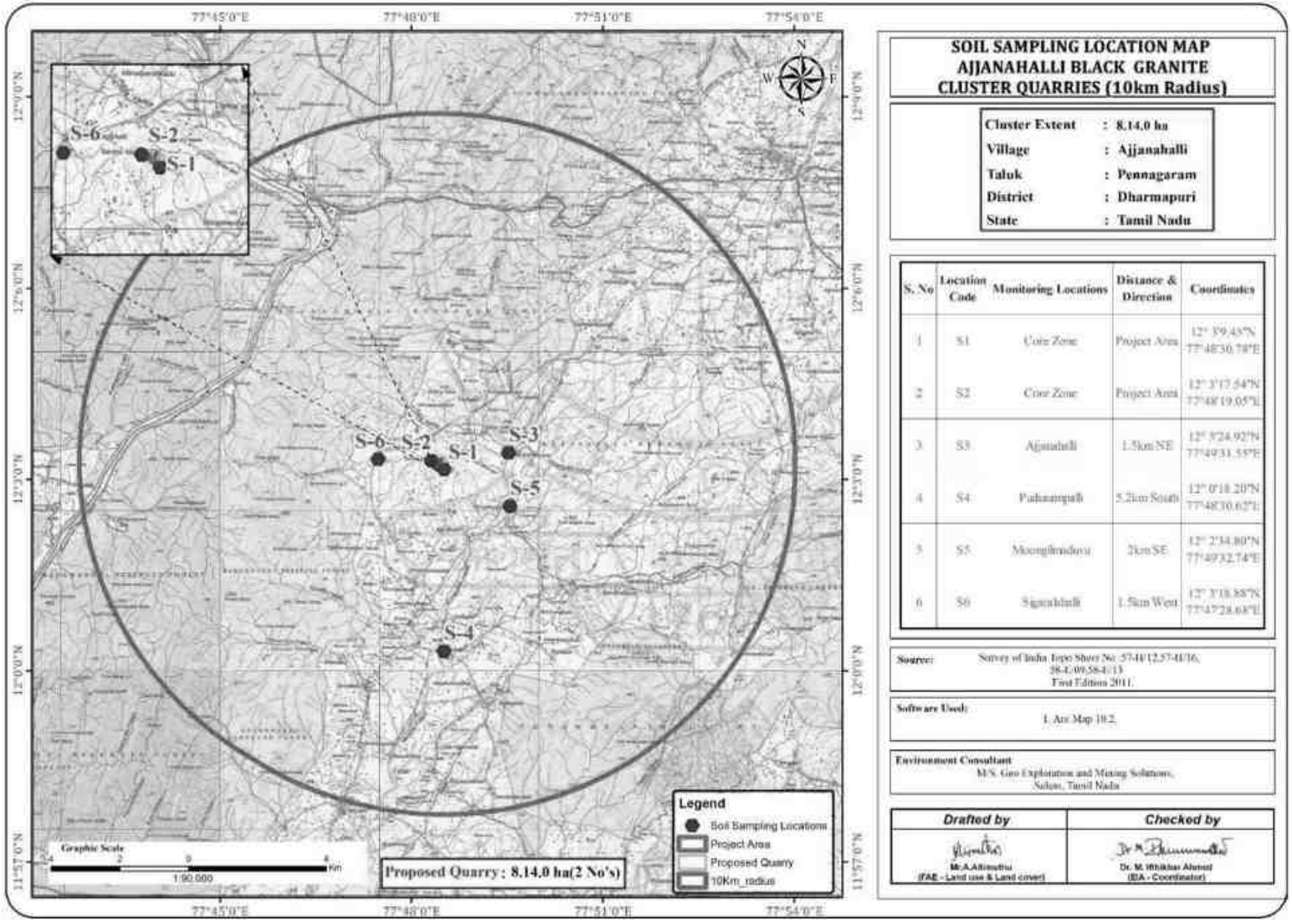


FIGURE 3.4: SOIL MAP

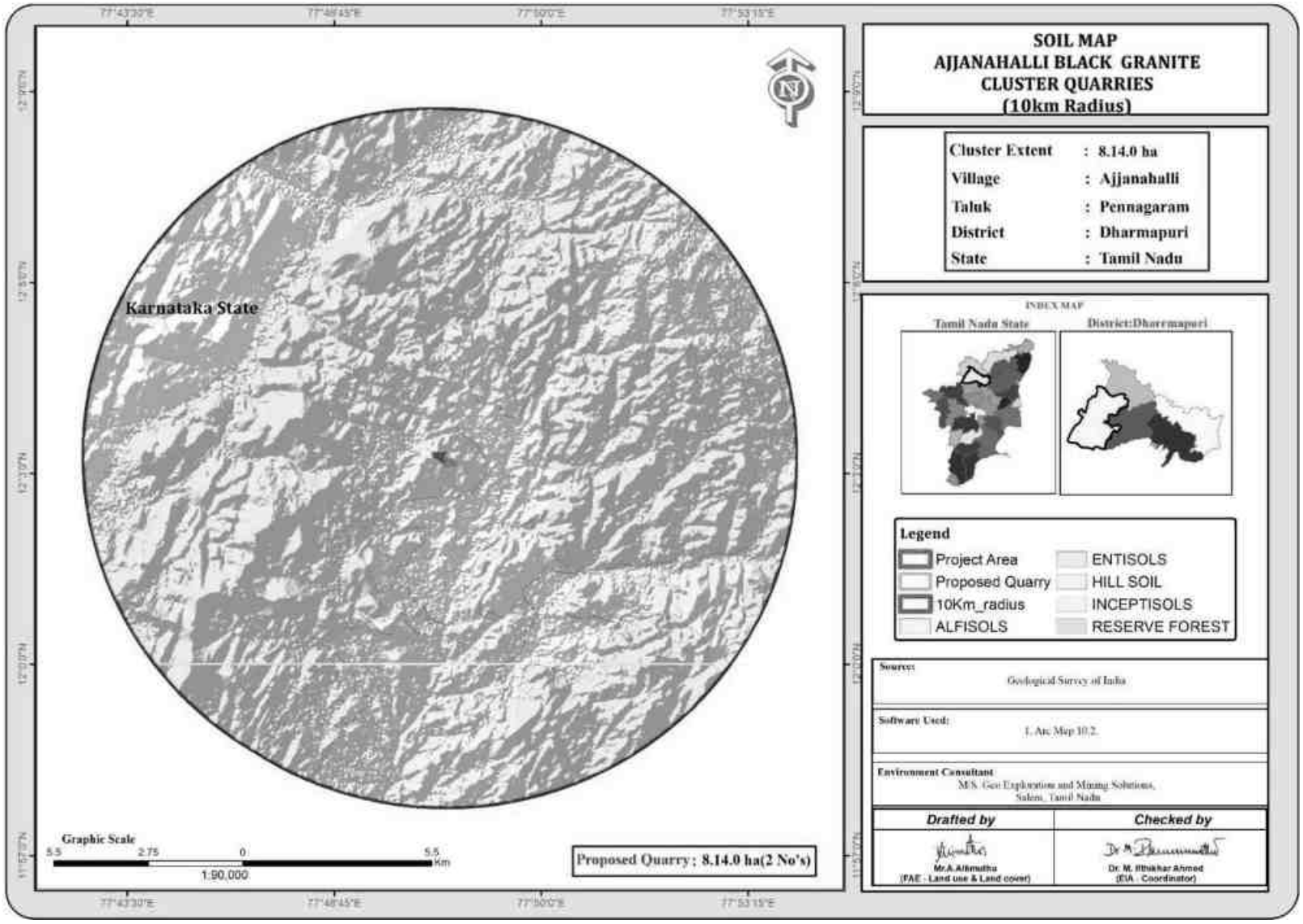


TABLE 3.6: SOIL QUALITY OF THE STUDY AREA

S.No	Test Parameters	Protocols	S1	S2	S3	S4	S5	S6
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.51	8.88	7.97	8.09	8.79	8.66
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	455 µmhos/cm	630 µmhos/cm	505 µmhos/cm	480 µmhos/cm	353 µmhos/cm	509 µmhos/cm
03	**Texture :**							
	Clay	Gravimetric Method	33.8 %	37.4 %	35.7 %	37.7 %	36.7 %	37.1 %
	Sand		35.7 %	36.6 %	31.5 %	34.0 %	34.6 %	36.4 %
	Silt		30.5 %	26.0 %	32.8 %	28.3 %	28.7 %	26.5 %
04	Water Holding Capacity	By Gravimetric Method	44.5 %	40.1 %	47.4 %	38.2 %	41.0 %	40.5 %
05	Bulk Density	By Cylindrical Method	1.04 g/cm^3	1.1 g/cm^3	0.97 g/cm^3	1.03 g/cm^3	1.30 g/cm^3	1.16 g/cm^3
06	Porosity	By Gravimetric Method	41.7 %	41.1 %	42.1 %	41.5 %	38.4 %	44.9 %
07	Calcium as Ca	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	159 mg/kg	178 mg/kg	240 mg/kg	176 mg/kg	158.1 mg/kg	158.2 mg/kg
08	Magnesium as Mg		81.7 mg/kg	130 mg/kg	73.5 mg/kg	122 mg/kg	114 mg/kg	119 mg/kg
09	Manganese as Mn		24.3 mg/kg	25.3 mg/kg	25 mg/kg	20.4 mg/kg	21.5 mg/kg	20.2 mg/kg
10	Zinc as Zn		1.22 mg/kg	1.08 mg/kg	4.1 mg/kg	1.43 mg/kg	2.09 mg/kg	1.17 mg/kg
11	Boron as B		1.11 mg/kg	2.22 mg/kg	1.09 mg/kg	0.97 mg/kg	4.4 mg/kg	1.8 mg/kg
12	Chloride as Cl	APHA 23rd Edn 2019 4500 Cl B	136.2 mg/kg	190 mg/kg	159 mg/kg	75.4 mg/kg	173.2 mg/kg	129 mg/kg
13	Total Soluble Sulphate as SO_4	IS 2720 Part 27 : 1977 (Reaff:2015)	0.011 %	0.010 %	0.019 %	0.009 %	0.019 %	0.015 %

14	Potassium as K	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	23.5 mg/kg	42.3 mg/kg	40.1 mg/kg	35.7 mg/kg	320 mg/kg	39 mg/kg
15	Total Phosphorus as P	IS 10158 : 1982 (Reaff: 2019)	1.13 mg/kg	1.10 mg/kg	1.57 mg/kg	1.31 mg/kg	1.57 mg/kg	2.10 mg/kg
16	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	288 mg/kg	455 mg/kg	410 mg/kg	480.4 mg/kg	413 mg/kg	394.1 mg/kg
17	Cadmium as Cd	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)
18	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)
19	Copper as Cu		BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)	BDL (DL : 1.0 mg/kg)
20	Lead as Pb		0.57 mg/kg	0.57 mg/kg	0.59 mg/kg	0.73 mg/kg	0.29 mg/kg	0.54 mg/kg
21	Iron as Fe		1.93 mg/kg	2.03 mg/kg	1.76 mg/kg	2.84 mg/kg	1.70 mg/kg	19.5 mg/kg
22	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.79 %	2.38 %	1.74 %	2.76 %	2.12 %	2.19 %
23	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.04 %	1.38 %	1.01 %	1.60 %	1.23 %	1.27 %
24	Cation Exchange Capacity	USEPA 9080 – 1986	38.9 meq/100g of soil	35.7 meq/100g of soil	42.7 meq/100g of soil	41.6 meq/100g of soil	42.7 meq/100g of soil	46.2 meq/100g of soil

Interpretation & Conclusion

Physical Characteristics –

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 and Bulk Density of Soils in the study area varied between 0.97 – 1.30 g/cc. The Water Holding Capacity and Porosity of the soil samples is found to be medium i.e. ranging from 38.2 – 47.4%.

Chemical Characteristics –

- The nature of soil is slightly alkaline to strongly alkaline with pH range 7.97 – 8.88
- The available Nitrogen content range between 288 – 480.4 kg/ha
- The available Phosphorus content range between 1.10 – 2.10 kg/ha
- The available Potassium range between 23.5 – 42.3 mg/kg

Whereas, the micronutrient as zinc (Zn) and iron (Fe) were found in the range of 1.08 – 4.1 mg/kg; 1.70 – 2.03 mg/kg.

3.3 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.

3.3.1 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	Kaveri River	6Km & West
2	Moongilmaduvu Dam	2.5Km & East
3	Metturankottai Dam	5Km & South East
4	Mathalapallam Dam	6.5Km & South
5	Odai	7Km & South
6	Tank	9Km & North East

3.3.2 Ground Water Resources:

Dharmapuri district is underlain by Archaean Crystalline formations with recent alluvial deposits of limited areal and vertical extents along major rivers. (Plate-II). The important aquifer systems in the district are constituted by i) unconsolidated & semiconsolidated formations and (ii) weathered and fractured crystalline rocks. In the areas underlain by crystalline rocks, occurrence of ground water is essentially limited to zone of weathering and fracturing. Generally the hard rock aquifers are heterogeneous in nature, which is indicated by the variations in lithology, structure and texture. Ground water occurs under phreatic condition in the weathered mantle and semi confined to confined condition in the fracture and fissured zones of these rocks. Thickness of weathered material varied widely from less than 1m bgl to more than 20m bgl.

There are Eleven (11) bore well Eleven (11) open wells within the radius of 1km Most of the wells are almost in dry conditions in the summer season. The details of the well and depth in monsoon and non-monsoon is described below:

TABLE 3.8: DETAILS OF BORE WELL IN 1KM RADIUS

S.No	Name	LATITUDE	LONGITUDE	Oct	Nov	Dec
1	BW1	12° 03' 39.02"N	77° 48' 20.17"E	58.5	59.1	59.7
2	BW2	12° 03' 44.66"N	77° 48' 09.42"E	58.4	59	59.6
3	BW3	12° 03' 46.63"N	77° 48' 30.00"E	59.6	60.2	60.8
4	BW4	12° 03' 31.73"N	77° 48' 37.57"E	59	59.6	60.2
5	BW5	12° 03' 22.37"N	77° 49' 02.29"E	58.8	59.4	60
6	BW6	12° 03' 09.98"N	77° 48' 55.62"E	59.3	59.9	60.5
7	BW7	12° 02' 50.49"N	77° 49' 00.60"E	60.03	60.63	61.23
8	BW8	12° 02' 39.21"N	77° 48' 30.91"E	59.5	60.1	60.7
9	BW9	12° 02' 58.83"N	77° 48' 06.77"E	56.5	57.1	57.7
10	BW10	12° 03' 17.07"N	77° 47' 51.03"E	58.6	59.2	59.8
11	BW11	12° 03' 27.07"N	77° 47' 56.62"E	59.4	60	60.6

Source : Data obtained by the FAE & Team Members

TABLE 3.9: DETAILS OF OPEN WELL IN 1KM RADIUS

S.No	LABEL	LATITUDE	LONGITUDE	Oct	Nov	Dec
1	OW1	12° 03' 19.89"N	77° 48' 34.44"E	11.2	11.8	12.4
2	OW2	12° 03' 38.67"N	77° 48' 35.63"E	11.5	12.1	12.7
3	OW3	12° 03' 31.96"N	77° 48' 46.96"E	12.1	12.7	13.3
4	OW4	12° 03' 15.64"N	77° 49' 05.39"E	11.3	11.9	12.5
5	OW5	12° 02' 43.55"N	77° 48' 49.00"E	11.1	11.7	12.3
6	OW6	12° 02' 43.56"N	77° 48' 18.96"E	11.9	12.5	13.1
7	OW7	12° 02' 59.91"N	77° 48' 15.86"E	12.4	13	13.6
8	OW8	12° 03' 05.47"N	77° 47' 53.65"E	11.6	12.2	12.8
9	OW9	12° 03' 21.15"N	77° 47' 50.35"E	12.2	12.8	13.4
10	OW10	12° 03' 22.87"N	77° 48' 09.82"E	11.2	11.8	12.4
11	OW11	12° 03' 34.60"N	77° 48' 20.32"E	12.1	12.7	13.3

Source : Data obtained by the FAE & Team Members

FIGURE 3.5: PRE MONSOON WATER LEVEL OF BORE WELLS 1 KM RADIUS – December 2022

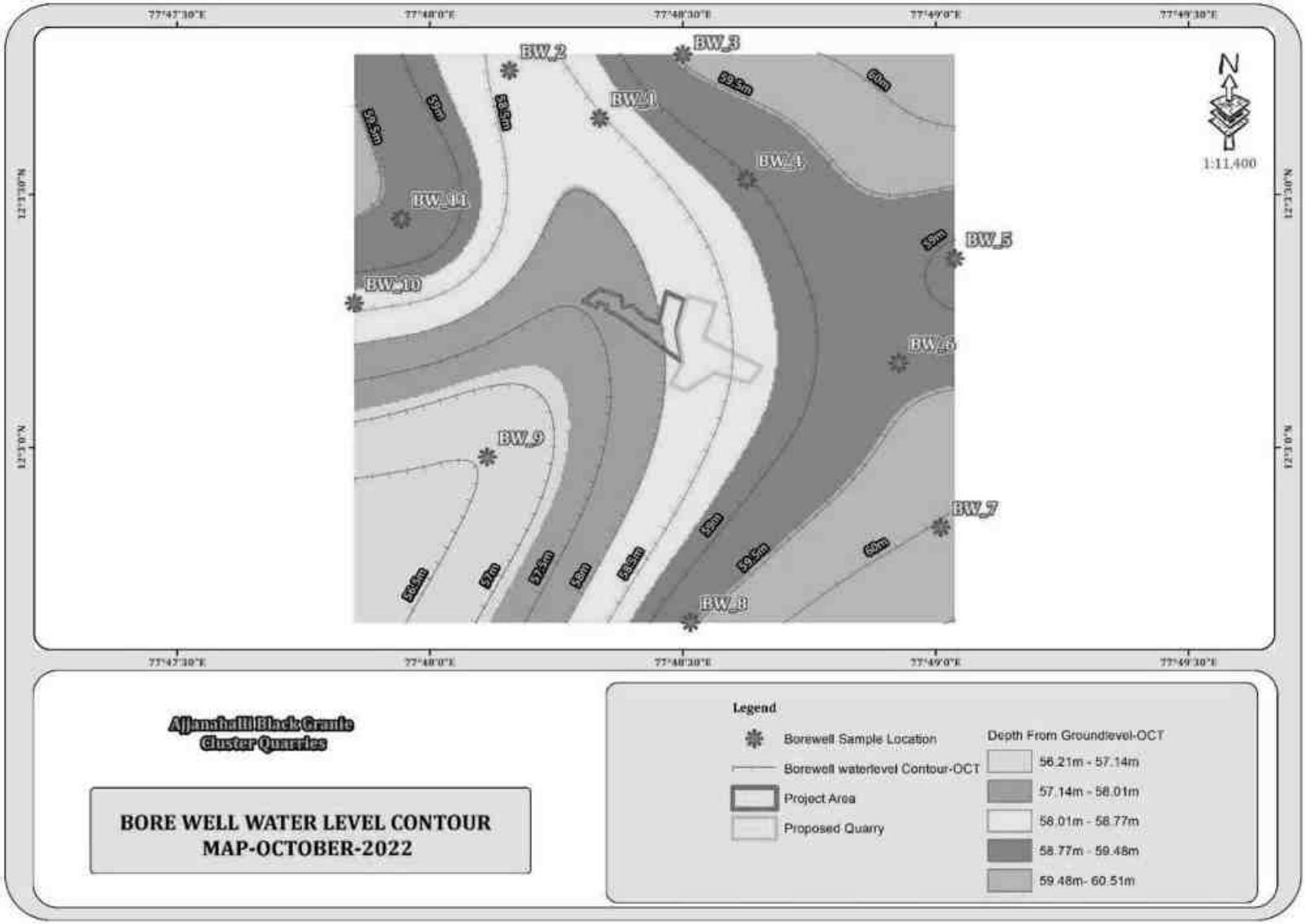


FIGURE 3.6: PRE MONSOON WATER LEVEL OF BORE WELLS 1 KM RADIUS – January 2023

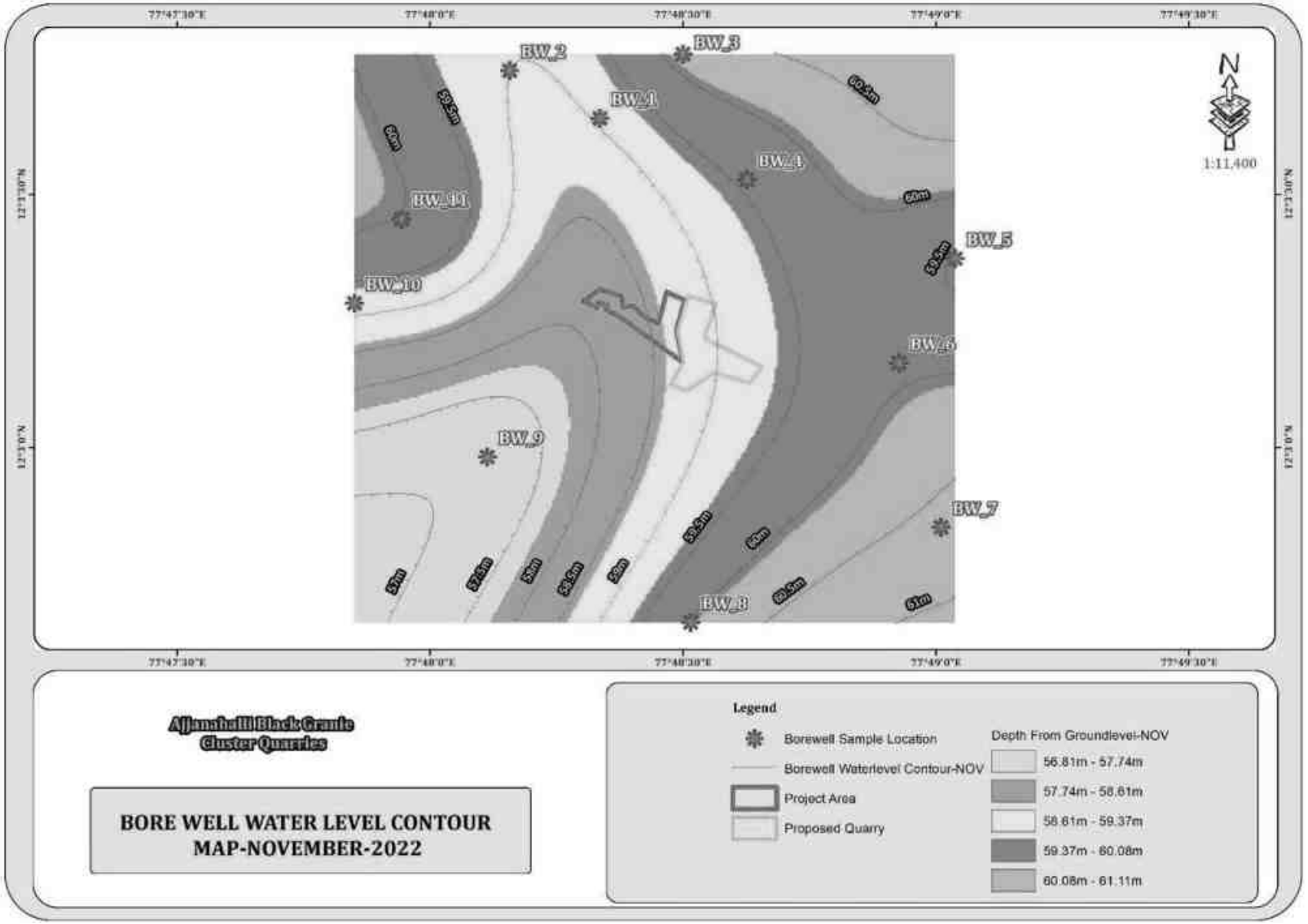


FIGURE 3.7: PRE MONSOON WATER LEVEL OF BORE WELLS 1 KM RADIUS –February-2023

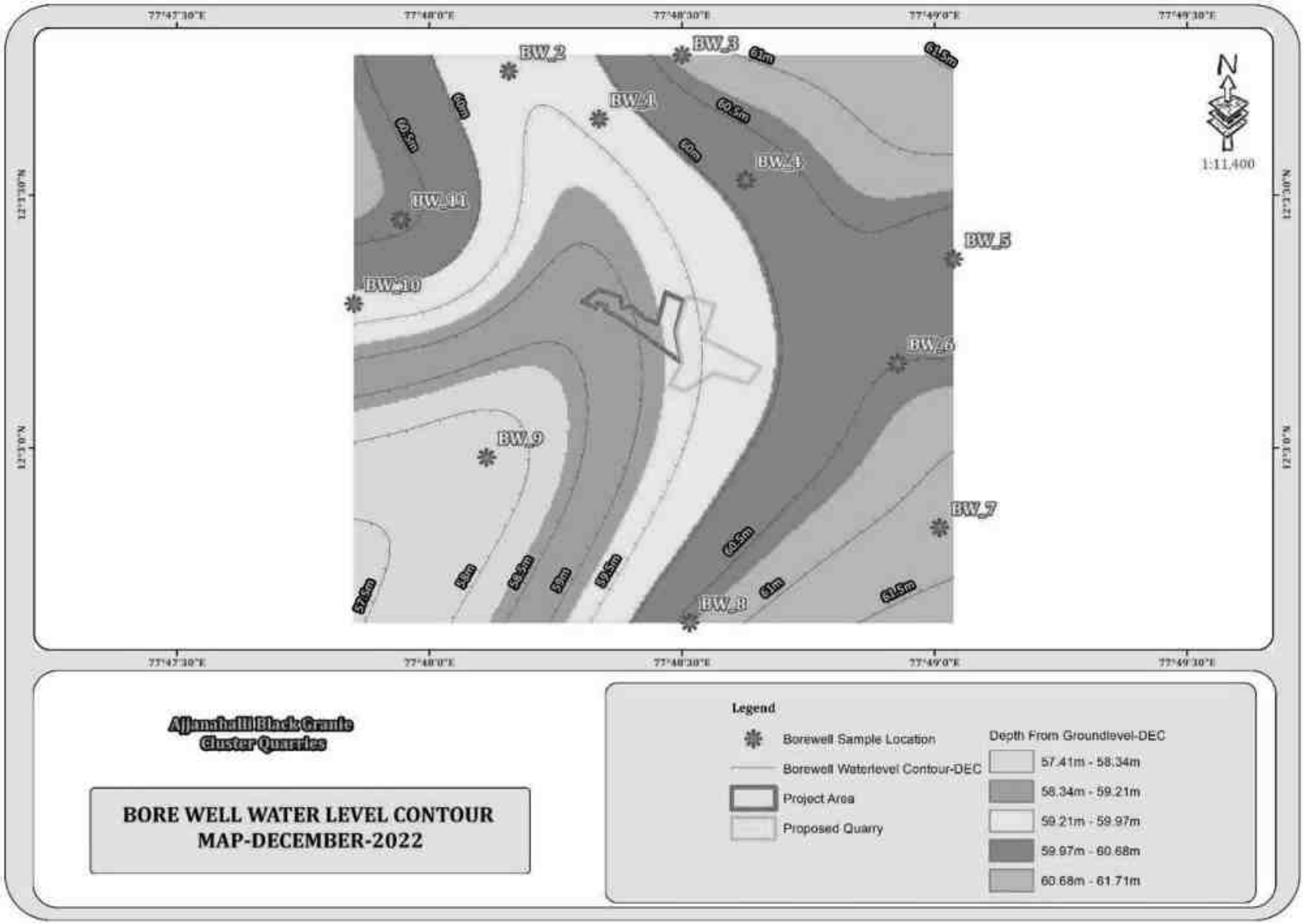


FIGURE 3.8: PRE MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS – December 2022

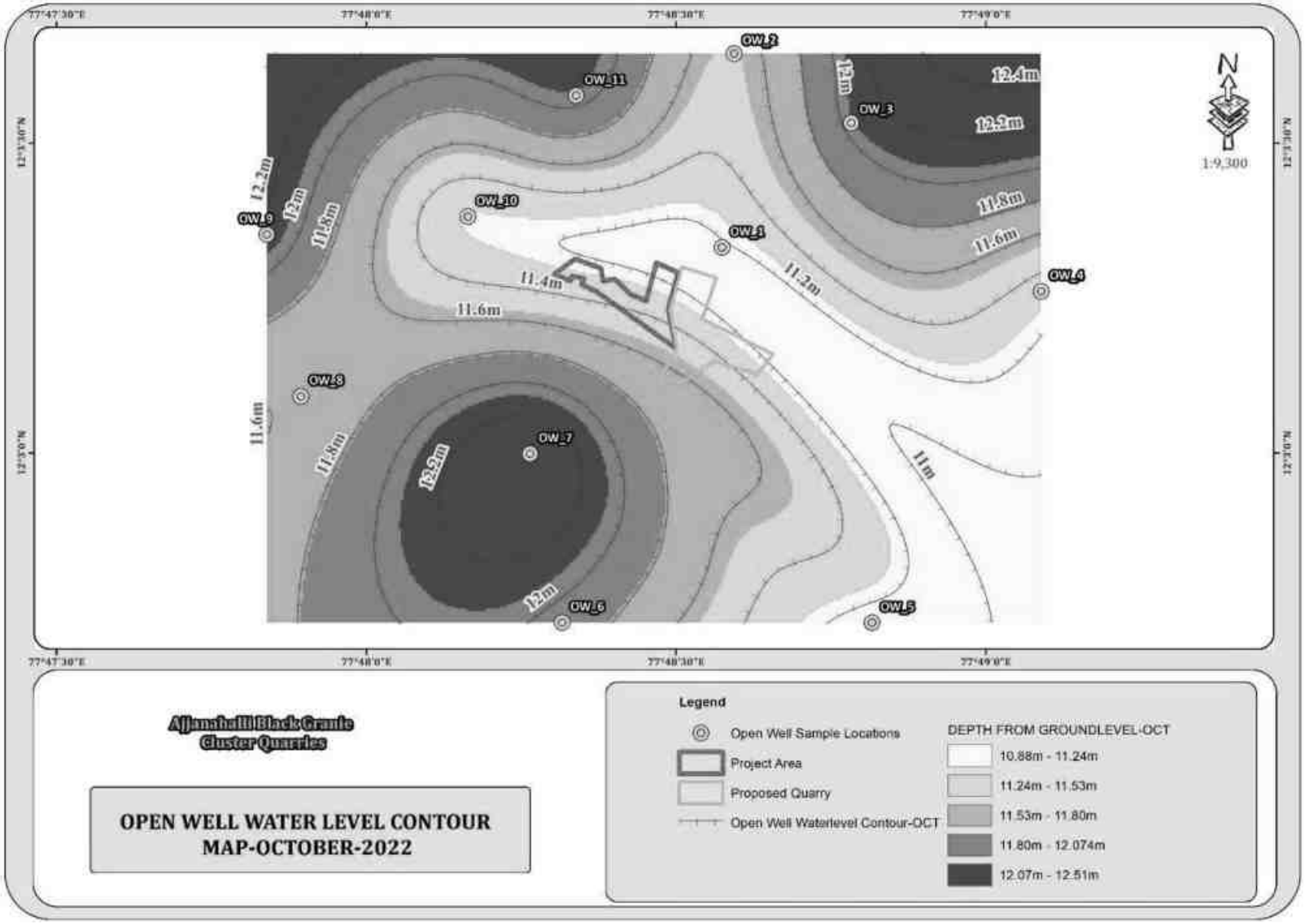


FIGURE 3.9: PRE MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS – January 2023

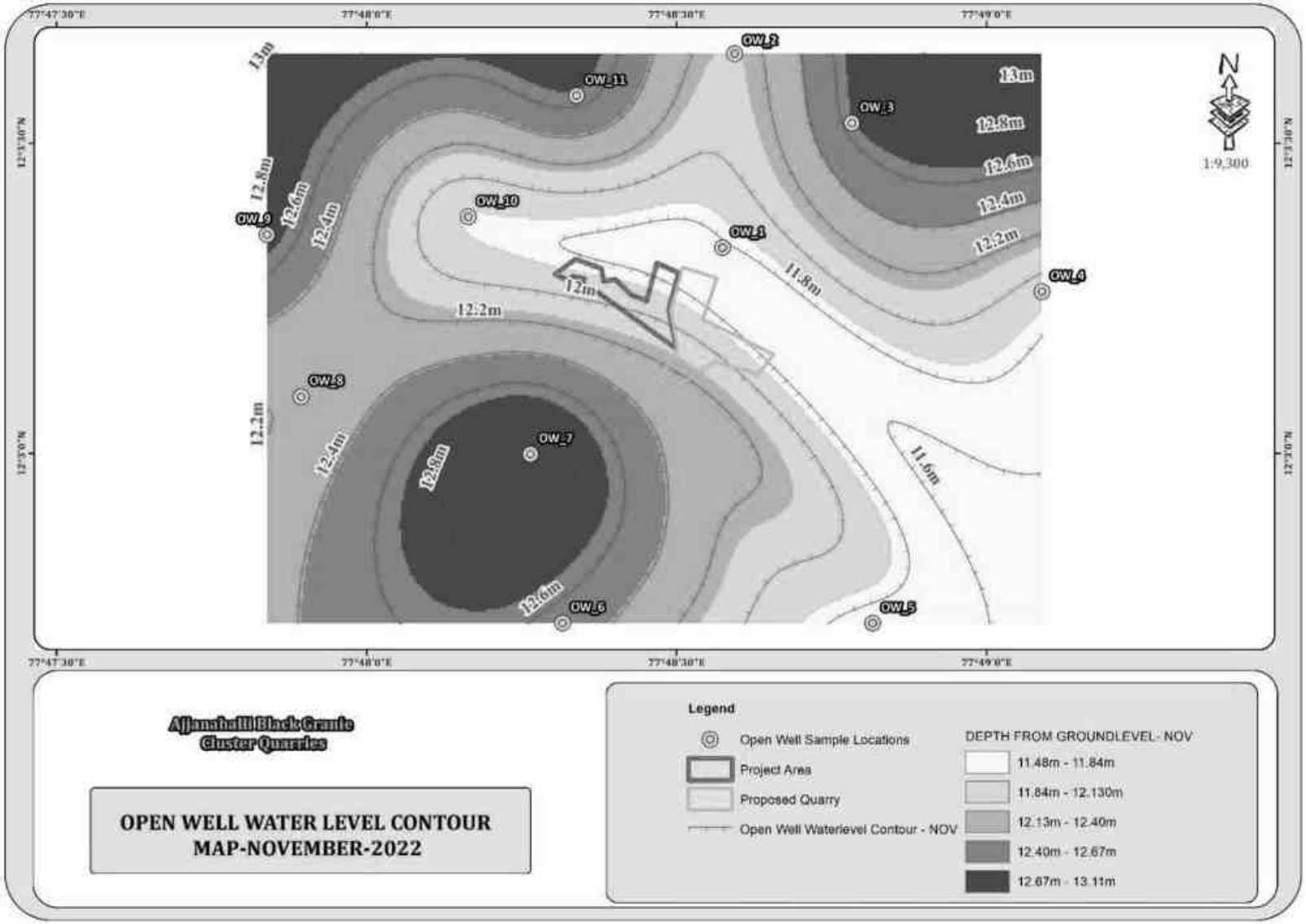
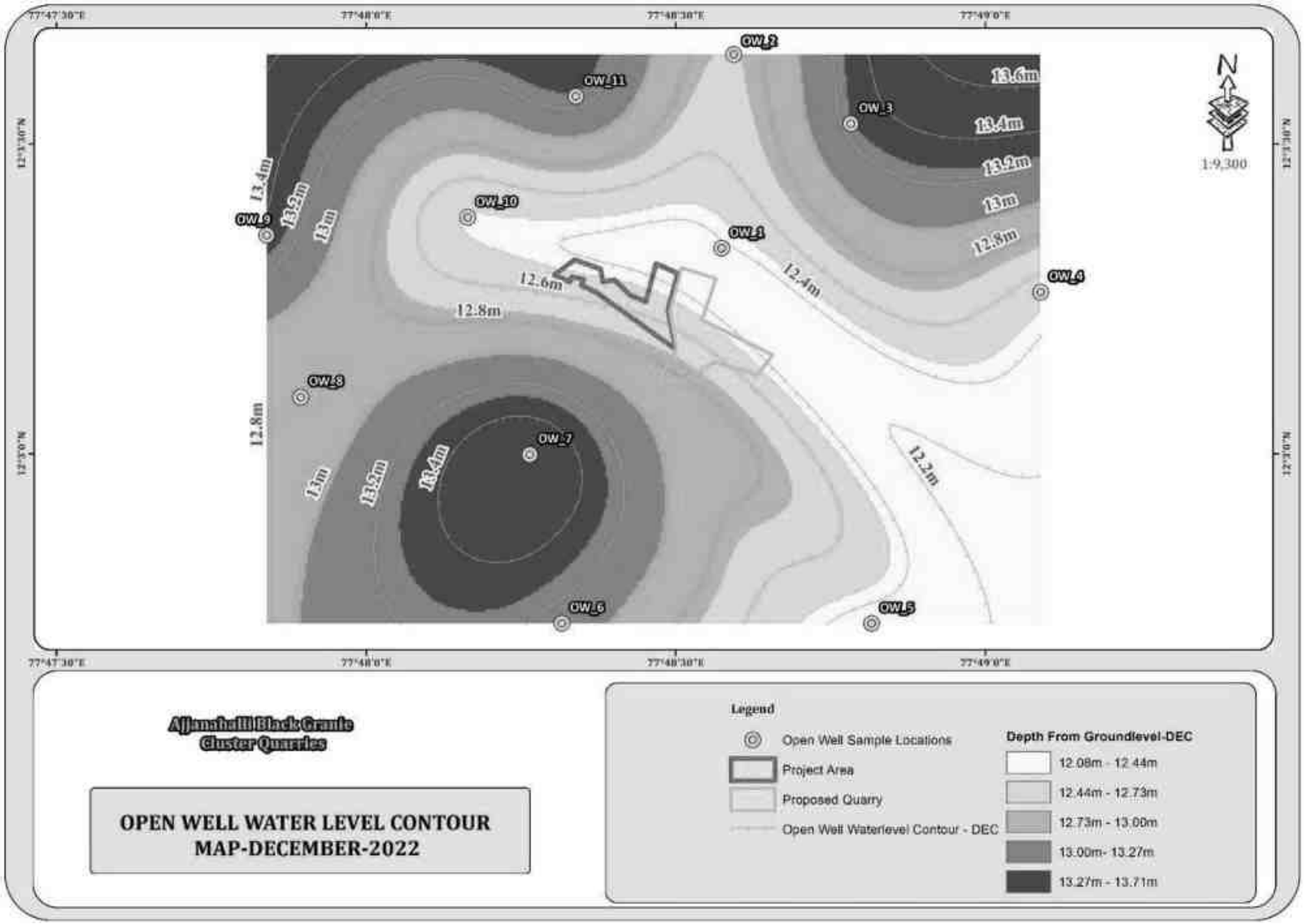


FIGURE 3.10: PRE MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS –February-2023



3.3.3 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

One (1) surface water and Five (5) 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 Waste water' published by American Public Health Association (APHA). The water sampling locations are given in Table 3.10 and shown as Figure 3.5.

TABLE 3.10: WATER SAMPLING LOCATIONS

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	SW-1	Moongilmaduvu Lake	2.3km East	12°03'05.39"N 77°49'54.39"E
2	WW-1	Sigaralahalli	1.2km West	12°03'19.19"N 77°47'36.12"E
3	WW-2	Ajjanahalli	1.5km NE	12°03'19.31"N 77°49'28.44"E
4	BW-1	Moongilmaduvu	2Km SE	12°02'36.76"N 77°49'34.14"E
5	BW-2	Koorkampatty	3.5km SW	12°01'25.18"N 77°48'01.83"E
6	BW-3	Chinnappanallur	3.0km North	12°04'57.86"N 77°48'40.71"E

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories in association with GEMS

TABLE 3.11: SURFACE WATER SAMPLING RESULTS

	TEST	PROTOCOL	SW1
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	10 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	7.67
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	1211 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	3.5 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	714 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	245.15 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	47.5 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	30.8 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	234 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	184.3 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	75.5 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.22 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.13 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	8.4 mg/l
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)

25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	BOD @ 27°C for 3 days	IS 3025 Part 44:1993 (Reaff:2019)	9.5 mg/l
32	Chemical Oxygen Demand	IS 3025 Part 58:2006 (Reaff:2017)	40 mg/l
33	Dissolved Oxygen	IS 3025 Part 38:1989 (Reaff:2019)	5.7 mg/l
34	Barium as Ba	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL:0.05 mg/l)
35	Ammonia (as total ammonia-N)	IS 3025 Part 34-1988 (Reaff. 2019)	1.6 mg/l
36	Sulphide as H_2S	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:0.01 mg/l)
37	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
38	Total Arsenic as As	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
39	Total Suspended Solids	IS 3025 Part 17 -1984 (Reaff:2017)	25.5 mg/l
40	**Discipline:** Biological **Group:** Water		
41	Total Coliform	APHA 23rd Edn. 2017:9221B	960 MPN/100ml
42	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	150 MPN/100ml

TABLE 3.12: GROUND WATER SAMPLING RESULTS

S.NO	Parameter	WW1	WW2	BW1	BW2	BW3	Standards as Per IS 10500: 2012	
							Acceptable Limit	Permissible Limit
1	Color	5	5 Hazen	5 Hazen	5 Hazen	5 Hazen	5	5
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH@ 25°C	7.61	6.76	7.11	6.97	7.14	6.5-8.5	6.5-8.5
4	Electrical Conductivity @ 25°C	958 µmhos/cm	1246 µmhos/cm	1072 µmhos/cm	1073 µmhos/cm	1042 µmhos/cm	Not specified	Not specified
5	Turbidity	1.1 NTU	1.3 NTU	1.0 NTU	1.2 NTU	1.0 NTU	1	1
6	Total Dissolved Solids	565 mg/l	735 mg/l	632 mg/l	633 mg/l	615 mg/l	500	500
7	Total Hardness as $CaCO_3$	190.45 mg/l	219.95 mg/l	212.26 mg/l	192.99 mg/l	186.68 mg/l	200	200
8	Calcium as Ca	32.5 mg/l	37.4 mg/l	35.8 mg/l	32.2 mg/l	32.8 mg/l	75	75
9	Magnesium as Mg	26.6 mg/l	30.8 mg/l	29.9 mg/l	27.4 mg/l	25.5 mg/l	30	30
10	Total Alkalinity	161 mg/l	237 mg/l	224 mg/l	197 mg/l	210 mg/l	200	200
11	Chloride as Cl^-	146 mg/l	200 mg/l	165 mg/l	165 mg/l	173 mg/l	250	250
12	Sulphate as SO_4^-	65.3 mg/l	96.4 mg/l	62.1 mg/l	88.6 mg/l	62.4 mg/l	200	200
13	Iron as Fe	0.20 mg/l	0.17 mg/l	0.30 mg/l	0.13 mg/l	0.21 mg/l	0.3	0.3
14	Free Residual Chlorine	BDL (DL:0.1 mg/l)	BDL (DL:0.1 mg/l)	BDL (DL:0.1 mg/l)	BDL (DL:0.1 mg/l)	BDL (DL:0.1 mg/l)	0.2	0.2
15	Fluoride as F	0.11 mg/l	0.13 mg/l	0.12 mg/l	0.18 mg/l	0.13 mg/l	1.0	1.0
16	Nitrates as NO_3	3.4 mg/l	5.5 mg/l	4.4 mg/l	6.4 mg/l	4.0 mg/l	45	45
17	Copper as Cu	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	0.05	0.05
18	Manganese as Mn	BDL (DL:0.02	BDL (DL:0.02 mg/l)	BDL (DL:0.02	BDL (DL:0.02	BDL (DL:0.02	0.1	0.1

		mg/l)		mg/l)	mg/l)	mg/l)		
19	Mercury as Hg	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	0.001	0.001
20	Cadmium as Cd	BDL (DL:0.001 mg/l)	BDL (DL:0.001 mg/l)	BDL (DL:0.001 mg/l)	BDL (DL:0.001 mg/l)	BDL (DL:0.001 mg/l)	0.003	0.003
21	Selenium as Se	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	0.01	0.01
22	Aluminium as Al	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	0.03	0.03
23	Lead as Pb	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	0.01	0.01
24	Zinc as Zn	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	5	5
25	Total Chromium	BDL(DL : 0.02 mg/l)	BDL(DL : 0.02 mg/l)	BDL(DL : 0.02 mg/l)	BDL(DL : 0.02 mg/l)	BDL(DL : 0.02 mg/l)	0.05	0.05
26	Boron as B	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	BDL(DL : 0.05 mg/l)	0.5	0.5
27	Mineral Oil	BDL(DL : 0.01 mg/l)	BDL(DL : 0.01 mg/l)	BDL(DL : 0.01 mg/l)	BDL(DL : 0.01 mg/l)	BDL(DL : 0.01 mg/l)	0.5	0.5
28	Phenolic Compunds as C_6H_5OH	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	BDL (DL:0.0005 mg/l)	0.001	0.001
29	Anionic Detergents as	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	0.2	0.2
30	Cynaide as CN	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	0.05	0.05
31	Barium as Ba	BDL(DL:0.05 mg/l)	BDL(DL:0.05 mg/l)	BDL(DL:0.05 mg/l)	BDL(DL:0.05 mg/l)	BDL(DL:0.05 mg/l)	0.7	0.7
32	Ammonia (as Total	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	BDL (DL:0.01 mg/l)	0.5	0.5
33	Sulphide as	BDL	BDL (DL:0.01	BDL	BDL	BDL	0.05	0.05

	H_2S	(DL:0.01 mg/l)	mg/l)	(DL:0.01 mg/l)	(DL:0.01 mg/l)	(DL:0.01 mg/l)		
34	Molybdenum as Mo	BDL (DL:0.02 mg/l)	BDL (DL:0.02 mg/l)	BDL (DL:0.02 mg/l)	BDL (DL:0.02 mg/l)	BDL (DL:0.02 mg/l)	0.07	0.07
35	Total Arsenic as As	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	BDL (DL:0.005 mg/l)	0.01	0.01
36	Total Suspended Solids	BDL (DL:1.0 mg/l)	BDL (DL:1.0 mg/l)	BDL (DL:1.0 mg/l)	BDL (DL:1.0 mg/l)	BDL (DL:1.0 mg/l)	-	-
37	Total Coliform	220 MPN/100ml	120 MPN/100ml	100 MPN/100ml	170 MPN/100m	110 MPN/100m	Shall not be detectable in any100 ml	Shall not be detectable in any100 ml
38	E-Coli	< 1.8 MPN/100ml	< 1.8 MPN/100ml	< 1.8 MPN/100ml	< 1.8 MPN/100ml	< 1.8 MPN/100ml		

3.3.4 Interpretation & Conclusion

Surface Water

pH:

The pH varied from 7.67 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 714 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 184.3 mg/l. Nitrates varied from 8.4 mg/l, while sulphates varied from 75.5 mg/l.

Ground Water

The pH of the water samples collected ranged from 6.76 – 7.61 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 565 - 735 mg/l in all samples. The Total hardness varied between 186-68 – 219.95 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.

3.3.5 Hydrology and Hydro-geological 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-80 Instrument by qualified Geo physicist with the help of IGIS software and it was inferred that the low resistance encountered at the depth between 56-61m. The maximum depth proposed out of proposed projects is 50m (30m agl + 20m 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 upto a depth of 3m 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.

FIGURE 3.11: WATER SAMPLE COLLECTIONS PHOTOGRAPHS

FIGURE 3.12: DRAINAGE MAP AROUND 10 KM RADIUS FROM PROJECT SITE

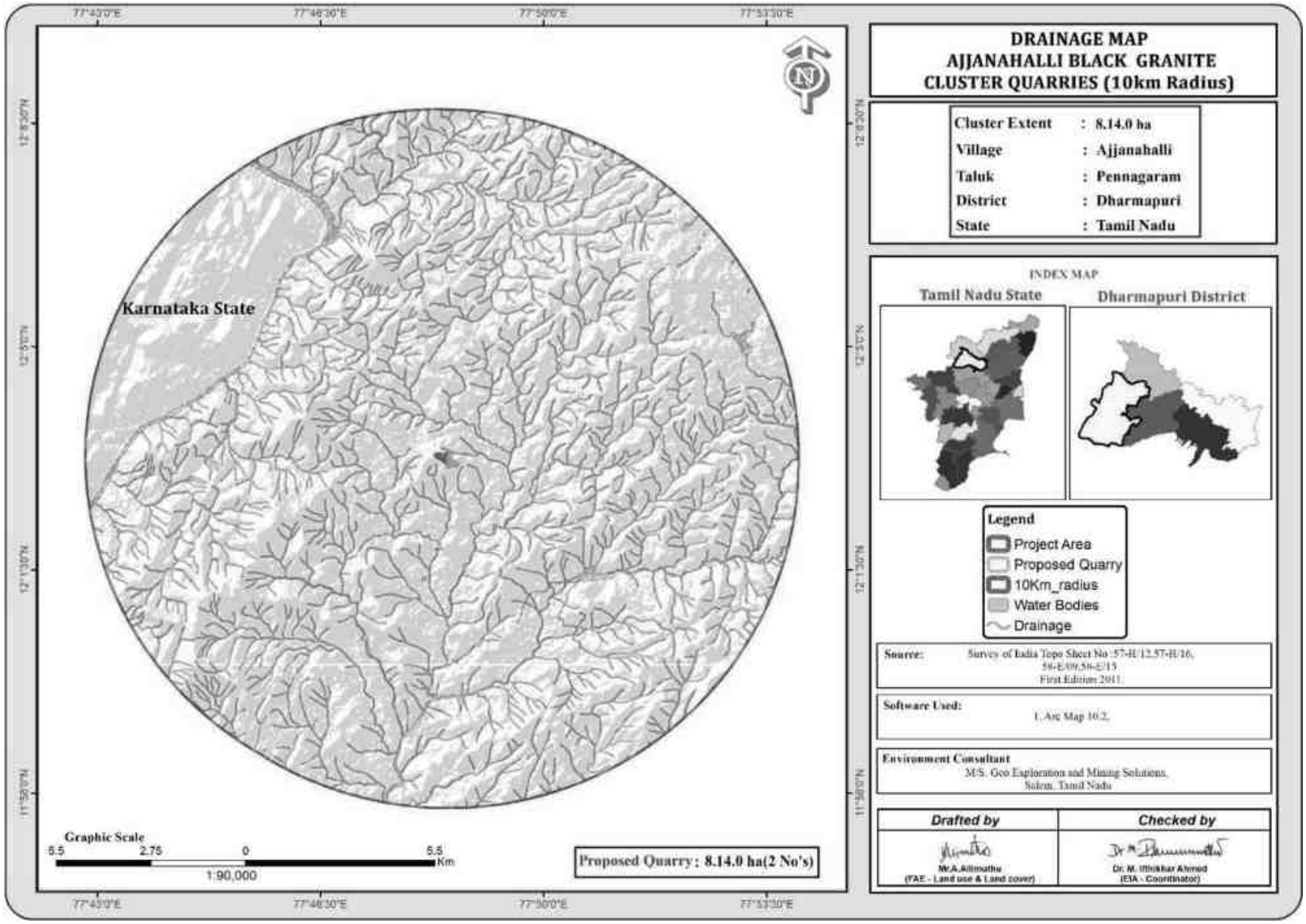
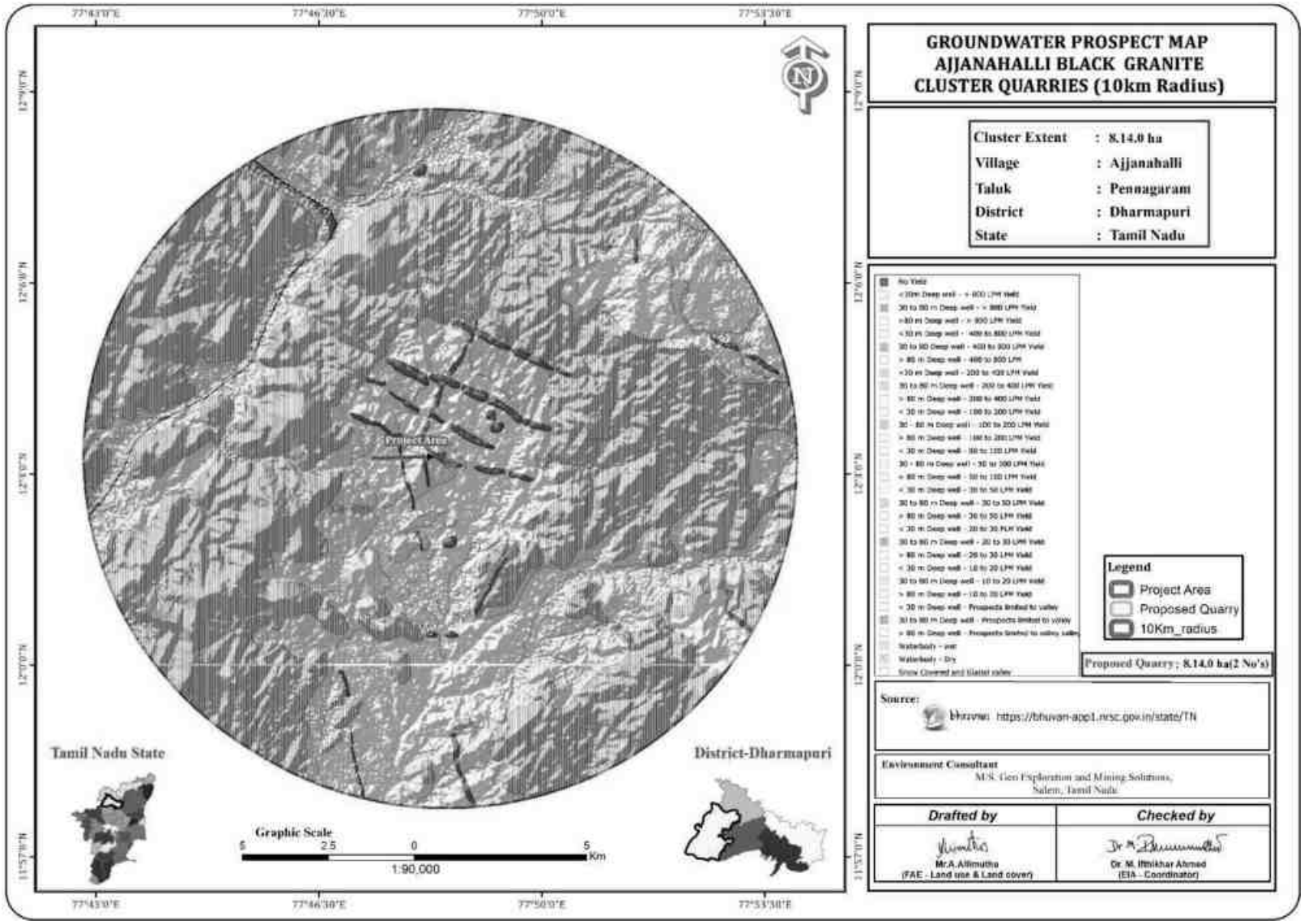


FIGURE 3.13: GROUND WATER PROSPECT MAP



3.4 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.

3.4.1 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 –

- Dharmapuri's climate is classified as tropical. The summers here have a good deal of rainfall, while the winters have very little. This location is classified as Aw by Köppen and Geiger. The temperature here averages 26.0 °C | 78.8 °F. The annual rainfall is 760 mm | 29.9 inch.
- The Dharmapuri is situated close to the equator, making summers difficult to define. The most popular time to visit is January, February, March, June, July, August, September, October, November, December.
- Precipitation is the lowest in January, with an average of 7 mm | 0.3 inch. Most of the precipitation here falls in October, averaging 143 mm | 5.6 inch.
- Precipitation is the lowest in January, with an average of 7 mm | 0.3 inch. Most of the precipitation here falls in October, averaging 143 mm | 5.6 inch.
  https://en.climate-data.org/asia/india/tamil-nadu/dharmapuri-34158/

Rainfall –

TABLE 3.13: RAINFALL DATA

Actual Rainfall in mm					Normal Rainfall in mm
2017	2018	2019	2020	2021	
906.5	468.0	838.1	918.4	1027.8	985

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

TABLE 3.14: METEOROLOGICAL DATA RECORDED AT SITE

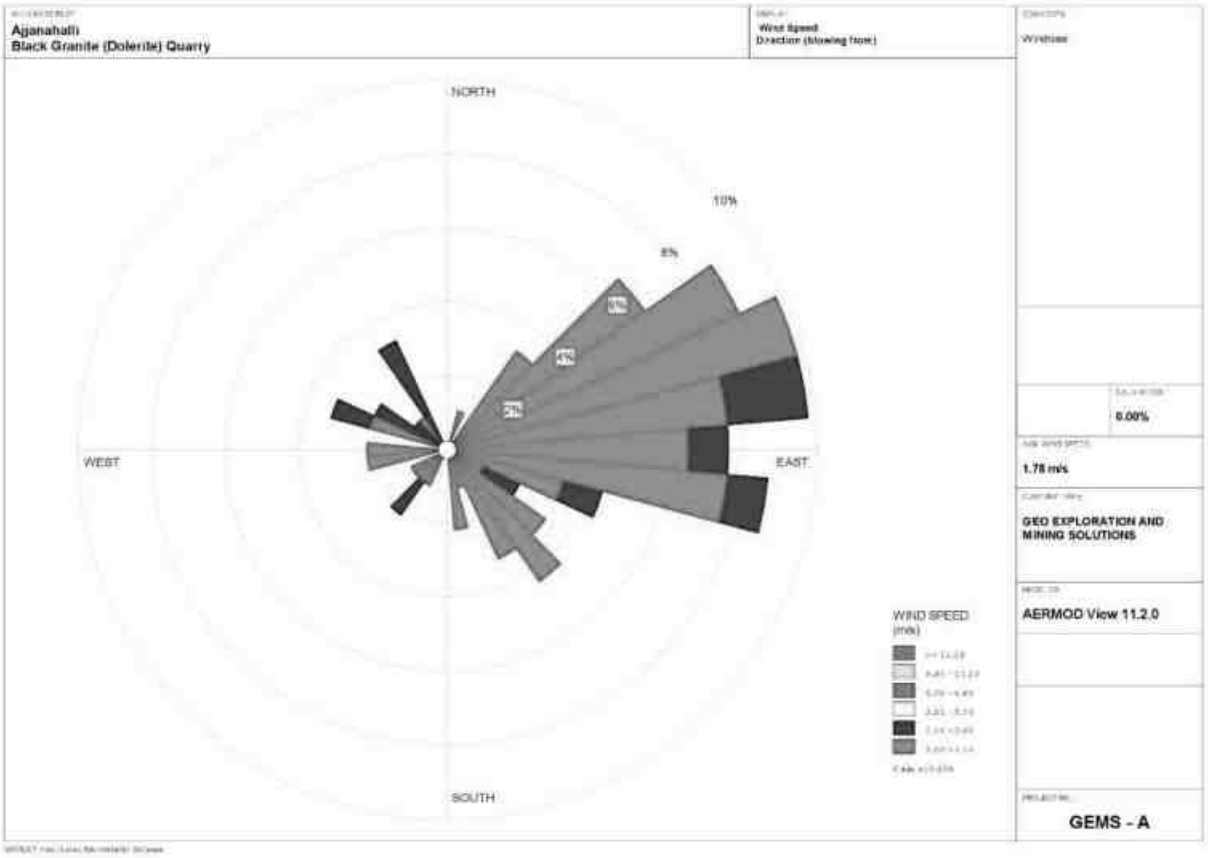
S.No	Parameters		Oct – 2022	Nov – 2022	Dec – 2022
1	Temperature (0C)	Max	24.69	22.76	22.52
		Min	20.66	19.76	19.08
		Avg	22.675	21.26	20.8
2	Relative Humidity (%)	Avg	82.53	87.94	86.56
3	Wind Speed (m/s)	Max	2.77	2.31	2.66
		Min	0.76	0.98	1.11
		Avg	1.765	1.645	1.885
4	Cloud Cover (OKTAS)		0-8	0-8	0-8
5	Wind Direction		ESE,W	E,ENE	E,ENE

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. 3.14. Predominant downwind direction of the area during study season is North - East to South West.

FIGURE 3.14: WINDROSE DIAGRAM



Source: Wind Rose plot view, Lake Environmental Software

In the abstract of collected data wind rose were drawn on presented in figure No.3.9 during the monitoring period in the study area

- Predominant winds were from NE- SW
- Wind velocity readings were recorded between 2.10 – 3.60 m/s
- Temperature readings ranging from 20.8 – 22.675 °C
- Relative humidity ranging from 82.53 – 86.56%

3.4.2 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.,

3.4.3 Sampling and Analytical Techniques

TABLE 3.15: 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

Source: Sampling Methodology followed by EHS 360 Labs Pvt Ltd Laboratories &CPCB Notification

TABLE 3.16: NATIONAL AMBIENT AIR QUALITY STANDARDS

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

Source: NAAQSCPCB 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 values 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.

3.4.4 Frequency & Parameters for Sampling

Ambient air quality monitoring has been carried out with a frequency of two samples per week at Eight (8) locations, adopting a continuous 24 hourly (3 shift of 8 hour) schedule for the period December 2022 to February 2023. 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.

3.4.5 Ambient Air Quality Monitoring Stations

Eight (8) monitoring stations were set up in the study area as depicted in Figure 3.6.1 for assessment of the existing ambient air quality. Details of the sampling locations are as per given below.

TABLE 3.17: AMBIENT AIR QUALITY (AAQ) MONITORING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	AAQ-1	Core Zone	East Side	12°03'09.34"N 77°48'37.06"E
2	AAQ-2	Core Zone	West Side	12°03'16.75"N 77°48'22.17"E
3	AAQ-3	Ajjanahalli	1.5km NE	12°03'25.84"N 77°49'31.47"E
4	AAQ-4	Chinnappanallur	3.3km North	12°05'03.33"N 77°48'40.48"E
5	AAQ-5	Koorkampatty	3.5km SW	12°01'24.98"N 77°48'01.05"E
6	AAQ-6	Pudusampalli	5.2km South	12°00'17.31"N 77°48'30.49"E
7	AAQ-7	Moongilmaduvu	2km SE	12°02'35.40"N 77°49'33.10"E
8	AAQ-8	Sigaralahalli	1.5km West	12°03'21.12"N 77°47'28.52"E

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories in association with GEMS

FIGURE 3.15: SITE PHOTOGRAPHS OF AMBIENT AIR QUALITY MONITORING

FIGURE 3.16: AMBIENT AIR QUALITY LOCATIONS AROUND 5 KM RADIUS

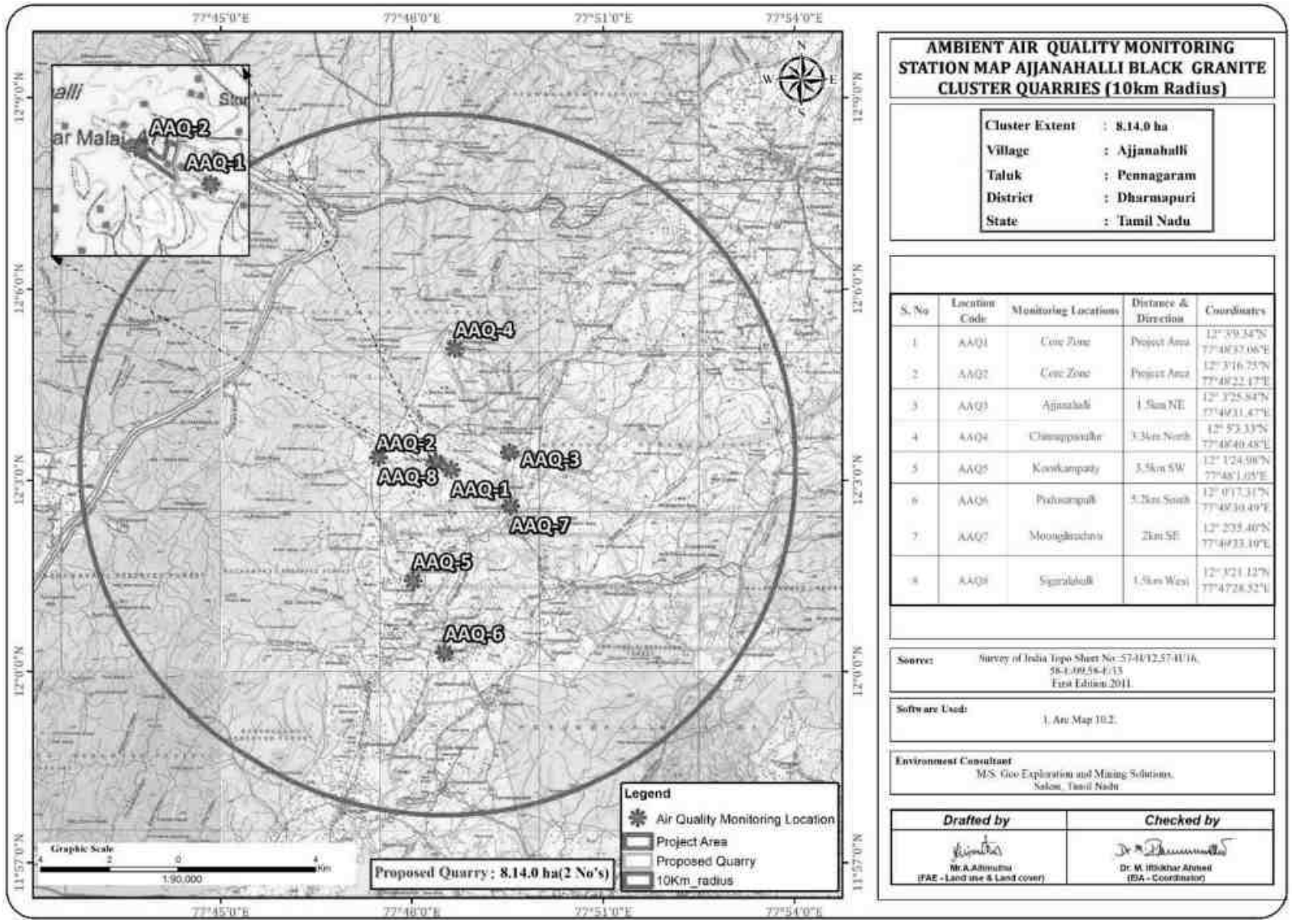


Table No.3.18: AAQ1 – PROJECT AREA – EAST SIDE

Period: December 2022 to February 2023 Location: East Side Sampling Timing : 24 hour

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	63.6	42.8	21.3	6.8	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	64.5	44.3	22.4	6.5	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	62.8	42.6	23.8	6.2	20.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	61.9	43.7	23.9	6.4	20.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	75.3	42.8	21.4	6.7	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	73.7	42.5	20.3	6.6	20.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	71.3	44.9	24.1	7.1	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	72.5	43.8	22.9	7.5	19.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	62.6	45.5	21.3	7.6	19.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	62.7	44.9	21.5	6.5	19.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	61.7	43.1	20.1	5.6	18.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	62.5	45.6	20.3	5.7	18.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	73.5	42.8	21.4	5.6	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	73.4	44.1	20.6	5.4	19.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	72.7	42.8	21.4	6.3	18.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	72.3	43.9	22.0	6.7	18.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	75.6	44.5	21.3	6.1	18.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	75.9	42.8	22.0	6.5	19.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	74.3	45.5	22.8	5.3	18.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	74.9	42.4	21.7	5.6	17.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	73.4	43.2	21.1	6.4	17.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	75.6	44.8	22.5	5.2	18.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	72.1	45.8	24.3	5.3	17.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	70.5	43.6	22.3	6.5	16.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	75.3	42.7	22.1	6.8	14.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.19: AAQ2 – Project Area – West Side

Period: December 2022 to February 2023 *Location: AAQ2- West Side* Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	60.2	43.2	22.1	8.3	19.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	61.4	44.3	23.4	7.4	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	63.1	45.1	24.2	6.2	20.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	62.1	42.7	21.6	6.6	20.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	61.5	43.8	22.4	6.9	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	64.5	42.7	21.3	6.1	21.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	63.2	41.0	21.0	7.5	19.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	62.4	42.6	21.3	7.7	20.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	61.5	45.2	22.1	7.6	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	65.4	44.9	22.4	6.9	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	70.2	45.6	22.6	5.6	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	71.4	44.3	22.2	5.7	18.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	72.3	41.3	21.1	5.6	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	70.3	42.4	22.6	5.4	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	72.1	45.0	22.5	6.2	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	70.5	44.1	20.2	6.7	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	73.2	43.2	21.3	6.1	20.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	62.5	44.8	21.2	6.4	19.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	62.6	45.2	22.8	5.9	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	64.5	44.9	22.1	5.6	21.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	63.7	42.3	23.2	6.5	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	62.8	44.1	22.0	5.2	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	61.0	43.4	22.7	5.3	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	65.8	44.6	22.9	6.8	21.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	64.3	42.7	21.3	6.9	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

Table No.3.20: AAQ3 – AJJANAHALLI (BUFFER ZONE)

Period: December 2022 to February 2023 Location: Ajjanahalli Sampling Timing: 24 hours

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	71.2	45.8	22.2	7.1	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	72.3	43.3	21.2	7.4	19.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	62.8	41.4	20.3	8.4	20.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	61.9	43.7	22.4	8.2	20.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	65.3	42.8	21.4	8.9	21.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	63.3	41.5	20.2	9.0	22.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	62.5	44.3	22.1	8.7	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	62.6	43.9	22.4	8.6	21.0	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	64.7	45.2	22.1	7.2	18.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	65.9	44.4	23.2	7.1	18.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	70.1	43.1	21.2	7.8	18.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	71.2	42.3	20.3	7.9	18.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	72.3	42.4	21.2	8.0	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	74.2	44.3	23.2	8.5	19.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	70.2	42.8	22.5	8.8	19.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	68.7	43.9	21.4	7.8	20.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	65.3	44.5	22.3	7.5	22.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	72.4	42.6	21.3	7.6	21.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	73.4	45.4	22.5	7.2	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	72.1	42.3	21.1	9.0	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	73.5	43.2	23.1	7.4	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	74.4	44.4	22.2	7.8	19.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	73.9	45.6	22.3	8.6	21.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	72.1	43.3	22.8	8.3	21.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	73.9	42.4	21.2	8.9	20.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.21: AAQ4 – CHINNAPPANALLUR (BUFFER ZONE)

Period: December 2022 to February 2023 Location: AAQ4 – Chinnappanallur Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	ng/m³	ng/m³	µg/m³	ng/m³
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	63.2	43.4	21.3	7.0	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	64.5	42.3	21.2	6.8	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	63.2	45.4	22.2	6.5	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	62.1	42.3	21.2	6.4	21.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	68.5	41.4	20.2	7.2	23.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	65.2	44.6	20.3	6.8	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	67.3	44.8	21.8	7.1	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	70.2	43.8	22.4	7.5	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	72.8	44.5	22.3	7.6	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	70.6	44.7	22.4	6.5	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	73.4	43.2	21.1	6.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	74.5	45.6	22.6	8.2	22.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	69.2	42.4	21.2	8.5	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	68.3	44.2	22.1	7.8	23.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	70.5	42.8	21.4	7.6	23.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	72.5	43.4	22.2	8.4	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	73.6	44.5	22.6	8.9	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	72.1	41.8	21.4	9.1	23.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	69.6	45.5	24.2	8.7	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	68.4	42.2	21.1	8.4	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	71.6	43.2	22.3	8.6	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	73.4	44.6	22.1	8.9	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	72.1	45.8	22.4	7.9	20.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	68.4	43.3	22.1	7.5	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	69.2	44.3	22.8	8.2	22.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.22: AAQ5 – KOORKAMPATTY (BUFFER ZONE)

Period: December 2022 to February 2023 *Location: AAQ5*- Koorkampatty Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	mg/m^3	$\mu g/m^3$	ng/m^3	ng/m^3	$\mu g/m^3$	ng/m^3
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	71.2	42.4	21.3	7.5	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	72.5	43.6	21.2	7.8	20.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	73.1	45.4	22.0	7.5	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	72.1	42.3	21.8	9.0	23.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	70.2	41.4	20.1	7.2	22.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	68.3	40.3	20.1	6.4	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	69.2	41.8	20.4	7.1	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	67.3	42.8	22.4	7.5	22.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	70.8	43.5	22.3	7.6	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	72.3	43.7	22.4	6.5	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	71.4	40.2	21.1	6.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	73.2	40.6	22.6	8.2	18.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	72.8	42.4	21.2	8.5	18.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	70.6	41.2	22.1	7.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	68.4	42.8	21.8	7.6	20.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	67.2	43.4	22.6	7.3	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	66.8	44.5	22.6	8.9	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	68.5	41.8	21.4	9.1	23.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	71.2	44.5	24.2	8.7	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	72.6	43.2	21.3	8.4	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	72.8	42.2	22.3	8.6	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	70.6	44.6	22.1	8.9	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	71.5	45.8	22.4	7.9	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	72.6	43.3	22.1	7.5	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	71.5	44.0	22.6	8.2	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.23: AAQ6 – PUDUSAMPALLI (BUFFER ZONE)

Period: December 2022 to February 2023 *Location: AAQ6* – Pudusampalli Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	mg/m^3	$\mu g/m^3$	ng/m^3	ng/m^3	$\mu g/m^3$	ng/m^3
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
5.12.2022	7:00-7:00	70.8	44.3	21.3	7.3	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.12.2022	7:15-7:15	71.4	43.7	21.2	7.6	22.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	72.2	45.4	22.0	8.0	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	71.8	44.2	21.8	8.2	20.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	72.6	41.4	20.1	8.4	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	70.5	42.3	20.1	8.9	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	69.2	43.8	20.4	7.2	22.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	67.6	42.8	22.4	7.3	22.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2.1.2023	7:00-7:00	65.8	41.5	22.3	7.4	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
3.1.2023	7:15-7:15	66.3	42.7	22.4	6.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9.1.2023	7:00-7:00	68.7	43.2	21.1	6.9	19.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.1.2023	7:15-7:15	70.5	42.6	22.6	7.2	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.1.2023	7:00-7:00	72.8	41.4	21.2	7.8	20.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.1.2023	7:15-7:15	74.6	42.2	22.1	7.6	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.1.2023	7:00-7:00	70.8	43.8	21.8	7.2	19.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.1.2023	7:15-7:15	68.5	43.4	22.6	8.2	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.1.2023	7:00-7:00	66.3	44.5	22.6	8.4	20.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.2.2023	7:15-7:15	68.4	43.8	21.4	8.6	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
7.2.2023	7:00-7:00	70.6	42.5	24.2	8.4	21.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.2.2023	7:15-7:15	72.4	43.2	21.3	7.2	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.2.2023	7:00-7:00	73.8	41.2	22.3	7.5	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.2.2023	7:15-7:15	71.6	43.6	22.1	8.9	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.2.2023	7:00-7:00	68.4	45.8	22.4	7.9	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.7.2023	7:15-7:15	66.5	44.8	22.1	7.5	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.7.2023	7:00-7:00	68.2	44.7	22.6	8.2	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.24: AAQ7 – MOONGILMADUVU (BUFFER ZONE)

Period: December 2022 to February 2023 *Location: AAQ7 – Moongilmaduvu* Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	mg/m^3	$\mu g/m^3$	ng/m^3	ng/m^3	$\mu g/m^3$	ng/m^3
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	71.2	42.4	21.2	7.5	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	72.5	43.6	21.3	7.8	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	73.1	45.4	22.5	7.5	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	72.1	42.3	21.4	9.0	19.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	70.2	41.4	20.2	7.2	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	68.3	40.3	20.2	6.4	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	69.2	41.8	20.4	7.1	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	67.3	42.8	21.4	7.5	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	70.8	43.5	22.4	7.6	21.9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	72.3	43.7	23.4	6.5	19.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	71.4	40.2	21.1	6.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	73.2	40.6	22.6	8.2	18.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	72.8	42.4	21.2	8.5	18.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	70.6	41.2	22.1	7.8	19.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	68.4	42.8	20.8	7.6	20.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	67.2	43.4	21.6	7.3	21.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	66.8	44.5	20.8	8.9	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	68.5	41.8	21.6	9.1	23.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	71.2	44.5	22.2	8.7	21.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	72.6	43.2	21.3	8.4	22.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	72.8	42.2	20.3	8.6	22.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	70.6	44.6	22.1	8.9	22.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	71.5	45.8	22.4	7.9	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	72.6	43.3	21.1	7.5	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	71.5	44.0	23.6	8.2	22.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

TABLE 3.25: AAQ8 – SIGARALAHALLI (BUFFER ZONE)

Period: December 2022 to February 2023 *Location: AAQ8 - Sigaralahalli (Buffer Zone)* Sampling Time: 24-hourly

Ambient Air Monitoring Details		Particulate Pollutant			Gaseous Pollutant					Metals Pollutant			Organic Pollutant	
Parameters		SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	CO	Pb	Ni	As	C_6H_6	BaP
NAAQ Norms		200	100	60	80	80	400	180	4	1	20	6	5	1
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	mg/m^3	$\mu g/m^3$	ng/m^3	ng/m^3	$\mu g/m^3$	ng/m^3
Date	Period.hrs	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
05.12.2022	7:00-7:00	68.5	20.5	39.5	6.2	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2022	7:15-7:15	68.4	20.8	40.6	7.8	20.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.12.2022	7:00-7:00	69.3	20.0	40.5	6.6	22.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2022	7:15-7:15	69.7	21.9	40.8	5.4	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.12.2022	7:00-7:00	68.9	20.5	40.5	5.7	21.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2022	7:15-7:15	68.6	21.8	40.1	6.3	23.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.12.2022	7:00-7:00	67.4	20.6	41.6	6.9.	21.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2022	7:15-7:15	67.8	20.3	39.5	5.3	21.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
02.01.2023	7:00-7:00	67.4	20.5	40.5	5.4	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
03.01.2023	7:15-7:15	67.9	19.1	40.1	5.7.	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.01.2023	7:00-7:00	67.7	20.8	41.3	5.4	20.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2023	7:15-7:15	67.8	21.2	41.6	6.9	20.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.01.2023	7:00-7:00	67.8	21.5	40.6	5.2	21.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23.01.2023	7:15-7:15	68.4	21.8	41.5	5.4	20.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2023	7:00-7:00	68.2	20.4	41.6	5.3	23.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30.01.2023	7:15-7:15	68.4	20.9	41.9	7.6	23.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31.01.2023	7:00-7:00	68.8	21.4	41.8	7.5	22.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2023	7:15-7:15	68.3	21.9	40.5	7.9	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.02.2023	7:00-7:00	67.9	19.1	41.6	7.2	22.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2023	7:15-7:15	67.4	19.3	42.8	7.8	23.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.02.2023	7:00-7:00	69.9	20.4	41.3	7.6	20.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2023	7:15-7:15	69.4	20.9	42.6	7.5	24.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.02.2023	7:00-7:00	69.2	21.4	42.9	7.1	24.7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2023	7:15-7:15	68.6	20.1	42.8	7.2	21.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.02.2023	7:00-7:00	667.4	20.4	43.9	7.5	25.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Note: BDL: Below Detection Limit ;**DL**: Detection Limit ; **NH_3**: BDL (DL:20); **O_3**: BDL (DL:20); **CO**: BDL (DL:1.0); **Pb**: BDL (DL:0.1); **Ni**: BDL (DL:1.0); **As**: BDL (DL:1.0); **C_6H_6**: BDL (DL:1.0); **BaP**: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

Note : BDL: Below Detection Limit; DL: Detection Limit ; NH3: BDL (DL:20); O3: BDL (DL:20); CO: BDL (DL:1.0); Pb: BDL (DL:0.1); Ni: BDL (DL:1.0); As: BDL (DL:1.0); C6H6: BDL (DL:1.0); BaP: BDL (DL:0.1)

Remarks: The values observed for the pollutants given above are within the CPCB standards.

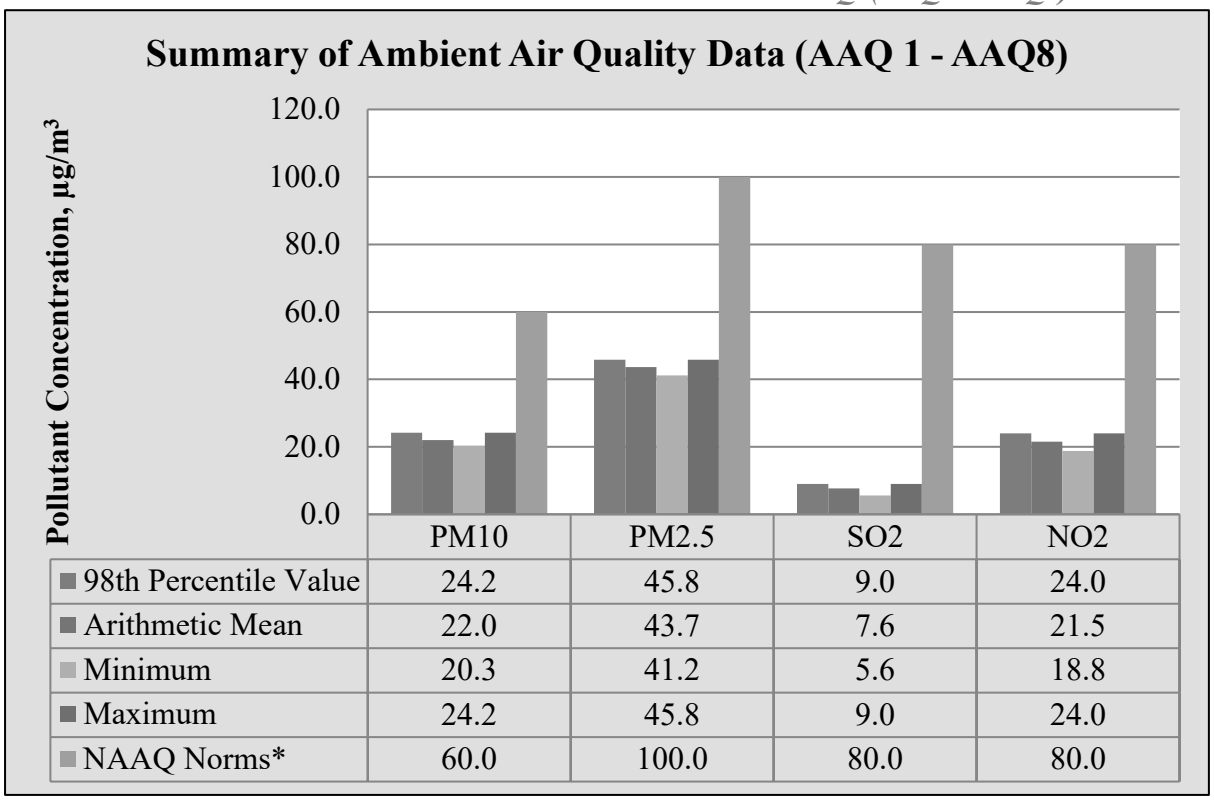
TABLE 3.27: ABSTRACT OF AMBIENT AIR QUALITY DATA

S.No	Parameter	PM2.5	PM10	SO_2	NO_2
	No. of Observations	260	260	260	260
1	10^{th} Percentile Value	20.3	41.2	5.6	18.8
2	20^{th} Percentile Value	21.0	41.8	6.4	19.6
3	30^{th} Percentile Value	21.2	42.4	6.8	20.1
4	40^{th} Percentile Value	21.4	42.8	7.2	20.5
5	50^{th} Percentile Value	21.8	43.2	7.5	21.3
6	60^{th} Percentile Value	22.1	43.6	7.6	21.7
7	70^{th} Percentile Value	22.3	44.1	7.9	22.3
8	80^{th} Percentile Value	22.4	44.5	8.4	22.5
9	90^{th} Percentile Value	22.6	45.2	8.7	22.8
10	95^{th} Percentile Value	23.2	45.6	8.9	23.3
11	98^{th} Percentile Value	24.2	45.8	9.0	24.0
12	Arithmetic Mean	22.0	43.7	7.6	21.5
13	Geometric Mean	22.0	43.6	7.6	21.5
14	Standard Deviation	1.1	1.5	1.1	1.6
15	Minimum	20.3	41.2	5.6	18.8
16	Maximum	24.2	45.8	9.0	24.0
17	**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.

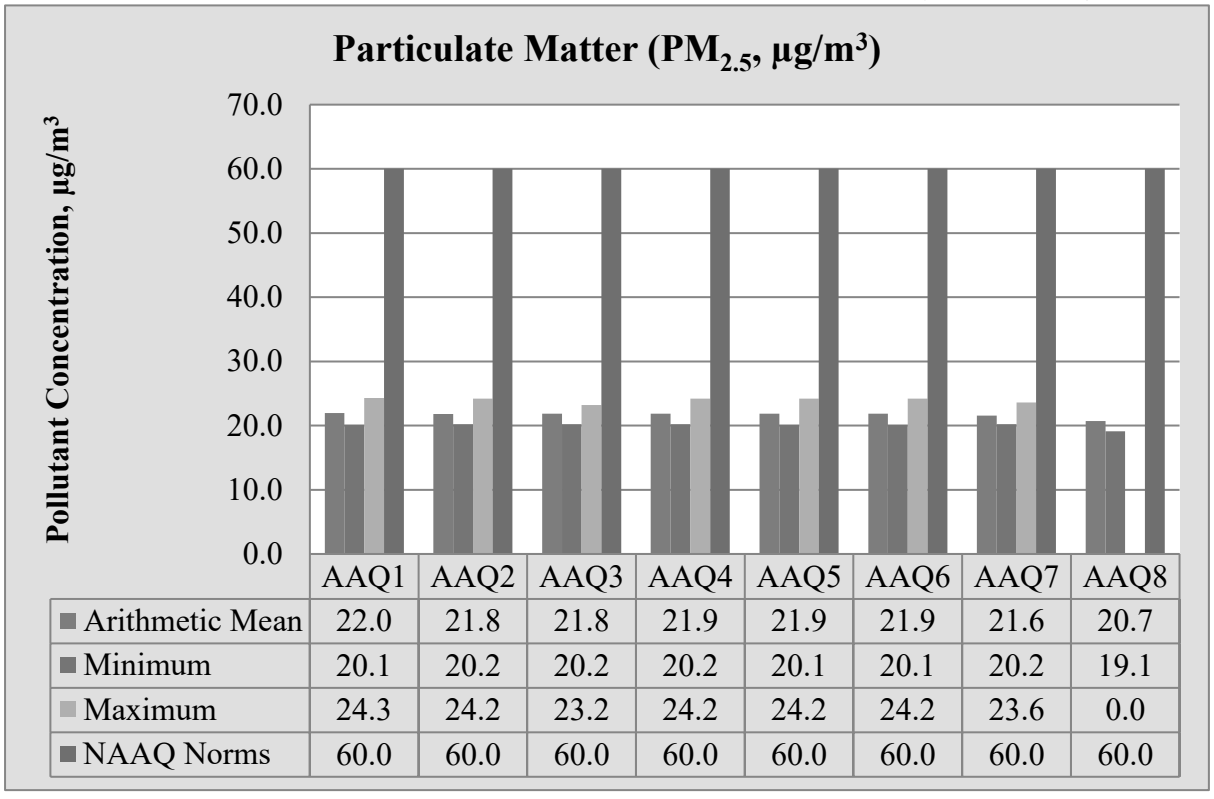
* NAAQ Norms-National Ambient Air Quality Norms-Revised as per GSR 826(E) dated 16.11.2009 for Industrial, Residential, Rural and other Area.

FIGURE 3.17: BAR DIAGRAM OF SUMMARY OF AAQ (AAQ1 – AAQ8)

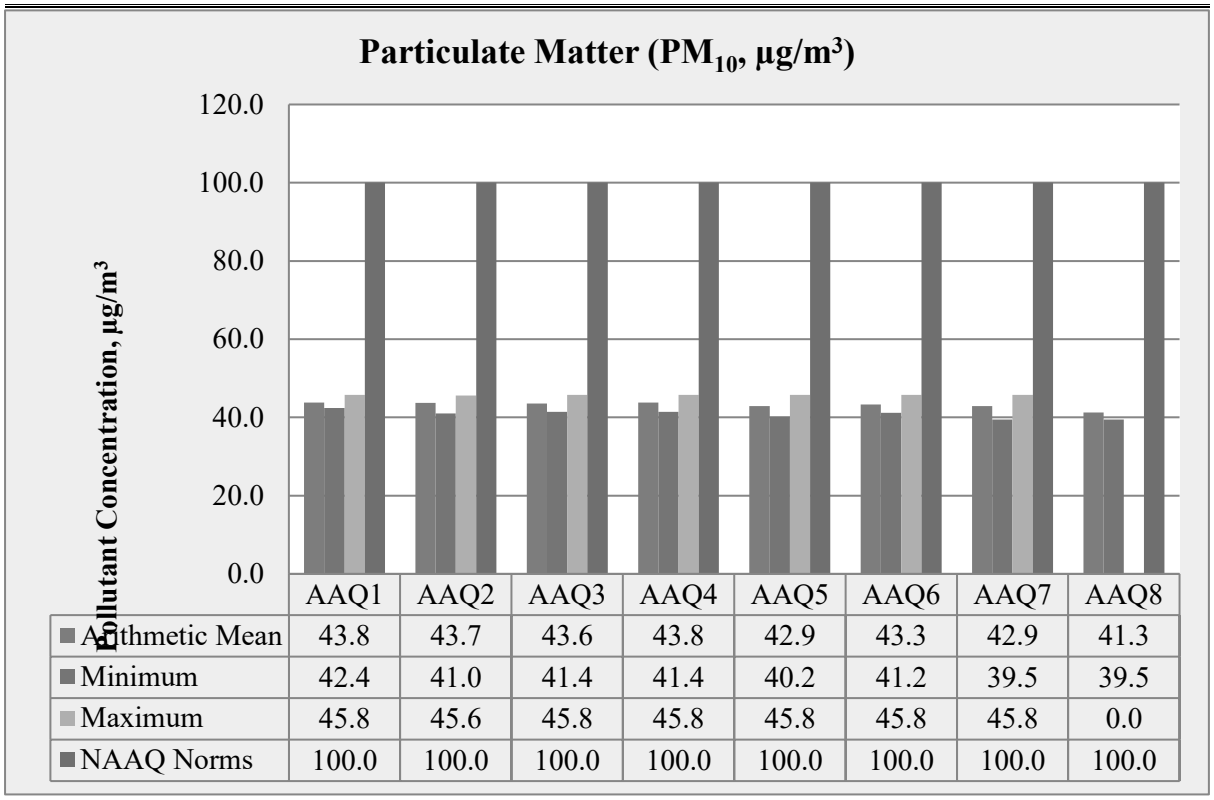


	PM10	PM2.5	SO2	NO2
98th Percentile Value	24.2	45.8	9.0	24.0
Arithmetic Mean	22.0	43.7	7.6	21.5
Minimum	20.3	41.2	5.6	18.8
Maximum	24.2	45.8	9.0	24.0
NAAQ Norms*	60.0	100.0	80.0	80.0

FIGURE 3.17A: BAR DIAGRAM OF PARTICULATE MATTER (PM_{10}& $PM_{2.5}$)

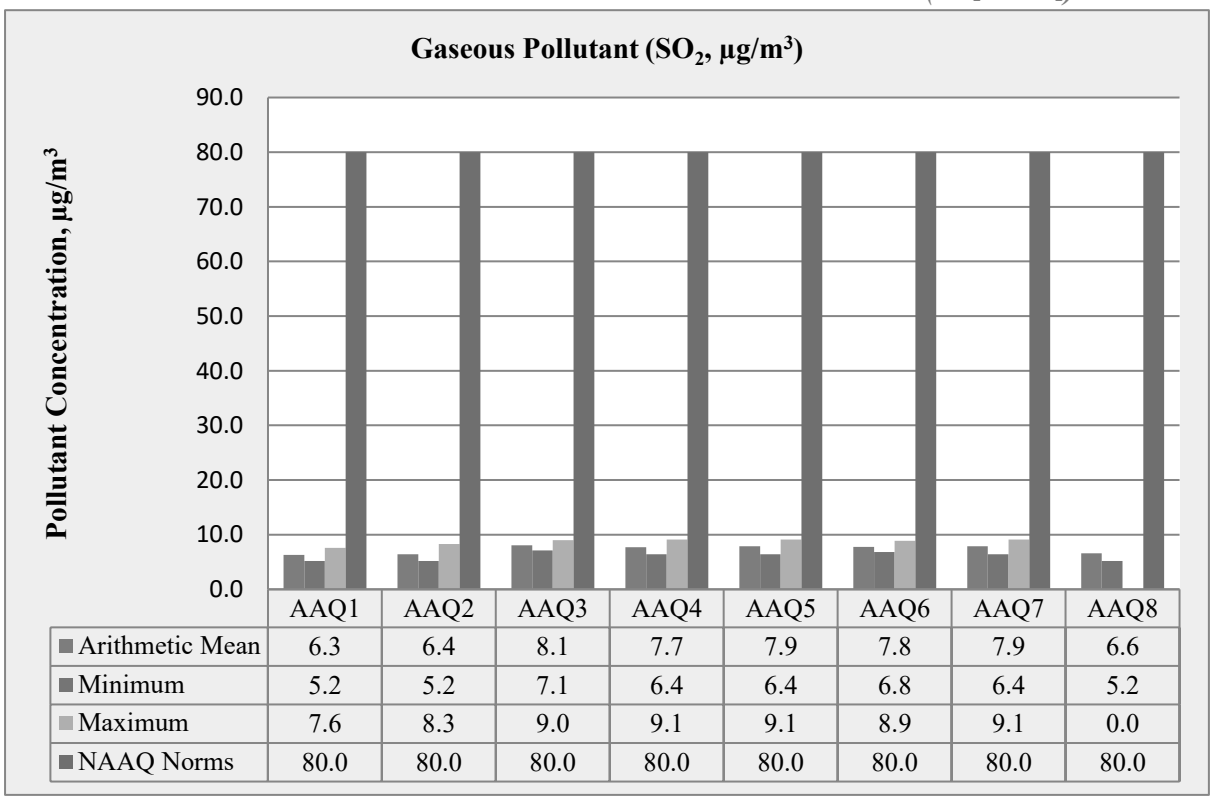


	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	22.0	21.8	21.8	21.9	21.9	21.9	21.6	20.7
Minimum	20.1	20.2	20.2	20.2	20.1	20.1	20.2	19.1
Maximum	24.3	24.2	23.2	24.2	24.2	24.2	23.6	0.0
NAAQ Norms	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0

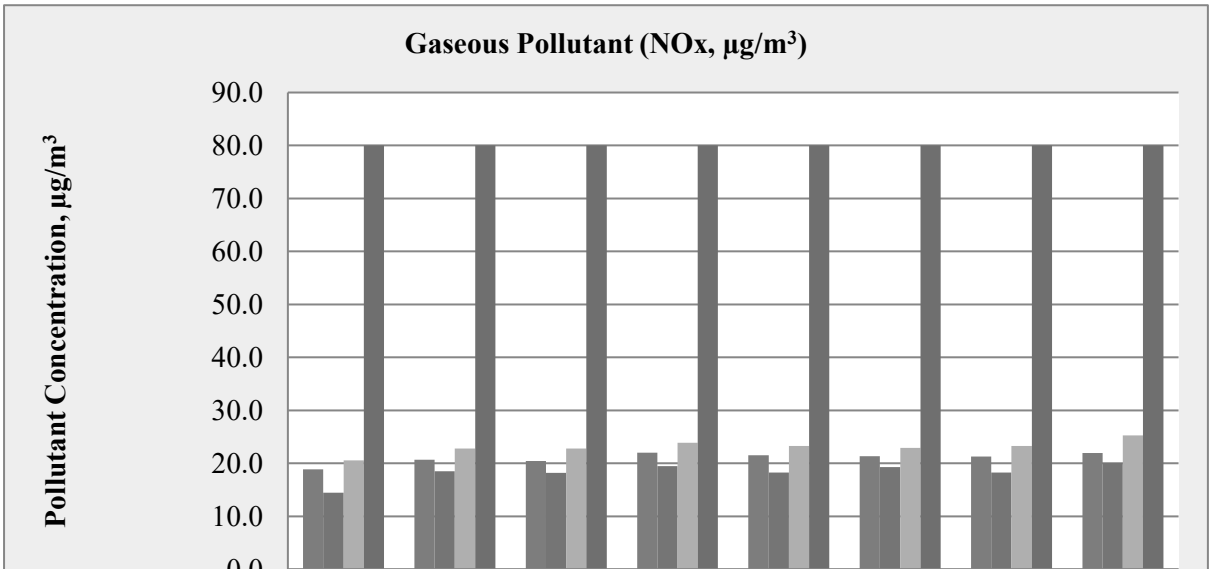


	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	43.8	43.7	43.6	43.8	42.9	43.3	42.9	41.3
Minimum	42.4	41.0	41.4	41.4	40.2	41.2	39.5	39.5
Maximum	45.8	45.6	45.8	45.8	45.8	45.8	45.8	0.0
NAAQ Norms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

FIGURE 3.18: BAR DIAGRAM OF PARTICULATE MATTER (SO_2& NO_2)



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	6.3	6.4	8.1	7.7	7.9	7.8	7.9	6.6
Minimum	5.2	5.2	7.1	6.4	6.4	6.8	6.4	5.2
Maximum	7.6	8.3	9.0	9.1	9.1	8.9	9.1	0.0
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Arithmetic Mean	18.9	20.7	20.5	22.0	21.5	21.4	21.3	22.0
Minimum	14.5	18.5	18.2	19.5	18.3	19.3	18.3	20.1
Maximum	20.6	22.8	22.8	23.9	23.3	22.9	23.3	25.3
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 39.5 µg/m^3 to 45.8 µg/m^3, $PM_{2.5}$ data ranges from 19.1 µg/m^3 to 24.3 µg/m^3, SO_2 ranges from 5.2 µg/m^3 to 9.1 µg/m^3 and NO_2 data ranges from 14.5 µg/m^3 to 23.9 µg/m^3. The concentration levels of the above criteria pollutants were observed to be well within the limits of NAAQS prescribed by CPCB.

3.3.7 FUGITIVE DUST EMISSION –

Fugitive dust was recorded at 8 AAQ monitoring stations for 30 days average during the study period.

Table 3.28 : AVERAGE FUGITIVE DUST SAMPLE VALUES IN µg/m^3

AAQ Locations	Avg SPM (µg/m^3)
AAQ 1	70.18
AAQ 2	65.30
AAQ 3	69.21
AAQ 4	69.38
AAQ 5	70.75
AAQ 6	70.01
AAQ 7	70.75
AAQ 8	68.36

Source: Onsite monitoring/ sampling by EHS 360 Labs Pvt Ltd Laboratories

FIGURE 3.19: LINE CHART OF TABLE 3.16

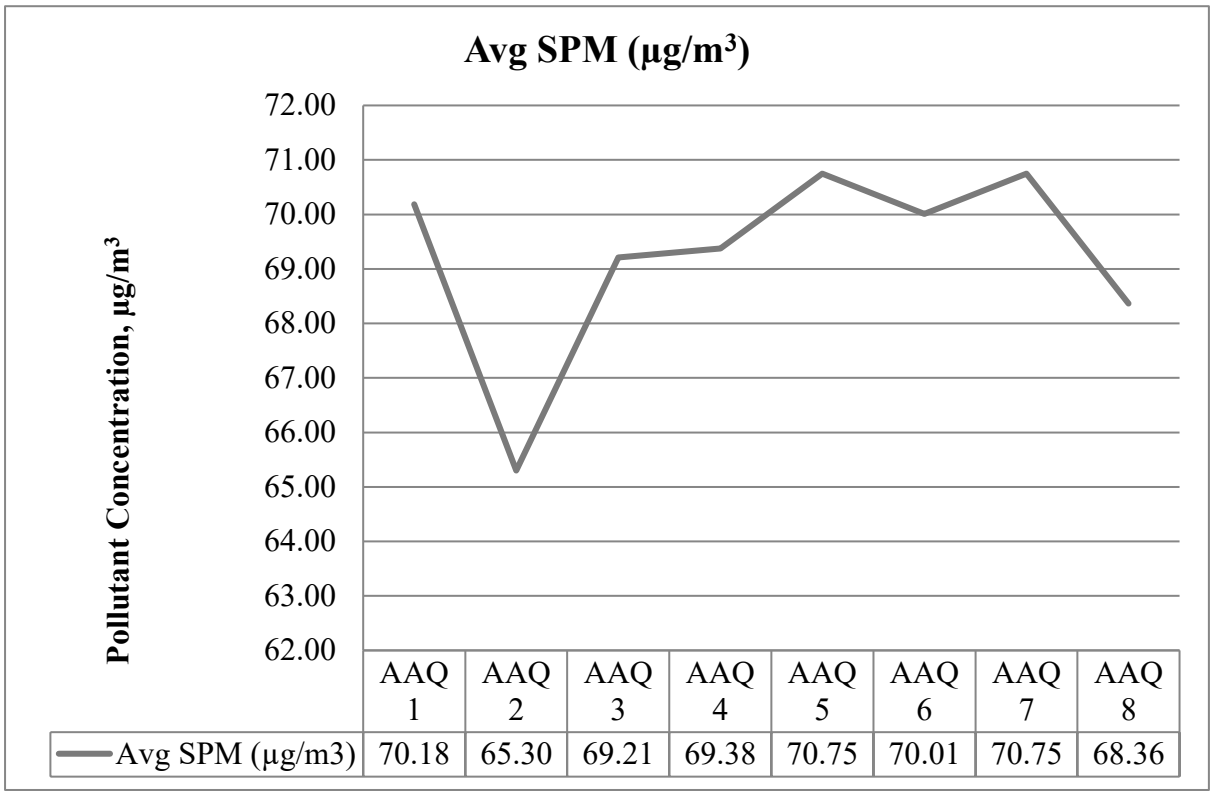
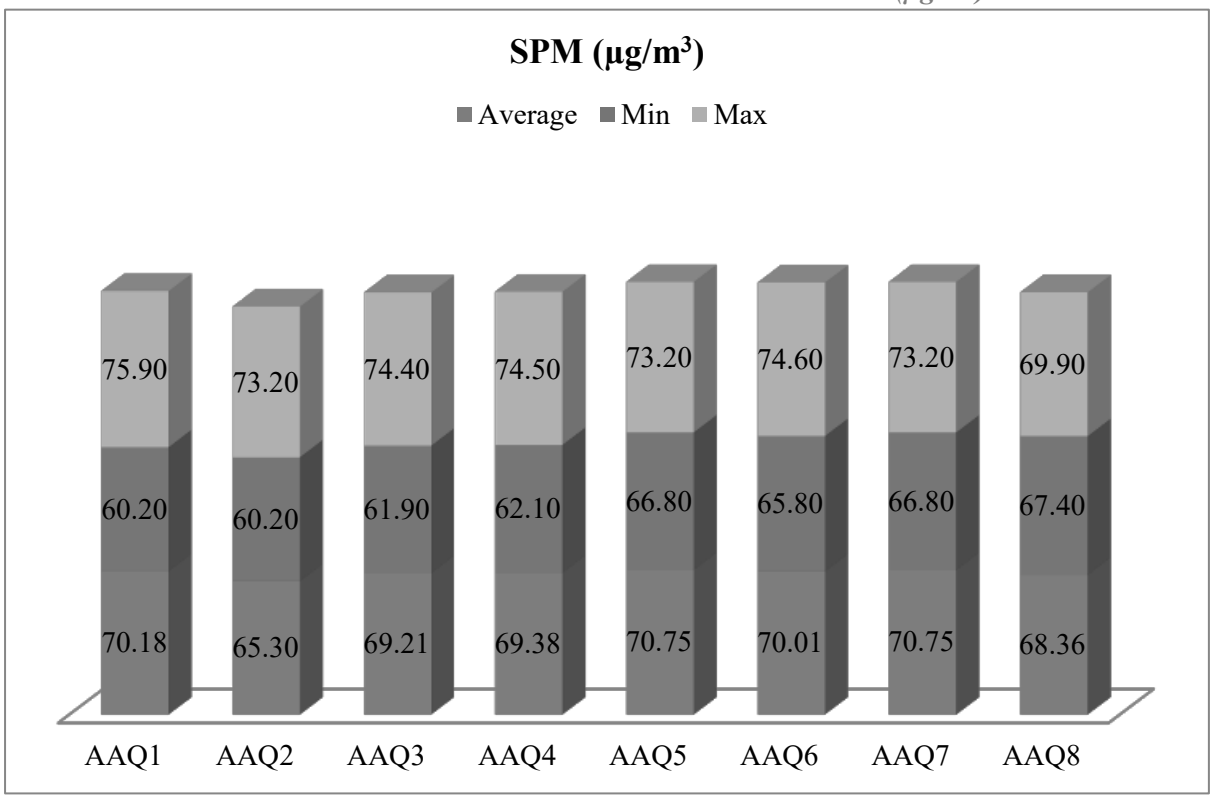


TABLE 3.29 : FUGITIVE DUST SAMPLE VALUES IN µg/m³

SPM (µg/m3)	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8
Average	70.18	65.30	69.21	69.38	70.75	70.01	70.75	68.36
Max	60.20	60.20	61.90	62.10	66.80	65.80	66.80	67.40
Min	75.90	73.20	74.40	74.50	73.20	74.60	73.20	69.90

FIGURE 3.20: FUGITIVE DUST SAMPLE VALUES (µg/m³)



3.5 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.

3.5.1 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 3.30: DETAILS OF NOISE MONITORING LOCATIONS

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	N-1	Core Zone	East side	12°03'08.90"N 77°48'37.81"E
2	N-2	Core Zone	West Side	12°03'16.77"N 77°48'21.32"E
3	N-3	Ajjanahalli	1.5km NE	12°03'25.41"N 77°49'31.67"E
4	N-4	Chinnappanallur	3.3km North	12°05'03.12"N 77°48'39.91"E
5	N-5	Koorkampatty	3.5km SW	12°01'25.11"N 77°48'00.43"E
6	N-6	Pudusampalli	5.2km South	12°00'17.89"N 77°48'28.03"E
7	N-7	Moongilmaduvu	2km SE	12°02'35.47"N 77°49'32.79"E
8	N-8	Sigaralahalli	1.5km West	12°03'19.63"N 77°47'28.41"E

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories in association with GEMS

3.5.2 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 Log L / TΣ (10Ln/10)

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

T = Time interval of observation

3.5.3 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 3.30

Day time: 6:00 hours to 22.00 hours.

Night time: 22:00 hours to 6.00 hours.

TABLE 3.31: AMBIENT NOISE QUALITY RESULT

S. No	Locations	Noise level (dB (A) Leq)		Ambient Noise Standards
		Day Time	Night Time	
1	Core Zone	45.0	36.8	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
2	Core Zone	42.5	37.9	
3	Ajjanahalli	42.0	36.3	**Residential**

4	Chinnappanallur	40.6	36.2	**Day Time– 55 dB (A)** **Night Time- 45 dB (A)**
5	Koorkampatty	42.5	37.7	
6	Pudusampalli	42.6	37.3	
7	Moongilmaduvu	38.4	35.2	
8	Sigaralahalli	40.2	36.8	

Source: On-site monitoring/sampling by EHS 360 Labs Pvt Ltd Laboratories in association with GEMS

FIGURE 3.21: DAY AND NIGHT TIME NOISE LEVELS IN CORE AND BUFFER

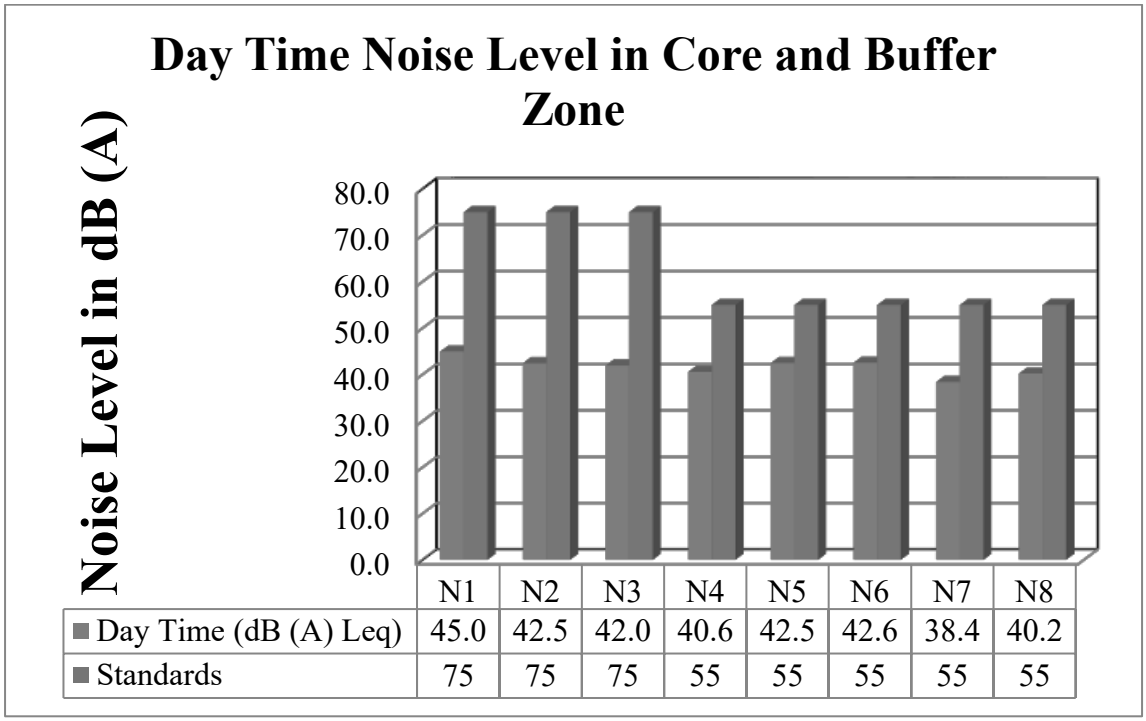


FIGURE 3.21A: NIGHT TIME NOISE LEVELS IN CORE AND BUFFER

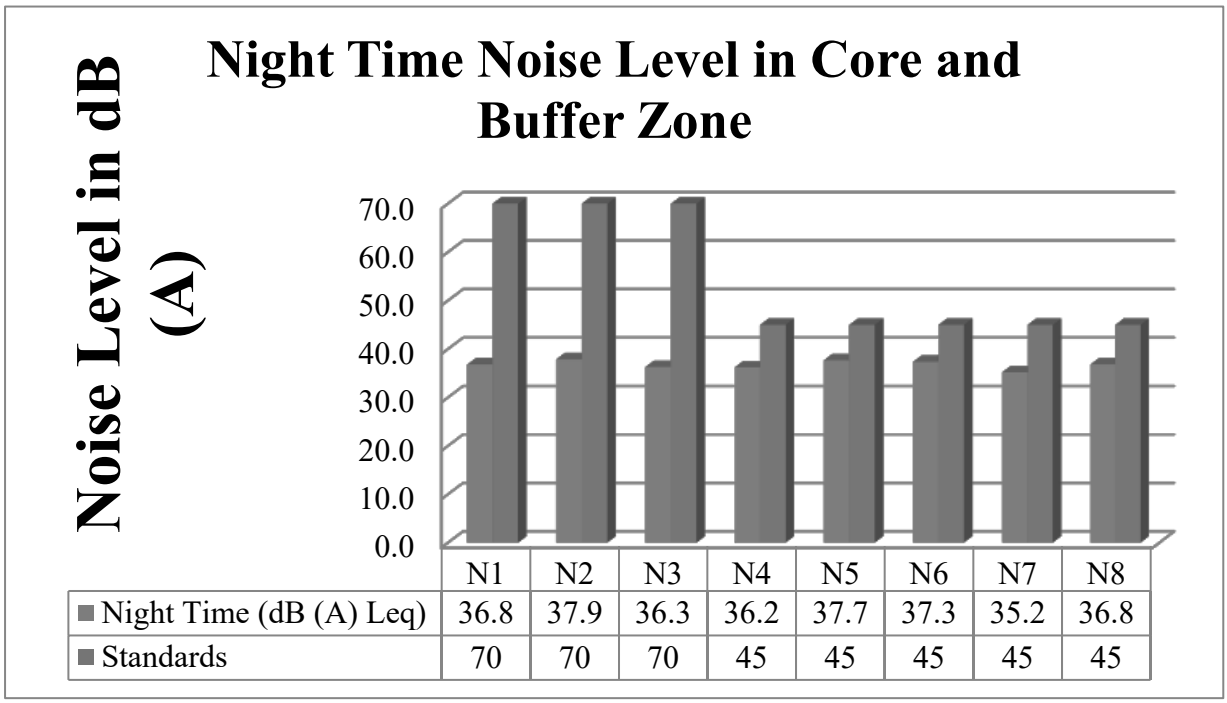
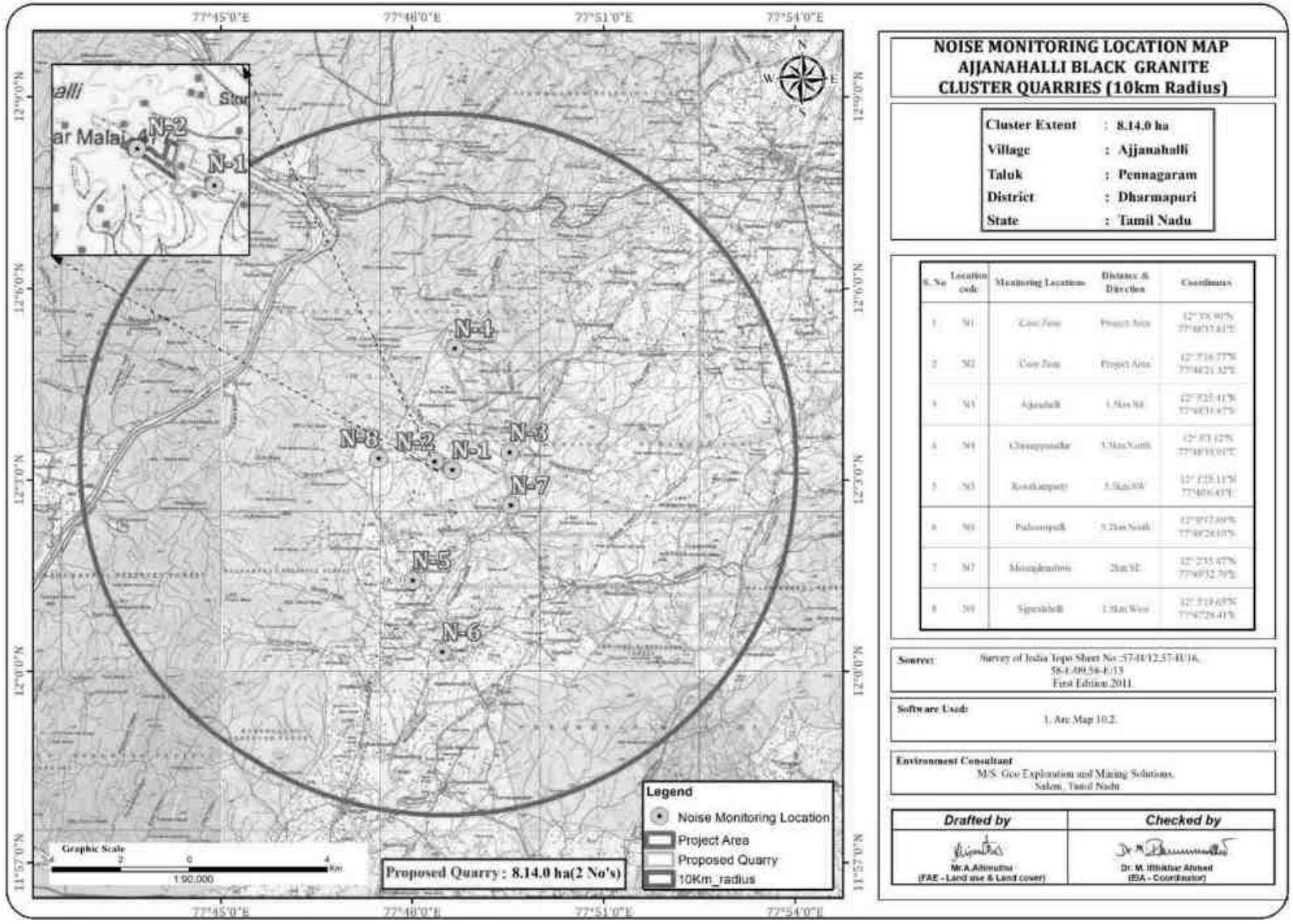


FIGURE 3.22: NOISE MONITORING STATIONS AROUND 10 KM RADIUS



3.5.4 Interpretation & Conclusion:

Ambient noise levels were measured at 8 (Eight) locations around the proposed project area. Noise levels recorded in core zone during day time were from 42.5 – 45.0 dB (A) Leq and during night time were from 36.8 – 37.9 dB (A) Leq. Noise levels recorded in buffer zone during day time were from 38.4 – 42.6 dB (A) Leq and during night time were from 35.2 – 37.7 dB (A) Leq.

3.6 ECOLOGICAL ENVIRONMENT

There is no Forest land, National Parks, Eco sensitive areas, Wild life sanctuaries within the radius of 10 km. An ecological survey of the study area was conducted particularly with reference to the listing of species and assessment of the existing baseline ecological (terrestrial) condition in the study area.

3.6.1 Methodology Adopted & Objective

To achieve the above objective, a detailed study of the area was undertaken in 10 km radius from the proposed project area. The different methods adopted were as follows:

- Primary field surveys to establish primary baseline of the study area; and
- Compilation of information available in published literatures and as obtained from Forest survey of India, Environmental Information Centre, Botanical Survey of India and Zoological Survey of India.
- The present report gives the review of published secondary data and the results of field sampling conducted during Winter Season i.e. December 2022 to February 2023 and there are no forest blocks in study area. The detailed ecological assessment of the study area has been carried out with the following objectives:
- Identification of flora and fauna within the study area;
- Preparation of checklist of species which also include endangered, endemic and protected (both floral and faunal categories); and Evaluation of impact of proposed expansion on flora and fauna of the area.

3.6.2.Study area Ecology

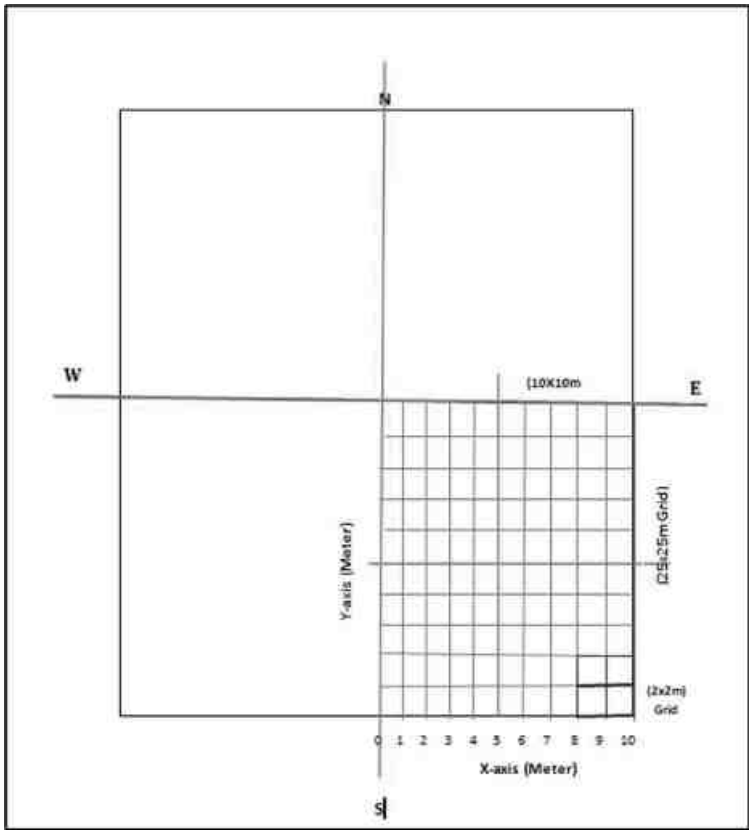
In this project, the total area of Cluster with in 10km radius from the periphery of this quarry is reported as 8.14.0 ha with 2 Nos of quarries. In such cluster situation a common Ecology and Biodiversity study for the entire cluster of quarries is enough to capture all the possible externalities. The common EIA/EMP data can be used for all quarries fall under this cluster. The Core mining area is dry land with scanty vegetation whereas in buffer zone agricultural land is dominated. The following methods were applied during the baseline study of flora, fauna and diversity assessment.

3.6.3. Objectives of Biological Studies

- Generation of primary data by undertaking systematic ecological studies in the area.
- Discussion with local people so as to elicit information about local plants, animals
- Generation of Primary Data.

To prepare a general checklist of all plants encountered in study area. This would indicate the biodiversity for wild and cultivated plants.

FIG NO: 3.23. A SCHEMATIC DIAGRAM SHOWS 10-KM RADIUS BUFFER AREA INTO 4 QUADRATES FOR FLORAL RANDOM SAMPLING (SE, SW, NE, AND NW)



3.6.4.Phyto-sociological Survey method

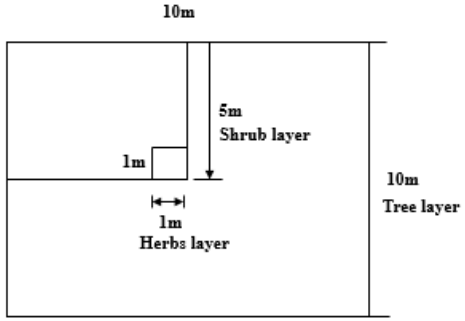
Phyto-sociological parameters, viz., Abundance, Density, Frequency (%) were measured. A total of 10 quadrats were laid down randomly within core area and 40 quadrats were laid down within four quartiles randomly (10/quartile) in buffer area. In core area 10 quadrats were laid randomly to enumerated trees, shrubs, and herbs as per the Following formulae used for calculating the frequency (%), abundance and density of the floral species encountered in the 10 quadrats studied.

3.6.5.Quadrats method

Quadrats of 25 × 25-m were laid down randomly within core and 5-km buffer area; each quadrat was laid to assess the trees (>5 cm GBH) and one, 10 × 10-m sub-quadrat nested within the quadrat for shrubs. The quadrats were laid randomly to cover the area to maximize the sampling efforts and minimize the species homogeneity, such as small stream area, trees in agricultural bunds, tank bunds, farm forestry plantations, wildlife areas, natural forest area, avenue plantations, house backyards, etc. In each quadrat individuals belonging to tree (25 × 25-m) and shrub (10 × 10-m) were recorded separately and have been identified on the field.quadrates sampling methods is given in Fig no.3.23.

3.6.6 Flora

The quadrat sampling technique was used for sampling vegetation. Sampling quadrats of 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.



Quadrat sampling plots

3.6.7. Flora in Buffer Zone

TABLE NO: 3.32. FLORA IN CORE AND BUFFER ZONE

SI.No	English Name	Vernacular Name	Scientific Name	Family Name
Trees				
1.	Neem or Indian lilac	Vembu maram	*Azadirachta indica*	Meliaceae
2.	Velvet mesquite	Mullu maram	*Prosopis juliflora*	Fabaceae
3.	Custard apple	Seethapazham	*Annona reticulata*	Annonaceae
4.	Malayan Cherry	Ten Pazham	*Muntingia calabura*	Muntingiaceae
5.	Bitter Albizia	Arappu Tree	*Albizia amara*	Fabaceae
6.	Blackboard tree	Aezhilai Paalai	*Alstonia scholaris*	Apocynaceae
Shrubs				
7.	West Indian Lantana	Unni chedi	*Lantana camara*	Verbenaceae
8.	Wild indigo	Kolinchi	*Tephrosia purpurea*	Fabaceae
9.	Avaram	Avarai	*Senna auriculata*	Fabaceae
10.	Night shade plan	Sundaika	*Solanum torvum*	Solanaceae
11.	Milk Weed	Erukku	*Calotropis gigantea*	Apocynaceae
Herbs				
12.	Mountain knotgrass	Sirukan Peelai	*Aerva lanata*	Amaranthaceae
13.	Touch-me-not	Thottalchinungi	*Mimosa pudica*	Mimosaceae

14.	Indian nettle	Nayuruvi	*Achyranthes aspera*	Amaranthaceae
15.	Coat buttons	Thatha poo	*Tridax procumbens*	Asteraceae
16.	Indian doab	Arugampul	*Cynodon dactylon*	Poaceae
17.	Holy basil	Thulasi	*Ocimum tenuiflorum*	Lamiaceae
18.	Common leucas	Thumbai	*Leucas aspera*	Lamiaceae
Climber				
19.	Stemmed vine	Perandai	*Cissus quadrangularis*	Vitaceae
Grasses				
20.	Eragrostis	Pullu	*Eragrostis ferruginea*	Poaceae
Cactus				
21.	Prickly pear	Nagathali	*Opuntia*	Cactaceae
22.	Triangular spruge	Chaturakalli	*Euphorbia antiquorum*	Euphorbiaceae

Flora species observation in the Core zone area

		
a. Annona reticulata	*b. Albizia amara*	*c. Azadirachta indica*
		
d. Cissus quadrangularis	*e. Lantana camara*	*f. Tephrosia*
		

g. Solanum pubescens	*h. Senna auriculata*	*i. Aerva lanata*
		
j. Muntingia calabura	*k. Alstonia scholaris*	

***E- Economical, M- Medicinal, EM- Both Economical and Medicinal, NE- Not evaluated**.*

Flora in Buffer Zone of M/s. PVI Trading Corporation, Ajjanahalli, Cluster area, Black granite quarry

SI.No	English Name	Vernacular Name	Scientific Name	Family Name	Resource use type *(E,M,EM)
Trees					
1.	Neem or Indian lilac	Vembu	*Azadirachta indica*	Meliaceae	M
2.	Frywood	Vaagai	*Albizia lebbeck (L.) Willd*	Mimosaceae	M
3.	Mango	Manga	*Mangifera indica*	Anacardiaceae	E
4.	Chinaberry	Malai vembu	*Melia azedarach L.*	Meliaceae	M
5.	Burflower-tree	Kadamba	*Neolamarckiacadamba*	Rubiaceae	E
6.	Wild Date Palm	Icham	*Phoenix sylvestris*	Arecaceae	M
7.	Chinaberry	Malai vembu	*Melia azedarach L*	Meliaceae	M
8.	Velvet mesquite	Mullu maram	*Prosopis juliflora*	Fabaceae	M
9.	Madras thorn	Kudukapuli	*Pithecellobium dulce*	Fabaceae	EM
10.	Sacred Tree	Porasu	*Butea monosperma*	Fabaceae	E
11.	Monkey pod tree	Thungumoonchi	*Samanea saman*	Fabaceae	E
12.	Portia tree	Poovarasan	*Thespesia Populnea*	Malvaceae	E
13.	Golden shower	Sarakkondrai	*Cassia fistula L.*	Caesalpiniaceae	E

14.	Jack fruit	Bala maram	*Artocarpusintegrifolia*	Moraceae	E
15.	Lemon	Ezhumuchaipalam	*Citrus lemon*	Rutaceae	EM
16.	Jamun Fruit Plant	Naval maram	*Syzygium cumini*	Myrtaceae	EM
17.	Gum arabic tree	Karuvelam	*Vachellia nilotica*	Fabaceae	E
18.	Gulmohar	Neruppu Kondrai	*Royal poinciana*	Fabaceae	EM
19.	Chinese chaste tree	Nochi	*Vitex negundo*	Verbenaceae	E
20.	Indian coral tree	Kalyana Murungai	*Erythrina variegata L.*	Fabaceae	M
21.	Asian Palmyra palm	Panai maram	*Borassus flabellifer*	Arecaceae	E
22.	Curry tree Plant	Karuveppilai	*Murraya koenigii*	Rutaceae	M
23.	Bamboo	Moongil	*Bambusoideae*	Poaceae	E
24.	Teak	Thekku	*Tectona grandis*	Verbenaceae	E
25.	Indian mulberry	Nuna maram	*Morinda tinctoria*	Rubiaceae	E
26.	Coconut	Thennai maram	*Cocos nucifera*	Arecaceae	EM
27.	Horsetail She-oak	Savukku maram	*Casuarina equisetifolia*	Casuarinaceae	E
28.	Indian-almond	Inguti	*Terminalia catappa*	Combretaceae	EM
29.	Eucalyptus	Thailam maram	*Eucalyptus tereticornis*	Myrtaceae	M
30.	Yellow flame tree	Perunkondrai	*Peltophorum pterocarpum*	Fabaceae	E
31.	Pongamia pinnata	Pongam	*Millettia pinnata*	Fabaceae	M
32.	Agati	Agathi keerai	*Sesbania grandiflora*	Fabaceae	EM
33.	Banyan tree	Alamaram	*Ficus benghalensis*	Moraceae	E
34.	Indian gooseberry	Nelli	*Phyllanthus emblica*	Phyllanthaceae	EM
35.	Guava	Koyya	*Psidium guajava*	Myrtaceae	EM
36.	Tamarind	Puliyamaram	*Tamarindus indica*	Legumes	EM
37.	Drumstick tree	Murunga maram	*Moringa oleifera*	Moringaceae	EM
38.	Henna	Marudaani	*Lawsonia inermis*	Lythraceae	EM
39.	Papaya	Pappali maram	*Carica papaya L*	Caricaceae	EM
40.	Banana tree	Vazhaimaram	*Musa acuminata*	Musaceae	EM
41.	Jack fruit	Palamaram	*Artocarpus heterophyllus*	Moraceae	E
42.	Custard apple	Seethapazham	*Annona reticulata*	Annonaceae	E
43.	Manilkara zapota	Sapota	*Manilkara zapota*	Sapotaceae	E
44.	java olive tree	Kutiraippitukku	*Sterculia foetida*	Malvaceae	E
45.	Malayan Cherry	Ten Pazham	*Muntingia calabura*	Muntingiaceae	M
Shrubs					
1.	Broom creeper	Kattukodi	*Cocculus hirsutus*	Menispermaceae	M

2.	Solanum pubescens	Malaisundai	*Solanum pubescens Willd*	Solanaceae	M
3.	Devil's trumpet	Umathai	*Datura metel*	Solanaceae	EM
4.	Avaram	Avarai	*Senna auriculata*	Fabaceae	M
5.	Castor bean	Amanakku	*Ricinus communis*	Euphorbiaceae	M
6.	Jungle geranium	Idly Poo	*Ixora coccinea*	Rubiaceae	M
7.	Shoe flower	Chemparuthi	*Hibiscu rosa-sinensis*	Malvaceae	EM
8.	Milk Weed	Erukku	*Calotropis gigantea*	Apocynaceae	M
9.	Malabar nut	Adathodai	*Justicia adhatoda L*	Acanthaceae	M
10.	Puriging nut	Kattamanakku	*Jatropha curcas*	Euphorbiaceae	EM
11.	Malabar catmint	Pei veratti	*Anisomeles malabarica*	Lamiaceae	M
12.	Touch-me-not	Thottalchinungi	*Mimosa pudica*	Mimosaceae	M
13.	Black-Honey	Inki pazham	*Phyllanthus reticulatus*	Euphorbiaceae	M
14.	Indian mallow	Thuthi	*Abutilon indicum*	Meliaceae	M
15.	Night shade plan	Sundaika	*Solanum torvum*	Solanaceae	EM
16.	Rosary pea	Kundumani	*Abrus precatorius*	Fabaceae	M
17.	Indian Oleander	Arali	*Nerium indicum*	Apocynaceae	M
18.	West Indian Lantana	Unni chedi	*Lantana camara*	Verbenaceae	E
Herbs					
1.	Chamber bitter	Malai Kizhanelli	*Phyllanthus urinaria L.*	Euphorbiaceae	M
2.	Carrot grass	Parttiniyam	*Parthenium hysterophorus*	Asteraceae	NE
3.	Punarnava	Mookarattai	*Boerhavia diffusa L.*	Nyctaginaceae	EN
4.	Billygoat weed	Pumpillu	*Ageratum conyzoides*	Asteraceae	M
5.	Aloe barbadensis	Katrazhai	*Aloe vera*	Asphodelaceae	EM
6.	Madagascar Periwinkle	Nithyakalyani	*Catharanthus roseus*	Apocynaceae	M
7.	Thorn apple	Seemai Oomatthai	*Datura stramonium L*	Solanaceae	M
8.	Indian Mercury	Kuppamani	*Acalypha indica*	Euphorbiaceae	EM
9.	Indian nettle	Nayuruvi	*Achyranthes aspera*	Amaranthaceae	M
10.	Bui	Ciru-pulai	*Aervalanata*	Amaranthaceae	M
11.	Indian doab	Arugampul	*Cynodon dactylon*	Poaceae	E
12.	Large Caltrops	Yanai nerunji	*Pedalium murex L.*	Pedaliaceae	E
13.	Cleome viscosa	Nai kadugu	*Celome viscosa*	Capparidaceae	M
14.	Common leucas	Thumbai	*Leucas aspera*	Lamiaceae	M
15.	Asthma-plant	Amman pacharisi	*Euphorbia hirta*	Euphorbiaceae	M

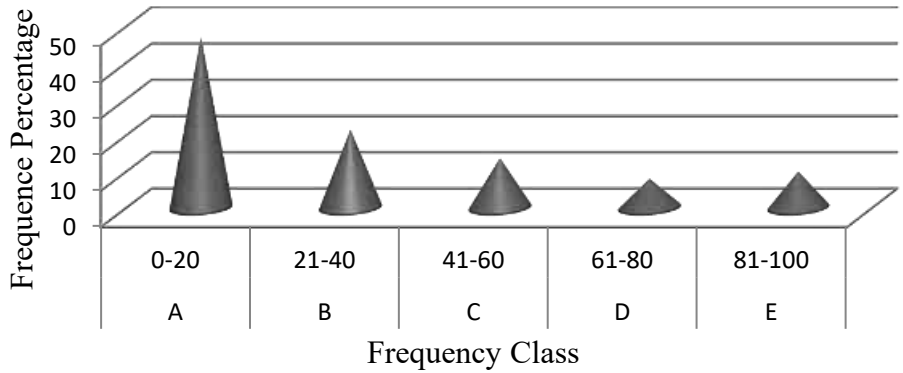
16.	Poor land flatsedg	Kunnakora	*Cyperus compressus*	Cyperaceae	NE
17.	Holy basil	Thulasi	*Ocimum tenuiflorum*	Lamiaceae	M
18.	Red Hogweed	Mukurattai	*Boerhavia diffusa*	Nyctaginaceae	M
19.	Tridax daisy	Thatha poo	*Tridax procumbens*	Asteraceae	M
20.	Gale of the wind	Keelaneeli	*Phyllanthus niruri*	Phyllanthaceae	EM
21.	Eggplant	kathirikai	*Solanum melongena*	Solanaceae	M
22.	European black nightshade	Manathakkali	*Solanumnigrum*	Solanaceae	EM
Climber					
1.	Ivy gourd	Kovai	*Coccinia grandis*	Cucurbitaceae	M
2.	Bitter apple	Peikkumatti	*Citrullus colocynthis*	Cucurbitaceae	M
3.	Butterfly pea	Sangu poo	*Clitoria ternatea*	Fabaceae	M
4.	Wild water lemon	Poonai puduku chedi	*Passiflora foetida*	Passifloraceae	M
5.	Stemmed vine	Perandai	*Cissus quadrangularis*	Vitaceae	M
6.	Bottle Guard	Sorakkai	*Lagenaria siceraria*	Cucurbitaceae	EM
Creeper					
1.	Nut grass	Korai	*Cyperus rotandus*	Poaceae	M
2.	Cucumis maderaspatanus	Musumusukkai	*Mukia maderaspatana*	Cucurbitaceae	M
3.	Grona triflora	Siru puladi	*Desmodium triflorum*	Fabaceae	EM
Grass					
1.	Eragrostis	Pullu	*Eragrostis ferruginea*	Poaceae	E
2.	Windmill grass	Chevvarakupul	*Chloris barbata*	Amaranthaceae	NE
Cactus					
1.	Indian fig opuntia	Sapathikalli	*Opuntia ficus-indica*	Cactaceae	M

. List of medicinal plants recorded from the nearby forest area

S.No	Botanical Name	Family	Local name(s)	Habit	Part(s) used	Uses
1.	Abrus precatorius L.	Fabaceae	Kundumani	***CL***	Leaves, Seeds	Skin diseases, Eye disease and tooth ache.
2.	Abutilon indicum (L.) Swee	Malvaceae	Thuthi	S	Seed, Root, Barks and Leaves	Urinary troubles, Nervous disorders, Leprosy and Leucorrhoea

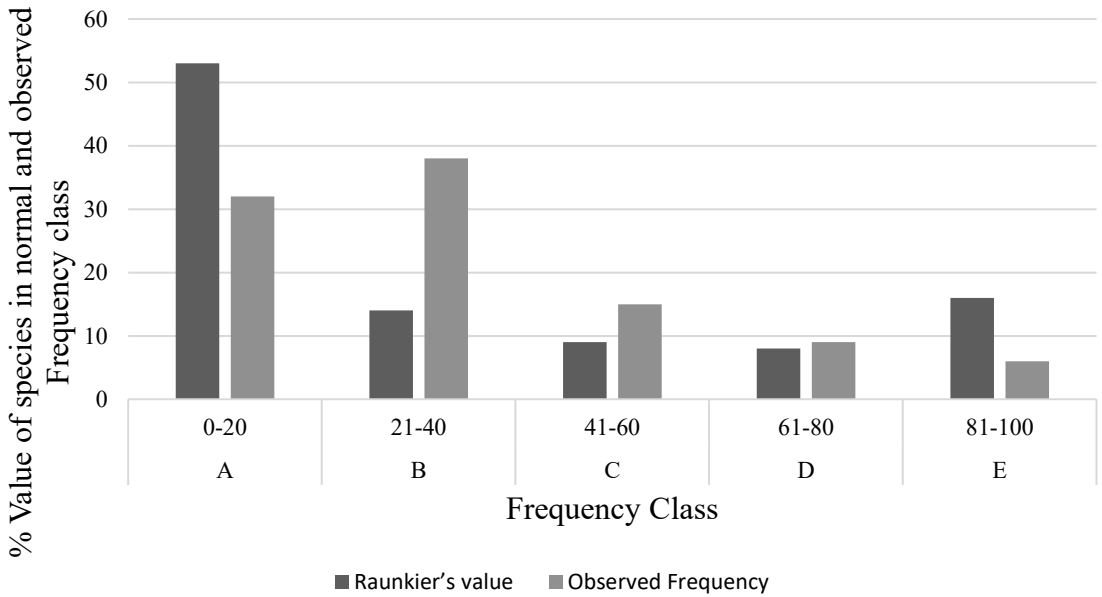
3.	Acacia catechu (L.f.) Willd	Mimosaceae	Karungaali	T	Wood	Skin diseases, mouth ulcer, dysentery and Leprosy.
4.	Acacia nilotica (L.) Willd. ex Del. subsp. indica (Benth) Brenan	Mimosaceae	Karuvelam	T	Bark, heartwood, Leaves, Seeds and gum	Urino-genital diseases, wounds, haemorrhage, ulcers, cough and tooth ache.
5.	Acalypha indica L	Euphorbiaceae	Kuppaimeni	H	Whole plant	Eczema, skin diseases, cough and bronchitis, Wounds and ulcer
6.	Achyranthes aspera L	Amaranthaceae	Nayurivi	H	Whole plant	Diuretic, astringent, skin diseases and piles
7.	Albizia lebbeck (L.) Willd	Mimosaceae	Vaagai	T	Seeds, Leaves, Bark, Flowers and Pod	Eczema,Ulcer, rheumatism, leprosy
8.	Aloe vera (L.) Burm.f.	Asphodelaceae	Chotthukathazhai	H	Leaf juice	Dysentry, leucorrhoea, amenorrhoea, menstrual problems, intestinal worms and skin tonics
9.	Azadirachta indica A. Juss	Meliaceae	Vaembu	T	Bark, Leaves, Flower, Seeds and Oil	Antiviral, anthelmintic, insecticide, antiseptic, skin diseases, small pox and clean teeth.
10.	Calotropis gigantea (L.) R.Br	Asclepiadaceae	Erukku	S	Whole plant	Anthelmintic, skin diseases, leprosy, snake bite, ulcers, piles, cough and asthma
11.	Cissus quadrangularis L.	Vitaceae	Pirandai	CL	Stem	Rheumatoid arthritis, appetizer, bone fracture and nervine tonic.
12.	Ormocarpum cochinchinense (Lour.) Merr.	Fabaceae	Elumbotti	S	Bark	Fever, rheumatism and bone setting.
13.	Phyllanthus urinaria L	Euphorbiaceae	Malai Kizhanelli	H	Whole plant	Jaundice, gonorrhea, urinary diseases, indigestion, bleeding piles and menstrual problems.

Fig No: 3.3.Frequency class of vegetation



Frequency class	Class value	Raunkier's value	Frequency class of vegetation
A	0-20	53	32%
B	21-40	14	38%
C	41-60	9	15%
D	61-80	8	9%
E	81-100	16	6%

Fig No: 3.4. Comparison of Raunkiaer's Law of frequency (Normal) with observed frequency



3.6.8 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 core area.

3.6.8.1. Fauna methodology

The study of fauna takes substantial amount of time to understand the specific faunal characteristics of the area. The assessment of fauna has been done on the bases of primary data collected from the lease sites. The presence was also confirmed from the local inhabitants depending on the animal sightings and the frequency of their visits in the project area. In addition officials, local peoples were another source of information for studying the fauna of the area. Field activities are physical/active search, covering rocks, burrows, hollow inspection and location of nesting sites and habitat assessment etc. Taxonomical identification was done by the field guide book and wildlife envis data base (wiienvis.nic.in/Database/Schedule Species Database) and Zoological Survey of India (ZSI). Detailed faunas are mentioned in the Table No. 3.6 and 3.7.

a) Survey and Monitoring of Mammals

Intensive survey has been done by line transect methods (Walking and in vehicle) for all major habitats for surveying of mammals by direct and indirect evidence. Indirect methods such as faecal matter (i.e., scat) and pug mark by establishing 10 × 100-m linear transects depending on the habitat (i.e., existing wildlife game routes/forest trails used).

Direct observation technique has been used for surveying large and medium sized mammals. But this technique is perfectly suitable for surveying of diurnal mammals; however, good photographs were also taken for species identification.

b) Survey and Monitoring of Birds

Birds are sampled by using point count methods, and opportunistic bird sightings. By this bird vocal sounds and photographs, the species were identified in consultation with village local people.

Point count: in these methods, the observer will stand in a randomly chosen point and birds seen or heard in 50m radius are recorded for 5-min. this observation is repeated in another point at least 30m from the first point. We have enumerated 20 point – counts in each quartile, which constitute a total of 80 points-count (20 x 4) within 10 km radius area.

Opportunistic bird sightings: while traveling in study area, many bird species will be detected in survey time. Such species are recoded by their appearance or by their call.

c) Survey and Monitoring of reptiles

Several survey techniques such as standard walk transect visual encounter survey methods were used to sampling reptiles in each and every habitat of the study area. While doing this survey, photographs were taken for identification of species. Species identification was done by using standard field guides in consultation with village people expert.

The **butterfly** was enumerated by 2 linear transects of 10 × 100 m were laid within each quartile at minimum interval of 1 km. Further, **amphibians and fishes** documented in existing literature and secondary information in consultation with local people and wildlife experts.

3.6.8.2. Fauna in Core Zone

A total of 24 varieties of species were observed in the Core zone of Ajjanahalli Village, Black granite quarry (Table No.3.4) among them numbers of Insects 7, Reptiles 3, Mammals 2, and Avian 12. A total of 24 species belonging to 22 families have been recorded from the core

mining lease area. None of these species are threatened or endemic in the study area and surroundings. There is no Schedule I species and nine species are under schedule IV according to the Indian wildlife Act 1972. A total of 12 species of bird were sighted in the mining lease area. There are no critically endangered, endangered, vulnerable, and endemic species were observed.

TABLE NO: 3.33. FAUNA DIVERSITY IN CORE AREA

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
Insects					
1.	Dragonfly	Anisoptera	*Agriansp*	-	-
2.	Colotis danae	Pieridae	*Colotis danae*	NL	LC
3.	House fly	Muscidae	*Musca domestica*	-	-
4.	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
5.	Common Tiger	Nymphalidae	*Danaus genutia*	NL	NL
6.	Honey Bee	Apidae	*Apisindica*	-	-
7.	Termite	Blattodea	*Hamitermes silvestri*	NE	LC
Reptiles					
1.	Garden lizard	Agamidae	*Calotes versicolor*	NL	LC
2.	Common skink	Scincidae	*Mabuya carinatus*	NL	LC
3.	Green vine snake	Colubridae	*Ahaetulla nasuta*	Schedule IV	NL
Mammals					
1.	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	NL
2.	Asian Small Mongoose	Herpestidae	*Herpestes javanicus*	Schedule (Part II)	LC
Aves					
1.	Common myna	Sturnidae	*Acridotheres tristis*	NL	LC
2.	Shikra	Laniidae	*Laniusexcubitor*	Schedule IV	LC
3.	House crow	Corvidae	*Corvussplendens*	NL	LC
4.	Sunbird	Nectariniidae	*Cinnyrisasiaticus*	Schedule IV	LC
5.	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
6.	Rose-ringed parkeet	Psittaculidae	*Psittacula krameri*	NL	LC
7.	Common quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
8.	Black drongo	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
9.	Cattle egret	Ardeidae	*Bubulcus ibis*	NE	LC
10.	Rock pigeon	Columba livi	*Columbidae*	Schedule IV	LC
11.	Indian Robin	Turdinae	*Saxicoloides fulicata*	Schedule IV	LC
12.	Pond-Heron	Ardeidae	*Ardeo labacchus*	Schedule IV	LC

NL- Not listed, LC- Least Concern

3.6.9. Fauna in Buffer Zone

As the 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. Though there are no reserved forest in the buffer zone. 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 Reserve or Elephant Corridor or other protected areas within 10 km radius from 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, green bee eaters, Indian blue robin, Common Mynas, Black drangos, Crows, Grey Francolin, Woodpecker bird etc.

The list of bird species recorded during field survey and literature from the study area is given in Table 3.5. The list of reptilian species recorded during field survey and literature from the study area are given in Table 3.6. The list of insect species recorded during field survey and literature from the study area are given in Table 3.7. The list of Amphibian species recorded during the field survey and literature from the study area are given in Table 3.8. 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 56 species belonging to 40 families have been recorded from the buffer zone area. Based on habitat classification the majority of species were Insects 5, followed by birds 25, Reptiles 8, Mammals 5, amphibians 3, and Butterflies 10. There are six Schedule II species, and twenty species are under schedule IV according to the Indian wildlife Act 1972. A total of 25 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 and insects, and four amphibian was observed during the extensive field visit Sphaerotheca breviceps, Euphlyctis hexadactylus, Bufomelanostictus, There is no schedule I Species in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed.

TABLE NO: 3.34. FAUNAL DIVERSITY IN BUFFER AREA

List of Fauna & Their Conservation Status,
Mammals: (*directly sighted animals & Secondary data)

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
1.	Indian palm squirrel	Sciuridae	*Funambulus palmarum*	Schedule IV	LC
2.	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	LC
3.	Asian Small Mongoose	Herpestidae	*Herpestes javanicus*	Schedule (Part II)	LC
4.	Indian hare	Leporidae	*Lepus nigricollis*	Schedule (Part II)	LC
5.	Brown rat	Muridae	*Rattus norwegicus*	Schedule IV	LC

Listed birds

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
1.	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
2.	Black-headed Munia	Estrildidae	*Lonchuramalacca*	Schedule IV	LC
3.	Cattle egret	Ardeidae	*Bubulcus ibis*	NL	LC
4.	Indian Roller	Coraciidae	*Coracias benghalensis*	Schedule IV	LC
5.	Rock pigeon	Columba livi	*Columbidae*	Schedule IV	LC
6.	Indian Robin	Turdinae	*Saxicoloides fulicata*	Schedule IV	LC
7.	Pond-Heron	Ardeidae	*Ardeo labacchus*	Schedule IV	LC
8.	Common myna	Sturnidae	*Acridotheres tristis*	NL	LC
9.	House crow	Corvidae	*Corvussplendens*	NL	LC
10.	Cattle Egret	Ardeidae	*Bubulcus ibis*	-	-
11.	Sunbird	Nectariniidae	*Nectariniidae*	NL	LC
12.	Indian blue robin	Larvivorabrunnea	*Muscicapidae*	Schedule IV	LC
13.	Asian green bee-eater	Meropidae	*Meropsorientalis*	NL	LC
14.	Hoopoe	Upupidae	*Upupaepops*	Schedule IV	LC
15.	Small blue Kingfisher	Alcedinidae	*Alcedo atthis*	Schedule IV	LC
16.	Rose-ringed parkeet	Psittaculidae	*Psittacula krameri*	NL	LC
17.	White Breasted king fisher	Alcedinidae	*Halcyon smyrnensis*	Schedule IV	LC
18.	Red-vented Bulbul	Pycnonotidae	*Pycnonotus cafer*	Schedule IV	LC
19.	Common quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
20.	Cuckoo	Cuculidae	Cuculuscanorus	Schedule IV	LC
21.	Black drongo	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
22.	Woodpecker bird	Picidae	*Picidae*	Schedule IV	LC
23.	Two-tailed Sparrow	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
24.	Grey Francolin	Phasianidae	*Francolinus pondicerianus*	Schedule IV	LC
25.	House Sparrow	Passerinae	*Passer domesticus*	Schedule IV	LC

List of Reptiles either spotted or reported from the study area.

(*indicates direct observations & Secondary data)

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
1.	Oriental garden lizard	Agamidae	*Calotes versicolor*	NL	LC
2.	House lizards	Gekkonidae	*Hemidactylus flaviviridis*	Schedule IV	NL
3.	Indian cobra	Elapid snakes	*Naja naja*	Sch II (Part II)	LC
4.	Green vine snake	Colubridae	*Ahaetulla nasuta*	Schedule IV	NL
5.	Rat snake	Colubridae	*Ptyas mucosa*	Sch IV (Part II)	LC
6.	Common krait	Elapid snakes	*Bungarus caeruleus*	Schedule IV	NL
7.	Common skink	Scincidae	*Mabuya carinatus*	NL	LC
8.	Russell's viper	Viperidae	*Vipera russseli*	Sch II (Part II)	LC

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
1.	Indian honey bee	Apidae	*Apis cerana*	-	-
2.	Termite	Blattodea	*Hamitermes silvestri*	NE	LC
3.	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
4.	Ant	Formicidae	*Camponotus Vicinus*	NL	NL
5.	Dragonfly	Gomphidae	*Ceratogomphus pictus*	-	-

List of insects either spotted or reported from the study area

List of Butterflies reported from the study area

SI. No	Common Name/English Name	Scientific Name	Schedule
1.	Common Indian crow	*Euploea core*	-
2.	Common jay	*Graphiumdoson*	-
3.	Common rose	*Pachlioptaaristolochiaee*	-
4.	Common emigrant	*Catopsiliapomona*	-
5.	Common Tiger	*Danaus genutia*	-
6.	Milkweed butterfly	*Danainae*	-
7.	Crimson tip	*Colotisdanae*	-
8.	Spotless grass yellow	*Euremalaeta*	-
9.	Striped tiger	*Danaus plexippus*	-
10.	Indian palm bob	*Suastusgremius*	-

List of Amphibians either spotted or reported from the study area

SI. No	Common Name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
1.	Indian Burrowing frog	Dicroglossidae	*Sphaerotheca breviceps*	Schedule IV	LC
2.	Green pond frog	Dicroglossidae	*Euphlyctis hexadactylus*	Schedule IV	LC
3.	Indian Toad	Bufonidae	*Bufomelanostictus*	Schedule IV	LC

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

3.6.10 Interpretation

The result of core & Buffer zone of fauna studies shows. There is no schedule I & II Species in study area. A detail of fauna diversity of family's pattern is given in Fig No.3.27. There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of faunal diversity in buffer zone are given in Table No.3.33.

3.7 SOCIO ECONOMIC ENVIRONMENT

The major developmental activities in mining /Industrial sector are required for economic development as well as creation of employment opportunities (direct and indirect) and to meet the basic/modern needs of the society, which ultimately results in overall improvement of the quality of life through upliftment of social, economic, health, education and nutritional status in the project region, state as well as the country. In this manner all developmental projects have direct as well as indirect relationships with socioeconomic aspects, which also include public acceptability for new developmental projects. Thus, the study of socioeconomic component incorporating various facets related to prevailing social and cultural conditions and economic status of the Black granite (Dolerite) quarry project region is an important part of EIA study. The study of these parameters helps in identification, prediction and evaluation of the likely impacts on the socio economics and parameters of human interest due to the project.

3.7.1 Objectives of the Study

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

a) To study the socio-economic status of the people living in the study area of the project.

b) To identify the basic needs of the nearby villages within the study area.

c) To assess the impact on socio-economic environment due to the project.

d) To provide the employment and improved living standards.

e) To study the socio-economic status of the people living in the study area Black granite (Dolerite) quarry project region

f) To assess the impact on socio-economic environment due to Black granite (Dolerite) quarry project region

g) To analysis of impact of socio economic and Environmental Infrastructure facilities and road accessibility.

3.7.2 Scope of Work

- To study the Socio-economic Environment of area from the secondary sources
- Data Collection and Analysis
- Identification of impacts due to the mining projects
- Mitigation Measures

3.7.3 Methodology

The methodology adopted for the socio-economic impact assessment is as follows:

a) The details of the activities and population structure have been obtained from Census 2001 and 2011 and analyzed.

b) Based on the above data, impacts due to plant operation on the community have been assessed and recommendations for further improvement have been made.

3.7.4 Sources of Information and Data Base

To achieve the above objectives, the information has been collected from both primary and secondary sources. Both primary data and secondary data have been analyzed by means of suitable statistical techniques for the purpose of verifying the above selected hypotheses concerned with the surrounding area.

3.7.5 Primary Survey

The primary data collection includes the collection of data through a structured interview schedule by direct observation method. The questionnaire survey includes both open and closed methods. The sample size is limited respondents, who were selected on the basis of simple random sampling from Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State, in the field survey has been divided into three major segments namely Primary Zone (0 - 3 km), Secondary Zone (3 - 7 km) and tertiary Zone (7 - 10 km).

The questionnaires were designed to suit the subjects considering their rural background enabling to furnish correct information and data as far as possible. Data were collected at village level and 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).

3.7.6 Collection of Data from Secondary Sources

Data from secondary sources were collected on following aspects:

- Demographic profile of the area
- Economic profile of the area

Table 3.7.1 Type of Information and Sources

Information	Source
Demography	District Census Handbook, Govt. of India
Economic profile of the area	Census of India, Tamil Nadu State

b) Data Presentation 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.

3.8 Background Information of the Area

Tamil Nadu is the 11th largest states in India in terms of area. The state is the seventh most populous state in the country and its main language Tamil has origins that date back to 500 BC. Chennai is the capital of Tamil Nadu and lies on the eastern coast line of India. Tamil Nadu is famous for its wonderful temples and monuments that have been built 1000s of years ago and has places that have been marked as heritage sites by the United Nations. In a 180 degree paradigm shift, this state with a rich historical importance is also one of the fastest developing centre for technology and trade.

The State can be divided broadly into two natural divisions (a) the Coastal plains of South India and (b) the hilly western area. Parallel to the coast and gradually rising from it is the broad strip of plain country. It can further be subdivided into coromandal plains comprising the districts of Kancheepuram, Dharmapuri, Cuddalore and Vellore. The alluvial plains of the Cauvery Delta extending over Thanjavur and part of Tiruchirapally districts and dry southern plains in Madurai, Dindigul, Ramanathapuram, Sivaganga, Virudhnagar, Tirunelveli and Tuticorin districts. It extends a little beyond Western Ghats in Kanyakumari District. The Cauvery Delta presents some extremely distinctive physical and human features, its power being a main factor in the remarkable growth, the towns of Tamilnadu have witnessed.

3.9 Geography of the Area

Tamil Nadu is one of the 28 states of India, located in the southernmost part of the country. It extends from 8°4'N to 13°35'N latitudes and from 76°18'E to 80°20'E longitudes. Its extremities are

• in eastern - Point Calimere

• in western - hills of Anaimalai

• in northern - Pulicat lake

• in southern - Cape Comorin

It covers an area of 1,30,058 sq.km and 11th largest state in India. It covers 4% of the area of our country. Tamil Nadu is bounded by the Bay of Bengal in the east, Kerala in the west, Andhra Pradesh in the north, Tamil Nadu in the northwest and Indian Ocean in the south. Gulf of Mannar and Palk Strait separate Tamil Nadu from the Island of Sri Lanka, which lies to the southeast of India.

Already we have learnt that the state of Tamil Nadu had only 13 districts at the time of its formation. After that, the state was reorganised several times for the administrative convenience. At present there are 37 districts in Tamil Nadu, including the newly created districts such as Kallakurichi, Tenkasi, Chengalpet, Ranipet and Tirupathur.

3.10 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 – Dharmapuri, Namakkal, Dharmapuri, 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

3.11 Dharmapuri District

Dharmapuri district, which came into existence from 02.10.1965 is situated in the North western Corner of Tamil Nadu and is bounded by Tiruvannamalai and Villupuram Districts on the east, Salem District on the South, Krishnagiri District on the north and Kaveri River on the west. It is located between latitudes N 11^0 47’

and 12^0 33' and longitudes E 77^0 02' and 78^0 40'30''. The total geographical area of Dharmapuri District is 4497.77 Sq Kms, i.e. 3.46% of Tamil Nadu. The climate condition of the district is hot and dry in summer i.e., from March to May and in winter, it is very cold and misty i.e., from November to February. Source: https://dharmapuri.nic.in/about-district/

3.12 Study Area

Detailed socio-economic survey was conducted in the study area (Core and buffer zone) within 10 km radius of the area at Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State. 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.

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

Table 3.13.1 Shows the socio-economic profile of the study area as compared to district, state and national level socio-economic profile

Particular	India	Tamil Nadu	Dharmapuri District	Study Area (10km Radius)
Area (in sq. km.)	3,287,263	130058	4497	325
Population Density/ sq. Km.	368	554	335	154
No. of Households	249454252	13357027	375873	12199
Population	1210569573	72147030	1506843	49923
Male	623121843	36137975	774303	26749
Female	587447730	36009055	732540	23174
Scheduled Tribes	104281034	794697	63044	1042
Scheduled Castes	201378086	14438445	245392	6234
Literacy Rate	**72.99%**	**80%**	**60.90%**	**61.88%**
Sex Ratio (Females per 1000 Males)	**943**	**996**	**946**	**866**

Source: Census of India, 2011

Table no 3.12.1 show demographic pattern of India, Tamil Nadu, Dharmapuri District & Study area (10km Radius). In India had total area of 3.2 sqkm, State of Tamil Nadu area was 130058 sqkm, District of Dharmapuri area was 4497 sqkm and study area is about 325 sqkm. Population density is total population per sqkm. So, India population density was 368 sqkm, state of Tamil Nadu density was 554 sqkm, District had density about 335 sqkm and study area density is about 154 sqkm. As per census 2011, about 5.96percent of population in the state lives in areas. Dharmapuri had comparing state wise 2.08 percent of population lives in the district. In study area has 3.31 % around 10km radius. State, District and study area. In Tamil Nadu state SC categories people had about 20.02 %, district of Dharmapuri about 16.29 % it had decreased to Study area about 12.49% increasing in the total population Similarly ST population is about 1.10%, 4.18% and 2.09% of the total population in the study area. State level Literacy rate is 80%, district level is 61% but study area has almost increased about 62%. There is literacy rate is study area decrease comparing district level decrease in the study area. Sex ratio female per thousand males about state level is 996, District level is 946 and study area is 866.

The study area has population density 154 persons per sq.km of total population about 48656 as per census 2011. There were about 53.58 percent male and 46.42% female population. Study area has literate rate is about 62%. District had about 61% of literate rate as per census 2011.

3.14 Population Projection of the Study Area

A population projection is an estimation of the number of people expected to be alive at a future date that is made based on assumptions of population structure, fertility, mortality and migration. It is an essential to assess the need for new jobs, schools, doctors and nurses, planning urban housing, foods, clothing and requirements of energy and resources. It is also needed for policy discourse i.e., helps to the policy-makers to understand the existing problems and finally supports to develop the suitable solutions.

Table 3.14.1 Total Population of Study Area

Sl No.	Population in 2001	Population in 2011
1	41411	49923

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

Table 3.14.2 Population Projection of Study Area

S. No	Year	Projected Population (Approximately)
1.	2021	58435
2.	2031	66947
3.	2041	75459

4.	2051	83971

Source: Calculated by SPSS v29, 2022.

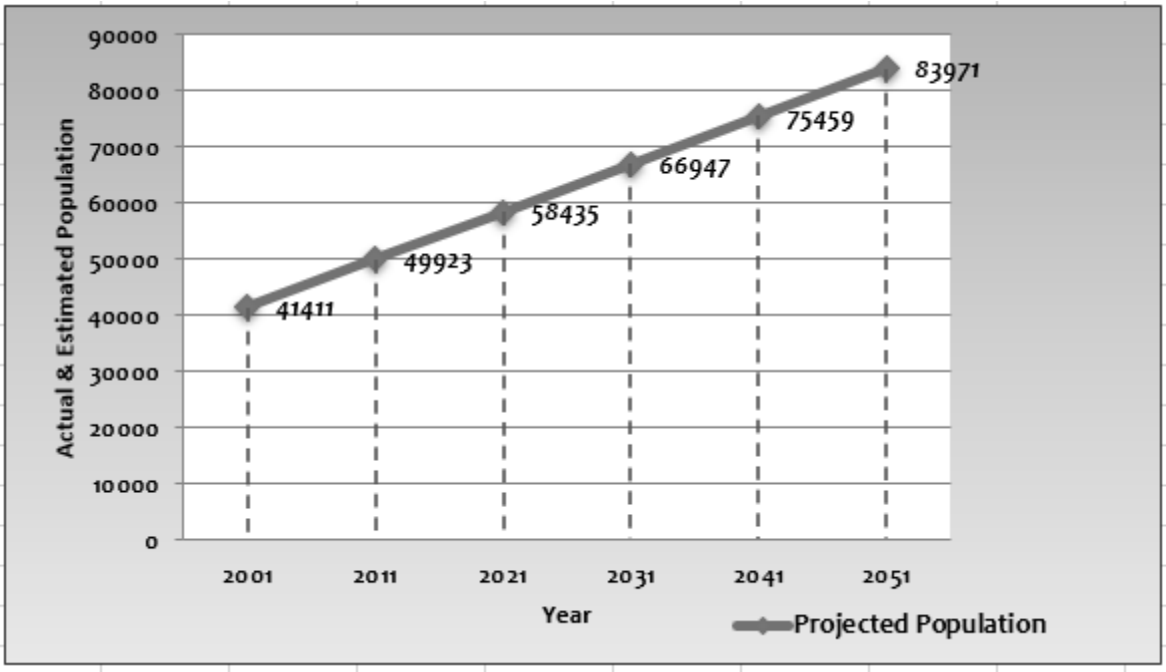


Fig 3.14.3 Graph Showing Population Projection

Following formula has been used for the projection of population.

$$Y=a+b_t$$

Where: Y= Dependent variable (Population)

a=Intercept

b=Slope

t=Interdependent variables (Time)

Above formula is applied to project population for the years (2021, 2031,2041,2051). Due to avoid the errors in manual calculation the statistical software SPSS (demo version 29) is used to calculate the intercept and the slope.

Due to the shortage of data on population the results show same value of growth for the years (2021,2031,2041,2051). If the researcher gets enough the data on population for earlier years the data projection will be accurate.

- Ref: Indian Economic survey, the SLR (Simple Linear Regression) techniques are used by statistical department, Government of India to project population.
- Source: https://www.ibm.com/in-en/analytics/spss-statistics-software

3.15 Population Growth of the Study Area

Table 3.15.1 Population Growth rate in Study area

Year	Actual Population	Growth Rate %
2001	41411	-
2011	49923	12.06
2021	58435	11.71
2031	66947	11.46
2041	75459	11.27
2051	83971	11.13

Source: Compiled by Author-2022

Above table no 3.15.1 is showing the growth rate of population since 2001, as per census in 2001 the population of study area was 41411 and 2011 it was 49923, if the population growth rate is 12.06%, it will approximately 58435 in year 2021 and 83971 in the year of 2051. It has approximately population growth rate decline will be 11.13%.

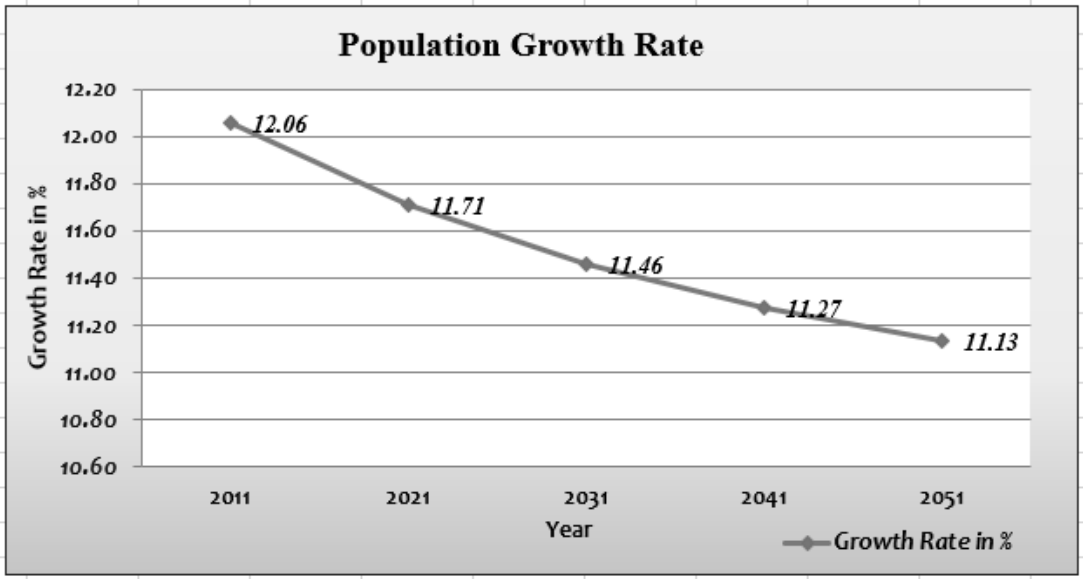


Fig.3.15.2Graph Showing Population Growth Rate

Planning Analysis:

Calculating Growth Rates

The percent change from one period to another is calculated from the formula:

Where:

$$PR = \frac{(V_{Present} - V_{Past})}{V_{Past}} x100$$

PR=Percent Rate

$V_{Present}$ =Present or Future Value

V_{Past} = Past or Present Value

The *annual* percentage growth rate is simply the percent growth divided by N, the number of years.

Source: **https://pages.uoregon.edu/rgp/PPPM613/class8a.htm**

3.16 Population Distribution and Composition of Study Area

The population as per 2011 Census records is 49923 (for 10 km radius buffer zone). Total no. of household is 6846, 3708 and 1645 respectively, in primary, secondary and tertiary zone. Sex ratio is 859, 873 and 886 (females per 1000 males) observed in primary, secondary and tertiary zone respectively. SC population distribution is 2832, 2245 and 1157 respectively in primary, secondary and tertiary zone. ST population distribution is 401, 20 and 621 respectively in primary, secondary and tertiary. Average household size is 4. Zone wise Demographic profile of study area is given in the table 1.18.1 below:

Source: **https://censusindia.gov.in/census.website/data/census-tables**

Table 3.16.1 Zone wise Demographic Profile of Study Area

Zone	No. of Villages	Total Household	Total Population	Male Population	%	Female Population	%
Primary Zone (0 - 3 Km)	3	6846	28668	15425	53.81	13243	46.19
Secondary Zone (3 - 7 Km)	2	3708	14395	7686	53.39	6709	46.61
Tertiary Zone (7 - 10 km)	2	1645	6860	3638	53.03	3222	46.97
Study Area (0-10 km)	**7**	**12199**	**49923**	**26749**	**53.58**	**23174**	**46.42**

Source: Census of India, 2011

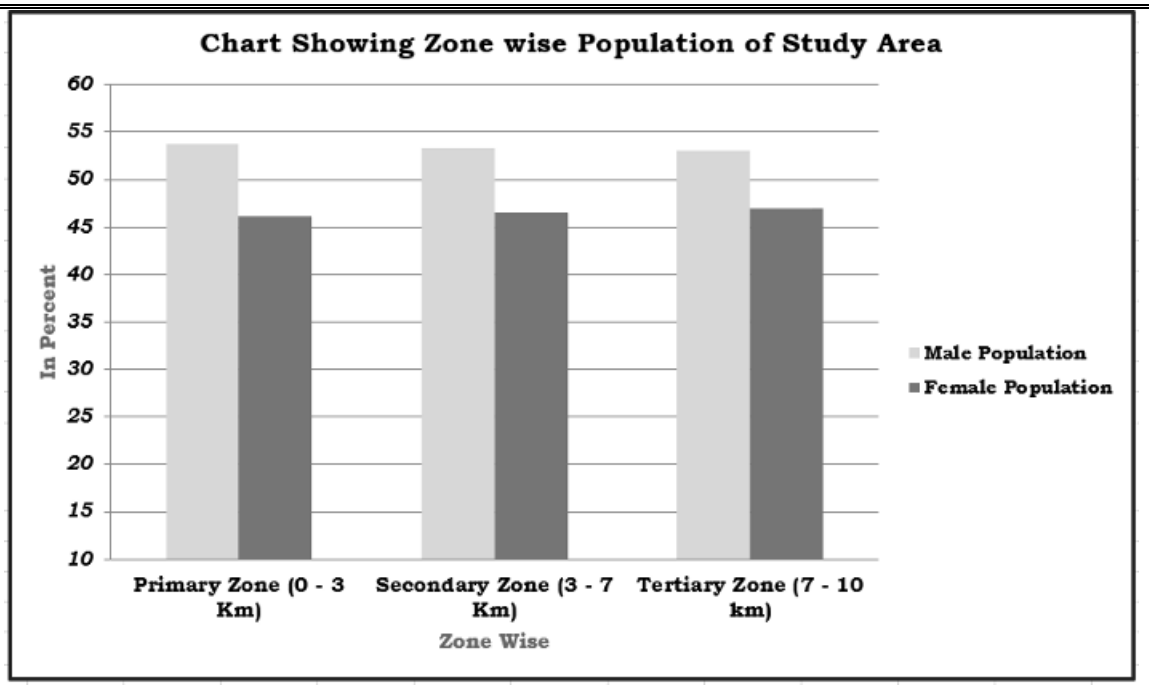


Figure 3.16.2 Population of study area

Table 3.16.3 Village wise Demographic Profile of the Study Area (Core and Buffer Zone)

0-3km

Sno	Name	No.of Households	Total population	Total Male	Total Female	Sex Ratio	Population below 6	Male below 6	Female below 6	Child Sex Ratio	SC population	SC Male	SC Female	ST population	ST Male	ST Female	Literate population	Male Literate	Female Literate	Total Lite.rate (%)	Male Lite rate (%)	Female Lite.rate (%)	Total workers	Total Workers Rate (%)	Main workers	MainWorkers Rate (%)	Marginal workers	Marginal Workers Rate (%)	Nonworkers	Non Workers Rate (%)
1	Sigaralahalli	1900	8639	4563	4076	893	922	474	448	945	546	283	263	10	6	4	5169	3154	2015	66.98	77.13	55.54	3988	46.16	3777	43.72	211	2.44	4651	53.84
2	Ajjanahalli	2609	10481	5774	4707	815	1336	768	568	740	986	542	444	159	91	68	5688	3573	2115	62.20	71.37	51.10	5110	48.75	4729	45.12	381	3.64	5371	51.25
3	Sunchalnatham	2337	9548	5088	4460	877	1120	613	507	827	1300	705	595	232	124	108	5383	3248	2135	63.87	72.58	54.01	4387	45.95	3621	37.92	766	8.02	5161	54.05
Total		**6846**	**28668**	**15425**	**13243**	**859**	**2258**	**1242**	**1016**	**818**	**2832**	**1530**	**1302**	**401**	**221**	**180**	**16240**	**9975**	**6265**	**61.49**	**70.33**	**51.24**	**13485**	47.04	**12127**	42.30	**1358**	4.74	**15183**	52.96

3-7km

Sno	Name	No.of Households	Total population	Total Male	Total Female	Sex Ratio	Population below 6	Male below 6	Female below 6	Child Sex Ratio	SC population	SC Male	SC Female	ST population	ST Male	ST Female	Literate population	Male Literate	Female Literate	Total Lite.rate (%)	Male Lite rate (%)	Female Lite.rate (%)	Total workers	Total Workers Rate (%)	Main workers	MainWorkers Rate (%)	Marginal workers	Marginal Workers Rate (%)	Nonworkers	Non Workers Rate (%)
1	Donnakuttahalli	1922	7760	4138	3622	875	950	498	452	908	1463	772	691	10	5	5	3816	2325	1491	56.04	63.87	47.03	4172	53.76	3819	49.21	353	4.55	3588	46.24
2	Ramakondahalli	1786	6635	3548	3087	870	812	465	347	746	782	415	367	10	2	8	3522	2192	1330	60.48	71.10	48.54	3073	46.31	2510	37.83	563	8.49	3562	53.69
Total		**3708**	**14395**	**7686**	**6709**	**873**	**1762**	**963**	**799**	830	**2245**	**1187**	**1058**	**20**	**7**	**13**	**7338**	**4517**	**2821**	**58.09**	**67.19**	**47.73**	**7245**	**50.33**	**6329**	**43.97**	**916**	**6.36**	**7150**	**49.67**

7-10km

Sno	Name	No.of Households	Total population	Total Male	Total Female	Sex Ratio	Population below 6	Male below 6	Female below 6	Child Sex Ratio	SC population	SC Male	SC Female	ST population	ST Male	ST Female	Literate population	Male Literate	Female Literate	Total Lite.rate (%)	Male Lite rate (%)	Female Lite.rate (%)	Total workers	Total Workers Rate (%)	Main workers	MainWorkers Rate (%)	Marginal workers	Marginal Workers Rate (%)	Nonworkers	Non Workers Rate (%)
1	Kodihalli	820	3404	1803	1601	888	399	217	182	839	491	263	228	534	263	271	1863	1102	761	62.00	69.48	53.63	1669	49.03	1595	46.86	74	2.17	1735	50.97
2	Kukuttamaruthahalli	825	3456	1835	1621	883	358	204	154	755	666	353	313	87	49	38	1802	1068	734	58.17	65.48	50.03	1929	55.82	1694	49.02	235	6.80	1527	44.18
Total		**1645**	**6860**	**3638**	**3222**	**886**	**757**	**421**	**336**	**798**	**1157**	**616**	**541**	**621**	**312**	**309**	**3665**	**2170**	**1495**	**60.05**	**67.45**	**51.80**	**3598**	**52.45**	**3289**	**47.94**	**309**	**4.50**	**3262**	**47.55**
Grand total		12199	49923	26749	23174	866	4777	2626	2151	819	6234	3333	2901	1042	540	502	27243	16662	10581	60.34	69.07	50.33	24328	48.73	21745	43.56	2583	5.17	25595	51.27

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

- ✓ Above table identifies the presence of villages and their subsequent population divided under three zones from mine boundary (i.e., Primary, secondary and tertiary zone)
- ✓ Primary zone has 3 villages where as much as 6846 households with 28668 population are located. Mostly lying on Built-up land for their livelihood and substance.
- ✓ Secondary and tertiary zone both comprise of 2 &2 villages having a total population of 14395 and 6860 respectively.

3.17 Gender and Sex Ratio

Sex ratio is used to describe the number of females per 1000 of males. Sex ratio is a valuable source for finding the population of women in India and what is the ratio of women to that of men in India. In the Population Census of 2011, it was revealed that the population ratio in India 2011 is 940 females per 1000 of males. The study area has 866 females per 1000 males. Gender and sex ratio determine the Human Development Index (HDI) of an area thereby understanding the status of women in that region. Following table entails information about sex ratio of 7 villages lying in study area (buffer zone) as primary, secondary and tertiary zone.

Table 3.17.1 Sex ratio of the study area

S. No.	Buffer Zone	Sex Ratio of Study area Female/ 1000 Male
1	Primary Zone (0-3 km)	**859**
2	Secondary zone (3-7 km)	**873**
3	Tertiary Zone (7-10 km)	**886**

Source: Census of India, 2011

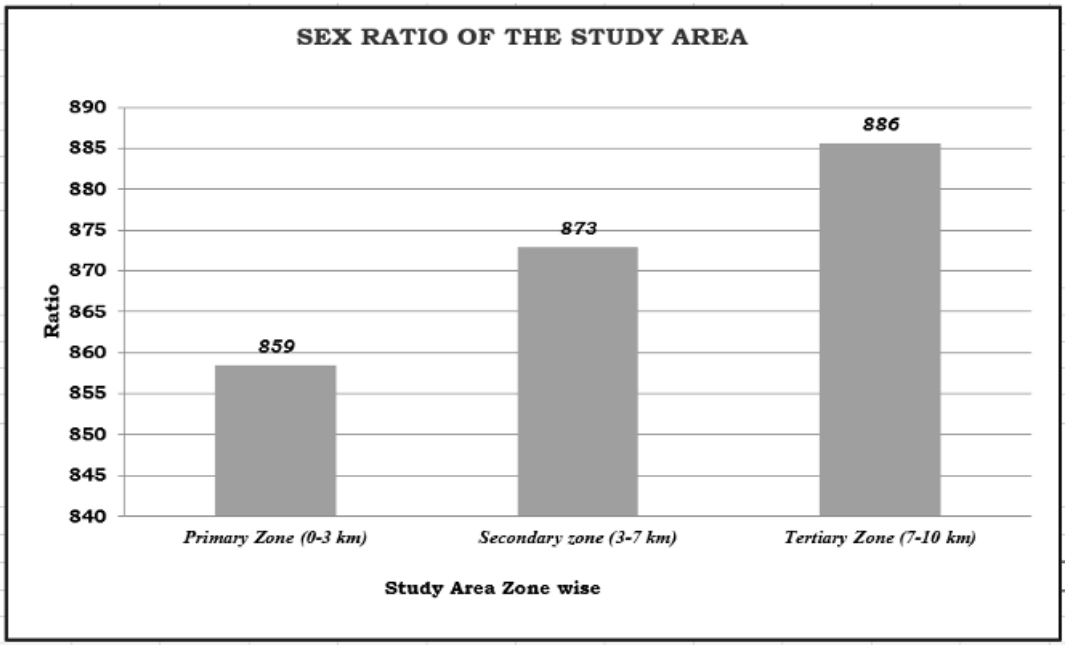


Figure 3.16.2 Sex Ratio within 10 Km study area

3.18 Literacy Rate in Study Area

Literacy Rate is the percentage of people in a country with the ability to read and write. The analysis of the literacy levels is done in the study area. The 10 km radius of study area demonstrates a literacy rate of 61.88% as per census data 2011. The male literacy rate in the study area indicates 70.87% whereas the female literacy rate, which is an important indicator for social change, is observed to be 51.57% as per the census data 2011. This needs to focus on the region and enhance further development focusing on education. (Table no 3.17.1).

Table 3.18.1 Literacy Rate of the Study Area

Zone	No. of Villages	Male Literacy Population	Male literacy Rate	Female Literacy Population	Female literacy Rate	Total Literacy	Total Literacy Rate
Primary Zone (0 - 3 Km)	3	**9975**	73.51	**6265**	53.46	**16240**	64.22
Secondary Zone (3 - 7 Km)	2	**4517**	67.19	**2821**	47.73	**7338**	58.09
Tertiary Zone (7 - 10 Km)	2	**2170**	67.45	**1495**	51.80	**3665**	60.05
Study Area (0-10km)	**7**	16662	**70.87**	10581	**51.57**	27243	**61.88**

Source: Census of India, 2011

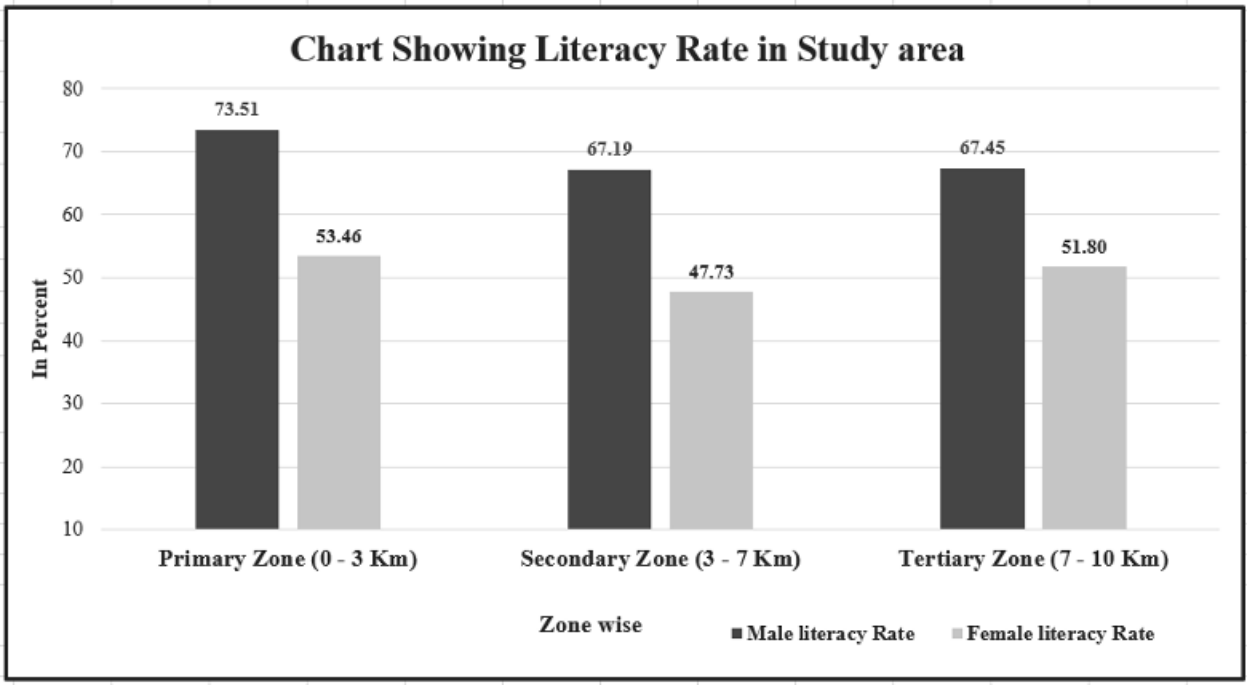


Figure 3.18.2 Gender wise Literacy Rate in the study area

3.19 Family Size

Size of family also describes about family functioning, resource consumption, total income generated and their expenditure pattern. Census 2011 data suggests that most of these households have a family size of up to 4 members, knowing the size of family also give fair understanding of relating how much resource consumption is being incurred, and annual income being generated and spent.

3.20 Vulnerable Group

While developing an action plan, it is very important to identify the population who fall under the marginalized and vulnerable groups and special attention has to be given towards these groups while making action plans. Special provisions should be made for them. In the observed villages schedule caste (SC) population is 12.49% and Schedule Tribe population 2.09%, Other Population is 85.43% in Total study area.

Table 3.20.1 vulnerable groups of the study area

Zone	No. of Villages	Vulnerable Groups					
		SC Population	%	ST Population	%	Other Population	%
Primary Zone (0 - 3 Km)	3	2832	9.88	401	1.40	25435	88.72
Secondary Zone (3 - 7 Km)	2	2245	15.60	20	0.14	12130	84.27
Tertiary Zone (7 - 10 Km)	2	1157	16.87	621	9.05	5082	74.08
Total area (10km)	**7**	**6234**	**12.49**	**1042**	**2.09**	**42647**	**85.43**

Source: Census of India, 2011

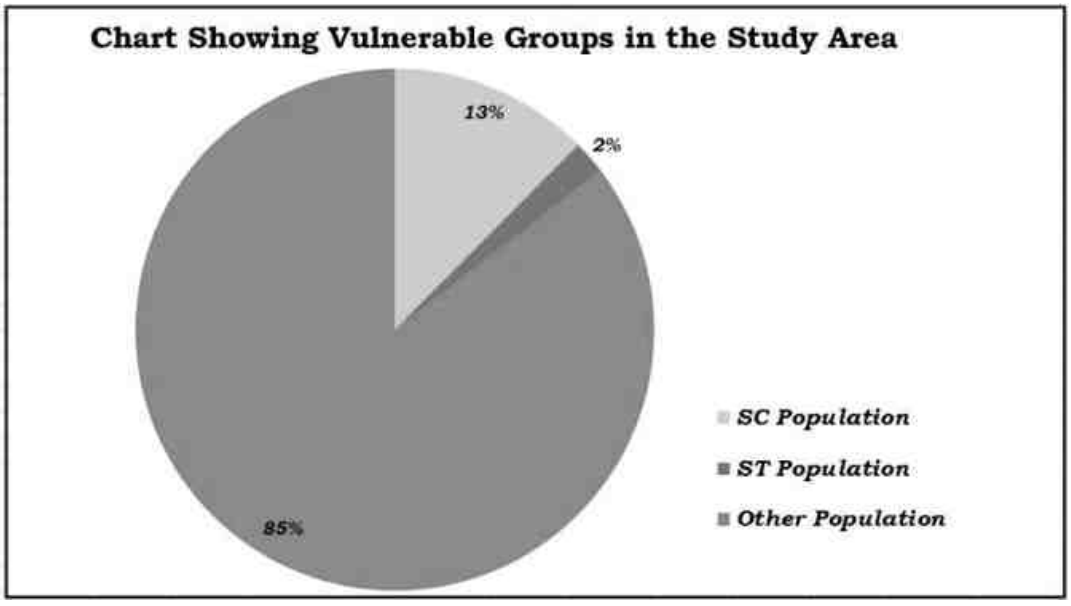


Figure 3.20.2 vulnerable groups

3.21 Economic Activities

The economy of an area is defined by the occupational pattern and income level of the people in the area. The occupational structure of residents in the study area is studied with reference to work category. The population is divided occupation wise into three categories, viz., Total workers, Main workers and non-workers. The main workers include cultivators, agricultural laborers, those engaged in household industry and other services. The non-workers include those engaged in unpaid household duties like, students, retired persons, dependents, beggars, vagrants etc. besides Institutional intimates or all other non-workers who do not fall under the above categories.

Table 3.21.1 shows the work force of the study area

Zone	No. of Villages	Total Workers	%	Main Workers	%	Marginal Workers	%	Non-Workers	%
Primary Zone (0 - 3 Km)	3	13485	47.04	12127	42.30	1358	4.74	15183	52.96
Secondary Zone (3 - 7 Km)	2	7245	50.33	6329	43.97	916	6.36	7150	49.67
Tertiary Zone (7 - 10 Km)	2	3598	52.45	3289	47.94	309	4.50	3262	47.55
Study Area (10 Km)	**7**	**24328**	**48.73**	**21745**	**43.56**	**2583**	**5.17**	**25595**	**51.27**

Source: Census of India, 2011

The above table shows that out of the total working population, the percentage of main workers is 43.56 % while 5.17% are marginal workers. Number of working populations is 48.73% and non-working population is 51.27% in the study area. As per the data obtained from the survey (as mentioned previously in occupational structure) most of these people are employed for major period of the year. Also, to mention the natural environment also restricts the people in finding stable business is performed for only certain months. Thus, proposed project will act as possible exposure for them to get enroll and earn sustain livelihood.

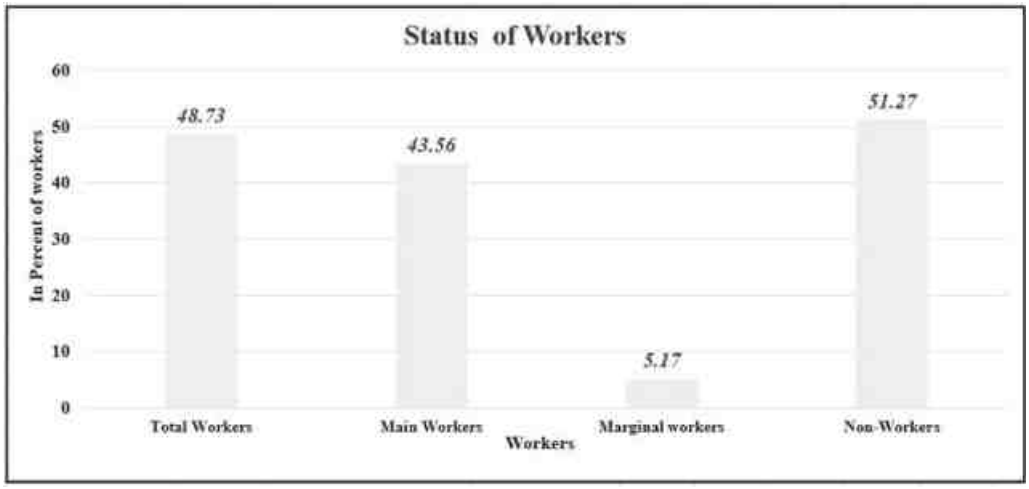


Figure 3.21.2. Working population in the study area

3.22 Infrastructure Base

A better network of physical infrastructure facilities (built up and roads, irrigation, power and social infrastructure support, viz. health and Education, water and sanitation are essential for the development of the rural economy.

A review of infrastructural facilities available in the area has been done based on the information from baseline survey & census data of the study area. Infrastructural facilities available in the area are described in the subsequent sections.

- Administrative offices are located in Tamil Nadu, Dharmapuri district (37km-NE) from site which by local transport.
- Kauvery River and Hogenakkal Waterfalls Western side 10 km from mine lease boundary.
- Stanely Reservoir dam found in Southern side of 15km from mine lease boundary.
- Availability of Government high school Malaiyanoor Village (SE-7.0km), Donnakuttahalli Village (SE-9.6km) college of Govt Arts and Science college, Dharmapuri Taluk many college and Training institute found in study area.
- Health facilities covered in the Buffer zone area like Eriyur Village PHC, Malaiyanoor Village PHC, Government PHC, Hogenakkal, etc.

Table 3.22.1 Educational Facilities in the Surveyed Area

Sno	Village Name	Govt Primary School (Numbers)	Private Primary School (Numbers)	Govt Middle School (Numbers)	Private Middle School (Numbers)	Govt Secondary School (Numbers)	Private Secondary School (Numbers)	Govt Senior Secondary School (Numbers)	Govt Arts and Science Degree College (Numbers)
0-3km									
1	Sigaralahalli	3	0	3	0	1	0	1	0
2	Ajjanahalli	8	0	5	0	1	0	0	0
3	Sunchalnatham	6	0	3	0	1	0	1	0
	Total	17	0	11	0	3	0	2	0
3-7km									
4	Donnakuttahalli	6	0	5	0	1	0	0	0
5	Ramakondahalli	7	1	5	1	2	1	0	0
	Total	13	1	10	1	3	1	0	0
7-10km									
6	Kodihalli	3	0	1	0	0	0	0	0
7	Kukuttamaruthahalli	3	0	1	0	0	0	0	0
	Total	6	0	2	0	0	0	0	0
	G.Total	**36**	**1**	**23**	**1**	**6**	**1**	**2**	**0**

Source: ***DCHB Census 2011, Tamil Nadu.***

Table 3.22.2Health/ Medical Facilities in the Surveyed Area

Sno	Village Name	Community Health Centre (Numbers)	Primary Health Centre (Numbers)	Primary Heallth Sub Centre (Numbers)	Maternity And Child Welfare Centre (Numbers)	Hospital Allopathic (Numbers)	Dispensary (Numbers)	Veterinary Hospital (Numbers)	Family Welfare Centre (Numbers)	Non Government Medical facilities Medicine Shop (Numbers)
0-3km										
1	Sigaralahalli	0	0	3	0	0	0	0	0	1
2	Ajjanahalli	0	2	1	2	0	2	0	2	2
3	Sunchalnatham	1	1	1	1	0	1	1	1	1
	Total	1	3	5	3	0	3	1	3	4
3-7km										
4	Donnakuttahalli	0	0	1	0	0	0	0	0	0
5	Ramakondahalli	0	0	1	1	0	0	0	0	1
	Total	0	0	2	1	0	0	0	0	1
7-10km										
6	Kodihalli	0	0	1	0	0	0	0	0	0
7	Kukuttamaruthahalli	0	0	1	0	0	0	0	0	0
	Total	0	0	2	0	0	0	0	0	0
	G.total	**1**	**3**	**9**	**4**	**0**	**3**	**1**	**3**	**5**

Source: ***DCHB Census 2011, Tamil Nadu.***

Table 3.22.3 Water & Drainage Facilities in the Surveyed Area

Sno	Village Name	Tap Water-Treated (Status A(1)/NA(2))	Tap Water Untreated (Status A(1)/NA(2))	Covered Well (Status A(1)/NA(2))	Uncovered Well (Status A(1)/NA(2))	Hand Pump (Status A(1)/NA(2))	Tube Wells/Borehole (Status A(1)/NA(2))	Spring (Status A(1)/NA(2))	River/Canal (Status A(1)/NA(2))	Tank/Pond/Lake (Status A(1)/NA(2))	Others (Status A(1)/NA(2))	Closed Drainage (Status A(1)/NA(2))	Open Drainage (Status A(1)/NA(2))	No Drainage (Status A(1)/NA(2))
0-3km														
1	Sigaralahalli	1	2	2	1	1	1	2	2	1	2	2	2	1
2	Ajjanahalli	2	1	2	2	1	1	2	2	2	2	2	1	2
3	Sunchalnatham	2	1	2	2	1	1	2	2	2	2	2	2	1
	Total	1	2	0	1	3	3	0	0	1	0	0	1	2
3-7km														
4	Donnakuttahalli	2	1	2	2	1	1	2	2	2	2	2	2	1
5	Ramakondahalli	2	1	2	2	1	1	2	2	2	2	2	2	1
	Total	0	2	0	0	2	2	0	0	0	0	0	0	2
7-10km														
6	Kodihalli	2	1	2	2	1	1	2	2	2	2	2	1	2
7	Kukuttamaruthahalli	2	1	2	1	1	2	2	2	2	2	2	1	2
	Total	0	2	0	1	2	1	0	0	0	0	0	2	0
	G.Total	1	0	0	2	7	6	0	0	1	0	0	3	4

Source: DCHB Census 2011, Tamil Nadu.

3.22.4 Transport and Other Infrastructure Facilities in the Surveyed Area

Sno	Village Name	Post Office (Status A(1)/NA(2))	Sub Post Office (Status A(1)/NA(2))	Post And Telegraph Office (Status A(1)/NA(2))	Mobile Phone Coverage (Status A(1)/NA(2))	Private Courier Facility (Status A(1)/NA(2))	Public Bus Service (Status A(1)/NA(2))	Private Bus Service (Status A(1)/NA(2))	Railway Station (Status A(1)/NA(2))	Auto/Modified Autos (Status A(1)/NA(2))	Taxi (Status A(1)/NA(2))	Vans (Status A(1)/NA(2))	Tractors (Status A(1)/NA(2))	Cycle-pulled Rickshaws (manual driven) (Status A(1)/NA(2))	Cycle-pulled Rickshaws (machine driven) (Status A(1)/NA(2))	Carts Drivens by Animals (Status A(1)/NA(2))	Sea/River/Ferry Service (Status A(1)/NA(2))	National Highway (Status A(1)/NA(2))	State Highway (Status A(1)/NA(2))	Major District Road (Status A(1)/NA(2))	Other District Road (Status A(1)/NA(2))
0-3km																					
1	Sigaralahalli	2	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Ajjanahalli	2	1	2	1	2	1	1	2	1	2	2	2	2	2	2	2	2	1	1	1
3	Sunchalnatham	2	1	2	1	2	1	1	2	1	1	1	2	2	2	2	2	2	1	1	1
	Total	**0**	**3**	**0**	**2**	**0**	**3**	**3**	**0**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**2**
3-7km																					
4	Donnakuttahalli	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	Ramakondahalli	2	1	2	1	2	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1
	Total	**0**	**2**	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**
7-10km																					
6	Kodihalli	2	2	2	1	2	1	1	2	1	2	2	2	2	2	2	2	2	1	1	1
7	Kukuttamaruthahalli	2	2	2	1	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2
	Total	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**
	G.total	**0**	**5**	**0**	**6**	**0**	**7**	**5**	**0**	**4**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**4**

Source: DCHB Census 2011, Tamil Nadu.

3.23. Other Issues in the Study Area

1. Deforestation of Land (Cutting Trees or Plant etc.)
2. Agriculture Land decreases (Very Low)
3. R.F area affect wild animals.
4. Scrub with grass land decreases.
5. Issue of state boundary (Karnataka state).
6. Lack of awareness among vulnerable groups for their welfare
7. Medical/Clinic facilities and PHC need for the Core area
8. Functioning of Hospital facilities with Sub Health care centers.
9. Need proper drainage system with public toilet men and women separately.

3.24 Interpretation

Based on the data, following inferences could be drawn:

- Total literacy rate in the study area is 61.88%.
- The study area had average educational facilities. The overall status depicts that the education is limited to primary and middle level.
- The schedule tribe community forms 2.09% and Scheduled Caste forms 12.49% of the total population of study area.
- The Other Population forms 85.43% of the total population of study area.
- The study area is well connected by Village Road.
- The study area not well health facilities of primary level.
- Considering the above facts, the proposed project will boost the socio-economic development activities in the area and hence will leave positive impact.
- The study area has mobile connectivity not well.

3.25 Recommendation and Suggestions

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

- **Women empowerment–** Home based income generation activities, vocational training programs and common education centre for increasing the literacy rate.
- **Education –** Free uniform, construction of common rooms and library, computer education and physical education, additional schools for girls, furniture and equipment in schools, up-gradation of existing school infrastructure.
- **Agriculture/livestock –** Infrastructure such as agricultural practices, electricity connections, assistance with buying improved tools and equipment, capacity building, supply and/or

knowledge of better variety of seeds, pasture land development and trainings on animal husbandry& facility of veterinary doctor.

- **Health –** Improvements in sanitary conditions of villages, assistance with construction of latrines, improvement in drainage system, health camps and awareness campaigns for diseases like Covid-19, malaria, typhoid, tuberculosis, yellow fever and pneumonia. Repairing of PHCs and Anganwadi centers.
- **People with disability –** Establishment of center for special education, sensitization of the community towards disabled and awareness on Government schemes.
- While **Developing an Action Plan**, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.
- **Connectivity – T**ransport connectivity accessibility to the region.

3.26 Conclusion

To evaluate the impacts of proposed quarry project on the surrounding area, it is vital to assess the baseline status of the environmental quality in the locality of the site. Hence it can be concluded that the present environment status of the study area will not be affected by the project as to **M/s. PVI Trading Corporation,** will adopt adequate control measures to protect the surrounding environment and will contribute in development of the study areas.

The proposed project will aim to provide preferential employment to the local people there by improving the employment opportunity in the area and in turn the social standards will improve.

4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 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.

4.2 LAND ENVIRONMENT

4.2.1 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 8.14.0 Ha, the total extent of the cluster is 8.14.0 Ha including existing and proposed quarries. No forest land involved in this lease applied area. The ultimate depth of the proposed project is 50m (30m agl + 20m bgl) below the ground level and will not intersect the ground water table. The project is site specific.

4.2.2 Mitigation measures

Due to the quarrying activities, 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.

4.2.4 Soil Environment

4.2.4.1 Impact on Soil Environment

Soil characteristics indicate favourable condition for plant growth. The quantity of topsoil generated for the entire life of the mine will be 12,332m^3.

4.2.4.2 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.

4.2.4.3 Waste Dump Management

4.2.5 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.

- **P1 - Tvl. Tamilkumaran Productions Private Limited**

  There is generation of topsoil, which is about 12,332m^3 during this plan period. It will be preserved all along the safety zone and utilized for construction of bund and greenbelt development purpose. The total waste to be produced during this plan period is around 52,992m^3 (16,538m^3 Granite waste + 14,400m^3 of side burden + 22,054m^3 weathered rock) the same will be proposed to temporarily dump on the North side with Dimensions of (L) 52m x (W) 50m x (H) 20.38m.

- **P2 - M/s. PVI Trading Corporation**

  There is no generation of topsoil during this plan period. The total waste to be produced during this plan period is around 1,51,105m^3 (33,413m^3 Granite waste + 99,440m^3 of side burden + 18,252m^3 weathered rock) the Weathered rock in safety barrier of Western side of the area, Granite waste dump on the North side with Dimensions of (L) 82m x (W) 3m x (H) 5.58m and the side burden dump on the South side with Dimension of (L) 95m x (W) 80m x (H) 13.0m.

4.2.6 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.

4.3 WATER ENVIRONMENT (IMPACT & MITIGATION MEASURES)

4.3.1 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 50m (30m agl + 20m bgl) and water table is found at a depth of 59m BGL.

4.3.2 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

P1 - Tvl. Tamilkumaran Productions Private Limited		
Purpose	**Quantity**	**Source**
Dust Suppression	2.5 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Green Belt development	2.0 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Drinking and Domestic purpose	1.0 KLD	Approved Water vendors
Total	**5.5 KLD**	
P2 - M/s. PVI Trading Corporation		
Purpose	**Quantity**	**Source**
Dust Suppression	1.5 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Green Belt development	1.6 KLD	Rainwater accumulated in Mine Pit/ Water Tanker
Drinking and Domestic purpose	1.4 KLD	Approved Water vendors
Total	**4.5 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.

4.4 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.

4.4.1. 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 **55,500 cbm** (ROM) on air environment and net increase in emissions by Open pit source modelling in AERMOD Software.

4.4.2 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 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.

4.4.2.1 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	P1	P2	Unit
Drilling	Point Source	0.042810432	0.050070831	g/s
Blasting	Point Source	0.000026071	0.000057060	g/s
Mineral Loading	Point Source	0.041165276	0.041929128	g/s
Haul Road	Line Source	0.002631934	0.002632427	g/s
Overall Mine	Area Source	0.107858486	0.130160008	g/s

TABLE 4.3: ESTIMATED EMISSION RATE FOR SO_2

Activity	Source type	P1	P2	Unit
Drilling	Point Source	0.000214448	0.000277123	g/s

TABLE 4.4: ESTIMATED EMISSION RATE FOR NO_X

Activity	Source type	P1	P2	Unit
Overall Mine	Area Source	0.000017563	0.000034539	g/s

4.4.2.2 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

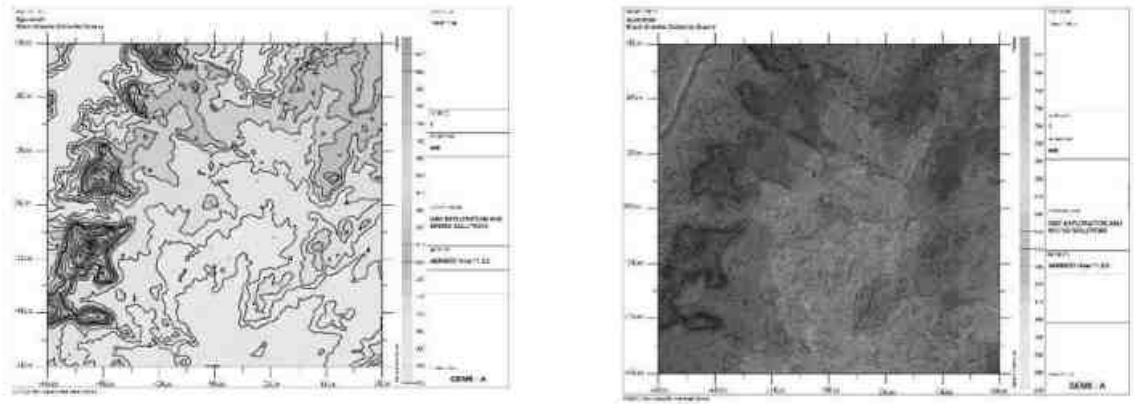


FIGURE 4.2: PREDICTED INCREMENTAL CONCENTRATION OF FUGITIVE DUST

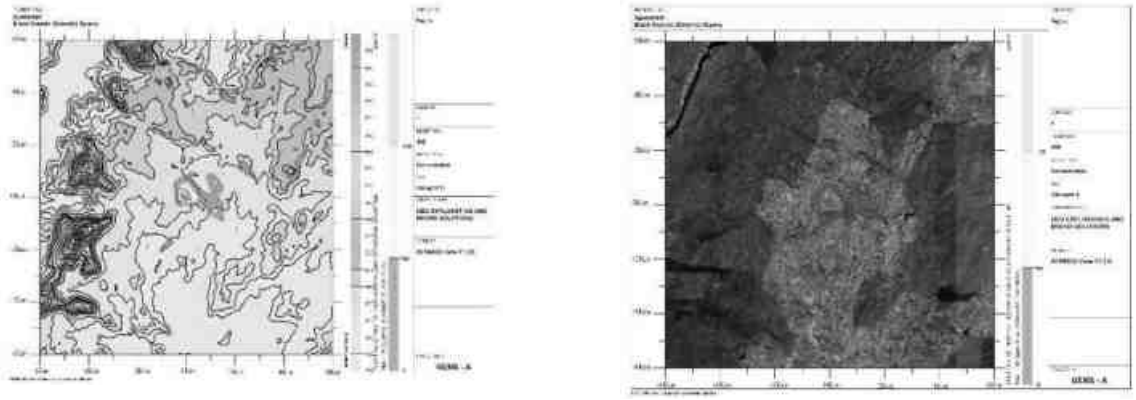


FIGURE 4.3: PREDICTED INCREMENTAL CONCENTRATION OF PM_{10}

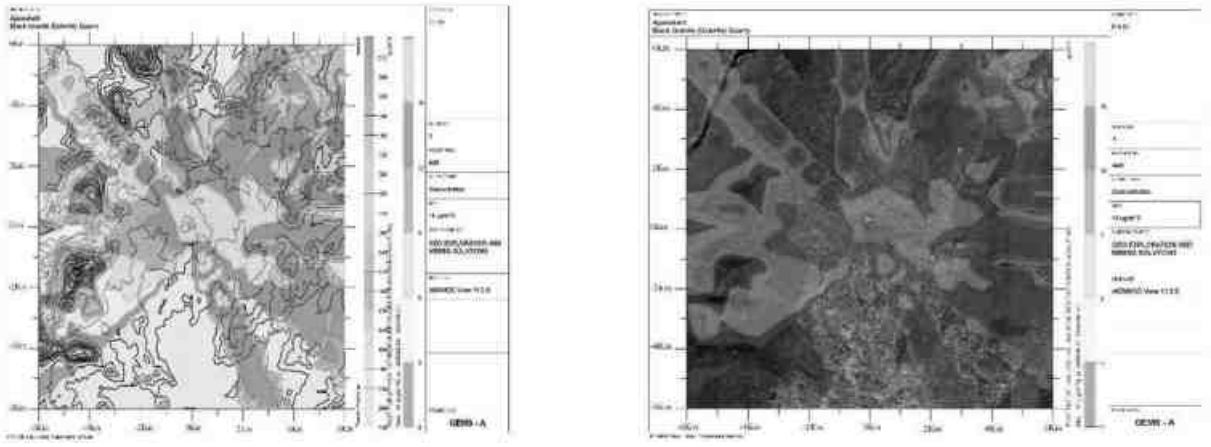


FIGURE NO 4.4: PREDICTED INCREMENTAL CONCENTRATION OF $PM_{2.5}$

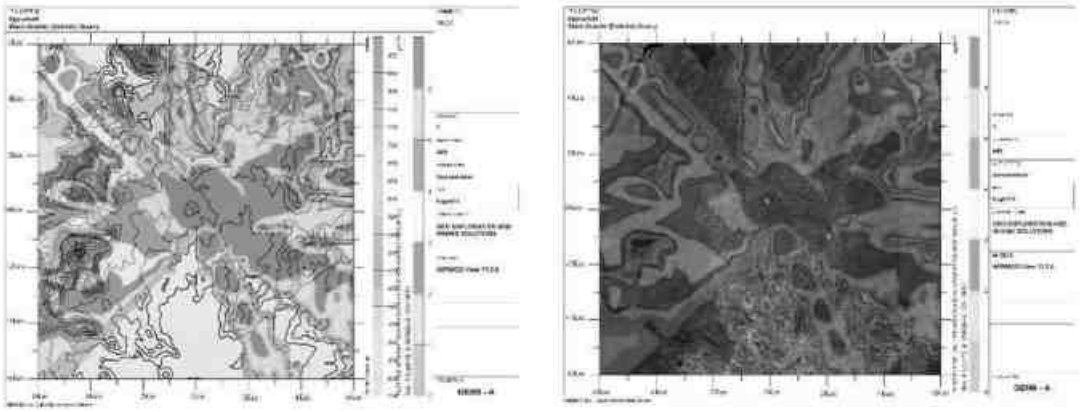


FIGURE NO 4.5: PREDICTED INCREMENTAL CONCENTRATION OF SO_2

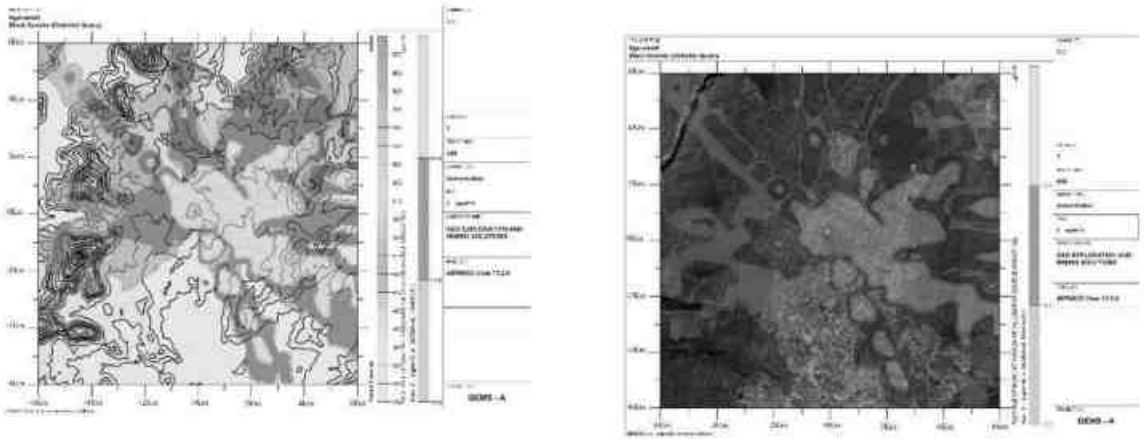
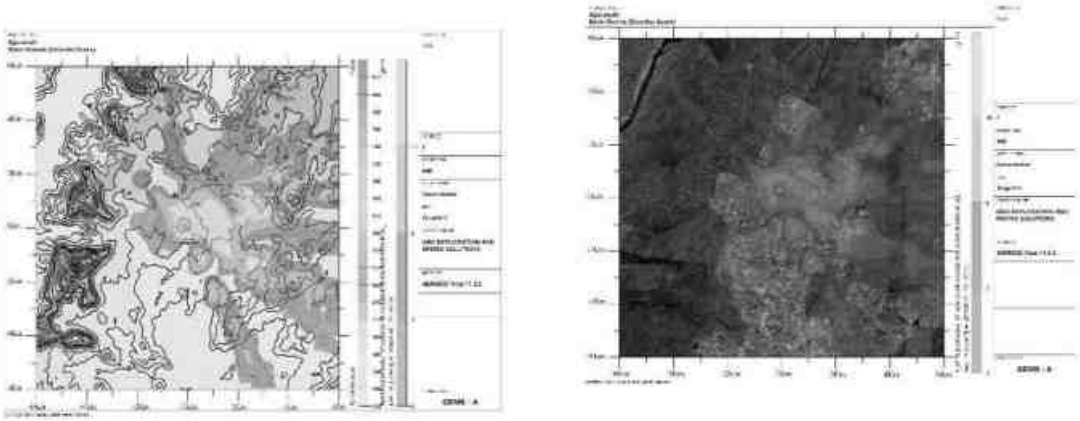


FIGURE NO 4.6: PREDICTED INCREMENTAL CONCENTRATION OF NO_X



4.4.2.3 Model Results

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

TABLE 4.5: 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° 3'16.73"N 77°48'22.16"E	-84	43	43.8	16.89	60.69
AAQ2	12° 4'54.63"N 77°51'19.69"E	5342	3080	43.7	2.05	45.75
AAQ3	12° 4'31.53"N 77°50'1.77"E	2960	2368	43.6	14.75	58.35
AAQ4	12° 5'3.57"N 77°48'34.04"E	278	3560	43.8	0	43.8
AAQ5	12° 2'15.03"N 77°47'31.92"E	-1621	-1873	42.9	8.02	50.92
AAQ6	12° 2'10.62"N 77°48'41.26"E	500	-2008	43.3	4.63	47.93
AAQ7	12° 2'35.40"N 77°49'33.09"E	2083	-1241	42.9	16.00	58.9
AAQ8	12° 3'3.93"N 77°47'25.72"E	-1811	-353	41.3	11.21	52.51

TABLE 4.6: 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° 3'16.73"N 77°48'22.16"E	-84	43	22.0	8.79	30.79
AAQ2	12° 4'54.63"N 77°51'19.69"E	5342	3080	21.8	1.49	23.29
AAQ3	12° 4'31.53"N 77°50'1.77"E	2960	2368	21.8	7.20	29
AAQ4	12° 5'3.57"N 77°48'34.04"E	278	3560	21.9	0.61	22.51
AAQ5	12° 2'15.03"N 77°47'31.92"E	-1621	-1873	21.9	3.33	25.23
AAQ6	12° 2'10.62"N 77°48'41.26"E	500	-2008	21.9	2.51	24.41
AAQ7	12° 2'35.40"N 77°49'33.09"E	2083	-1241	21.6	8.12	29.72
AAQ8	12° 3'3.93"N 77°47'25.72"E	-1811	-353	20.7	5.58	26.28

TABLE 4.7: 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° 3'16.73"N 77°48'22.16"E	-84	43	6.3	3.45	9.75
AAQ2	12° 4'54.63"N 77°51'19.69"E	5342	3080	6.4	0	6.4
AAQ3	12° 4'31.53"N 77°50'1.77"E	2960	2368	8.1	2.65	10.75
AAQ4	12° 5'3.57"N 77°48'34.04"E	278	3560	7.7	0	7.7
AAQ5	12° 2'15.03"N 77°47'31.92"E	-1621	-1873	7.9	1.20	9.1
AAQ6	12° 2'10.62"N 77°48'41.26"E	500	-2008	7.8	0.45	8.25
AAQ7	12° 2'35.40"N 77°49'33.09"E	2083	-1241	7.9	3.07	10.97
AAQ8	12° 3'3.93"N 77°47'25.72"E	-1811	-353	6.6	1.95	8.55

TABLE 4.8: INCREMENTAL & RESULTANT GLC OF NO_2

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° 3'16.73"N 77°48'22.16"E	-84	43	18.9	10.40	29.3
AAQ2	12° 4'54.63"N 77°51'19.69"E	5342	3080	20.7	0	20.7
AAQ3	12° 4'31.53"N 77°50'1.77"E	2960	2368	20.5	5.10	25.6
AAQ4	12° 5'3.57"N 77°48'34.04"E	278	3560	22.0	0	22.0
AAQ5	12° 2'15.03"N 77°47'31.92"E	-1621	-1873	21.5	0	21.5
AAQ6	12° 2'10.62"N 77°48'41.26"E	500	-2008	21.4	0	21.4
AAQ7	12° 2'35.40"N 77°49'33.09"E	2083	-1241	21.3	8.26	29.56
AAQ8	12° 3'3.93"N 77°47'25.72"E	-1811	-353	22.0	0.63	2.63

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.

4.4.3. 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 include 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 month once to assess effectiveness of mitigation measures proposed.

4.5 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.

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

4.5.1 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 4-10.

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 4.9: PREDICTED NOISE INCREMENTAL VALUES

Description	N1	N2	N3	N4	N5	N6	N7	N8
Maximum Monitored Value (Day) dB(A)	47.2	48.2	47.2	45.3	48.2	48.2	46.8	49.2
Incremental Value dB(A)	60.1	60.1	34.5	29.0	29.9	25.9	32.9	34.5
Total Predicted Noise level dB(A)	60.3	60.4	47.4	45.4	48.3	48.2	47.0	49.3
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 47.2 – 48.2 dB (A) in Core Zone and 45.3 – 49.2 dB (A) in Buffer 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 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.).

4.5.2 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.

4.5.3 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 1Km North. 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 – P1

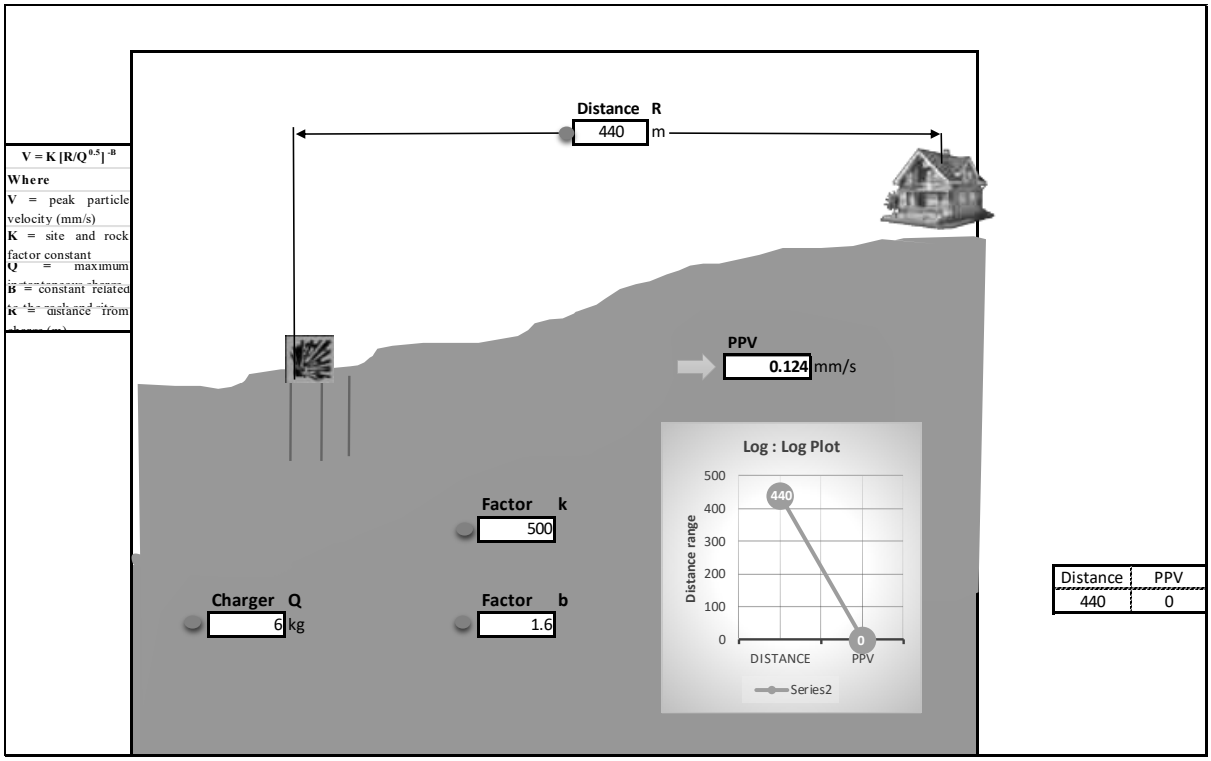
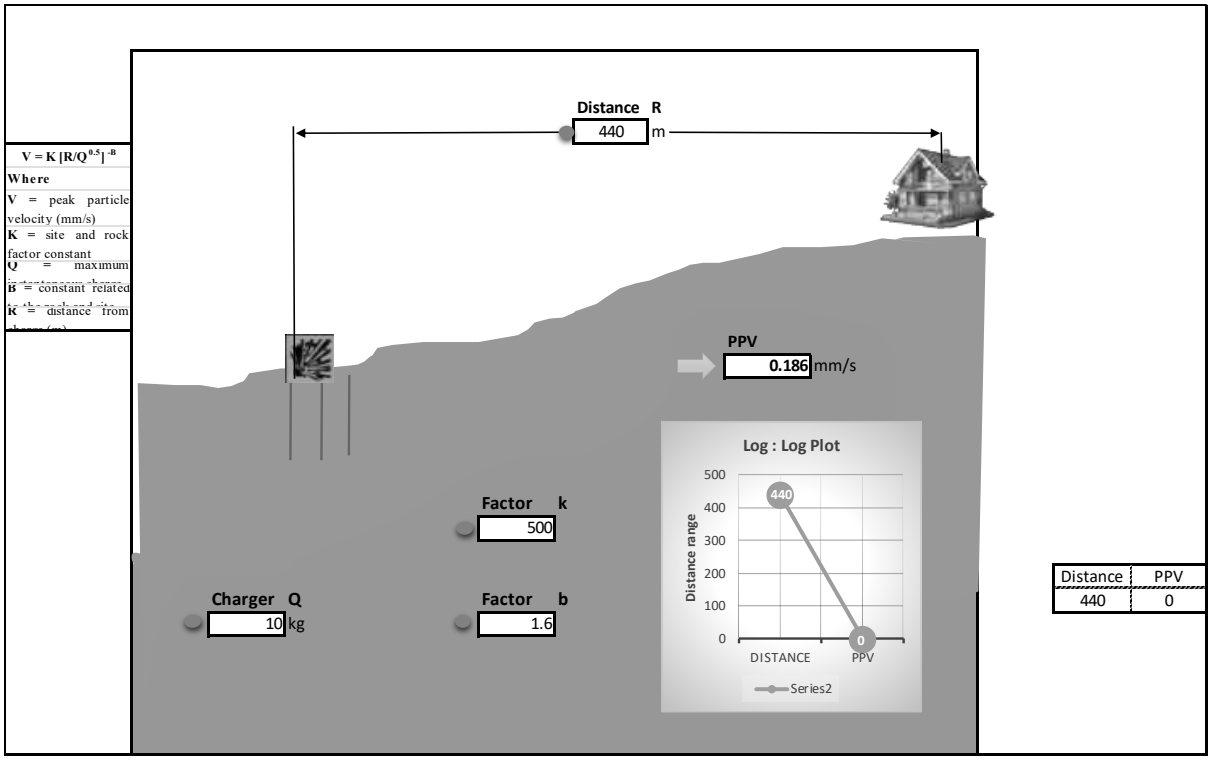


FIGURE NO 4.7: GROUND VIBRATION PREDICTION – P2



From the above graph, the charge per blast of 10 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.

4.5.3.1 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, 2nd Class Mines Manager/ 1st Class Mines Manager) will be appointed.

4.6 ECOLOGY AND BIODIVERSITY

4.6.1. Anticipated Impact on Flora

- None of the plants will be cut during operational phase of the mine.
- There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.
- Most of the land in the buffer area is undulating terrain with crop lands, grass patches and small shrubs. Hence, there will be no effect on flora of the region.

4.6.2 Mitigation Measures

4.6.2.1. Green Belt Development

The project site has a land to develop greenbelt within the lease area, along roads and other vacant areas. The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. Although, the project will not lead to any tree cutting, it is proposed to improve the greenery of the locality by plantation services. To avoid dust emissions, the mined materials will be covered with tarpaulin during transportation.

- Plants that grow fast will be preferred.
- Preference for high canopy covers plants with local varieties.
- Perennial and evergreen plants will be preferred.
- The development of Green Belt is an important aspect for any plant because:
- It helps in noise abatement for the surrounding area.
- It maintains the ecological balance.
- It increases the aesthetic value of site.

4.6.2.2. 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 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 30 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.4.1 and preparation of green belt details are given inn Table No.4.2.

TABLE NO: 4.10. GREENBELT DEVELOPMENT PLAN

P1 - Tvl. Tamilkumaran Productions Private Limited					
Year	***No.of trees proposed to be planted***	***Survival %***	***Area to be covered sq.m***	***Name of the species***	***No. of trees expected to be grown***
I	300	80%	2700	Neem, Pongamia Pinnata, Mango Casuarina etc.,	240
II	300	80%	2700		240
III	300	80%	2700		240
IV	300	80%	2700		240
V	300	80%	2700		240
P2 - M/s. PVI Trading Corporation					
Year	***No.of trees proposed to be planted***	***Survival %***	***Area to be covered sq.m***	***Name of the species***	***No. of trees expected to be grown***
I	500	80%	4500	Neem, Pongamia Pinnata, Mango Casuarina etc.,	400
II	500	80%	4500		400
III	500	80%	4500		400
IV	500	80%	4500		400
V	500	80%	4500		400

TABLE NO: 4.11. PREPARATION OF GREEN BELT DETAILS

P1 - Tvl. Tamilkumaran Productions Private Limited								
S.No	***Details of work***	***Year wise details plantation for each area***						
		1st year	***2nd year***	***3rd years***	***4th years***	***5th years***	***Total No. Plants (5years)***	***Total Cost (Rs.)***
1	Sapling of plant (Approximately cost @ INR 100 per sapling/ plant).	300	300	300	300	300	1500	**1,50,000**
2	Maintenance (Rs.) (Manuring, Fertilizer, Insecticide application, watchman etc.,)	Cost (Rs. 10000/-) per year for five-year period						**50,000**
		Total Rupees Two lakhs only						**2,00,000**
P2 - M/s. PVI Trading Corporation								
S.No	***Details of work***	***Year wise details plantation for each area***						
		1st year	***2nd year***	***3rd years***	***4th years***	***5th years***	***Total No. Plants (5years)***	***Total Cost (Rs.)***
1	Sapling of plant (Approximately cost @ INR 100 per sapling/ plant).	500	500	500	500	500	2500	**2,50,000**
2	Maintenance (Rs.) (Manuring, Fertilizer, Insecticide application, watchman etc.,)	Cost (Rs. 10000/-) per year for five-year period						**50,000**
		Total Rupees Three lakhs only						**3,00,000**

Note:

- 1st five years greenbelt will be proposed on the 7.5m and 10m safety barriers.
- 2nd & 3rd five years greenbelt will be proposed on the approach roads and village road.
- 4th Five years greenbelt will be backfilled area of the proposed project.

4.6.2.2.1. Species Recommendation for Plantation granted in the district

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.

TABLE NO: 4.12 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
5	*Psidium guajava*	Myrtaceae	Koyya	Tree
6	*Acacia nilotica*	Mimosaceae	Karuvlam	Tree
7	*Sygygium cumini*	Myrtaceae	Navalmaram	Tree
8	*Tectona grandis*	Verbenaceae	Thekku	Tree

4.6.3. Anticipated Impact on Fauna

- There is no Wildlife Sanctuary and Biosphere Reserve within 10 km radius of the project site.
- No Rare, Endemic &Endangered species are reported in the buffer zone. However, during the course of mining, the management will practice scientific method of mining with proper Environmental Management Plan including pollution control measures especially for air and noise, to avoid any adverse impact on the surrounding wildlife.
- Fencing around the mine lease area to restrict the entry of stray animals.
- Green belt development will be carried out which will help in minimizing adverse impact on the flora found in the area.

TABLE NO 4.13. ECOLOGICAL IMPACT ASSESSMENTS

SI.No	Attributes	Assessment
1	Activities of the project affects the breeding/nesting sites of birds and animals	No breeding and nesting site was identified in mining lease site. The fauna sighted mostly migrated from buffer area.
2	Located near an area populated by rare or endangered species	No endangered, critically endangered, vulnerable species sighted in core mining lease area.
3	Proximity to national park/wildlife sanctuary/reserve forest /mangroves/ coastline/estuary/sea	No national park or eco-sensitive zone around 10km radius.
4	Proposed project restricts access to waterholes for wildlife	'NO'
5	Proposed mining project impact surface water quality that also provide water to wildlife	'NO 'scheduled or threatened wildlife animal sighted regularly core in core area.
6	Proposed mining project increase siltation that would affect nearby biodiversity area.	Surface runoff management such as drains is constructed properly so there will be no siltation affect in 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 chances of water become polluted is low.
9	Mining project effect the forest based livelihood/ any specific forest product on which local livelihood depended	'NO'
10	Project likely to affect migration routes	'NO 'migration route observed during monitoring period.
11	Project likely to affect 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 likely to affect wetlands, Fish breeding grounds, marine ecology	'NO'. Wetland was not present in near core Mining lease area. No breeding and nesting ground present in core mining area.

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

4.7 SOCIO ECONOMIC

The socio-economic impacts of mining are many. Impacts of a mine project may be positive or Negative. The adverse impacts attribute to physical displacement due to land acquisition, which is followed by loss of livelihood, mental agony, changes in social structure, and risk to food security etc., People are also directly affected due to pollution. Social Impact Assessment (SIA) is a process of analysis, monitoring and managing the social consequences of a project. Study on Socio-economic status has already been carried out using primary socio-economic survey for generating the baseline data of Socio-economic status.

4.7.1 Anticipated Impact

From the primary Socio-economic survey & through secondary data available from established literature and census data 2011, it is found that there would be positive impact on Socio-economic condition of the nearby area. There is no habitation within 300 m of the proposed mining lease area. Therefore, no major impact is anticipated on the nearby habitation during the entire life of the mine.

4.7.2 Mitigation Measures

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

4.8 OCCUPATIONAL HEALTH AND SAFETY

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

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

4.8.1 Respiratory Hazards

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

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

4.8.2 Noise

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

- 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

4.8.3 Physical Hazards

The following measures are proposed for control of physical hazards

- Specific personnel training on work-site safety management will be taken up;
- 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

4.8.4 Occupational Health Survey

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

- General physical tests
- Audiometric tests, Full chest, X-ray, Lung function tests, 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.

4.8.5 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

4.8.6 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

TABLE NO 4.14: 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

4.9 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.

4.9.1 Mine Closure criteria

The criteria involved in mine closure are discussed below:

4.9.1.1 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.,

4.9.1.2 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.

4.9.1.3 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 infrastructure 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

6.1 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 CTE/CTO.

6.2 METHODOLOGY OF MONITORING MECHANISM

Implementation of EMP and periodic monitoring will be carried out by Project Proponents. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Environmental protection measures like dust suppression, control of noise and blast vibrations, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of Environmental Management Plan and environmental clearance conditions will be monitored by the 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).

6.3 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

6.4 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:

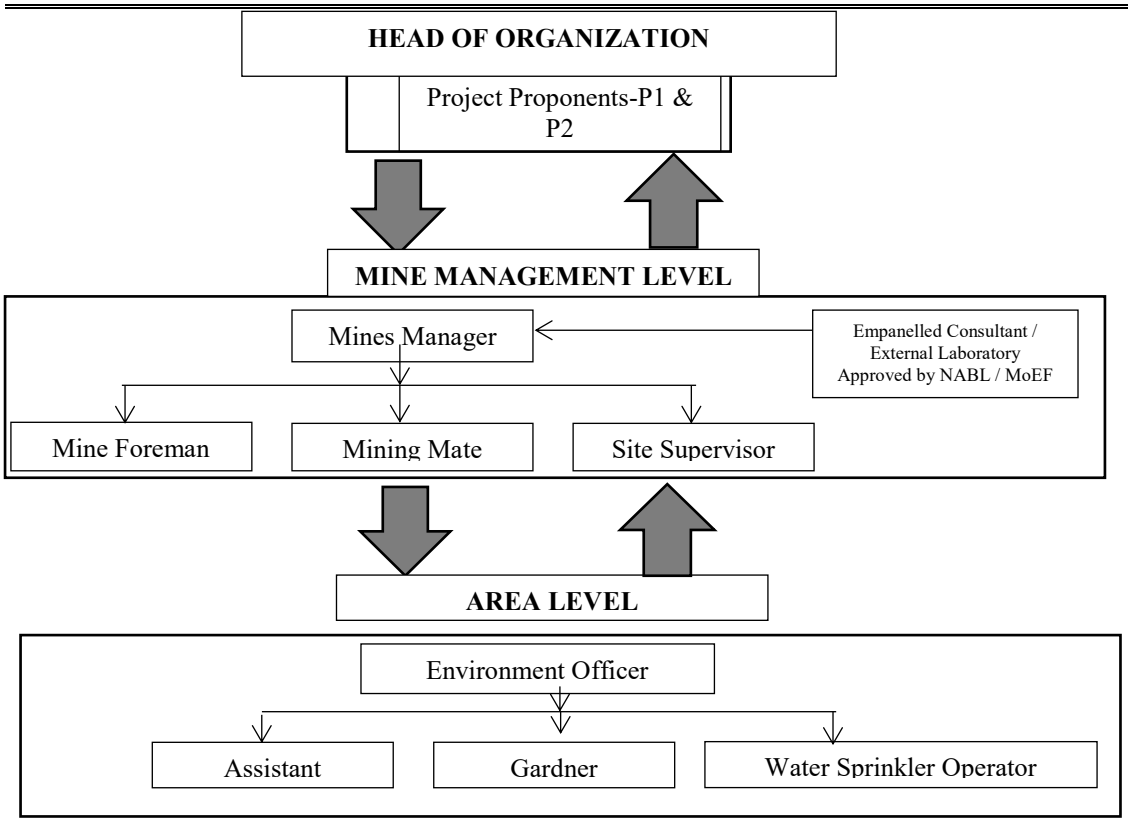
- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil Quality; and
- Greenbelt Development

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



6.5 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 Ajjanahalli black granite quarries is Rs. 3,60,000/- per quarry for conducting Air Quality, Meteorology, Water Quality, Hydrology, Soil Quality, Noise Quality Vibration Study, Greenbelt.

TABLE 6.3: ENVIRONMENTAL MONITORING BUDGET

Sl.No.	Parameter	P1 Cost per annum in Rs.	P2 Cost per annum in Rs.
1	Air Quality	50,000/-	50,000/-
2	Meteorology	5,000/-	5,000/-
3	Water Quality	15,000/-	15,000/-
4	Hydrology	25,000/-	25,000/-
5	Soil Quality	25,000/-	25,000/-
6	Noise Quality	25,000/-	25,000/-
7	Vibration Study	1,50,000/-	1,50,000/-
8	Greenbelt	40,000/-	60,000/-
Total		**Rs 3,35,000**	**3,55,000/-**

6.6 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

7.1 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 will be incorporated after Public Hearing.

- Public Consultation
- Risk Assessment
- Disaster Management Plan
- Cumulative Impact Study
- Plastic Waste Management
- Post-COVID Health Management Plan

7.2 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 Combined Draft EIA / EMP Report and the outcome of public hearing proceedings will be detailed in the Final EIA/EMP Report.

7.3 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 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 7.1.

TABLE 7.1 RISK ASSESSMENTS

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, Metalliferrous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations; ▪ Entry of unauthorized persons will be prohibited; ▪ Fire fighting and first-aid provisions in the mine office complex and mining area; ▪ Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use ▪ Working of quarry, as per approved plans and regularly updating the mine plans. ▪ Cleaning of mine faces 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
	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.

7.4 DISASTER MANAGEMENT PLAN

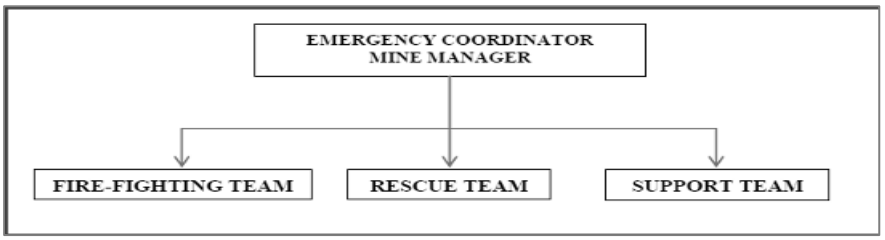
The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities.
The objective of the Disaster Management Plan is to make use of the combined resources of the mine 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 in Fig 7.1.

FIGURE 7.1: KEY PERSONNEL DEALING WITH THE EMERGENCY SITUATIONS



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 7.2.

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 Roll Call 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.

Location	Type of Fire Extinguishers
Electrical Equipment's	CO_2 type, foam type, dry chemical powder type
Fuel Storage Area	CO_2 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.
- Fire fighting 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.

7.5 CUMULATIVE IMPACT STUDY

There is an existing quarry within a radius of 500 meters from the proposed project area. The list of quarries in the cluster is given below –

TABLE 7.3 : CLUSTER QUARRY DETAILS

CODE	Name of the Owner	S.F. Nos	Extent	Status
P1	Tvl. Tamilkumaran Productions Private Limited No. 16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu – 600 017.	830 (Part) West & 835/3	3.14.0	Lr.No. SEIAA-TN/F.No.8673/SEAC/ TOR-1160/2022 Dated: 06.06.2022.
P2	M/s. PVI Trading Corporation D.No. 62-A, 1st Pulikuthi Street, Gugai, Salem, Tamil Nadu, India, Pin Code – 636 006.	830 (Part) East & 834/1	5.00.0	Lr.No. SEIAA-TN/F.No.8650/SEAC/ TOR-1231/2022 Dated: 24.08.2022.
TOTAL CLUSTER EXTENT			**8.14.0Ha**	

TABLE 7.4A : SALIENT FEATURES OF PROPOSAL "P1"

P1 - Tvl. Tamilkumaran Productions Private Limited				
Name of the Project	Tvl. Tamilkumaran Productions Private Limited Black Granite Quarry			
Toposheet No	57 H/16			
Latitude between	12°03'10.06"N to 12°03'18.69"N			
Longitude between	77°48'18.20"E to 77°48'30.42" E			
Highest Elevation	Elevated terrain altitude ranges from 412m to 472m AMSL			
Proposed Depth of Mining	23m AGL (1m Topsoil + 2m Weathered Rock + 20 m Black Granite)			
Existing Pit Dimension	Pit 1 – 14m (L) x 13m (W) x 3m (D) Pit 2 – 12m (L) x 12m (W) x 3m (D)			
Resources	**ROM (m^3)**	**Side burden (m^3)**	**Weathered rock (m^3)**	**Topsoil (m^3)**
Geological Resources	1,64,400	3,94,120	55,200	27,600
Mineable Resources	73,845	33,290	22,054	12,332
Year wise Production Resources	18,375	14,400	22,054	12,332
Ultimate Pit Dimension	Pit : 316m (L) x 62m (W) x 23m (D) agl			
Water Level measured in the surrounding area	56 - 61m bgl			
Method of Mining	Opencast Mechanized Mining Method involving drilling and blasting			
Topography	The area is an elevated terrain situated in slope of hillock. The gradient is 1 in 6 towards southeastern side and altitude of the area is ranges from 412m to 472m above from MSL. The area is concealed under reddish gravelly soil having an average thickness of 1m, 2m weathered rock and followed by fresh black granite.			
Machinery proposed	Wagon Drill	1		
	Jack Hammer	4		
	Compressor	1		
	Diamond Wire Saw	1		
	Diesel Generator	1		
	Crawler Crane	1		
	Excavator	1		
	Tipper	1		
Blasting method	Controlled blasting using Small dia slurry explosives only for overburden and weathered rock removal			
Proposed Manpower Deployment	25 Nos			
Project Cost	Rs 7,72,01,000/-			
CER Cost @ 2% of Project Cost	Rs.10,00,000/-			
Nearby Water Bodies	Kaveri River	6km West		
	Moongilmaduvu Dam	2.5km East		
	Mettuankottai Dam	5km South East		
	Mathalapallam Dam	6.5km South		
	Odai	7km South		
	Tank	9km North East		
Greenbelt Development Plan	Proposed to plant 1500 trees in Safety Zone, approach and Village roads.			
Proposed Water Requirement	5.5 KLD			
Nearest Habitation	460m North			

TABLE 7.4 B: SALIENT FEATURES OF PROPOSED QUARRY "P2"

P2 - M/s. PVI Trading Corporation			
Name of the Project	M/s. PVI Trading Corporation		
Toposheet No	57 H/16		
Latitude between	12°03'06.1265"N to 12°03'17.3265"N		
Longitude between	77°48'28.5887"E to 77°48'39.5422" E		
Highest Elevation	Elevated terrain altitude ranges from 382m to 436m AMSL		
Proposed Depth of Mining	25m agl		
Resources	**ROM (m^3)**	**Side burden (m^3)**	**Weathered rock (m^3)**

Geological Resources	3,08,250	11,20,090	1,43,820
Mineable Resources	1,48,525	1,91,505	54,057
Year wise Production Resources	37,125	99,440	18,252
Ultimate Pit Dimension	Pit: 217m (L) x 117m (W) x 50m (D) (30m agl + 20m bgl)		
Water Level measured in the surrounding area	56 - 61m bgl		
Method of Mining	Opencast Mechanized Mining Method involving drilling and blasting		
Topography	The area is an elevated terrain situated in slope of hillock. The gradient is 1 in 6 towards southeastern side and altitude of the area is ranges from 382m to 436m above from MSL. The area is concealed under 3m weathered rock and followed by fresh black granite.		
Machinery proposed	Jack Hammer	4	
	Compressor	2	
	Diamond Wire Saw	2	
	Line Drilling Machinery	2	
	Excavator	1	
	Tipper	2	
Blasting method	Controlled blasting using Small dia slurry explosives only for overburden and weathered rock removal		
Proposed Manpower Deployment	27 Nos		
Project Cost	Rs 6,09,70,000/-		
CER Cost @ 2% of Project Cost	Rs.10,00,000/-		
Nearby Water Bodies	Kaveri River	6km West	
	Moongilmaduvu Dam	2.5km East	
	Mettuankottai Dam	5km South East	
	Mathalapallam Dam	6.5km South	
	Odai	7km South	
	Tank	9km North East	
Greenbelt Development Plan	Proposed to plant 2500 trees in Safety Zone, approach and Village roads.		
Proposed Water Requirement	4.5 KLD		
Nearest Habitation	460m North		

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.

TABLE 7.5: CUMULATIVE PRODUCTION LOAD OF GRANITE

Quarry	Mineable Reserves ROM In m^3	Mineable Reserves of Granite	Proposed production for five-year period	Production of ROM Per Day	Production of Granite Per day in m^3	Number of Lorry loads per Week
P1	73,845	7,385	18,375	12	1	1
P2	1,48,525	14,853	37,125	25	2	2
Total	**2,22,370**	**22,238**	**55,500**	**37**	**3**	**3**

On a cumulative basis considering all the 2 Proposed quarries it can be seen that the overall production of Granite ROM per day is 37m3 and overall production of Granite is 3m3 per day (recovery percentage is same for both quarries), Number of Lorry loads per week is 3 trips.

Air Environment –

Calculating the Cumulative Load of Mining within the cluster is as shown in table 7.5. Based on the above production quantities the emissions due to various activities in all the 2 mines including 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 7.6.

TABLE 7.6: EMISSION ESTIMATION FROM QUARRIES WITHIN 500 METER RADIUS

Emission Estimation for quarry P1				
Estimated Emission Rate for PM_{10}	**Activity**	**Source type**	**Value**	**Unit**
	Drilling	Point Source	0.042810432	g/s
	Blasting	Point Source	0.000026071	g/s
	Mineral Loading	Point Source	0.041165276	g/s
	Haul Road	Line Source	0.002631934	g/s
	Overall Mine	Area Source	0.107858486	g/s
Estimated Emission rate for SO_2	Overall Mine	Area Source	0.000214448	g/s
Estimated Emission rate for NO_X	Overall Mine	Area Source	0.000017563	g/s
Emission Estimation for quarry P2				
Estimated Emission Rate for PM_{10}	**Activity**	**Source type**	**Value**	**Unit**
	Drilling	Point Source	0.050070831	g/s
	Blasting	Point Source	0.000057060	g/s
	Mineral Loading	Point Source	0.041929128	g/s
	Haul Road	Line Source	0.002632427	g/s
	Overall Mine	Area Source	0.130160008	g/s
Estimated Emission rate for SO_2	Overall Mine	Area Source	0.000277123	g/s
Estimated Emission rate for NO_X	Overall Mine	Area Source	0.000034539	g/s

TABLE 7.7: INCREMENTAL & RESULTANT GLC WITHIN CLUSTER

PM_{10} in $\mu g/m^3$	
Location	CORE
Background	43.8
Highest Incremental	16.89
Resultant	60.69
NAAQ standard	100 $\mu g/m^3$
$PM_{2.5}$ in $\mu g/m^3$	
Location	CORE
Background	22.0
Highest Incremental	8.79
Resultant	30.79
NAAQ standard	60 $\mu g/m^3$
SO_2 in $\mu g/m^3$	
Location	CORE
Background	6.3
Highest Incremental	3.45
Resultant	9.75
NAAQ standard	80 $\mu g/m^3$
NOx in $\mu g/m^3$	
Location	CORE
Background	18.9
Incremental	10.40
Resultant	29.3
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.

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

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 7.8: PREDICTED NOISE INCREMENTAL VALUES FROM CLUSTER

Location ID	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	47.3	47.0	50.2	55
Habitation Near P2	48.2	47.0	50.7	

The incremental noise level is found within the range of 50.2 – 50.7 dB (A) in Core Zone and 35.2 – 48.2 dB (A) in Buffer 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 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.).

Socio Economic Environment –

The 2 mines shall create employment to 52 people and revenue will be created to government.

TABLE 7.9: SOCIO ECONOMIC BENEFITS FROM 2 MINES

Location code	Employment	Project Cost	CER
P1	25	7,72,01,000	5,00,000
P2	27	6,09,70,000	5,00,000
Total	**52**	**13,81,71,000**	**10,00,000**

A total of 52 people 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 from the 2 mines is Rs 10,00,000/-.

TABLE 7.10: EMPLOYMENT BENEFITS FROM 2 MINES

Location ID	Direct Employment	Indirect Employment
P1	25 Nos	10 Nos
P1	27 Nos	12 Nos
Total	**52 Nos**	**22 Nos**

A total of 74 people will get employment due to these 2 mines in cluster.

Greenbelt Development –

TABLE 7.11: GREENBELT DEVELOPMENT BENEFITS FROM 2 MINES

Proponent	No of Trees proposed to be planted	Survival %	Area Covered Sq.m	Name of the Species
P1	1500 Trees for five years	80%	Safety barrier, Un utilized	Neem, Pungam, Panai,

			areas and nearby village roads	vengai, naval trees
P2	2500 Trees for five years	80%	Safety barrier, Un utilized areas and nearby village roads	Neem, Pungam, Panai, vengai, naval trees

Based on the Proposed Mining Plans its anticipated that there shall growth of native species of Neem, Pungam, Panai, vengai, naval trees etc., in the Cluster at a rate of 4000 Trees Planted over a period of 5 Years with Survival Rate of 80% and expected growth is around 3200 Trees over an area Safety barrier, Un utilized areas and nearby village roads.

7.6 PLASTIC WASTE MANAGEMENT PLAN

The Project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (EC.2) Department Dated: 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986.

Objective –

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

TABLE 7.12: ACTION PLAN TO MANAGE PLASTIC WASTE

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

Source: Proposed by FAE's and EC

7.7 POST COVID HEALTH MANAGEMENT PLAN

COVID – 19 diseases caused by SARS-CoV-2 Coronavirus is relatively a new disease, with fresh information being known on a dynamic basis about the natural history of the disease, especially in terms of post-recovery events.

After acute COVID-19 illness, recovered patients may continue to report wide variety of signs and symptoms including fatigue, body ache, cough, sore throat, difficulty in breathing, etc. As of now there is limited evidence of post-COVID sequalae and further research is required and is being actively pursued. A holistic approach is required for follow up care and well-being of all post COVID recovering patients.

Post-COVID Follow Up Protocol –

- Continue COVID appropriate behaviour (use of mask, hand & respiratory hygiene, physical distancing).
- Drink adequate amount of warm water (if not contra-indicated).
- Make sure your workplaces are clean and hygienic
- Surfaces (e.g. desks and tables) and objects (e.g. telephones, helmet) need to be wiped with disinfectant regularly

- Put sanitizing hand rub dispensers in prominent places around the workplace. Make sure these dispensers are regularly refilled
- Display posters promoting hand-washing
- Make sure that staff, contractors and customers have access to places where they can wash their hands with soap and water
- Display posters promoting respiratory hygiene.
- Brief your employees, contractors and customers that if COVID-19 starts spreading in your community anyone with even a mild cough or low-grade fever (37.3°C or more) need to stay at home. They should also stay home (or work from home) if they have had to take simple medications, such as paracetamol/acetaminophen, ibuprofen or aspirin, which may mask symptoms of infection
- Keep communicating and promoting the message that people need to stay at home even if they have just mild symptoms of COVID-19.
- Consider whether a face-to-face meeting or event is needed. Could it be replaced by a teleconference or online event?
- Could the meeting or event be scaled down so that fewer people attend?
- Pre-order sufficient supplies and materials, including tissues and hand sanitizer for all employees. Have surgical masks available to offer anyone who develops respiratory symptoms.
- It is also suggested by the Ministry of AYUSH that the use of Chyawanprash in the morning (1 teaspoonful) with luke warm water/milk is highly recommended (under the direction of Registered Ayurveda physician) as in the clinical practice Chyawanprash is believed to be effective in post-recovery period.
- If there is persistent dry cough / sore throat, do saline gargles and take steam inhalation. The addition of herbs/spices for gargling/steam inhalation. Cough medications, should be taken on advice of medical doctor or qualified practitioner of Ayush.
- Look for early warning signs like high grade fever, breathlessness, $Sp0_2 < 95\%$, unexplained chest pain, new onset of confusion, focal weakness.
- Avoid smoking and consumption of alcohol.
- Communicate to your employees and contractors about the plan and make sure they are aware of what they need to do – or not do – under the plan. Emphasize key points such as the importance of staying away from work even if they have only mild symptoms or have had to take simple medications (e.g. paracetamol, ibuprofen) which may mask the symptoms
- The plan should address how to keep your business running even if a significant number of employees, contractors and suppliers cannot come to your place of business - either due to local restrictions on travel or because they are ill.

CHAPTER – 8: PROJECT BENEFITS

8.1 GENERAL

Black Granite Quarry of Ajjanahalli Black Granite Quarries 5,550m^3 of Granite @ 10% recovery (ROM 55,500m^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

8.2 EMPLOYMENT POTENTIAL

It is proposed to provide employment to about 52 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.

8.3 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.

8.4 IMPROVEMENT IN PHYSICAL INFRASTRUCTURE

The proposed mine is located in Ajjanahalli Village, Pennagaram Taluk and Dharmapuri 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.

8.5 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.

8.6 OTHER TANGIBLE BENEFITS

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

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

8.6.1 Corporate Social Responsibility

The project proponent Ajjanahalli Black Granite Quarries 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

8.6.2 CSR Cost Estimation

CSR activities will be taken up in the Ajjanahalli 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.

8.6.3 Corporate Environment Responsibility–

Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III, Dated: 01.05.2018.

As per para 6 (II) of the office memorandum, being a green field project & Capital Investment is ≤ 100 crores, Ajjanahalli Black Granite Quarries shall contribute 2% of Capital Investment towards CER as per directions of EAC/SEAC. Capital cost is Rs. 13.75 crores and 2 % of the same works out to Rs 28 lakhs.

TABLE 8.1: CER ACTION PLAN

Activity	Beneficiaries	Total in Rs
Sanitation – Maintenance & repairs of toilets in nearby schools	Government school in Ajjanahalli village	Rs. 10,00,000/-
Solar Power – Installation of Solar Street Lamps	Ajjanahalli village roads	
Plantation proposed – 500 tresses	Village Road	
	Total	**Rs. 10,00,000/-**

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 – P1

10.1 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.

10.2 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 –

- 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

10.2.1 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.

10.3 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
Refuelling 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

10.4 SOIL MANAGEMENT

10.4.1 Top Soil Management –

It is anticipated to remove 12,658 m3 of topsoil and preserve it to facilitate greenbelt development on the backfilled area during mine closure.

10.4.2 Overburden / Waste and Side Burden Management –

It is anticipating to remove 30,938 m^3 of waste (Granite waste + side burden) which will temporarily store at predetermined places as per mining plan and will be backfilled during mine closure.

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

10.5 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 for 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

10.6 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

10.7 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

10.8 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

10.9 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 retards 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.

10.9.1 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
5	*Psidium guajava*	Myrtaceae	Koyya	Tree
6	*Acacia nilotica*	Mimosaceae	Karuvlam	Tree
7	*Sygygium cumini*	Myrtaceae	Navalmaram	Tree
8	*Tectona grandis*	Verbenaceae	Thekku	Tree

Source: Proposed by FAE's & EIA Coordinator

10.10 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.

10.10.1 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.

10.10.2 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 (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.

10.10.3 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

Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 5.2 and 5.3 give overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures (including reclamation).

TABLE 10.9: CAPITAL AND RECURRING COST OF EMP

	Mitigation Measure	Provision for Implementation	Capital	Recurring
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	31400	31400
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	800000	50000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance - 5 Units	125000	12500
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governers @ Rs. 5000/- per Tipper/Dumper deployed - 1 Units	5000	250
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	62800
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
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	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	59036
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal 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 for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	31400	5000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	628000	10000

	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 1900 Trees - (800 Inside Lease Area & 1100 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	160000	24000
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	330000	33000
	4. Implementation of Final Mine Closure Actity as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	106650	0
	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	426368	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 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 29 Employees	100000	25000

	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	25000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	6280
	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 on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	157000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Anna university Star rating	Star Rating @ Rs.1,00,000/-Per year	500000	
	Monitoring of Granite Quarrying Operation by Anna University	Mines Manager (1st Class / 2nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000
CER	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Detailed Description in following slides and Budget allocation is included as per MoeEF & CC OM	500000	
TOTAL			**3527800**	**1261266**

Year	Total Cost	Year	Total Cost
1st	**Rs 47,89,066/-**	**11th**	**Rs 40,68,492/-**
2nd	Rs 13,24,329/-	12th	Rs 25,08,016/-
3rd	Rs 13,90,545/-	13th	Rs 26,33,417/-
4th	Rs 14,60,073/-	14th	Rs 27,65,088/-
5th	Rs 16,39,726/-	15th	Rs 29,03,342/-
6th	**Rs 34,85,613/-**	16th	**Rs 48,12,409/-**
7th	Rs 18,95,993/-	17th	Rs 32,89,130/-
8th	Rs 19,90,793/-	18th	Rs 34,53,586/-
9th	Rs 20,90,332/-	19th	Rs 36,26,266/-
10th	Rs 21,94,849/-	20th	Rs 39,14,229/-

Cost inflation 5% per annum

Note : This Environmental Management plan cost will vary according to the public consultation comments

In order to implement the environmental protection measures, an amount of Rs. 35 lakhs as capital cost and recurring cost as Rs. 39 lakhs as recurring cost is proposed considering present market price considering present market scenario.

CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P2

10.1 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.

10.2 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 –

- 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

10.2.1 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.

10.3 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
Refuelling 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

10.4 SOIL MANAGEMENT

10.4.1 Top Soil Management –

There is No topsoil for preserve it to facilitate greenbelt development on the backfilled area during mine closure.

10.4.2 Overburden / Waste and Side Burden Management –

It is anticipating to remove 1,32,853 m^3 of waste (Granite waste + side burden) which will temporarily store at predetermined places as per mining plan and will be backfilled during mine closure.

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

10.10 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 for 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

10.11 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

10.12 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

10.13 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

10.14 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 retards 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.

10.14.3 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
5	*Psidium guajava*	Myrtaceae	Koyya	Tree
6	*Acacia nilotica*	Mimosaceae	Karuvlam	Tree
7	*Sygygium cumini*	Myrtaceae	Navalmaram	Tree
8	*Tectona grandis*	Verbenaceae	Thekku	Tree

Source: Proposed by FAE's & EIA Coordinator

10.15 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.

10.15.3 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.

10.15.4 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 (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.

10.15.5 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

Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 5.2 and 5.3 give overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures (including reclamation).

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	Mitigation Measure	Provision for Implementation	Capital	Recurring
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	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	800000	50000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance - 4 Units	100000	10000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governers @ Rs. 5000/- per Tipper/Dumper deployed - 2 Units	10000	500
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	100000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
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	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	47455
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal 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 for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	50000	5000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	1000000	10000

	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 3000 Trees - (750 Inside Lease Area & 2250 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	150000	22500
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	675000	67500
	4. Implementation of Final Mine Closure Actity as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	120000	0
	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	861787	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 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 29 Employees	108000	27000

	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	27000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	10000
	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 on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	250000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Anna university Star rating	Star Rating @ Rs.1,00,000/-Per year	500000	
	Monitoring of Granite Quarrying Operation by Anna University	Mines Manager (1st Class / 2nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000
CER	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Detailed Description in following slides and Budget allocation is included as per MoeEF & CC OM	500000	
TOTAL			**4353000**	**1343955**

Year	Total Cost	Year	Total Cost
1st	**Rs 56,96,955/-**	**11th**	**Rs 46,58,750/-**
2nd	Rs 14,11,153	12th	Rs 27,15,188/-
3rd	Rs 14,81,711/-	13th	Rs 28,50,947/-
4th	Rs 15,55,796/-	14th	Rs 29,93,495/-
5th	Rs 17,53,586/-	15th	Rs 31,43,169/-
6th	**Rs 40,17,765/-**	16th	**Rs 54,76,828/-**
7th	Rs 20,42,154/-	17th	Rs 35,74,169/-
8th	Rs 21,44,261/-	18th	Rs 37,52,878/-
9th	Rs 22,51,474/-	19th	Rs 39,40,522/-
10th	Rs 23,64,048/-	20th	Rs 42,57,548/-

Cost inflation 5% per annum

Note : This Environmental Management plan cost will vary according to the public consultation comments

In order to implement the environmental protection measures, an amount of Rs. 43.5 lakhs as capital cost and recurring cost as Rs. 42.5 lakhs as recurring cost is proposed considering present market price considering present market scenario.

11. SUMMARY AND CONCLUSIONS

Ajjanahalli Black Granite Cluster Quarries (Extent – 8.14.0 ha) 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 Combined Draft EIA EMP Report was prepared for public and other stakeholders' suggestions and this Final EIA EMP Report is prepared based on the outcome of Public Consultation and the outcome is incorporated in the EMP Report.

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 for each individual leases. 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 months December 2022 to February 2023 for various environmental components 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 52 people directly in the project and indirectly around 22 people.

As discussed, it is safe to say that the proposed quarry is 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 Ajjanahalli Black Granite Cluster Quarries (Extent – 8.14.0 ha).

12. DISCLOSURE OF CONSULTANTS

Ajjanahalli Black Granite Cluster Quarries (Extent – 8.14.0 ha) 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 and Standard ToR Deemed Approved.

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

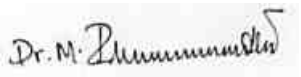
DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA/EMP

Declaration by experts contributing to the EIA/EMP for Ajjanahalli Black Granite Cluster Quarries over an Extent of 8.14.0 ha in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri 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**

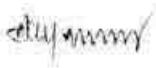
Date & Signature: 

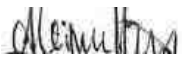
Period of Involvement: **December 2022 to till date**

Associated Team Member with EIA Coordinator:

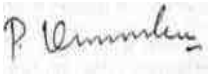
1. **Mr. S.Nagamani**
2. **Mr. P.Viswanathan**
3. **Mr. M.Santhoshkumar**
4. **Mr. S. Ilavarasan**

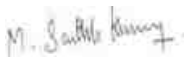
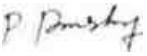
FUNCTIONAL AREA EXPERTS ENGAGED IN THE PROJECT

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 ▪ Management plan for safety.	Mr. N. Senthilkumar	
			Mr. S. Pavel	
			Mr. J. R. Vikram Krishna	
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	
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 over an Extent of 8.14.0 ha in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri 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: 

Name:	**Dr. M. Ifhikhar 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/RA 0276 Dated: 06.08.2025**

ANNEXURE

AJJANAHALLI BLACK GRANITE QUARRIES

Ajjanahalli Village, Pennagaram Taluk,

Dharmapuri District, Tamil Nadu.

CLUSTER EXTENT = 8.14.0 ha

ToR Obtained vide

P1-Lr.No. SEIAA-TN/F.No.8673/SEAC/TOR-1160/2022 Dated: 06.06.2022

P2-Lr.No. SEIAA-TN/F.No.8650/SEAC/TOR-1231/2022 Dated: 24.08.2022

Project Proponents

Tvl. Tamilkumaran Productions Private Limited	**M/s. PVI Trading Corporation**
S.F.No : 830 (Part) West & 835/3 Extent : 3.14.0 Ha Village : Ajjanahalli Taluk : Pennagaram District : Dharmapuri .	S.F.No :830 (Part) East & 834/1 Extent :5.00.0 Ha Village : Ajjanahalli Taluk : Pennagaram District : Dharmapuri .

LIST OF ANNEXURES

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

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

TERMS OF REFERENCE (ToR)

Lr No.SEIAA-TN/F.No.8673/SEAC/ToR-1160/2022 Dated: 06.06.2022

To

Tvl.Tamilkumaran Production Private Limited
No.16/8, Bagavandham Street
Good Will Court, T, Nagar
Chennai - 600017

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Black granite quarry lease over an extent of 3.14.0 Ha in S. F. Nos. 830 (Part) West and 835/3 (Part) Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District Tamil Nadu by M/s. Tamilkumaran Productions Private Limited - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

Ref: 1. Online proposal No.SIA/TN/MIN/ 65944/2021, dated: 23.07.2021
2. Your application seeking Terms of Reference submitted on: 29.07.2021
3. Minutes of the 273rd Meeting of SEAC held on 14.05.2022
4. Minutes of the 518th Meeting of SEIAA held on 06.06.2022.

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

The project proponent, M/s.Tamilkumaran Productions Private Limited has submitted application seeking ToR for B1 category project in Form-I, for the Proposed Black granite

MEMBER SECRETARY
SEIAA-TN

quarry lease over an extent of 3.14.0 Ha in S.F.Nos.830 (Part) West and 835/3 (Part) Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District Tamil Nadu and has furnished Pre-feasibility report.

The proposal was placed in 273rd SEAC meeting held on 14.5.2022. The SEAC noted the following:

1. The Project Proponent, M/s. Tamilkumaran Productions Private Limited has applied for Terms for Reference for the proposed Black granite quarry lease over an extent of 3.14.0 Ha in S. F. Nos. 830 (Part) West and 835/3 Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District Tamil Nadu. It is a Govt promboke land
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. As per the mining plan, the lease period is 20 years. The production as per mining plan for 5 years not to exceed – ROM-18375 m3 & 1837 m3 of granite. **The annual peak production as per mining plan is** ROM- 4375m3 (5th year) & 437 m3 of granite (5th year) **with ultimate depth of 23m AGL.**

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

1. The PP shall obtain a letter from DFO stating that the details of nearest RF and it's distance with respect to the project site.
2. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
    a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b) Quantity of minerals mined out.
    c) Highest production achieved in any one year
    d) Detail of approved depth of mining.
    e) Actual depth of the mining achieved earlier.

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SEIAA-TN

f) Name of the person already mined in that leases area.

g) If EC and CTO already obtained, the copy of the same shall be submitted.

h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.

3. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
4. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
5. 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.
6. 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.
7. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
8. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
9. The proponent shall furnish the baseline data for the environmental and ecological

MEMBER SECRETARY
SEIAA-TN

parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.

10. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of air pollution, water pollution, & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
11. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
12. Issues relating to Mine Safety, including slope geometry in case of Granite quarrying, blasting parameters etc. should be detailed. The proposed safeguard measures in each case should also be provided.
13. 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.
14. 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.
15. Since non-saleable waste /OB / intermediate waste etc. is huge in the granite quarry, the Proponent shall provide the details pertaining to management of the above material with year wise utilization and average moving inventory be submitted.
16. 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.
17. 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.

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SEIAA-TN

18. Impact on local transport infrastructure due to the Project should be indicated.
19. 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.
20. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
21. Public Hearing points raised and commitments of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
22. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
23. The PP shall produce/display the EIA report, Executive summery and other related with respect to public hearing should in Tamil Language also.
24. The specific flora & fauna studies shall be carry out with the help of local School/College students and the same shall be included in EIA Report.
25. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
26. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the **appendix-I** in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.

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27. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper espacement as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
28. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
29. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.
30. 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.
31. 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.
32. 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.
33. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
34. 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.
35. 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

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concerned DEE/TNPCB.

36. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

Appendix -I

List of Native Trees Suggested for Planting

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

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

The proposal was placed in the 518th Authority meeting held on 06.06.2022. The authority noted as follows:

1. In the minutes of the 273th meeting of SEAC held on 14.05.2022, the SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) with Public Hearing, subject to the following TORs, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MoEF & CC to be included in EIA/EMP Report.
2. In the Minutes of the 273rd SEAC meeting, it was mentioned that the proposed Black granite quarry over an extent of 4.80.0 Ha at S.F.Nos. 830(Part) West & 835/3 of Ajjanahalli Village, Pennagram Taluk, Dharmapuri District, Tamil Nadu.

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3. On verifying the approved mining plan, it was noticed that the proposed Black granite quarry over an extent of 3.14.0 Ha at S.F.Nos. 830(Part) West & 835/3 of Ajjanahalli Village, Pennagram Taluk, Dharmapuri District, Tamil Nadu **is inadvertently mentioned as** 4.80.0Ha.

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

1. The proposed Black granite quarry over an extent of 3.14.0 Ha at S.F.Nos. 830(Part) West & 835/3 of Ajjanahalli Village, Pennagram Taluk, Dharmapuri District, Tamil Nadu.
2. Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
3. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
4. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.
5. The Environmental Impact Assessment shall study in detail on the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.
6. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.
7. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
8. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the nearby water body and Reservoir.

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9. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
10. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
11. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
12. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
13. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
14. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
15. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
16. The project proponent shall study and furnish the impact of project on plantations in adjoin patta lands, Horticulture, Agriculture and livestock.
17. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
18. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.
19. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.
20. The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.
21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
    a) Soil health & bio-diversity.
    b) Climate change leading to Droughts, Floods etc.

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

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

e) Agriculture, Forestry & Traditional practices.

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

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

h) Sediment geochemistry in the surface streams.

22. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
23. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.
24. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
25. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.
26. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

A. STANDARD TERMS OF REFERENCE

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

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3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

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

6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human

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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

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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.

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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

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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

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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.

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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.

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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.

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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

MEMBER SECRETARY
SEIAA-TN

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

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

MEMBER SECRETARY
SEIAA-TN

Copy to:

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

From

Tmt.N.Vijiyalakshmi, M.Sc.,
Deputy Director,
Dept. of Geology and Mining,
Dharmapuri.

To

Tvl.Tamilkumaran Productions
Private Limited, No.16/8,
Bagavandham Street,
Good Will Court, T.Nagar,
Chennai -600017.

Roc.No.175/2020 (Mines) **dated. 14.06.2021.**

Sir,

Sub: Mines and Quarries – Minor Mineral- Black Granite- Dharmapuri District - Pennagaram Taluk – Ajjanahalli Village S.F.Nos.830 (Part) West & 835/3 over an extent of 3.14.0Hects. of Government Poramboke lands – Quarry lease application preferred by Tvl.Tamilkumaran Productions Private Limited - Precise area communicated by the Government – Mining plan approved by the Commissioner of Geology and Mining - obtaining prior clearance from State Level Environment Impact Assessment Authority, Chennai for grant of quarry lease - existing/proposed/abandoned quarries situated within 500 mts. radial distance - requested by the applicant - details furnished - reg.

Ref:

1. Quarry Lease Application of the Highest Auctioner Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai, dated 29.09.2020.
2. The Principal Secretary to Government, Industries (MME2) Department, Secretariat, Chennai - 600 009 Letters No.273/MME.2/2021-1, dated 23.02.2021 and 26.02.2021.
3. Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai Letter dated 10.05.2021.
4. The Commissioner of Geology and Mining, Chennai-32 letter Rc.No.6163/MM4/2020 dated 21.05.2021.
5. Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai Letter dated 09.06.2021 along with report of the Village Administrative Officer, Ajjanahalli Village.

The Government in the reference 2nd cited has communicated the precise area to Tvl.Tamilkumaran Productions Private Limited with a direction to submit the Approved Mining Plan in respect of the area applied for the grant of Black Granite quarry lease over an extent of 3.14.0Hectares of Government Poramboke land in S.F.Nos.830 (Part) West & 835/3 of Ajjanhalli Village, Pennagaram Taluk, Dharmapuri District for a period of 20 years as per Rule 8-A (a) (ii) of Tamil Nadu Minor Mineral Concession Rules, 1959 by incorporating certain conditions stipulated in the Government letter.

2) Accordingly, the draft Mining plan submitted by the applicant company in the reference 3rd cited was approved by the Commissioner of Geology and Mining, Chennai-32 vide letter in the reference 4th cited.

3) In the reference 5th cited, the applicant company Tvl.Tamilkumaran Productions Private Limited, Chennai have requested to furnish the details of abandoned, existing and proposed mines/quarries located within 500 mts. radius from the lease area for obtaining Environmental Clearance from State Level Environmental Impact Assessment Authority (SEIAA), Chennai.

4) In the circumstances stated above, based on the report of the Village Administrative Officer, Ajjanahalli Village and the records available in this office, it is informed that at present the following abandoned/ existing/proposed quarries are located within 500 mts. radial distance from the periphery of the applied area as detailed below:

Abandoned Quarry

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F. No.	Extent (in Hects.)	Classification of land	Lease period
.....Nil....						

Existing Quarry

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F. No.	Extent (in Hects.)	Classification of land	Lease period
.....Nil....						

Proposed Quarries

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F.No.	Extent (in Hects.)	Classification of land
1.	M/s PVI Trading Corporation, No.62-A, 1st Pulikuthi Street, Gugai, Salem.	Ajjanahalli Village & Pennagaram Taluk	830 (Part) East & 834/1	5.00.0	Govt. Poramboke land
2.	Tvl.Tamilkumaran Productions Private Limited, No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai -600017.	Ajjanahalli Village & Pennagaram Taluk	830 (Part) West & 835/3	3.14.0	Govt. Poramboke land
			Total	**8.14.0**	

Deputy Director,
Geology and Mining,
Dharmapuri.

COMMISSIONERATE OF GEOLOGY AND MINING

From
Dr.L.Subramanian, I.A.S.,
Commissioner,
Commissionerate of Geology and Mining,
Guindy, Chennai-32.

To
Tvl Tamilkumaran Productions
Private Limited,
No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai – 600 017

Rc. No.6163/MM4/2020 dated: 21.05.2021

Sir,

Sub: Mines and Minerals – Minor Mineral – Black Granite – Dharmapuri district – Pennagaram taluk – Ajjanahalli village - S.F.Nos 830 (P) west (2.32.5) and 835/3 (0.81.5) - over an extent of 3.14.0 ha in Government poramboke lands – highest bid amount offered by – Tvl Tamilkumaran Productions Private Limited, Chennai - Precise area communication issued by the Government – Mining Plan submitted – Recommended by the Deputy Director (G&M), Dharmapuri district - Approval accorded – Reg.

Ref:
1) Dharmapuri District Gazette Extraordinary issue in English and Tamil No.05 dated.03.09.2020.
2) Application of Highest Bidder Tvl Tamilkumaran Productions Private Limited, Chennai on 29.09.2020.
3) Commissioner of Geology and Mining File Rc No 6163/MM4/2020 dated 31.12.2020 and 06.02.2021.
4) Precise area communicated by the Government vide letter Rc No 273/MME.2/2021-1 dated 23.02.2021 and 26.02.2021.
5) Mining Plan submitted by Tvl Tamilkumaran Productions Private Limited, Chennai vide letter dated 10.05.2021 to the district office.
6) The District Collector, Dharmapuri in letter Roc. No. 175/2020 (Mines), dated: 07.05.2021
7) The Deputy Director (G&M), Dharmapuri letter Roc No 175/2020 (Mines) dated 12.05.2021

Kind attention is invited to the references cited.

2) A proposal recommending for grant of Black Granite quarry lease to the highest bidder Tvl Tamilkumaran Productions Private Limited, Chennai over an extent of 3.14.0 ha of Government poramboke lands in S.F.Nos 830 (P) west (2.32.5) and 835/3 (0.81.5) of Ajjanahalli village, Pennagaram taluk, Dharmapuri district was forwarded to the Government

1.

vide reference 3rd cited. In the reference 4th cited, as per Rule 8-A(8)(a) (ii) of Tamil Nadu Minor Mineral Concession Rules 1959, the Government have communicated precise area to the applicant with a direction to remit the balance lease amount of Rs. 5,25,00,000/- within a period of one month from the date of receipt of the communication and to submit the approved mining plan within a period of three months from the date of receipt of the communication from the State Government.

3) The District Collector, Dharmapuri in the reference 6th cited has stated that the highest bidder Tvl Tamilkumaran Productions Private Limited, Chennai has enclosed the challan for the remaining lease amount of Rs 5,2,500,000/- remitted by them within the stipulated time.

4) The highest bidder, Tvl Tamilkumaran Productions Private Limited, Chennai has submitted the Mining Plan to the Deputy Director (G&M), Dharmapuri. The Deputy Director (G&M), Dharmapuri has scrutinized the mining plan submitted by Tvl Tamilkumaran Productions Private Limited, Chennai and recommended the Mining Plan for approval vide reference 7th cited.

5) The mining plan submitted by Tvl Tamilkumaran Productions Private Limited, Chennai, the report of the Deputy Director (G&M), Dharmapuri have 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. The mining plan submitted by Tvl Tamilkumaran Productions Private Limited, Chennai is approved subject to the following conditions in addition to the conditions stipulated in the precise area communication issued by the Government under reference 4th cited.

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 there under shall be complied with.

vi. Relaxation to be obtained under Rule 106(2)(b) of Metalliferous Mines Regulations, 1961 from the Director of Mines Safety, if necessary.

vii. The applicant should comply with the additional condition stipulated in the GOI, Ministry of Mines, Order No. 11/02/2020 dated:14.01.2020 issue as per the order of the Hon'ble Supreme Court of India dated: 08.01.2020 which stipulates "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 the mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna, etc"

Encl: 2 copies of Approved mining plan.

Sd/- L.Subramanian
Commissioner of Geology and Mining

Forwarded by order

Joint Director

Copy Submitted to:
The Principal Secretary to Government,
Industries Department,
Secretariat, Chennai-600009.

1. The Director of Mines Safety,
   Lapis Lagoon, AA Block
   New No.05, (Old No.46),
   2nd Street, Shanthi Colony,
   Anna Nagar, Chennai-40.

2. The District Collector,
   Dharmapuri District

MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR AJJANAHALLI BLACK GRANITE (DOLERITE)

(Under Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959 and Rule 12, 13 & 16 of Granite Conservation and Development Rules, 1999)
Government Land / Lease Period: 20 Years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT	:	3.14.0 HECTARES
S.F.Nos.	:	830(PART) WEST & 835/3
VILLAGE	:	AJJANAHALLI
TALUK	:	PENNAGARAM
DISTRICT	:	DHARMAPURI
STATE	:	TAMIL NADU

FOR

APPLICANT/LESSEE

TVL. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,

No.16/8, Bagavandham Street,
Good Will Court, T. Nagar,
Chennai,
Tamil Nadu – 600 017.

PREPARED BY

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A

No.17, Advaitha Ashram Road,
Alagapuram,
Salem – 636 004.
Cell: +91 94422 78601, 94433 56539
E-mail: infogeoexploration@gmail.com

Tvl. Tamilkumaran Productions Private Limited,
No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai,
Tamil Nadu – 600 017.

CONSENT LETTER FROM APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in respect of Ajjanahalli Black Granite over an extent 3.14.0 hectare of Government Poramboke land in S.F.Nos. 830(Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared by

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A

I request the Commissioner, Department of Geology and Mining, Chennai to make further correspondence regarding the modification of the Mining Plan with the said Recognised Qualified Person at his following address.

S. ILAVARASAN, M.Sc.,
No. 17, Advaitha Ashram Road,
Alagapuram,
Salem – 636 004.
Cell: 94422 78601, 94433 56539.

I hereby undertake that all the modifications, if any made in the mining plan by the Recognised Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the applicant
For Tvl. Tamilkumaran Productions Private Limited

(G.M.Tamil Kumaran)
Managing Director

Place: Chennai

Date: 24.02.2021.

Tvl. Tamilkumaran Productions Private Limited,
No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai,
Tamil Nadu – 600 017.

DECLARATION OF APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in respect of Ajjanahalli Black Granite over an extent 3.14.0 hectare of Government Poramboke land in S.F.Nos. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared in full consultation with me by

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A

I have understood its contents and agree to implement the same in accordance with Laws applicable to Mines.

Signature of the applicant
For Tvl. Tamilkumaran Productions Private Limited

(G.M.Tamil Kumaran)
Managing Director

Place: Dharmapuri
Date: 24.02.2021.

S. ILAVARASAN, M.Sc.,
No. 17, Advaitha Ashram Road,
Alagapuram,
Salem – 636 004.
Cell: 94422 78601, 94433 56539.

CERTIFICATE FROM THE RECOGNISED 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 and Progressive Quarry Closure Plan for Ajjanahalli Black Granite over an extent 3.14.0 hectare of Government Poramboke land in S.F.Nos. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared for

Tvl. Tamilkumaran Productions Private Limited,
No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai,
Tamil Nadu – 600 017.

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 RQP

S. ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem

Date: 26.02.2021.

S. ILAVARASAN, M.Sc.,
No. 17, Advaitha Ashram Road,
Alagapuram,
Salem – 636 004.
Cell: 94422 78601, 94433 56539.

CERTIFICATE FROM THE RECOGNISED QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Ajjanahalli Black Granite over an extent 3.14.0 hectare of Government Poramboke land in S.F.Nos. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared for

Tvl. Tamilkumaran Productions Private Limited,
No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai,
Tamil Nadu – 600 017.

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 RQP

S. ILAVARASAN, M.Sc.,
RQP/MAS/253/2013/A

Place: Salem
Date: 26.02.2021.

LIST OF CONTENTS

LIST OF ANNEXURES

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1.	Copy of Precise Area Communication Letter	I
2.	Copy of District Gazette	II
3.	Copy of F.M.B Sketch	III
4.	Copy Combined sketch	IV
5.	Copy of 'A' Register	V
6.	Copy of Adangal	VI
6.	Copy of Memorandum of Articles and Association of Articles	VII
7.	Copy of Authorization Letter from the Company	VIII
8.	Copy of District Forest Letter	IX
9.	Copy of ID & Address Proof	X
10.	Copy of RQP Certificate	XI

LIST OF PLATES

S.No.	DESCRIPTION	PLATE NOS.	SCALE
1.	LOCATION PLAN	I	1:24,00,000
2.	KEY PLAN	IA	1:1,00,000
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4.	ENVIRONMENTAL AND LAND USE PLAN FOR 1km RADIUS	IC	1:10,000
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6.	QUARRY LEASE PLAN	II	1:1,000
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9.	YEARWISE DEVELOPMENT AND PRODUCTION PLAN AND SECTIONS	V	1:1,000
10.	QUARRY LAYOUT AND AFFORESTATION PLAN	VI	1:1,000
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MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR AJJANAHALLI BLACK GRANITE (DOLERITE)

(Under Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959 and Rule 12, 13 & 16 of Granite Conservation and Development Rules, 1999)

I. INTRODUCTION:

The present mining plan has been prepared to quarry Black granite (Dolerite) belonging to **Tvl. Tamilkumaran Productions Private Limited,** having an office at No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu – 600 017.

The Black Granite quarry lease applied area is a Government Poramboke land. The applicant has preferred the application under Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959 and the area was awarded to the successful bidder of **Tvl. Tamilkumaran Productions Private Limited** through Tender Cum Auction for over an extent **3.14.0 Ha of Government Poramboke land in S.F.Nos. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District** (Refer Annexure Nos. I and II) under Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959. The application was processed by the Industries (MME.2) Department, Secretariat, Chennai and passed a precise area communication vide **Letter No.273/MME.2/ 2021-1, Dated: 23.02.2021** through the Commissioner, Department of Geology and Mining, Guindy, Chennai with the following conditions to provide (Refer Annexure No. I):-

1) A Safety Distance of 7.5 meters and 10 meters should be provided to the adjacent patta and Government Poramboke lands respectively.
2) All conditions stipulated in the District Gazette No.05 Extra ordinary notification dated 03.09.2020 should be adhered by the tender applicants / Bidders.
3) Environmental clearance should be obtained from the State Level Environmental Impact Assessment Authority before granting quarry lease as per rule 42 of the Tamil Nadu Minor Mineral Concession Rules, 1959.
4) The applicant company 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 meters and the distance between two pillars shall not be more than 3 meters.
    - The applicant firm 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 form to the Deputy Director, Dharmapuri.

5) The District Administration and Geology and Mining Department, should ensure the conditions imposed in G.O. (Ms) No.79, Industries (MMC.1) Department, dated 06.04.2015.

6) As per rule 12(v) of Mineral (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, the applicant shall at his own expenses, erect, maintain and keep in repair all the boundary pillars.

7) The applicant Company should use mild explosives during quarrying.

8) Child labourers should not be engaged in quarry works.

9) 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.

10) The applicant company should ensure that while starting the quarry work, all the quarry workers working under his control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.

11) The District Collector, Dharmapuri shall obtain a sworn-in-affidavit from the applicant Company containing the above conditions before execution of lease deed and also ensure that the instructions issued in Government Letter No. 12789/MMB2/2002-7 Industries Department dated 9.1.2003 are complied with.

The Company ensures to comply all the conditions stipulated by the Government before the execution of lease deed and during the course of quarry operations. 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.

The area under consideration was in quarrying operations earlier.

The quarry lease was granted in favour of **M/s. Kabini Granites** in S.F.No.830/1 over an extent 3.10.0Ha vide G.O.(2D) 167 Industries Department Dated:12.06.1991 and ten years lease period was from 02.08.1991 to 01.08.2001 and another quarry lease was grated in favour **M/s.Pooshya Exports** Vide G.O.Ms.2D No.677 Industries Department dated:12.08.1991 and ten years lease period was from 10.09.1991 to 09.09.2001. The quarry lease applied area is containing two existing quarry pits due to quarry operation carried out during the earlier quarry lease period. The maximum dimensions of the existing quarry pits are given table below (Refer Plate No. III).

Table – 1

Existing Quarry Pit Dimensions in Meters (**Maximum**)			
Pit No.	Length (m)	Width (m)	Depth (m)
Pit – I	14	13	3
Pit – II	12	12	3

The area applied for Black granite quarry lease over extent 3.14.0 hectares **of Government Poramboke land in S.F.No. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District**. It is a Government Poramboke Land, (Refer Annexure No. V to VI).

All the safety distance has been maintained and this mining plan is prepared accordingly (Please refer Plate No. II and III).

The area is elevated terrain situated in slope of Hillock. The area concealed under 1m thickness of reddish gravelly soil and followed by fresh Black granite. Open cast mechanized quarrying with diamond wire saw cutting is proposed to win the Black Granite dimensional stones.

After removal of overburden by Excavator and conventional blast hole method, Diamond wire saw cutting method is being proposed to liberate granite dimensional stones from the parent granite body. Cutting into required size, removal of defective portions are done by manually using feather and wedges. The dressing of blocks in to the required rectangular shaped dimensional stones are done manually by chiseling with experienced chisel men for the maximum recovery of defect free saleable material. Marketing of these stones blocks to customers is being ensured by strict quality control measures adopted by the Company's marketing personnel.

'Black Granite' is the commercial name for basic rock, petrologically known as "Dolerite". This rock occurs mostly as dykes cutting across the country rocks. The Dolerite consists mostly of Feldspar (Plagioclase), ferromagnesian minerals like Pyroxene (Diopside - Augite) with small quantities of Magnetite and Pyrite. The presence of magnetite mineral imparts steel black color to the rock.

The rock exhibits ophitic texture with interlocking arrangement of augite and feldspar (laths of plagioclase embedded in plates of augite). The ferromagnesian minerals impact the black colour, hardness and compactness to the rock. The rock has a hardness of 6.5 to 7.5, Specific gravity 2.8 to 3.3, Wear factor-1, Unit weight 3.2 Tonnes/m^3.

The black granites are commercially valued depending upon the physical characters such as colour, grain size, texture, presence/absence of deleterious materials like Pyrite, Chlorite, and Mica. The value increases when the material is fine grained and background colour (i.e. intensity of black color). The length and width of the dyke depends on the major lineaments faults or shear zones or pre-existing fractures.

2.0 GENERAL

2.1 NAME OF THE APPLICANT WITH ADDRESS

Name	: **Tvl. Tamilkumaran Productions Private Limited,**
Address	: No.16/8, Bagavandhan Street,
	Good Will Court, T.Nagar,
District	: Chennai
State	: Tamil Nadu
Pin code	: 600 017
Mobile No	: +91 99949 28999
Email ID.	:
Aadhaar No	: 5089 1987 8367(Annexure No. X)

2.2 STATUS OF THE APPLICANT

Tvl. Tamilkumaran Productions Private Limited, is a Private Limited company incorporated in 17.01.2013 with the two directors namely 1. Thiru. G.M.Tamil Kumaran and 2. Thiru. C.Balaj (Copy of Memorandum of Association and Articles of Association enclosed annexure No. VII). The details of directors are given below.

Table – 1

S.No.	Name	Designation
1.	Thiru. G.M. Tamil Kumaran	Managing Director
2.	Thiru. C.Balaji	Director

Thiru. G.M. Tamil Kumaran is the Managing Director and he is an authorized person for signing all the documents on behalf of this Company (Refer annexure Nos. VII and VIII).

2.3 MINERAL WHICH THE APPLICANT INTENDS TO QUARRY

The Company intends to quarry Dimensional stone (Dolerite) commercially called as **"BLACK GRANITE"**.

2.4 NAME, REGISTRATION NUMBER AND ADDRESS OF THE RECOGNISED QUALIFIED PERSON WHO PREPARED THE MINING PLAN

Name : S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
Registration Number : RQP/MAS/253/2013/A
Valid upto : 27.08.2023
Address : No.17, Advaitha Ashram Road,
Alagapuram,
Salem,
Tamil Nadu – 636 004
Mobile : +91 94422 78601, 94433 56539
Telephone : +91 427 2431989(Office)
E-mail : infogeoexploration@gmail.com

(Refer annexure No. XI)

2.5 NAME AND ADDRESS OF THE PROSPECTING AGENCY

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

Geological Survey of India has carried out detailed mapping of the commercial granite deposits of Tamil Nadu. If any drilling program carried out in the granite formations, there is defects like cracks and fractures will generated and developed during drilling time. Besides, the qualified person and his team members made a detailed geological study of the area and demarcated the deposit clearly with a mine surveyor. The Black granite deposit is clearly visible from the outcrops and existing pits. Hence, further prospecting does not required in the area.

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.

2.6 DETAILS OF THE AREA:

a. The area is marked in the Geological Survey of India, Topo sheet no. 57 H/16.

b. The details of the land covered by the area are given below.

Table – 2

District & State	Taluk	Village	S.F.Nos.	Area in Ha.	Ownership occupancy
Dharmapuri & Tamil Nadu	Pennagaram	Ajjanahalli	830 (Part) West	2.32.5	Government Poramboke land (Refer Annexure No. V and VI)
			835/3	0.81.5	
Total				3.14.0	

The area lies between the Latitudes of 12°03'10.06"N to 12°03'18.69"N and Longitudes of 77°48'18.20"E to 77°48'30.42"E on WGS datum-1984. (Plate No. I & II).

2.7 WHETHER THE AREA RECORDED TO BE IN FOREST DEPARTMENT:

The area does not falls under forest land of any category. It is a Government Poramboke land.

2.8 PERIOD FOR WHICH THE MINING AREA IS REQUIRED:

Twenty years only.

2.9 INFRASTRUCTURE:

The lease applied area is situated around 2km Northwest side of Ajjanahalli hamlets and 13m Southwest side of Pennagaram town.

The nearest town is Pennagaram which is located at 13km on the Northeast side of the area where all basic facilities like Hospital, Communication centre, Schools, Police Station, Bus terminus are available. The District head-quarters and District Administrative office are available at Dharmapuri located about 37km on the northeast side of the area.

There is good approach (Village) road is already existence on the Southern side which is leads to Pennagaram town. There is no other patta land encountered for the haulage of Black Granite (Please refer Plate No. IA to ID).

Table – 3

Particulars	Location	Approximate aerial distance in km.	Direction
Nearest Post Office	Ajjanahalli	2km	SE
Nearest School	Ajjanahalli	2km	SE
Nearest Dispensary	Eriyur	5km	South
Nearest Hospital	Pennagaram	13km	NE
Nearest Police Station	Pennagaram	13km	NE
Nearest Town	Pennagaram	13km	NE
Nearest D.S.P.Office	Pennagaram	13km	NE
Nearest Railway Station	Mettur	29Km	South
Nearest Airport	Salem	57Km	SE
Nearest Seaport	Chennai	291Km	NE
District Head Quarters	Dharmapuri	37Km	NE

There is no permanent structure like National monument, Place of worship and place of Archaeological or Historical interest recorded within 300m radius of the area.

WATER:

Packaged drinking water is available from the water vendors in Eriyur Village (5km-South), also ground water is potable without adverse any health effects. The water table is situated about 61m in summer and 56m in rainy season below from ground level this is observed from the nearby bore wells.

RIVERHEAD:

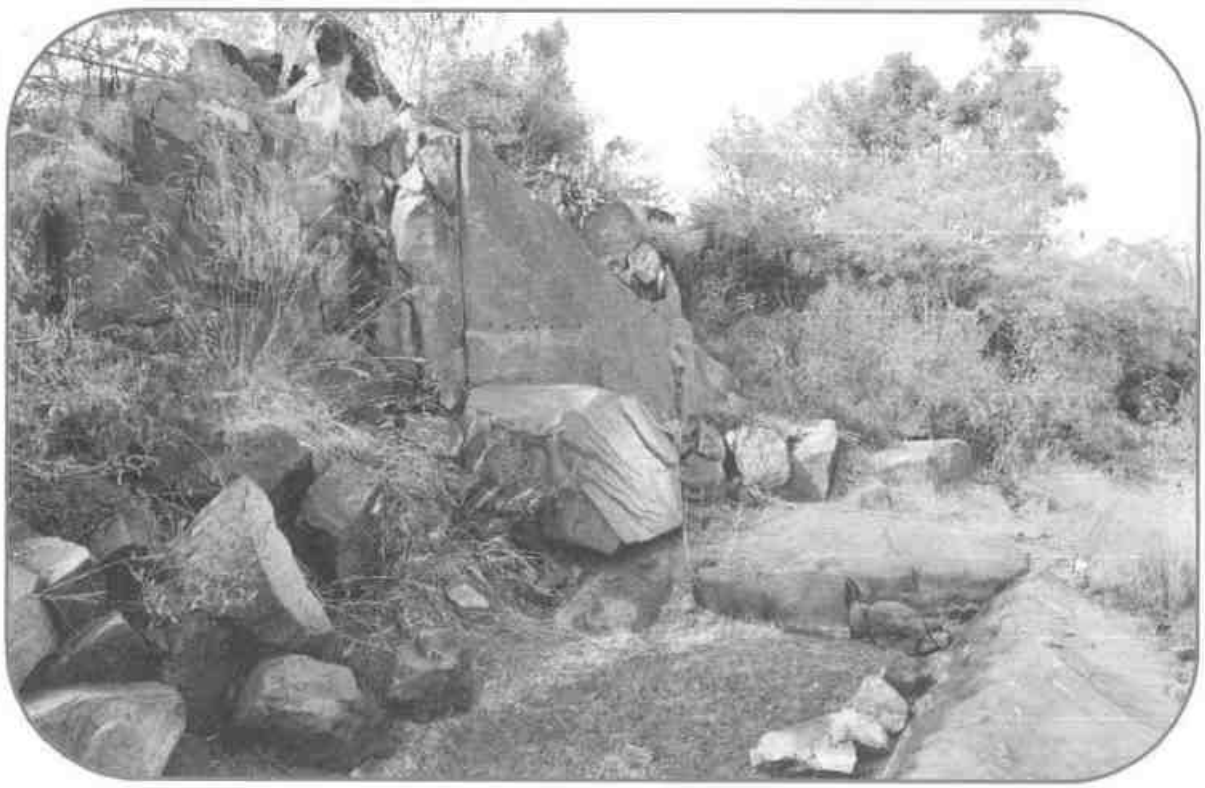
There is no major water body like River, Reservoir, Canal, etc., located within 50m radius of the area.

3.0 GEOLOGY AND RESERVES

3.1 PHYSIOGRAPHY

The area is an elevated terrain situated in slope of Hillock. The gradient is 1 in 6 towards Southeastern side and altitude of the area is ranges from 412m to 472m above from MSL. The area is concealed under reddish gravelly soil having an average thickness of 1m, 2m weathered rock and followed by fresh Black Granite. The Dolerite dyke is intruded between the batholithic formations of Charnockite. This black granite is widely used for slabs, Tiles and Monuments after cutting and polishing.

Images of the Ajjanahalli Black Granite (Dolerite) Quarry Lease Applied Area



The area receives rainfall about 902mm per annum (average for the past five years) and the rainy season is mainly from Oct – Jan during North East monsoon. The summer is hot with maximum temperature of 42°C and winter records a minimum temperature of 20°C. The water level is found to occur at a depth of 61m in summer and 56m in rainy season below from the general ground level.

3.2 GEOLOGY

a) Regional Geology

The hard rock terrain of Archaean to Late proterozoic comprises of predominantly Granite, Gneiss, Charnockite, Khondalite group of rocks and their magmatic derivatives, supracrustual 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.

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.

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 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.

The granitic group ranges in composition from granite, through granodiorities 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.

The black granite is a basic igneous rock formed from ulltramafic magmas by partial melting. The composition of the rock is plagioclase (Labradorite) and pyroxene (Augite). The texture is ophitic i.e., large oligoclase of Augite enclose the laths of plagioclase feldspar. The colour is termed as Melanocratic. Free silica is rare or absent. The rock is holocrystalline, black colour, hardness- 6.5 to 7.5, prismatic cleavage.

b) Geological succession of Dharmapuri District:

The Dharmapuri district is underlain by hard rock terrain of Achaean to late Proterozoic groups comprises of predominantly gneiss, Charnockite, Khondalite group of rocks and their magmatic derivatives, supracrustal sequences intruded by ultramafic complexes, basic dykes and granites. The northwestern part of Tamil Nadu is characterized by the occurrences of a number of Dolerite dykes. The dolerite dykes in general trending is in NNE- SSW direction and rarely in NNW– SSE directions.

STRUCTURAL SETTINGS OF THE AREA

ROCK TYPE	GROUP	AGE
Reddish Gravelly Soil		Pleistocene to Recent
---------- Unconformity----------		
Carbonatite and alkaline dykes		
Syenite complex	Alkali complex	
Ultrabasic complex		Late Archaean to Proterozoic
Hornblende Biotite gneiss		
Granite Gneiss	Migmatite Complex	
Charnockite,	Charnockite group	Late Archaean

c) Geology of the lease applied area

The area concealed under reddish gravelly soil having an average thickness of 1m and followed by fresh black granite. The Charnockite forms the country rock of the area with trending of N40°E – S40°W with dipping towards SE60° and **"Black Granite" (Dolerite)** intruded between the batholithic formation of pre-existing country rock of Charnockite discordantly with trending of N60°W – S60°E with vertical dipping with an average width of the dolerite **dyke** is **25m** which stretches about the entire area (Please refer Plate No- III and IV).

The black granite (Dolerite dyke) rock is sub-ophitic, Melanocratic, Grey to black in color, inequigranular, medium to fine grained texture. The color of the rock changes depending upon the texture of the rock. The Dyke is fine grained at the contact of country rock. The Dolerite is composed of laths of plagioclase embedded in the plates of Augite (Ophitic texture), Apatite, magnetite and pyrite forms the secondary mineral.

The black granite is clearly visible from the outcrops strike direction of the dyke and existing quarry pits. The black granites boulders are observed with spheroidal weathering and cuboidal joints at the surface level which is likely to decrease in deep

seated condition. Taking in to consideration of the above geological factors, an average recovery of black granite is 10% upto 23m depth (1m Topsoil + 2m Weathered Rock + 20m Black granite) below from the existing ground profile has been computed as economically viable at present market scenario. This mining plan is discussed based on 10% recovery factor. If there is considerable increase or decrease in the recovery factor a modified mining plan will be prepared and will be submitted to relevant authorities for subsequent clearance and approval.

3.3 DETAILS OF EXPLORATION

3.3.1 ALREADY CARRIED OUT

As far as Black granite deposits are concerned, the only practical method is the systematic geological mapping, delineation of commercial black granite (Dolerite dykes) bodies within the field and careful evaluation of body luster, physical properties, commercial aspects etc.

Such an exploration study has already been conducted regionally by the Geological Survey of India (GSI) in 1966 and by the Department of Geology and Mining of Govt. of Tamil Nadu in the year 1992 to 1993. Also the Black granite is clearly visible from the outcrops and existing quarry pits reached upto a maximum depth of 3m below from the existing ground profile.

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

Even though the depth persistence of the Black granite rock may be beyond 23m depth from the petrogenetic character of the rock, only 23m (1m Topsoil + 2m Weathered Rock + 20m Black granite) depth below from the existing ground profile of the area persistent has been taken as economically viable depth to calculate all the categories of proved, probable and possible reserves at present scenario.

The average recovery of saleable Black Granite stones has been taken as 10% and if the recovery percentage is good it may enhance or bad it may decrease.

If any drilling program carried out in the granite formations, there are defects like cracks and fractures will be generated and developed during drilling time. Hence, no definite programs for future exploration have been drawn. The quarrying activities for the next 5 years with deep cut as envisaged in the mining plan may render additional data as may be required for future planning.

3.4 METHOD OF ESTIMATION OF RESERVES

The Geological plan demarcating the commercially viable granite body has been prepared in 1:1000 scale (Plate No. IV). Totally Seven sections have been drawn, two along the strike direction as (X-Y and X1-Y1) length wise and other five cross sections are drawn perpendicular to strike as (A-B, C-D, E-F, G-H and I-J) width wise which is suitably chosen to cover the maximum area in the scale of 1:1000 (Plate No-IV).

The cross sectional area for the proved depth persistence of 23m below from the existing ground profile has been worked out for section. The cross sectional area multiplied by its length of influence on the longer axis gives the volume (insitu) in the cross sectional area. The sum total of the insitu reserves available within the individual cross sectional area gives the Geological Resources of the quarry lease applied area.

From the total Geological insitu Resources, the quantity of saleable granite stones and quantity of granite waste generation are computed by applying recovery factor of about 10% 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 the same recovery has been considered as 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 in 50%. During the operation the method of quarry, deployment of men and machineries will not have any negative impact on the Environment. It is worthening 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 could not be 100% of the R.O.M.

As the salable black granite stone are in terms of cubic meters (Volume) only and not 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 cubic meters (Volume).

The details of estimation of geological resources and mineable reserves with reference to the geological plan & cross section and Conceptual Plan & Section as shown in Plate No-IV and IX respectively have been furnished. The Estimation of Resources and Reserves as based upon the report furnished by the special committee appointed by the Department of Geology and Mining before tender cum action.

3.5 GEOLOGICAL RESOURCES:

Maximum Length : 340m
Maximum Width : 162m (Black Granite + Side Burden)
Maximum Depth : 23m

Table – 4

GEOLOGICAL RESOURCES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	ROM in (m^3)	Recover @ 10% (m^3)	Waste @ 90% (m^3)	Side Burden (m^3)	Weathered Rock (m^3)	Topsoil (m^3)
XY-AB	i	68	52	1	-	-	-	-	-	3536
	ii	68	52	2	-	-	-	-	7072	-
	iii	68	25	5	8500	850	7650	-	-	-
		68	27	5	-	-	-	9180	-	-
	iv	68	25	5	8500	850	7650	-	-	-
		68	27	5	-	-	-	9180		
	v	68	25	5	8500	850	7650	-	-	-
		68	27	5	-	-	-	9180		
	vi	68	25	5	8500	850	7650	-	-	-
		68	27	5	-	-	-	9180		
TOTAL					**34000**	**3400**	**30600**	**36720**	**7072**	**3536**
X1Y1-CD	i	42	68	1	-	-	-	-	-	2856
	ii	42	68	2	-	-	-	-	5712	-
	iii	42	25	5	5250	525	4725		-	-
		42	43	5	-	-	-	9030	-	-
	iv	42	25	5	5250	525	4725		-	-
		42	43	5	-	-	-	9030	-	-
	v	42	25	5	5250	525	4725			
		42	43	5	-	-	-	9030	-	-
	vi	42	25	5	5250	525	4725	-	-	-
		42	43	5	-	-	-	9030	-	-
TOTAL					**21000**	**2100**	**18900**	**36120**	**5712**	**2856**
X1Y1-EF	i	82	59	1	-	-	-	-	-	4838
	ii	82	59	2	-	-	-	-	9676	-
	iii	82	25	5	10250	1025	9225		-	-
		82	34	5	-	-	-	13940	-	-
	iv	82	25	5	10250	1025	9225		-	-
		82	34	5	-	-	-	13940	-	-
	v	82	25	5	10250	1025	9225	-	-	-
		82	34	5	-	-	-	13940	-	-
	vi	82	25	5	10250	1025	9225		-	-
		82	34	5	-	-	-	13940	-	-
TOTAL					**41000**	**4100**	**36900**	**55760**	**9676**	**4838**

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X1Y1-GH	i	70	58	1	-	-	-	-	-	4060
	ii	70	58	2	-	-	-	-	8120	
	iii	70	21	5	7350	735	6615	-		
		70	37	5	-	-	-	12950	-	-
	iv	70	21	5	7350	735	6615		-	-
		70	37	5	-	-	-	12950	-	-
	v	70	21	5	7350	735	6615	-	-	-
		70	37	5	-	-	-	12950	-	-
	vi	70	21	5	7350	735	6615	-	-	-
		70	37	5	-	-	-	12950	-	-
TOTAL					**29400**	**2940**	**26460**	**51800**	**8120**	**4060**
X1Y1-IJ	i	78	162	1	-	-	-	-	-	12636
	ii	78	162	2	-	-	-	-	25272	-
	iii	78	25	5	9750	975	8775		-	-
		78	137	5	-	-	-	53430	-	-
	iv	78	25	5	9750	975	8775			
		78	137	5	-	-	-	53430	-	-
	v	78	25	5	9750	975	8775			
		78	137	5	-	-	-	53430	-	-
	vi	78	25	5	9750	975	8775	-	-	-
		78	137	5	-	-	-	53430	-	-
TOTAL					**39000**	**3900**	**35100**	**213720**	**25272**	**12636**
GRAND TOTAL					**164400**	**16440**	**147960**	**394120**	**55852**	**27926**
Depletion - Existing Quarry Pit										
Pit I		14	13	1	-	-	-	-	-	182
		14	13	2	-	-	-	-	364	-
Pit II		12	12	1	-	-	-	-	-	144
		12	12	2	-	-	-	-	288	-
Total Depletion					-	-	-	-	**652**	**326**
Total Available Resources					**164400**	**16440**	**147960**	**394120**	**55200**	**27600**

Total Geological Resources in ROM = 1,64,400m^3

Total Recoverable Reserves @ 10% = 16,440m^3

Granite Waste @ 90% = 1,47,960m^3

Side burden (SB) = 3,94,120m^3

Weathered Rock = 55,200m^3

Total waste (Granite Waste + SB+ Weathered) = 5,97,280m^3

Topsoil = 27,600m^3

Granite: waste ratio = 1:36

The geological resources computed based on the geological cross sections up to the economically workable depth of 23mts (1m topsoil + 2m Weathered Rock + 20m Black granite) below from the existing ground profile at the rate of 10% recovery yields 16,440m^3 and 1,64,400m^3 of ROM. The total geological resources are computed after depleted the existing quarry pit upto 23m depth for economically viable at present market scenario.

3.6 MINEABLE RESERVES:

Maximum Length : 316m
Maximum Width : 62m (Black Granite + Side Burden)
Maximum Depth : 23m

Table – 5

MINEABLE RESERVE

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	ROM in (m^3)	Recover @ 10% (m^3)	Waste @ 90% (m^3)	Side Burden (m^3)	Weathered Rock (m^3)	Topsoil (m^3)
XY-AB	i	59	32	1	-	-	-	-		1888
	ii	57	29	2					3306	-
	iii	55	22	5	6050	605	5445		-	-
		55	5	5	-	-	-	1375	-	-
	iv	50	15	5	3750	375	3375		-	-
	v	45	5	5	1125	112	1013		-	-
TOTAL					**10925**	**1092**	**9833**	**1375**	**3306**	**1888**
X1Y1-CD	i	42	47	1	-	-	-	-		1974
	ii	40	44	2					3520	-
	iii	38	25	5	4750	475	4275		-	-
		38	15	5	-	-	-	2850	-	-
	iv	33	25	5	4125	413	3712		-	-
		33	5	5	-	-	-	825	-	-
	v	28	20	5	2800	280	2520			
	vi	23	10	5	1150	115	1035			
TOTAL					**12825**	**1283**	**11542**	**3675**	**3520**	**1974**
X1Y1-EF	i	82	40	1	-	-	-	-		3280
	ii	82	36	2					5904	-
	iii	82	20	5	8200	820	7380		-	-
		82	13	5	-	-	-	5330	-	-
	iv	82	15	5	6150	615	5535		-	-
		82	8	5	-	-	-	3280	-	-
	v	82	10	5	4100	410	3690			
		82	3	5	-	-	-	1230	-	-
	vi	77	2	5	770	77	693			
TOTAL					**19220**	**1922**	**17298**	**9840**	**5904**	**3280**
X1Y1-GH	i	70	23	1	-	-	-	-		1610
	ii	70	19	2					2660	-
	iii	70	10	5	3500	350	3150		-	-
		70	4	5	-	-	-	1400	-	-
	iv	70	5	5	1750	175	1575		-	-
TOTAL					**5250**	**525**	**4725**	**1400**	**2660**	**1610**

X1Y1-IJ	i	63	62	1	-	-	-	-		3906
	ii	62	59	2					7316	-
	iii	60	25	5	7500	750	6750			
		60	30	5	-	-	-	9000	-	-
	iv	55	25	5	6875	688	6187			
		55	20	5	-	-	-	5500	-	-
	v	50	25	5	6250	625	5625			
		50	10	5	-	-	-	2500	-	-
	vi	40	25	5	5000	500	4500			
TOTAL					**25625**	**2563**	**23062**	**17000**	**7316**	**3906**
GRAND TOTAL					**73845**	**7385**	**66460**	**33290**	**22706**	**12658**
Depletion - Existing Quarry Pit										
Pit I		14	13	1	-	-	-	-	-	182
		14	13	2	-	-	-	-	364	
Pit II		12	12	1	-	-	-	-		144
		12	12	2	-	-	-	-	288	
Total Depletion					-	-	-	-	-	-
Total Available Reserves					**73845**	**7385**	**66460**	**33290**	**22054**	**12332**

Total Mineable Reserves (ROM)	=	73,845m^3
Total Recoverable Reserves @ 10%	=	7,385m^3
Granite Waste @ 90%	=	66,460m^3
Side burden (SB)	=	33,290m^3
Weathered Rock	=	22,054m^3
Total waste (Granite Waste + SB+ Weatherd)	=	1,21,804m^3
Topsoil	=	12,332m^3
Granite: waste ratio	=	1:16

Mineable reserves have been computed as 7,385m^3 at the rate of 10% recovery and 73,845m^3 of ROM. The mineable reserves are calculated by deducting the mineral locked up area under safety distance, existing quarry pits and bench loss. Hence the remaining area is taken for calculation of mineable reserves upto 23m depth below from the existing ground profile (Refer plate No. IV).

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 & marketed. The deposit is uniform and no gradational change is noticed except shear and cracks.

4.0 MINING

Open cast mechanized mining with 5.0m vertical bench with a bench width of 5.0m has been proposed.

Under the regulation 106 and its sub clauses of the metalliferous Mines Regulation 1961, in all open cast mining, the bench height should not exceed 5.0mtrs and bench width should not be less than bench height. The slope of the bench should not exceed 60° from horizontal.

But as far as the mining of granite dimensional stones are concerned, observance of the provisions of Regulation as above is seldom possible due to various inherent petrogenetic & mining difficulties. Hence, it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety, Chennai.

The production of Black granite dimensional stone in this Quarry involves the following method typical for granite stone mining in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock formation is carried out by carefully removing and by avoiding any visible seen defects such as cracks, Patches, veins etc., and adopting the method of diamond wire cutting along the horizontal as well as two vertical sides of the front face of the formation.

This liberation of huge volume of granite body from the parent rock is called "primary cutting". This huge portion is further split into several blocks of desirable dimension as per customers requirement.

The blocks thus splitted are removed from the pit to the dressing yard, by using Crawler cranes, for further fine dressing.

Removing the defective portions and dressing them in to dimensional blocks are done manually using feather and wedges and chiseling respectively by the skilled labours.

The defects free, dimensional stone of different sizes as acceptable in market are thus produced by the method as described above, and the process is continuously supervised by the Company's experienced personnel.

The waste material generated during quarrying activity includes rock fragments of different sizes and waste chips during dressing of the blocks.

These waste materials are taken in tippers by loading machines and dumped in the respective places ear-marked for the purpose (Plate No. V and IX).

The excavated topsoil will be spread out all along the safety barrier and utilized for afforestation purpose.

4.1 YEAR WISE DEVELOPMENT AND PRODUCTION FOR THE FIRST FIVE YEARS:

Maximum Length : 316m
Maximum Width : 62m (Black Granite + Side Burden)
Maximum Depth : 23m

Table – 6

YEARWISE RESERVE											
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	ROM in (m^3)	Recover @ 10% (m^3)	Waste @ 90% (m^3)	Side Burden (m^3)	Weathered Rock (m^3)	Topsoil (m_3)
I	X1Y1-IJ	i	35	62	1	-	-	-	-		2170
		ii	32	59	2					3776	-
		iii	28	25	5	3500	350	3150			
			28	30	5	-	-	-	4200	-	-
	Total					**3500**	**350**	**3150**	**4200**	**3776**	**2170**
II	X1Y1-IJ	i	28	62	1	-	-	-	-		1736
		ii	30	59	2					3540	-
		iii	28	25	5	3500	350	3150			
			28	30	5	-	-	-	4200	-	-
	XY-AB	i	59	32	1	-	-	-	-		1888
		ii	57	29	2					3306	-
	X1Y1-CD	i	42	47	1	-	-	-	-		1974
		ii	40	44	2					3520	-
	X1Y1-EF	i	82	40	1	-	-	-	-		3280
		ii	82	36	2					5904	-
	X1Y1-GH	i	70	23	1	-	-	-	-		1610
		ii	70	19	2					2660	-
	Total					**3500**	**350**	**3150**	**4200**	**18930**	**10488**
III	X1Y1-IJ	iv	28	25	5	3500	350	3150			
			28	20	5	-	-	-	2800	-	-
	Total					**3500**	**350**	**3150**	**2800**		
IV	X1Y1-IJ	iv	16	25	5	2000	200	1800			
			16	20	5	-	-	-	1600	-	-
		v	12	25	5	1500	150	1350			
			12	10	5	-	-	-	600	-	-
	Total					**3500**	**350**	**3150**	**2200**		
V	X1Y1-IJ	v	20	25	5	2500	250	2250			
			20	10	5	-	-	-	1000	-	-
		vi	15	25	5	1875	187	1688			
	Total					**4375**	**437**	**3938**	**1000**		
Grand Total						**18375**	**1837**	**16538**	**14400**	**22706**	**12658**
Depletion - Existing Quarry Pit											
Pit I			14	13	1	-	-	-	-	-	182
			14	13	2	0	0	0	-	364	
Pit II			12	12	1	0	-	-	-		144
			12	12	2	0	0	0	-	288	
Total Depletion						**0**	**0**	**0**	**0**	**652**	**326**
Total Available Reserves						**18375**	**1838**	**16538**	**14400**	**22054**	**12332**

Total Proposed ROM	=	18,375m^3
Total Recoverable Reserves @ 10%	=	1,837m^3
Granite Waste @ 90%	=	16,538m^3
Side burden (SB)	=	14,400m^3
Weathered Rock	=	22,054m^3
Total waste (Granite Waste + SB + Weathered)	=	52,992m^3
Topsoil	=	12,332m^3
Granite: waste ratio	=	1:29

Estimated Life of the quarry

Mineable ROM	=	73,845m^3
Mineable Recoverable Reserves @ 10%	=	7,385m^3
Average production per year @ 10%	=	1,837m^3/5years= 368m^3
Estimated Life of the Quarry	=	7,385m^3/368m^3
	=	20 years

The average annual production per year would be 368m^3 and 1,837m^3 during the first five year plan period considering at the rate of 10% recovery.

The proposed year wise quantum of excavation and the details of estimation of production quantity and generation of wastes are furnished with reference to Year wise Development and Production plan and sections (Plate No. V). More details of the year wise production parameters are explained with bench length, width and height in Plate No. V.

PROPOSED RATE OF PRODUCTION WHEN THE QUARRY IS FULLY DEVELOPED

The proposed rate of production when the quarry is fully developed is 368m^3 per annum at the rate of 10% recovery. The production schedule for the subsequent five year is drawn mainly in consideration of reserves position, market demand and the cost of production.

4.2 MINEABLE RESERVES AND ANTICIPATED LIFE OF QUARRY

The dolerite dykes are deep seated in nature as they have been formed by basic intrusions from depth as dyke. The depth persistence of the dyke will be beyond the economically workable depth. The method of extraction of rock mass from dyke sheet rock is highly expensive affair at greater depths.

An optimum depth of 23m below below from the existing ground profile has been established as economically viable depth. Eventually this depth is the optimum depth for safe and scientific quarrying at present scenario.

The mineable reserves are calculated by excluding the quarry loss due to formation of benches, ultimate depth of quarry, the mineral reserve held up within the safety distance all along the area boundary.

The mineable reserve for this black granite quarry is thus arrived as **7,385m^3** @ 10% recovery and **73,845m^3 of ROM** for an assumed depth of **23m** below from the existing ground profile. The details of estimation of five years development and production plan and sections are furnished in plate No.V. The average rate of production of black granite from this quarry is **368m^3 per year** and mineable recoverable reserves **7,385m^3** considering **10%** 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 will be about 20 years,** (considering all the safety factors) at 10% recovery, if the quarry is being worked continuously with an average annual production of 368m^3. 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 or substantial change in the recovery percentage 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 dimensions of the quarry are given below.

ULTIMATE PIT DIMENSIONS

Table – 7

Dimensions in meters (Maximum)		
Length	Width	Depth
316	62	23

However, during extraction of blocks each bench will be of 5 mts height with vertical slope for proper dimensional cutting. The quantum of excavation is estimated to be 1,41,521m^3 (ROM 73,845m^3+ Topsoil 12,332m^3 + Side Burden 33,290m^3 + Weathered Rock 22,054m^3) upto a depth of 23m during the lease period. The generation of total waste is estimated about 1,21,804m^3 (Granite waste + Side Burden + Weathered rock) and marketable granite blocks as 7,385m^3 during the entire life of quarry.

The excavated waste (52,992m^3) will be proposed to dump on the Northern side with maximum dimension of (L)52m x (W)50m x (H)20.38m for the first five years and (L)73m x (W)50m x (H)33.37m for the entire lease period. The applied area is a Government land, after end of the lease period, if the mineral reserves available and Market persist as to develop and conserve mineral reserves, there will be a chance for announcement of another quarry lease Tender by the State Government. Hence, there is no backfilling proposed. If permission is granted for removal of waste, the waste material will be supplied to needy crusher for building and road construction from concerned authorities after paying the seniorage fee and obtained necessary clearance and approval from concerned department for handling the waste. After completion of quarry operation if permission not obtained for disposal of waste also if any direction given by the concerned authority for backfilling of waste, the quarried out waste will be backfilled nearly existing ground profile and preserved topsoil will be spread out over the backfilled area also tree sapling carried out in the backfilled area.

The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. (Please refer plate No. VI and IX).

4.4.0 METHOD OF MINING

4.4.1 OPEN CAST WORKING

In accordance with the Regulation 106 and its sub clauses 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 mining is seldom possible 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 this case the commercial granite body may get spoiled unsuitably 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 extricate block will become as mineral waste while shaping then into rectangular blocks.
3. The granite industry need blocks as huge as a few cubic meter volumes with measurements up to 3 m x 2 m x 2 m. Production of such huge blocks with a moving bench of 5m height is not possible. 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 not marketable now-a-days (or) has a less 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 and its sub clauses up to a bench parameter of 5.0 mtr height & 5.0 mtr width with vertical faces. Further, it is to be noteworthy that open cast granite mining operations with the above proposed bench parameters may not be detrimental to Department of mines safety, since the entire terrain is made up of hard rock, compact sheet and possess high stability on slope even at higher vertical angles.

4.4.2 EXTENT OF MECHANIZATION

The following machineries are proposed to utilize for the development and production work at this quarry.

I. DRILLING MACHINE

Table – 8

S.No.	Type	Nos	Dia Hole mm	Size Capacity	Make	Motive power
1	Wagon Drill	1	32	60HP	TAM Rock	Diesel
2	Jack hammer	4	32	1.2m to 6m	Atlas Copco	Compressed air
3	Compressor	1	-	400 psi	Atlas Capco	Diesel Drive
4	Diamond Wire saw	1	-	20m^3/ day	Optima	Diesel Generator
5	Diesel Generator	1	-	125kva	Powerica	Diesel

II. LOADING EQUIPMENT

Table – 9

S.No.	Type	Nos	Capacity	Make	Motive Power
1	Crawler Crane	1	855	Tata P&H	Diesel Drive
2	Excavator	1	300	Tata Hitachi	Diesel Drive

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT

a)

Table – 10

S.No.	Type	Nos	Capacity	Make	Motive Power
1	Tippers	1	20 tonns	Tata	Diesel Drive

b) Transport from the quarry head to destination

Transport from quarry head to desired destination is done by trucks or by trailers.

c). Miscellaneous:

Apart from the above the following tools and tackles are required for quarry operation.

A. 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 and upto 9m.
2. Steel Alloy chains of sufficient length of 12mm, 16mm, 18mm, 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 parent 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 'M' type portable explosive Magazine with accessories.
16. Besides diamond wire saw equipment and new innovative machine specifically designed for granite with accessories are required to liberate the rock from to parent body rapidly 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 follow "Diamond wire saw cutting" for best recovery. The above machineries are adequate to meet out the simultaneous development and production schedule drawn out in this mining plan.

5. BLASTING

During future development of quarrying, removal of over burden will be done by Excavator and mild blasting with explosives in holes drilled by Jack hammer of 32mm dia especially. No deep hole blasting is proposed.

Portable magazine has been proposed to install in the ear marked places, and the Company is advised to get necessary license for storing explosives in the above area after the grant of quarry lease.

The explosive that will be used are D-Cord and Gelatin Sticks which are indicated below. This is a very low intensity explosive.

D Cord - 5mg

Gelatin Sticks.

6.0 MINING DRAINAGE

The water table in this area is 59mts below from general ground level as observed in nearby Bore wells. The quarry operation confined to well above the water table. If water is encountered at depth due to rain water seepage, the same will be drained out by 5HP motor pumps and the drained out water will be utilized for afforestation.

7.0 STACKING OF MINERAL WASTE AND DISPOSAL OF WASTE

a) Topsoil:

There is generation of topsoil is around 12,332m^3 during the first five year of the mining plan period, the same will be preserved all along the safety barrier and utilized for greenbelt development .

b) Waste:

The total quantity of waste generated during the first five years will be around 52,992m^3. The quarried out waste will be proposed to dump on the Northern side with maximum dimensions of (L)52mx (W)50m x (H)20.38m.

c) 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 GRANITE STONE

The quarried black granite blocks are either exported as raw blocks or processed as value added products such as slabs, tiles, fancy items, Monuments, precision surface plates for engineering applications.

The export market for granite is China, European Country, North America, Middle East, Far East, Japan, Taiwan & Canada besides catering local markets.

9.0 QUALITY CONTROL

The Black granite deposit occurring in this quarry shows uniform quality throughout and hence quarried and marketed as a single variety.

The excavated blocks are carefully inspected 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.

10. 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 to Thoothukudi Port which depend upon the exporter's destination from time to time.

11. 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 operation is restricted to one general shift during day time only. Machinery repair works are attended at Pennagaram town (13km-NE). Minor repairs carried out by Company's personnel at the quarry site itself.

Packaged drinking water is supplied from the water vendors in Eriyur village (5km-South) also potable water from the Company's bore well can be transported to the work site through tanker placed on tippers. Quarry office, first-aid room, store room, rest shed, toilet, etc., will be provided on semi - permanent structures within the quarry lease area (Plate No - V - VII).

12. EMPLOYMENT POTENTIAL

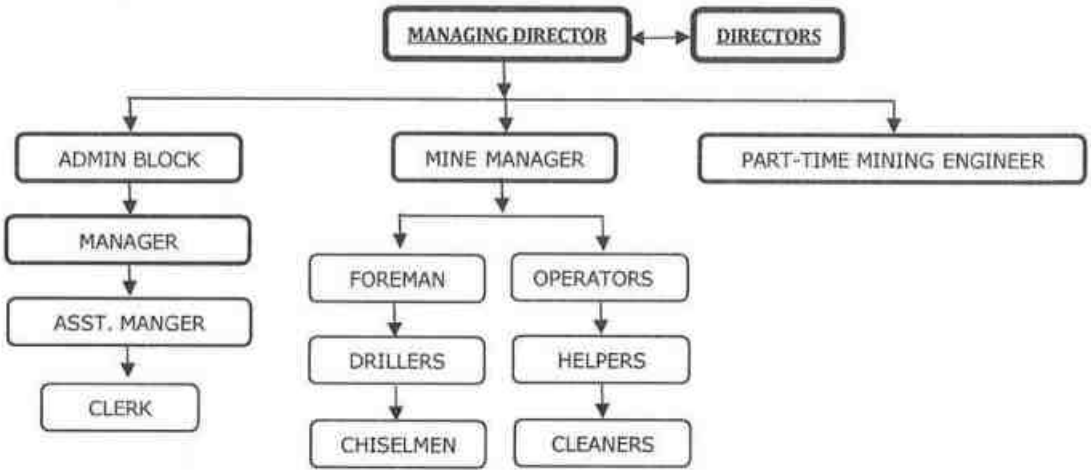
The following man power is proposed for the black granite quarry to look after and carryout the day-to-day quarrying activities, aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous Mines Regulations, 1961.

1.	Mines manager (with valid statutory qualification)	: 1
2.	Mines foreman (with valid statutory qualification)	: 1
3.	Machinery operators (Certified)	: 4

WORKERS:

a.	Skilled labour	: 4
b.	Semi-skilled	: 8
c.	Co-operator and Helper	: 4
d.	Unskilled	: 2
e.	Security	: 1
	Total	**: 25**

ORGANIZATION CHART



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

13.0 ENVIRONMENTAL MANAGEMENT PLAN

13.1 BASELINE INFORMATION

The following observations are made for environmental management plan.

I. EXISTING LAND USE PATTERNS:

The area is an elevated terrain situated in slope of Hillock. The gradient is 1 in 6 towards Southeastern side and altitude of the area is ranges from 412m to 472m above from MSL. Except quarry lease the land did not utilize any specific purpose. The region experiences semi – humid climate and there is scanty growth of vegetation around the area (seasonal vegetation is mostly practiced) and in some places agricultural activities are carried out by utilizing well water (lift irrigation).

Existing Land use pattern

Table – 11

Description	Present Area (Ha.)	Area utilized in %
Area under Quarry	0.03.2	1
Waste dumps	Nil	-
Infrastructure	Nil	-
Road	Nil	-
Green Belt	Nil	-
Unutilized area	3.10.8	99
Grand Total	**3.14.0**	**100**

II. WATER REGIME:

Ground water occurrence in this area is 59m in summer and 54m in rainy season below from ground level. The quarry operation confined to well above the water table for the entire lease period; hence the quarry operation will not be affected by the ground water in any manner. There is no major water body like River, Lake, Reservoir, Canal, etc., located within 50m radius of the area.

III. FLORA AND FAUNA:

The main floras are Paddy, Neem, Palm, Cocos nucifera, senna auriculata, Prosopis juliflora and Thorney bushes are observed around the area and Faunas like squirrel, rat, rabbit, Snake, Dog, Crow, cow and goat are living around the area. No plants of botanical interest or animals of zoological interest are recorded within 500m radius.

IV. CLIMATIC CONDITIONS:

The prevailing climatic condition experienced in the quarry lease hold area is semi-arid with maximum temperature up to 42°C in summer and it drops down to 20^0C during winter seasons. The area receives an average rainfall 902mm /annum (average for the past six years).

V. HUMAN SETTLEMENT:

There is no approved habitation located within 300m radius. There are few villages located within 5km radius of the lease area. The direction, approximate distance and population are given below.

Table – 12

S.No	Name of the Village	Approximate distance & Direction from lease hold area	Approximate population
1.	Sigaralahalli H	1km – NW	8,700
2.	Chinna Vathalapuram	2km – NE	2,300
3.	Ajjanahalli	2km – SE	10,500
4.	Chinappanallur	2km – North	1,800

Basic human welfare amenities such as health center, schools, communication facilities, commercial centers etc, are available in Pennagaram located at 13km on the Northeast side of the lease area.

VI. PUBLIC BUILDINGS, MONUMENTS AND PLACES OF WORSHIPS:

There is no Public building, Archaeological or National Monument and place of worship situated within 300m radius of the area.

VII. WEATHER THE AREA FALLS UNDER NOTIFIED AREA UNDER WATER ACT, 1974.

The area falls under notified area under water Act, 1974.

13.2 ENVIRONMENT IMPACT ASSESSMENT STATEMENT

The mining plan proposed is for a very small production of black 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 is concerned.

Table – 13

<table>
<tr><th>S. No.</th><th>Salient Features at Presently bounded the quarry site</th><th>Prescribed safety distance</th><th>If any present within prescribed safety distance, its Actual Distance and Direction from the site</th></tr>
<tr><td>1.</td><td>Railways, Highways, Tank, Lake, Odai, Canal, Stream, River and Reservoir</td><td>50m</td><td>None of the above is located within 50m radius of the area.</td></tr>
<tr><td>2.</td><td>Village Road</td><td>10m</td><td>There is no village road located within 10m radius of the area.</td></tr>
<tr><td>3.</td><td>Habitation / Village</td><td>300m</td><td>There is no approved Habitation/village located within 300m radius of the area.</td></tr>
<tr><td>4.</td><td>Adjacent Patta / Government Land</td><td>7.5m/ 10m</td><td>
<table>
<tr><th>Direction</th><th>S.F.No.</th><th>Classification</th><th>Safety Distance</th></tr>
<tr><td>North</td><td>835/1, 2 & 836</td><td>Patta land</td><td>7.5m</td></tr>
<tr><td rowspan="2">East</td><td>834/1</td><td>Govt. land</td><td>10m</td></tr>
<tr><td>830 (Part)</td><td>Govt. land</td><td>10m</td></tr>
<tr><td>South</td><td>830 (Part), 803/2 & 803/4</td><td>Govt. land</td><td>10m</td></tr>
<tr><td rowspan="2">West</td><td>802</td><td>Govt. land</td><td>10m</td></tr>
<tr><td>801/5</td><td>Govt. land</td><td>10m</td></tr>
</table>
(Please Refer Plate No. II).</td></tr>
<tr><td>5.</td><td>Housing area, EB line (HT & LT Line)</td><td>50m</td><td>There is no EB(LT/HT) line or Housing area located within 50m radius of the area.</td></tr>
<tr><td>6.</td><td>Boundaries of the permitted area</td><td>7.5m / 10m</td><td>North – S.F.Nos. 835/1, 835/2 and 836
East – S.F.Nos. 834/1 and 830 (Part).
South – S.F.Nos. 830 (Part), 803/2 and 803/4.
West – S.F.Nos. 802 and 801/5.
(Please Refer Plate No.II).</td></tr>
<tr><td>7.</td><td>Reserved forest / protected area / ECO sensitive area/State or International border</td><td>10Km</td><td>The following Reserved Forest situated within 10km radius.
1. Bevanurmalai R.F. – 1.2km – West
2. Masakkallu R.F. – 2.8km – East
3. Pennagaram R.F – 7.3km – North
4. Woddapatti R.F. – 7.6km - NW
5. Perumbalai R.F – 6.6km – SE
6. Kalappambadi R.F – 9.4km – SE
Tamil Nadu – Karnataka State Border - 6.1km - NW.
There is No Wildlife sanctuary/Eco Sensitive area/ Critically polluted area/ CRZ located within 10km radius.</td></tr>
</table>

Proposed Financial Estimate for Quarry operations and Environment Management(EMP).

Table – 14

A. Operational Cost		
S. No.	**Description**	**Approximate Cost (Rs.)**
1.	Land Cost – It is a Government land, the tender cost is	5,25,00,000
2.	Labour Shed	1,50,000
3.	Sanitary Facility	1,00,000
4.	First aid Room and Accessories	60,000
5.	Crawler Crane (1 No.)	75,00,000
6.	Excavator (1 Nos.)	56,00,000
7.	Wagon Drill (1 No.)	50,00,000
8.	Tipper (1 Nos.)	25,00,000
9.	Diesel Generator (1 Nos.)	7,50,000
10.	Wire Saw (1 No.)	4,00,000
11.	Compressor with loose tools (1 Nos.)	9,00,000
12.	Jack Hammer (4 Nos.)	4,00,000
13.	Drinking Water Facility	1,00,000
14.	Safety Kits	50,000
15.	Fencing Cost (1210m length x Rs. 300/- per meter)	3,63,000
16.	Garland drain (1110m length x Rs. 300/- per meter)	3,33,000
17.	Greenbelt Under safety zone for 5 years Mining plan period (150 Nos. x Rs. 100/- per Sapling)	15,000
18.	Water sprinkling	1,00,000
Total Operational Cost		**7,68,21,000**

B. Proposed financial estimate / budget for (EMP) Environmental Management Plan:

Budget Provision for the Mining Plan period

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/ year					**76,000**	**3,80,000**

The EMP cost for the 5 year mining plan period would be around **Rs. 3,80,000/-**

Total Cost of the Project including EMP Cost	
Description	**Amount (Rs)**
A. Operational Cost	**7,68,21,000**
B. EMP Cost	**3,80,000**
Total Project Cost (A+B)	**7,72,01,000**
C. The Company Indents to involve corporate Environment responsibilities (CER) activity like Water purifier, Solar Lamp, Medicine storage rack, Air conditioner, sanitary facilities to the Eriyur Dispensary and Pennagaram Govt. Hospital and Water purifier and sanitary facility to the Eriyur Govt. School at 2.0% from the total project cost. The cost would be around **Rs. 15,44,000/-**	**15,44,000**
Total Cost (A+B+C)	**7,87,45,000**

(Total project cost including EMP cost is about rupees seven crore eighty seven lakh and forty five thousand only).

13.3.0 ENVIRONMENT MANAGEMENT PLAN

13.3.1 PROPOSAL FOR WASTE MANAGEMENT

The waste in the quarry includes top soil, rock fragments, rubbles generated as waste during production work.

The total waste to be produced during the mining plan period (five years) will be around 52,992m^3. The excavated waste will be proposed to dump on the Northern side with maximum dimensions of (L)52mx (W)50m x (H)20.38m. The quarried out topsoil (12,332m^3) will be preserved all along the safety barrier and utilized for construction of bund and afforestation purpose. The waste management plan with reference to the quantum of waste generated is shown in quarry layout plan (Plate No. VI).

13.3.2 PROPOSAL FOR RECLAMATION OF LAND AFFECTED BY MINING ACTIVITIES DURING & AT THE END OF QUARRYING

Due to nature of occurrence of dykes, the depth persistence of the granite body in this area is beyond the workable limits. In the proposed mining plan only 23m depth has been envisaged as workable depth for safe, systematic & economic quarrying. The applied area is a Government land, after end of the lease period, if the mineral reserves available and Market persist as to develop and conserve mineral reserves, there will be a chance for announcement of another quarry lease Tender by the State Government. Hence, there is no backfilling proposed. If permission is granted for removal of waste, the waste material will be supplied to needy crusher for building and road construction from concerned authorities after paying the seniorage fee and obtained necessary clearance and approval from concerned department for handling the waste. After completion of quarry operation if permission not obtained for disposal of waste also if any direction given by the concerned authority for backfilling of waste, the quarried out waste will be backfilled nearly existing ground profile and preserved topsoil will be spread out over the backfilled area also tree sapling carried out in the backfilled area (Please refer plate No. IX).

13.3.3 PHASED PROGRAMME OF PLANTING TREES

The safety distance along the Southeastern side has been identified to be utilized for tree sapling. Appropriate species of Neem, Pongamia pinnata, Casuarina, etc., trees will be planted in a phased manner as described below.

Table – 15

Year	No. of tress proposed to be planted	Name of the species	Area to be covered m^2	Survival rate expected in %	No. of trees expected to be grown
I	30	Neem, Pongamia pinnata, Casuarina, etc.,	280	80	24
II	30		280	80	24
III	30		280	80	24
IV	30		280	80	24
V	30		280	80	24

Around 1,400m^2 area is proposed for afforestation by planting 30 number of tree sapling during every year and expected growth is around 24 number of trees at a survival rate of 80%. The afforestation plan is shown in Plate No.VI.

13.3.4 MEASURES FOR DUST SUPPRESSION:

As the granite rocks are mined as undamaged dimensional stones without involving deep hole drilling and heavy blasting, fragmentation and generation of lumps, fines or dust is negligible. This quantum of quarrying activity will not generate the dust which is detrimental to the health of the persons employed. Water will be sprinkled for the suppression air borne dust from quarry approach roads and waste dumps on regular intervals using water tankers. Drilling of blast holes of 32 mm dia will be always under wet conditions to prevent flying of dusts. In the unloading points, water will be sprinkled through tippers to suppress dust. The drillers are provided with respirators in accordance with the Mines safety Regulations.

13.3.5 MEASURES TO MINIMIZE GROUND VIBRATION DUE TO BLASTING AND CHECK NOISE POLLUTION

Shallow holes of 32 mm diameter will be drilled and conventional low explosives such as D-Cord and Gelatin sticks will be used for removal of over burden. Hence ground vibration and noise pollution will be minimal and restricted with the quarry workings. The blasting will be taken up at appointed timing and with sufficient caution to the public under the advice of qualified and competent personals. The noise produced by diamond wire saw cutting will be negligible.

13.3.6 STABILIZATION AND VEGETATION OF DUMPS

As the waste generation in the quarry includes hard rock fragments of considerable size and irregular shape with varying angularity, the waste dump will be stable on its own even at higher slopes of the sides. However, excavated topsoil will be spread out over and sides of the inactive waste dump for increasing the stability also tree sapling will be carried out to prevent erosion during rainy season.

14.0 PROGRESSIVE QUARRY CLOSURE PLAN

14.1 Introduction

The Progressive Quarry Closure Plan for Ajjanahalli Black Granite quarry lease area over an extent 3.14.0 hectares of Government Poramboke land in S.F.Nos. 830 (Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared for **Tvl. Tamilkumaran Productions Private Limited,** having an office at No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu State – 600 017.

14.2 Present Land use pattern:

Land Use Table – 16

Description	Present area in (Ha)
Area under Quarry	0.03.2
Dumps	Nil
Infrastructure	Nil
Roads	Nil
Green Belt	Nil
Unutilized Area	3.10.8
Grand Total	**3.14.0**

14.3 Mineral Processing Operations:

The quarried out Rough granite blocks are marketed 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. No Mineral processing is involved within the quarry lease area.

14.4 Reasons for closure:

As 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 an ensuing scheme period or in Final Mine Closure Plan.

14.5 Statutory obligations:

All the conditions stipulated in the precise area communication letter was fulfilled and maintained during the course of quarry operations.

14.6 Progressive quarry closure plan preparation:

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

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A
No.17, Advaitha Ashram Road,
Alagapuram, Salem-636 004.
Cell: +91 94433 56539, 94422 78601

The Company will self implement the closure plan; no outside agency will be involved.

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

The black granite deposit area is very small and the mineral reserves available for the entire life of quarry. The applied area is a Government land, after end of the lease period, if the mineral reserves available and Market persist as to develop and conserve mineral reserves, there will be a chance for announcement of another quarry lease Tender by the State Government. Hence, there is no backfilling proposed. if any direction given by the concerned authority for progressive quarry closure, it will be discuss in ensuing Scheme of quarrying or in Final mine closure plan.

14.8 Closure Plan:

(i) Mined Out Land:

At the end of Mining plan period, about 1.20.2Ha to a depth of 23m only. 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. The quarry pit will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. Garland drains with check dam will be constructed around the quarry to prevent the surface runoff rain water entering to the pit.

Land use pattern

Table – 17

Description	Present area (Ha)	Area to be required during this Mining Plan period(Ha)	Area at the end of life of quarry (Ha)
Area under Quarry	0.03.2	1.20.2	1.20.2
Waste dump	Nil	0.26.0	0.36.0
Infrastructure	Nil	0.01.0	0.01.0
Roads	Nil	0.03.0	0.03.0
Green Belt	Nil	0.14.0	0.50.0
Stocking Blocks	3.10.8	1.49.8	1.03.8
Total	**3.14.0**	**3.14.0**	**3.14.0**

(Please refer plate No. VII).

(ii) Water quality management:

Following control measures will be adopted for controlling water pollution:-

- Garland drain will be constructed around the quarry area to prevent surface runoff rainwater entering in to the pit.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

(iii) Air Quality Management:

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. All personnel protective equipment like Nose-mask, earplug/ muffs will be provided to the Workers. For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

(iv) Top Soil and Waste Management:

There is generation of topsoil is around 12,332m^3 during mining plan period, it will be preserved all along the safety zone and utilized for greenbelt development. The excavated waste (52,992m^3) will be proposed to dump on the North side with dimension of (L) 52m x (W) 50m x (H) 20.38m for the first five years and (L)73m x (W)50m x (H)33.37m for the entire lease period.

(v) Disposal of mining machinery:

All the Machineries will be purchased by fresh condition and the same has been maintained in good condition during entire life of quarry. After completion of quarry operation all machineries will be utilized in another quarry area or sold out to the second hand. Hence, disposal or decommissioning of mining machinery does not arise.

(vi) Safety & Security:

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

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the 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 to prevention 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.

(vii) Disaster Management and Risk Assessment:

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of Company 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 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.

(viii) Care and Maintenance during Temporary Discontinuance:

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

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

Quarry roads and approach roads,

Fencing on approach roads,

Checking and maintenance of machines and equipment,

Drinking water arrangements,

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 quarry shall be discussed daily.

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

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

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

(x) Time Scheduling For Abandonment:

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

(xi) Abandonment Cost:

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

TABLE – 18

ACTIVITY	YEAR					RATE	AMOUNT (Rs.)
	I	II	III	IV	V		
Plantation (In Nos.)	30	30	30	30	30	@100 Rs Per sapling	15,000/-
Plantation and Maintenance Cost	3,000	3,000	3,000	3,000	3,000		
Barbed Wire Fencing (In Mtrs) 1210 Mtrs	3,63,000	-	-	-	-	@300 Rs Per Meter	3,63,000/-
Garland drain (In Mtrs) 1110 Mtrs	3,33,000	-	-	-	-	@300 Rs Per Meter	3,33,000/-
TOTAL							**7,11,000/-**

15.0 MINERAL CONSERVATION AND DEVELOPMENT

This mining plan proposed has fully covered 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 Black 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 consultation and supervision of well experienced quarry masters.

16.0 STATUTORY PROVISIONS

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. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the department.

Certified that this Mining Plan has been Prepared in Accordance with the Mines Act, Rules and Regulations and orders made there under and also in Conformity with the Provisions of Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959 and 12, 13 and 16 of Granite Conservation and Development Rules 1999 and Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Prepared by

S. ILAVARASAN, M.Sc.,
Recognised Qualified Person
RQP/MAS/253/2013/A

Place: Salem
Date: 26.02.2021

DONATE RED
SPREAD GREEN
SAVE BLUE

21/5/2021
COMMISSIONER OF
GEOLOGY AND MINING,
GUINDY, CHENNAI-600 032.

This Mining Plan is Approved
Subject to the Conditions/ Stipulation
Indicated in the Mining Plan Approval
Letter No./6163/MM4/2020 Dated 05.2021

19/05/2021

ANNEXURE -I

Industries (MME.2) Department,
Secretariat, Chennai - 600 009

Letter No.273/MME.2/2021 – 1, Dated 23.02.2021

From

Thiru N. Muruganandam, I.A.S.,
Principal Secretary to Government.

To

Tvl. Tamilkumaran Productions Private Limited,
No.16/8, Bagavandham Street,
Good will Court, T.Nagar,
Chennai- 600 017.

Sir,

Sub: Mines and Minerals – Minor Mineral – Black Granite – Ajjanahalli Village - Pennagaram Taluk - Dharmapuri District - S.F.Nos.830 (Part) west (2.32.5) and 835/3 (0.81.5) - Over an extent of 3.14.0 hectares of Government Poramboke land – Highest Bid amount offered by Tvl. Tamilkumaran Productions Pvt Ltd, Chennai – Precise Area Communicated - Balance Lease Amount - Approved Mining Plan and Environmental Clearance – Called for.

Ref: 1. Dharmapuri District Gazette Extraordinary issue in English and Tamil No. 05 dated:03.09.2020.
2. Application of Highest Bidder of Tvl. Tamilkumaran Productions Pvt Ltd, Chennai on 29.09.2020.
3. From the District Collector, Dharmapuri, Letter Roc No.175/2020 (Mines), dated 23.10.2020.
4. From the Director of Geology and Mining, File No.6163/MM4/2020, dated: 31.12.2020 and 06.02.2021.

I am directed to state that in the references third and fourth cited, the District Collector, Dharmapuri and the Director of Geology and Mining have recommended to declare you as successful bidder and to grant quarry lease for quarrying of Black Granite over an extent of 3.14.0 hectares of Government Poramboke land in S.F.Nos.830 (Part) west (2.32.5) and 835/3 (0.81.5) in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri District for a period of 20 years under rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959.

//P.T.O//

2. I am directed to declare you as successful bidder to grant quarry lease for quarrying of Black Granite over an extent of 3.14.0 hectares of Government Poramboke land in S.F.Nos.830 (Part) west (2.32.5) and 835/3 (0.81.5) in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri District for a period of 20 years under rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the outcome of W.P.No.13811 of 2020 and W.M.P.No.17315 of 2020 and W.P.No.14092/2020.

3. In this connection, I am directed to request you to remit the balance lease amount of Rs.5,25,00,000/- in the District Treasury concerned and to submit the original challan to Government within a period of one month from the date of this communication and to submit the Approved Mining Plan as per Rule 12 of the Granite Conservation and Development Rules, 1999 through the Commissioner of Geology and Mining to Government within the period of 3 months from the date of receipt of this communication as per Rule 8-A(8)(a)(ii) of the Tamil Nadu Minor Mineral Concession Rules, 1959 and also to produce Environmental Clearance obtained from the Competent Authority for the above said area in the conditions stipulated in the prescribed Act and Rules in addition to the following conditions:-

1) A safety distance of 7.5 meters and 10 meters should be provided to the adjacent patta and Government Poramboke lands respectively.

2) All conditions stipulated in the District Gazette No.05 Extra ordinary notification dated 03.09.2020 should be adhered by the tender applicants / bidders.

3) Environmental clearance should be obtained from the State Level Environmental Impact Assessment Authority before granting quarry lease as per rule 42 of the Tamil Nadu Minor Mineral Concession Rules, 1959.

4) The applicant company 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 meters with a distance between two pillars shall not be more than 3 meters.
- The applicant company 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 digitized map with DGPS readings should be submitted in the CD form to the Deputy Director, Dharmapuri.

5) The District Administration and Geology and Mining Department should ensure the conditions imposed in G.O.(Ms)No.79, Industries Department, dated 06.04.2015.

6) As per Rule 12(V) of Minerals (other than Atomic & Hydro- carbons Energy Minerals) Concession Rules, 2016, the applicant company shall at his own expenses erect, maintain and keep in repair all the boundary pillars.

7) The applicant company should use mild explosives during quarrying.

8) Child Labourers should not be engaged in quarry works.

9) 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.

10) The applicant company should ensure that while starting the quarry work, all the quarry workers working under their control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.

11) The District Collector, Dharmapuri shall obtain a sworn-in-affidavit from the applicant company containing the above conditions before execution of lease deed and also ensure that the instructions issued in Government Letter No. 12789/ MMB2/2002-7, Industries Department, Dated: 9.1.2003 are complied with.

Yours faithfully,

23.12.2021

for Principal Secretary to Government

23/12/2021

Copy to:-

The Commissioner of Geology and Mining,
Guindy, Chennai - 600 032.

The District Collector,
Dharmapuri District.

ANNEXURE – II

தர்மபுரி மாவட்ட அரசிதழ்

சிறப்பு வெளியீடு

ஆணையின்படி வெளியிடப்பட்டது

தர்மபுரி, செப்டம்பர் 3, 2020

[சார்வரி, ஆவணி 18 – திருவள்ளுவர் ஆண்டு 2051] [எண் 5

மாவட்ட ஆட்சியர் அறிவிக்கை

[ந. க. எண். 410/2016/(கனிமம்), நாள்: 02.09.2020]

[தர்மபுரி மாவட்டத்தில் அரசு புறம்போக்கு நிலங்களில் உள்ள குவாரிகளில் இருந்து கருப்பு கிரானைட் கற்கள் வெட்டி எடுத்துக் கொள்ள 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி 8-A-ன்படி குவாரி குத்தகை உரிமம் வழங்குதல் குறித்த விண்ணப்பங்கள் வரவேற்பதற்கான அறிவிக்கை].

டெண்டர் விண்ணப்பங்கள் பெற கடைசி நாள் / நேரம் : 28.09.2020 பிற்பகல் 03.00 மணி வரை

பொது ஏலம் நடத்துதல் மற்றும் டெண்டர் விண்ணப்பங்களை பிரித்து பரிசீலிக்கும் நாள் : 29.09.2020 முற்பகல் 11.00 மணி முதல்

1. தர்மபுரி மாவட்டத்தில் அரசு புறம்போக்கு நிலத்தில் அமைந்துள்ள கருப்பு கிரானைட் குவாரிகளிலிருந்து கிரானைட் கற்கள் வெட்டி எடுக்க தமிழ்நாடு சிறு கனிம சலுகை விதிகள், 1959-ல் அரசாணை எண்:103 தொழிற்(எம்.எம்.சி.1)துறை நாள்:13.07.1996 மற்றும் தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண்:337 நாள்: 13.07.1996-ன் பாகம் III(1)-Aல் சேர்க்கப்பட்டு பின்பு திருத்தங்கள் செய்யப்பட்ட விதி 8-A-ன்படி டெண்டருடன் இணைந்த பொது ஏல முறையில் குவாரி குத்தகை வழங்குதல் தொடர்பாக மூடிமுத்திரையிடப்பட்ட டெண்டர் விண்ணப்பங்கள் தமிழக அரசு சார்பாக தர்மபுரி மாவட்ட ஆட்சியரால், தர்மபுரி மாவட்ட ஆட்சியர் அலுவலக வளாகம், மாவட்ட ஊரக வளர்ச்சி முகமை கட்டிடம், இரண்டாம் தளத்தில் இயங்கிவரும் புவியியல் மற்றும் சுரங்கத்துறை, துணை இயக்குநர் அலுவலக கடிகாரத்தில் உள்ள நேரப்படி 28.09.2020 அன்று மாலை 03.00 மணி வரை தனி நபர்கள் (Individuals) / நிறுவனங்கள் (Companies) / பங்குதாரர் நிறுவனம் (Partnership firm) ஆகியோரிடமிருந்து வரவேற்கப்படுகிறது.

2. இந்த அறிவிக்கையின்படி விண்ணப்பிக்கப்படும் ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பம் 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகனிமச் சலுகை விதிகளின் பின்இணைப்பு VI-A-ல் குறிப்பிடப்பட்டுள்ள படிவத்தில் இருக்க வேண்டும். மாதிரி விண்ணப்பப்படிவம் இந்த மாவட்ட அரசிதழ் சிறப்பு வெளியீட்டின் இணைப்பில் பிரசுரிக்கப்பட்டுள்ளது. இணைப்பில் பிரசுரிக்கப்பட்டுள்ள படிவம் VI-A-ன் படி பூர்த்தி செய்து அனுப்பப்படாத விண்ணப்பங்கள் மற்றும் குறிப்பிடப்பட்டுள்ள சட்டப்பூர்வமான இணைப்புகளுடன் சமர்ப்பிக்கப்படாத ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்கள் ஏற்றுக் கொள்ளப்படமாட்டாது.

S. N. A.

3. ஒப்பந்தப்புள்ளி விண்ணப்பம் அனுப்புவதற்கு முன்/ஏலத்தில் கலந்து கொள்வதற்கு முன் இம்மாவட்ட அரசிதழ் அறிவிக்கையுடன் இணைக்கப்பட்டுள்ள பட்டியலில் கண்ட சம்மந்தப்பட்ட குவாரியை விண்ணப்பதாரர்கள் நேரில் சென்று கனிமத்தின் தரம் மற்றும் இருப்பு ஆகியவற்றை தனது சொந்த செலவிலேயே பார்வையிட்டு கொள்ள வேண்டும். டெண்டர்/ பொது ஏலம் முடிவில் கிராணைட் குவாரி குத்தகை உரிமம் ஒதுக்கீடு செய்யப்படின் விண்ணப்பதாரர்கள் தேவையான அணுகு சாலை வசதிகளுடன் கூடிய கட்டமைப்பு வசதிகள் மற்றும் பிற வசதிகளை தங்களது சொந்த செலவில் ஏற்படுத்திக் கொள்ள வேண்டும்.

4. (அ) ஒவ்வொரு குவாரிக்கும் இந்த அரசிதழின் பிற்சேர்க்கையில் பிரசுரிக்கப்பட்டுள்ள இணைப்பு VI-A-ல் காணும் மாதிரி விண்ணப்பபடிவத்தின்படி அரசிதழில் / தினசரி நாளிதழில் வெளியிடப்பட்ட விளம்பரத்தின்படி குவாரிபட்டியலில் கண்டுள்ள இனங்களுக்கு தனித்தனி விண்ணப்பங்களில் தர்மபுரி மாவட்ட ஆட்சியருக்கு முகவரியிட்டு விண்ணப்பிக்க வேண்டும். அறிவிப்பு செய்யப்பட்டுள்ள அரசிதழில் கண்டுள்ள நிபந்தனைகளின்படி பூர்த்தி செய்யப்பட்ட ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்களை அனைத்து இணைப்புகளுடன் கவரில் வைத்து மூடி முத்திரையிட்டு மாவட்ட ஆட்சித் தலைவர் தர்மபுரி என்ற விலாசமிட்டு நேரிலோ அல்லது ஒப்புகை பெறத்தக்க பதிவஞ்சல் மூலமாகவோ தர்மபுரி மாவட்ட ஆட்சியர் அலுவலக வளாகம், மாவட்ட ஊரக வளர்ச்சி முகமை கட்டிடம், இரண்டாம் தளத்தில் இயங்கிவரும் புவியியல் மற்றும் சுரங்கத்துறை, துணை இயக்குநர், அலுவலகத்தில் 2020-ம் ஆண்டு செப்டம்பர் திங்கள் 28.09.2020-ம் நாள் மாலை 03.00 மணிக்குள் கிடைக்கும்படி அனுப்பப்பட வேண்டும். "டெண்டர் விண்ணப்பம் அடங்கிய கவரின் மீது விண்ணப்பிக்கும் குவாரியின் விவரம் மற்றும் அட்டவணையில் குறிப்பிட்டுள்ள குவாரியின் வரிசை எண் ..... போன்றவற்றை தவறாமல் குறிப்பிட வேண்டும்". விண்ணப்பதாரரின் பெயர் மற்றும் முகவரி விவரங்களை விண்ணப்ப படிவம் அடங்கிய உறையின் மீது தெளிவாக குறிப்பிடப்பட வேண்டும்.

(ஆ) ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பத்துடன் கீழ்கண்டவற்றை இணைத்து அனுப்ப வேண்டும்.

(i) திரும்ப வழங்க இயலாத விண்ணப்பக் கட்டணமாக ரூ.5000/- (ரூபாய் ஐந்தாயிரம் மட்டும்)-க்கான தர்மபுரி மாவட்ட அரசு கருவூலத்தில் செலுத்தியதற்கான கருவூல செலுத்து சீட்டு இணைக்கப்பட வேண்டும் அல்லது ஏதேனும் ஒரு தேசிய மயமாக்கப்பட்ட வங்கி/ கூட்டுறவு வங்கி கிளையில் மாவட்ட ஆட்சியர் தர்மபுரி என்ற பதவியின் பெயரில் கேட்பு வரைவோலை (டிமாண்ட் டிராப்ட்) பெற்றும் விண்ணப்பத்துடன் இணைத்து அனுப்பப்பட வேண்டும்.

(ii) பிணை வைப்புத்தொகை (Earnest money deposit) ரூ.25,00,000/- (ரூபாய் இருபத்தைந்து இலட்சம் மட்டும்)-க்கான கேட்பு வரைவோலை ஏதேனும் ஒரு தேசிய மயமாக்கப்பட்ட வங்கி/ கூட்டுறவு வங்கியில் மாவட்ட ஆட்சியர் தர்மபுரி மாவட்டம் அவர்களின் பதவியின் பெயரில் பெற்று இணைக்கப்பட வேண்டும்.

(iii) மாநிலத்தில் உள்ள மாவட்ட வாரியாக கனிம வாரியாக விண்ணப்பதாரர் / ஏலதாரர் நேரடியாகவோ அல்லது பங்குதாரராகவோ தொடர்புள்ள குவாரிகள் பற்றிய கீழ்கண்ட விவரங்களை ஆணை உறுதி வாக்குமூலம் (அபிடவிட்) மூலம் தெரிவிக்க வேண்டும்.

(1) அனுபவத்திலிருக்கும் குவாரி குத்தகை அனுமதி பற்றி விவரம்

(2) ஏற்கனவே விண்ணப்பித்து இதுவரை அனுமதி வழங்கப்படாத குவாரி குத்தகை அனுமதி பற்றிய விவரம்.

(3) தற்போது உடனிகழ்வாக விண்ணப்பிக்கும் குவாரி குத்தகை அனுமதி விவரம்.

(iv) விண்ணப்பதாரருக்கு கனிம குத்தகையுள்ள பகுதியின் மாவட்ட ஆட்சியரிடமிருந்து செல்லத்தக்க சுரங்கவரி நிலுவை இல்லா சான்றிதழ் கனிம சட்ட விதிமுறைகளில் குறிப்பிடப்பட்டுள்ள இணைப்பு VIII-ல் உள்ள படிவத்தில் ராயல்டி, சீனியரேஜ் கட்டணம், குத்தகை தொகை, முடக்கு வரி, மேற்பரப்பு வாடகை, பரப்பு வரி, அபராத தொகை அல்லது விதிமுறைகளின்படி இதர நிலுவைகள் ஆகியவை ஏதுமில்லை என்பதற்கான சான்று இணைக்கவும் அல்லது குவாரி/சுரங்க உரிமம் ஏதும் தமிழ்நாடு மாநிலத்தில் இல்லை எனில் ஆணை உறுதி ஆவணமும் இணைக்கப்பட வேண்டும்.

(v) வருமானவரி தொடர்பான கீழ்க்கண்ட விவரங்களுடன் ஆணையுறுதி வாக்குமூலத்தில் இணைக்கப்படவேண்டும்

(1) நாளது வரை வருமான வரி கணக்கு தாக்கல் செய்யப்பட்ட விவரம்

(2) விதிக்கப்பட்ட வருமானவரி செலுத்தப்பட்டதற்கான சான்று

(3) வருமானவரிச் சட்டம் 1961 அல்லது மத்திய அரசால் அறிவுறுத்தப்பட்டவாறு சுய கணக்கீட்டின்படி வருமான வரி செலுத்தப்பட்ட விவரம்.

(இ) இவ்வாறு விண்ணப்பிக்கப்படும் விண்ணப்பத்தில் குத்தகை உரிமம் பெறுவதற்கு விண்ணப்பதாரரால் செலுத்தப்படவுள்ள அதிக பட்ச குவாரி குத்தகை தொகையினை குறிப்பிட்டிருக்க வேண்டும்.

(ஈ) அனைத்து விண்ணப்பங்களும் அரசிதழ் / விளம்பரத்தில் குறிப்பிடப்பட்டுள்ள முகவரிக்கு குறிப்பிடப்பட்ட நாள் மற்றும் நேரத்திற்குள் வந்தடைய வேண்டும்.

5. (அ) டெண்டர் விண்ணப்பங்கள் நேரடியாக அனுப்பப்படின் 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி இணைப்பு-IX-ல் கண்டுள்ள படிவத்தில் ஒப்புகை சீட்டு வழங்கப்படும். டெண்டர் விண்ணப்பம் பதிவஞ்சல் மூலம் அனுப்பப்படின் பெறப்பட்ட நாளிலிருந்து மூன்று தினங்களுக்குள் மேற்படி படிவத்தில் ஒப்புகை சீட்டு பதிவஞ்சலில் (ஒப்புகை அட்டையுடன்) அனுப்பிவைக்கப்படும். அஞ்சல் போக்குவரத்தில் ஏற்படும் தாமதம் / தவறும் விண்ணப்பங்களுக்கு / தகவல்களுக்கு மாவட்ட ஆட்சியர் எவ்வகையிலும் பொறுப்பு அல்ல.

(ஆ) செய்தித்தாள் மூலமாகவோ, மாவட்ட அரசிதழ் மூலமாகவோ, அறிவிப்பு செய்யப்படாத குவாரிகளுக்கு ஏதாவது ஒப்பந்தப்புள்ளி விண்ணப்பங்கள் கிடைக்கப்பெற்றால் அவையாவும் முதிர்ச்சி அடையாத விண்ணப்பமாக கருதப்பட்டு மாவட்ட ஆட்சியரால் உடனடியாக நிராகரிக்கப்படும். குறித்த காலக்கெடுவிற்குள் வந்து சேராத விண்ணப்பங்கள் காலவரையறை கடந்த விண்ணப்பமாக கருதப்பட்டு அவையாவும் மாவட்ட ஆட்சியரால் நிராகரிக்கப்படும். மேற்கூறப்பட்ட நிபந்தனைகளை பூர்த்தி செய்யாத ஏல / டெண்டர் விண்ணப்பங்கள் நிராகரிக்கப்படுவதுடன் ஏலம் / டெண்டரில் கலந்து கொள்ளவும் அனுமதிக்கப்படமாட்டார்கள். அவ்வாறு நிராகரிக்கப்படும் விண்ணப்பங்களுடன் வங்கி வரைவோலைகள் இருப்பின் பெறப்பட்ட ஏழு நாட்களுக்குள் விண்ணப்பம் மட்டும் நிறுத்திவைக்கப்பட்டு வங்கி வரைவோலை பதிவஞ்சல் மூலம் விண்ணப்பதாரருக்கு திரும்ப அனுப்பி வைக்கப்படும்.

பொது ஏலம் மற்றும் டெண்டர் நடைமுறைகள்

6 (அ) 1. குவாரி குத்தகை பெறுவது தொடர்பாக அறிவிப்பு / விளம்பரம் செய்யப்பட்டு டெண்டர் விண்ணப்பங்கள் கோரப்பட்ட இலங்களுக்கு வரப்பெற்ற டெண்டர் விண்ணப்பங்கள் திறக்கப்படும் முன் நடத்தப்படும் பொது ஏலத்தில் டெண்டர் விண்ணப்பதாரர்கள் மற்றும் பிணை வைப்புத்தொகை (Earnest money deposit) ரூ.25,00,000/- (ரூபாய் இருபத்தைந்து இலட்சம் மட்டும்) கேட்பு வரைவோலை மூலம் செலுத்தும் பொது ஏல விண்ணப்பதாரர்கள், விண்ணப்ப கட்டணம் மற்றும் குறிப்பிடப்பட்டுள்ள இணைப்புகளுடன் கூடிய விண்ணப்பம் சமர்ப்பித்தலுக்குப்பட்டு பொது ஏலத்தில் கலந்து கொள்ள அனுமதிக்கப்படுவர். அவ்வாறு ஏற்கனவே பிணைவைப்புத் தொகை செலுத்தி டெண்டர் மனு சமர்ப்பித்த விண்ணப்பதாரர்கள் பொது ஏலத்தில் கலந்து கொள்ள தனியே தொகை செலுத்த தேவையில்லை.

2. ஏற்கனவே டெண்டர் விண்ணப்பம் கொடுத்தவர்கள் ஏலத்தில் கலந்துகொள்ள முடியாவிடில் அவருக்குப்பதிலாக அவரால் நியமிக்கப்பட்ட நியமனதாரர் ஒரு நபர் மட்டுமே நோட்டரி பப்ளிக் முன்பு விண்ணப்பதாரர் மற்றும் நியமிக்கப்பட்ட நபர் கையெழுத்துக்கள் சான்று பெறப்பட்ட உறுதிமொழி ஆவணம் (அபிடவிட்) தாக்கல் செய்வதின் பேரில் ஏலத்தில் கலந்து கொள்ள அனுமதிக்கப்படுவார்கள்.

(ஆ) (i) மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் வழங்கப்பட்டுள்ள அலுவலரால் மாவட்ட ஆட்சியர் அலுவலகத்தில் விண்ணப்பதாரர்கள் மற்றும் ஏலம் கோர வந்திருக்கும் நபர்களின் முன்னிலையில் ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்கள் திறக்கப்படுவதற்கு முன்னர் குவாரிப் பட்டியலில் கண்டுள்ள வரிசைப்படி பொது ஏலம் நடத்தப்படும். பொது ஏலம் முடிவடைந்த பின்னர் மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் வழங்கப்பட்டுள்ள அலுவலரால் வரப்பெற்ற அனைத்து டெண்டர் விண்ணப்பங்களும் பிரித்து ஆய்வு செய்யப்படும்

(ii) மூடி முத்திரையிட்டு வரப்பெற்ற டெண்டர் விண்ணப்பங்கள் ஆஜராகவுள்ள டெண்டர் விண்ணப்பதாரர்கள் அவரால் நியமனம் செய்யப்பட்ட நியமனதாரர் முன்னிலையில் பிரிக்கப்படும். டெண்டர் திறப்பு நாள் மற்றும் குறிப்பிட்ட நேரத்தில் டெண்டர் விண்ணப்பதாரர் அல்லது நியமனதாரர் இல்லாதிருக்கும் பட்சத்தில் அது டெண்டர் / பொது ஏல நடவடிக்கைகளை எவ்வகையிலும் கட்டுப்படுத்தாது.

(iii) டெண்டர் / பொது ஏலத்தில் மூன்றுக்கும் குறைவான டெண்டர் / பொது ஏலம் விண்ணப்பங்கள் பெறப்படின் டெண்டர் / பொது ஏலம் நடவடிக்கைகள் ரத்து செய்யப்பட்டு ஒரு மாத காலத்திற்குள் மறு டெண்டர் நடத்த பரிந்துரை செய்யப்படும்.

(iv) குறிப்பிட்ட இனத்திற்கு பெறப்பட்ட டெண்டர் விண்ணப்பங்களின் எண்ணிக்கை விண்ணப்பதாரரின் பெயர் மற்றும் விண்ணப்பதாரால் குறிப்பிடப்பட்டுள்ள டெண்டர் தொகை விவரம் அங்கீகாரம் வழங்கப்பட்ட அலுவலரால் அறிவிக்கை செய்யப்படும். டெண்டர் நடவடிக்கைகள் முடிவு செய்யப்படும் முன் உயர்ந்தபட்ச ஏல தொகை மற்றும் டெண்டர் விண்ணப்பத்தில் குறிப்பிடப்பட்டுள்ள டெண்டர் தொகை, உயர்ந்த பட்ச தொகை குறிப்பிட்ட டெண்டர் / ஏலதாரர் விவரங்களும் அங்கீகாரம் வழங்கப்பட்ட அலுவலரால் அறிவிக்கை செய்யப்படும்.

(v) ஏலத்தில் கோரப்பட்ட உயர்ந்தபட்ச தொகையானது ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பத்தில் குறிப்பிடப்பட்டுள்ள குத்தகை (டெண்டர்) தொகையை விடகுறைவாக இருந்து ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்கள் மூலமாக கோரப்படும் குத்தகை தொகைகள் இரண்டு அல்லது அதற்கும் மேற்பட்ட விண்ணப்பதாரர்களால் ஒரே மாதிரியாக குறிப்பிடப்பட்டிருந்தால் மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் அளிக்கப்பெற்ற அலுவலர் சம்பந்தப்பட்ட விண்ணப்பதாரர்களை மட்டும் அழைத்து சம்பந்தப்பட்ட குவாரிக்கு மட்டும் மறு கேட்பு மூலம் உயர் குத்தகை தொகை பெற நடவடிக்கை எடுக்கப்படும்.

(vi) அரசிதழில் குறிப்பிடப்பட்டுள்ள குவாரிகளுக்கு அதிக பட்ச டெண்டர் / ஏலத் தொகை உறுதி செய்து அறிவிக்கை செய்யபட்ட பின்னர் மீதமுள்ள டெண்டர் /ஏலதாரர்களிடமிருந்து பெறப்பட்ட பிணை வைப்புத் தொகை வருகைபுரிந்துள்ளவர்களிடம் உரிய ஒப்புகை சான்று பெற்று திரும்ப வழங்கப்படும் அல்லது ஒப்பந்தப்புள்ளி திறக்கும் சமயத்தில் ஆஜரில் இல்லாத நபருக்கு பதிவஞ்சல் மூலம் வங்கி வரைவோலைகள் தனியே அனுப்பி வைக்கப்படும். உயர்ந்தபட்ச டெண்டர் / ஏலத் தொகை குறிப்பிட்ட விண்ணப்பதாரருக்கு குவாரி குத்தகை உரிமம் வழங்கப்படின் அவரால் செலுத்தப்பட்ட பிணைவைப்புத் தொகை குத்தகை தொகையில் ஈடுசெய்து கொள்ளப்படும்.

7) குவாரி குத்தகை தொடர்பான ஒப்பந்தபுள்ளி / ஏல நடவடிக்கைகள் முடிவுற்ற பின்னர் பெறப்பட்ட அனைத்து விண்ணப்பங்களும் மாவட்ட ஆட்சியரால் புவியியல் மற்றும் சுரங்கத் துறை இயக்குநர், சென்னை மூலமாக அரசுக்கு அனுப்பி வைக்கப்படும். மாவட்ட ஆட்சியரால் அனுப்பப்படும் முன்மொழிவுகள் பெறப்பட்டவுடன் இயக்குநர் புவியியல் மற்றும் சுரங்கத் துறை, சென்னை அவர்களது பரிந்துரைகளுடன் அரசுக்கு அனுப்பி வைக்கப்படும்.

8) (அ) (i) குவாரி குத்தகை உரிமம் வழங்குவது தொடர்பாக புவியியல் மற்றும் சுரங்கத்துறை இயக்குநரிடமிருந்து பரிந்துரைகள் பெறப்பட்டவுடன் மாநில அரசால் அதிகபட்ச ஏல கேட்புத்தொகை அல்லது உயர்ந்த பட்ச ஒப்பந்தத்தொகை குறிப்பிட்ட விண்ணப்பதாரருக்கு குவாரி குத்தகை வழங்கப்படுவது தொடர்பான அறிவிப்பாணை அல்லது தகுதியான பரப்பு குறித்த அறிவிப்பு அனுப்பிவைக்கப்படும்.

(ii) அரசிடமிருந்து குவாரி குத்தகை வழங்குவது தொடர்பான தகுதியான பரப்பு என்பதற்கான உறுதியாணை கிடைக்கப்பெற்ற ஒரு மாத காலத்திற்குள் மீதமுள்ள குத்தகை தொகையினை மாவட்ட கருவூலத்தில் செலுத்தியதற்கான அசல் சலானை சமர்ப்பிக்க வேண்டும். 1999-ம் ஆண்டு கிராணைட் பாதுகாப்பு மற்றும் மேம்படுத்துதல் விதி 12-ல் குறிப்பிட்டுள்ளவாறு அங்கீகரிக்கப்பட்ட சுரங்க திட்டம் மூன்று மாத காலத்திற்குள் பெற்று அரசுக்கு அனுப்பிவைக்க வேண்டும்.

(iii) அரசிடமிருந்து பெறப்பட்ட கடிதத்தில் குறிப்பிடப்பட்டுள்ள காலத்திற்குள் விண்ணப்பதாரர்களால் மீதமுள்ள குத்தகை தொகை செலுத்த தவறும் பட்சத்தில் ஏற்கனவே செலுத்தப்பட்ட தொகை பறிமுதல் செய்யப்படுவதுடன் ஏற்கனவே அனுப்பப்பட்ட அரசு கடிதமானது ரத்து செய்யப்பட்டதாக கருதப்படும். விண்ணப்பதாரர்களால் மீதமுள்ள குத்தகை தொகை உரிய காலத்திற்குள் செலுத்தப்பட்டு 1999-ம் ஆண்டு கிராணைட் பாதுகாப்பு மற்றும் மேம்படுத்துதல் விதி 12-ல் குறிப்பிட்டுள்ளவாறு அங்கீகரிக்கப்பட்ட சுரங்க திட்டம் சமர்ப்பிக்க இயலாத விண்ணப்பதாரரின் ஏற்கதக்க காரணம் ஏதும் இருப்பின் அங்கீகரிக்கப்பட்ட சுரங்கத் திட்டம் சமர்ப்பிக்க கால நீட்டிப்பிற்கு விண்ணப்பதாரர் விண்ணப்பிக்கலாம். அவ்வாறான விண்ணப்பம் அரசுக்கு பெறப்பட்ட உடன் விண்ணப்பதாரரால் செலுத்தப்பட்ட மீதமுள்ள குத்தகை தொகை செலுத்தப்பட்ட விவரத்தினை உறுதி செய்து குறிப்பிடப்பட்டுள்ள காரணங்கள் திருப்திகரமாக உள்ளதாக கருதப்படின் மேலும் மூன்று மாத கால அவகாசத்திற்கு மேற்படாமல் அரசால் நீட்டித்து அனுமதிக்கப்படும். காலநீட்டிப்பு செய்யப்பட்டு அனுமதிக்கப்பட்ட காலத்திற்குள் அங்கீகரிக்கபட்ட சுரங்கத் திட்டம் விதிகளின்படி பெற்று சமர்ப்பிக்க தவறும் பட்சத்தில் விண்ணப்பதாரர்களால் செலுத்தப்பட்ட தொகை பறிமுதல் செய்யப்படுவதுடன் ஏற்கனவே அனுப்பப்பட்ட அரசு கடிதமானது ரத்து செய்யப்பட்டதாக கருதப்படும்.

(iv) விண்ணப்பதாரர்கள் 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம விதி 42-ன்படி தகுதிவாய்ந்த அமைப்பிடமிருந்து பெறப்பட்ட சுற்றுச்சூழல் அனுமதி ஆணையினை மாநில அரசால் குறிப்பிடப்பட்ட காலவரையறைக்குள் பெற்று சமர்ப்பிக்கவும் வேண்டும்.

(v) அரசு கடிதத்தின்படி விண்ணப்பதாரரால் 1999-ம் ஆண்டு கிராணைட் பாதுகாப்பு மற்றும் மேம்படுத்துதல் விதி 12-ன்படி அங்கீகரிக்கபட்ட சுரங்கத் திட்டம் மற்றும் 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி 42-ன்படி தகுதிவாய்ந்த அமைப்பிடமிருந்து பெறப்பட்ட சுற்றுச்சூழல் அனுமதி ஆணை ஆகியவை சமர்ப்பிக்கப்பட்ட பின்னர் குவாரி குத்தகை உரிம ஆணை அரசால் வழங்கப்படும்.

(ஆ) விண்ணப்பதாரர்களால் குறிப்பிடப்பட்டுள்ள அதிகபட்ச தொகையானது திருப்திகரமானது இல்லை என்றோ அதிக தொகை குறிப்பிட்ட விண்ணப்பதாரரின் டெண்டர் உறுதிசெய்வது கனிம வளர்ச்சிக்கு உகந்ததாக இருக்காது என அரசால் கருதப்படின் குவாரி குத்தகை உரிமம் விண்ணப்பதாரருக்கு வழங்க மறுத்து உரிய காரணங்களுடன் அரசால் ஆணை அனுப்பிவைக்கப்படும்.

(இ) அரசிடமிருந்து உறுதி ஆணை பெறப்பட்ட நாளிலிருந்து ஒருமாத காலத்திற்குள் அல்லது மாவட்ட ஆட்சியரால் மேலும் அனுமதிக்கப்படும் 30 (முப்பது) நாட்களுக்கு மிகாமல் உள்ள காலத்திற்குள் விண்ணப்பதாரால் மாவட்ட ஆட்சியருடன் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்படும். குவாரி குத்தகை ஒப்பந்த ஆவணத்துடன் மாவட்ட ஆட்சியர் மற்றும் விண்ணப்பதாரரால் கையொப்பமிடப்பட்ட குத்தகை வழங்கப்பட்ட பரப்பின் விவரம் குறிக்கப்பட்ட வரைபடம் இணைத்து குறிப்பிடப்பட்ட நாள்/நேரத்தில் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்படும்.

(ஈ) அரசால் குவாரி குத்தகை ஆணை விண்ணப்பதாரருக்கு வழங்கப்பட்ட பின்னர் விண்ணப்பதாரரால் குத்தகை வழங்கப்பட்ட பரப்பின் விவரம் குறிக்கப்பட்டு கையொப்பமிடப்பட்ட வரைபடம் சமர்பிக்க தவறினாலோ, குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்ற தேவையான முத்திரைதாட்கள் சமர்ப்பிக்க தவறினாலோ அல்லது குறிப்பிடப்பட்ட காலத்திற்குள் குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்ற தவறினாலோ அரசால் வழங்கப்பட்ட குத்தகை ஆணையினை ரத்து செய்து உத்திரவிடுவதுடன் அவரால் செலுத்தப்பட்ட அனைத்து தொகையும் பறிமுதல் செய்யப்படும். அவ்வாறு ரத்து செய்யப்பட்ட குவாரி குத்தகை பகுதிக்கு இரண்டு அல்லது அதற்கும் மேற்பட்ட விண்ணப்பதாரர்கள் இருப்பின் ரத்து செய்யப்பட்ட விண்ணப்பதாரருக்கு அடுத்து அதிகபட்ச டெண்டர்/கேட்புத் தொகை குறிப்பிட்ட விண்ணப்பதாரருக்கு அரசால் மேற்கண்ட உட்கூறு (அ மற்றும் ஆ)-ல் குறிப்பிடப்பட்டுள்ளவைகளுக்கு உட்பட்டு குவாரி குத்தகை உரிமம் வழங்கப்படும். அரசால் அறிவிப்பு ஆணை அனுப்பப்பட்ட அடுத்த அதிகபட்ச டெண்டர்/கேட்புத் தொகை குறிப்பிட்டவரிடமிருந்து 15 தினங்களுக்குள் சம்மதம் கடிதம் மூலம் தெரிவிக்கப்படவில்லை எனில், அக்குறிப்பிட்ட பகுதிக்கு அரசால் புதிய டெண்டர் விண்ணப்பங்கள் கோரப்படும்.

குவாரி பணி மேற்கொள்வதற்கான நிபந்தனைகள்

9. (அ) குவாரி குத்தகை வழங்கப்பட்ட காலத்திற்கு குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட நாள் குவாரி குத்தகை துவக்க நாளாக இருக்கும்.

(ஆ) குவாரி குத்தகை ஒப்பந்தம் நிறைவேற்றப்படும் முன் டெண்டர் / ஏல விண்ணப்பங்கள், அரசால் உறுதி ஆணையில் தெரிவிக்கப்பட்ட குத்ததை தொகையில் 20% தொகையினை பிணை வைப்புத் தொகையாக செலுத்த வேண்டும்.

(இ) குவாரி குத்தகை உரிமம் தொடர்பாக செலுத்தப்படும் ஒருமுறை குத்தகை தொகையினை தவிர இவ்விதிகளின் இணைப்பு (II)ல் குறிப்பிடப்பட்டுள்ளவாறு குத்தகைதாரர்கள் அவ்வப்போது வெட்டி எடுக்கும் / உபயோகிக்கும் கனிம அளவிற்கு உரிய விகிதத்தில் கனிம வரி அல்லது முடக்குவரி இதில் எது அதிகமோ அதனை செலுத்த வேண்டும். ஒருமுறை குத்தகை தொகை மற்றும் கனிம வரி அல்லது முடக்குவரி அவற்றில் அதிகமான தொகை மற்றும் அரசால் அவ்வப்போது அறிவிக்கப்படும் இதர வரிகளையும் குத்தகைதாரர் செலுத்த வேண்டும். கனிம வரி அல்லது முடக்குவரி இவற்றுள் எது அதிகமோ அதனை செலுத்த தவறும் போது குவாரி குத்தகை உரிமம் இரத்து செய்யப்படும். குத்தகைதாரர்கள் முதல் குத்தகை ஆண்டிற்கான முடக்கு வரியினை குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்படுவதற்கு முன்னரும் அடுத்து வரும் ஆண்டுகளுக்கான முடக்கு வரியினை ஒவ்வொரு ஆண்டும் குத்தகை காலம் துவங்கும் 30 நாட்களுக்குள்ளும் செலுத்த வேண்டும். குத்தகைதாரர்கள் குத்தகை வழங்கப்பட்ட பகுதியிலிருந்து வெட்டி எடுத்துச் செல்லும் கிராணைட் கற்துண்டுகளுக்கு வழித்தடசான்று கோரி விண்ணப்பிக்கும் போது செலுத்தப்பட வேண்டிய கனிமவரிக்கு, குத்தகைதாரர்களால் ஏற்கனவே செலுத்தப்பட்ட முடக்குவரி உள்ள வரை ஈடு செய்து கொள்ளப்படும்.

(ஈ) குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட பின்னர் குவாரி குத்தகைக்கு விடப்பட்ட புலத்தின் எண், குவாரி குத்தகை செய்ய விடப்பட்ட பரப்பு ஆகியன குறித்து எவ்வித தாவாவும் செய்ய குத்தகை உரிமைதாரருக்கு கிடையாது.

(உ) குவாரி குத்தகை ஒப்பந்தபத்திரத்தில் குறிப்பிடப்பட்டுள்ள நாளில் குத்தகை உரிமம் முடிவடைவதுடன் குத்தகை காலம் எவ்வகையிலும் நீட்டிக்கப்படமாட்டாது.

(ஊ) எந்தவொரு குத்தகைதாரரும் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்படும் முன்னர் குவாரி பகுதியில் குவாரி பணி தொடங்க கூடாது. குத்தகைதாரர்கள் குவாரி குத்தகை ஒப்பந்த காலம் முடிவுற்ற பின்னர் குவாரி பகுதியில் எவ்வித பணிகளும் தொடரக்கூடாது. மேற்கண்ட நிபந்தனைகளை மீறினாலோ அல்லது புறம்பாகவோ குவாரி பணி அல்லது கனிமம் எடுத்துச் செல்வது என்பது, கள்ளத்தனமாக கனிமம் வெட்டி எடுத்தல், எடுத்துச் செல்லுதல் என கருதப்பட்டு குத்தகைதாரர் மீது பிற நடவடிக்கைகளுக்கு குந்தகமின்றி சட்ட விதிகளின்படி தண்ட நடவடிக்கை மேற்கொள்ளப்படும்.

(எ) குத்தகைதாரர் தனக்கு ஒதுக்கீடு செய்யப்பட்ட பகுதியில் மட்டும் குவாரி பணி செய்து மாவட்ட ஆட்சியர் (அ) அவரால் அங்கீகாரம் வழங்கப்பட்ட அலுவலரிடமிருந்து இசைவாணைசீட்டு மற்றும் நடைச்சீட்டு பெற்ற பின்னரே கனிமங்களை எடுத்துச் செல்ல வேண்டும்.

(ஏ) குவாரி குத்தகை உரிமம் வழங்கப்பட்ட பகுதியில் அனுமதிக்கப்பட்ட கனிமம் மட்டுமே வெட்டி எடுக்கப்பட வேண்டும். இதர கனிமங்கள் / மதிப்பு மிக்க உலோகங்கள் ஏதேனும் கண்டறியப்படின் குவாரி பணி உடனடியாக நிறுத்தப்பட்டு மாவட்ட ஆட்சியர் / அரசுக்கு தெரியப்படுத்தப்பட வேண்டும்.

(ஐ) குத்தகைதாரர் தனக்கு வழங்கப்பட்ட குத்தகை உரிமத்தினை 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி 36-F-ல் குறிப்பிடப்பட்டுள்ளவாறு உரிமை மாற்றம், உள்குத்தகை, அடமானம் அல்லது வேறு எந்த வகையிலும் அரசின் முன் அனுமதியின்றி குத்தகை மாற்றம் செய்ய கூடாது.

(ஒ) குவாரி பகுதியிலிருந்து வெட்டி எடுக்கப்பட்ட மற்றும் வெளியேற்றப்பட்ட கனிமங்களின் அளவுகள் மற்றும் இதர விவரங்கள் குறித்து சரியான கணக்குகள் குத்தகைதாரர்களால் பராமரிக்கப்பட வேண்டும். குத்தகைதாரரால், அரசு/ இயக்குநர் புவியியல் மற்றும் சுரங்கத் துறை / மாவட்ட ஆட்சியர் அவர்களால் அங்கீகாரம் அளிக்கப்பட்ட அலுவலர்கள் குவாரியினை ஆய்வு செய்ய அனுமதிக்கவும், மேலும் கணக்குகள் மற்றும் பதிவேடுகளை ஆய்வு செய்து சரிபார்க்கவும் அவரால் கோரப்படும் தகவல்கள் / குவாரி பற்றிய அறிக்கைகள் (Returns) குத்தகைதாரரால் வழங்கப்பட வேண்டும்.

10. (அ) குவாரி குத்தகைதாரர்கள் குவாரி பணியினை திறம்படவும் அறிவியல் பூர்வமாகவும், தொழிலாளர்களின் பாதுகாப்பு, கனிமவள அபிவிருத்தி மற்றும் சுற்றுச்சூழல் பாதுகாப்பு ஆகியவற்றை கருத்தில் கொண்டு குவாரி பணி மேற்கொள்ள வேண்டும்.

(ஆ) குவாரி குத்தகை வழங்கப்பட்டுள்ள பகுதிக்குள் உள்நுழையவும் மற்றும் ஆய்வு செய்யும் பணிக்காகவும், உட்கூறு (அ)-ல் குறிப்பிட்டுள்ள இதர பணிக்காகவோ மத்திய/மாநில அரசுகளால் இயற்றப்பட்ட சட்ட விதிகளை கடைபிடித்தலை கண்காணிக்கும் பொருட்டும் மாநில அரசு அல்லது இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அல்லது மாவட்ட ஆட்சியரால் அங்கீகாரம் அளிக்கப்பட்ட அலுவலர்களை குத்தகைதாரர் அனுமதிக்க வேண்டும்.

11. 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகளில் விதி 8-A-ன் கீழ் வழங்கப்படும் குவாரி குத்தகை உரிம காலத்தில் குத்தகைதாரரால் கனிம விதிகளுக்கு உட்பட்டும், விதிமீறலின்றியும், குவாரி செயல்பாடுகளை திருப்திகரமாக பூர்த்தி செய்திருப்பின் விதிகளுக்கு உட்பட்டு 20 ஆண்டுகளுக்கு மிகாமல் குத்தகை உரிமம் புதுப்பிக்கப்படலாம்.

12. கூடுதல் நிபந்தனைகள்

a) குவாரி குத்தகைக்கு விடப்படும் பகுதியின் குத்தகை காலம் விதிகளின்படி 20(இருபது) ஆண்டுகளுக்கு மட்டுமே ஆகும்.

b) அரசால் அறிவிக்கப்பட்ட அதிகபட்ச டெண்டர்/ ஏல கேட்புதாரர் பெயரிலேயே குவாரி குத்தகை உரிமம் வழங்கப்படும்.

c) குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்படுவதற்கு முன் குவாரி தொடர்பான பணிகள் ஏதும் மேற்கொள்ள கூடாது.

d) நிறைவேற்றப்பட்ட குவாரி குத்தகை ஒப்பந்த ஆவணம் குத்தகைதாரரின் சொந்த செலவில் பதிவு செய்து சமர்ப்பிக்கப்பட வேண்டும்.

e) குவாரி பணியின் போது அருகில் உள்ள பட்டாதாரர்களுக்கும் / பொதுமக்களுக்கும் எவ்வித இடையூறும் ஏற்படுத்த கூடாது.

f) குத்தகைதாரர் புல வரைப்படத்தின்படி தனக்கு ஒதுக்கீடு செய்யப்பட்ட பகுதியில் மட்டும் ஆக்கிரமிப்பு ஏதுமின்றி குவாரி பணி செய்ய வேண்டும்.

g) குத்தகைதாரர் குவாரி குத்தகை இடத்தில் குத்தகை உரிமம் குறித்த புல எண், குத்தகை வழங்கப்பட்ட ஆண்டு, குத்தகைதாரர் விவரம் மற்றும் குத்தகை காலம் போன்ற விவரங்கள் அடங்கிய பதாகையினை மாவட்ட ஆட்சியர், இயக்குநர் புவியியல் மற்றும் சுரங்கத் துறை அவர்களுக்கு திருப்தி அளிக்கும் வகையில் குத்தகை காலம் முழுவதும் நிறுவி பராமரித்து வரவேண்டும்.

h) குவாரி குத்தகை வழங்கப்பட்டுள்ள இடத்திற்கு சென்று வர பொது போக்குவரத்து சாலையிலிருந்து அணுகுபாதை வசதியினை குத்தகைதாரர் தனது சொந்த செலவில் ஏற்படுத்திக்கொள்ள வேண்டும்.

i) குத்தகைதாரர் 1957-ம் ஆண்டு சுரங்கங்களும் கனிமங்களும் (முறைபடுத்துதல் மற்றும் மேம்படுத்துதல்) சட்டம், 1961-ம் ஆண்டு உலோகம் சார்ந்த சுரங்க வரையறை மற்றும் 1980-ம் ஆண்டு வனபாதுகாப்பு சட்டம், 1981-ம் ஆண்டு வனபாதுகாப்பு விதிகள், 1980-ம் ஆண்டு சுற்றுச்சூழல் பாதுகாப்பு சட்டம், 1981-ம் ஆண்டு சுற்றுச்சூழல் பாதுகாப்பு விதிகள், 1884-ம் ஆண்டு இந்திய வெடிமருந்துகள் சட்டம் (மத்திய சட்டம் IV /1884) மற்றும் 1959ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் ஆகியவற்றில் கண்டுள்ள சரத்துகளுக்கு கட்டுப்பட்டவர் ஆவர்.

j) குவாரி குத்தகைக்கு வழங்கப்பட்டுள்ள பகுதியில் பணிதுவங்கும் முன்னர் குவாரி பகுதியினை சுற்றியுள்ள அனைத்து பகுதிகளிலும் சிவப்பு வண்ண கொடியுடன் கூடிய எல்லை குறிக்கும் தூண்கள் DGPS அளவு கொண்டு நிறுவப்பட்டு குத்தகை கால முழுமைக்கும் நல்ல முறையில் பராமரித்து வரவேண்டும்.

k) குவாரி குத்தகை அனுமதிக்கப்பட்டுள்ள பகுதியின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரி பணி மேற்கொள்ளப்பட வேண்டும்.

l) வெட்டி எடுக்கப்படும் கனிமங்களின் விவரம் குறித்த பதிவேடு முறையாக பராமரிக்கப்பட வேண்டும்.

m) குவாரி வழங்கப்பட்ட பகுதியினை ஒட்டியுள்ள பகுதியில் காணப்படும் கட்டுமானங்கள், குடியிருப்புகள், மின்/தொலைபேசி கம்பி வழித்தடங்கள், புகைவண்டி இருப்பு பாதை, நீர்வழித்தடங்கள், தேசிய நெடுஞ்சாலை மற்றும் இதர பொது உபயோக இடங்களுக்கு குறைந்த பட்சம் 50 மீட்டர் பாதுகாப்பு இடைவெளியும், அருகில் உள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விடப்பட்டு குத்தகை காலம் முழுமைக்கும் பராமரிக்கப்பட வேண்டும்.

n) குவாரி பகுதியில் குவாரி பணி மேற்கொள்ள துவங்கும் முன் சுரங்க மேலாளர் மற்றும் சுரங்க மேட் ஆகியோர் நியமனம் செய்யப்படுவதுடன் அவர்கள் முன்னிலையிலேயே குவாரி பணிகள் மேற்கொள்ளப்பட வேண்டும்.

o) குவாரி பணி துவங்கப்படுவது தொடர்பான அறிவிப்பு இயக்குநர், சுரங்க பாதுகாப்பு, பெங்களூரு அவர்களுக்கு அனுப்பப்பட வேண்டும்.

p) குவாரி பகுதியில் விபத்து ஏதும் ஏற்படின் அதனை உடனடியாக இயக்குநர், சுரங்க பாதுகாப்பு, பெங்களூரு மற்றும் மாவட்ட ஆட்சியர் அவர்களுக்கு தெரியபடுத்தப்படுவதுடன் குவாரி பணியில் ஏதேனும் விதிமீறல்கள் இருப்பின் அதற்கு குத்தகைதாரரே முழுபொறுப்பாவார்.

q) குத்தகைதாரரால் குவாரி பணி துவங்கும் முன்னர் தமிழ்நாடு மாசுகட்டுப்பாட்டு வாரியத்திடமிருந்து குவாரி நிறுவுதல் மற்றும் இயக்குதல் தொடர்பான இசைவாணை பெற்றுக் கொள்ள வேண்டும்.

r) தமிழ்நாடு மாசுகட்டுப்பாட்டு வாரியத்தால் விதிக்கப்படும் நிபந்தனைகளை குத்தகைதாரர் தவறாது கடைபிடிக்க வேண்டும்.

s) சுற்றுச் சூழல் ஆணையம் மற்றும் தமிழ்நாடு மாசுகட்டுப்பாட்டு வாரியத்தால் வழங்கப்படும் அனுமதி ஆணைகள் உரிய காலத்தில் தவறாது புதுப்பிக்கப்பட வேண்டும்.

t) குவாரி குத்தகை வழங்கப்படும் பகுதியில் குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றப்படும் முன்னர் கனிமங்கள் வெட்டி எடுக்கப்பட்டது ஏதும் கண்டறியப்படின் குத்தகை ஒப்பந்த பத்திரம் ரத்து செய்யப்படுவதுடன் குற்றவியல் நடவடிக்கைகள் மேற்கொள்ளப்படும்.

u) அரசால் வழங்கப்படும் குவாரி குத்தகை உரிம காலம் எக்காரணம் கொண்டும் நீட்டிக்கப்படமாட்டாது.

v) நடைமுறையில் உள்ள மற்றும் அரசால் அவ்வப்போது விதிக்கப்படும் விதிகளின்படி குவாரி குத்தகைதாரர் தகுந்த பாதுகாப்பு இடைவெளியுடன் மற்றும் அரசால் அறிவுறுத்தப்படும் உரிய பாதுகாப்பு நெறிமுறைகளையும் தனது சொந்த செலவில் ஏற்படுத்திக் கொள்ள வேண்டும்.

13. சிறப்பு நிபந்தனைகள்

i. டெண்டர் / ஏல விண்ணப்பங்களை முழுமையாகவோ / பகுதியாகவோ, அரசு /அரசு அலுவலர்களுக்கு எவ்வித பொறுப்புகளுமின்றி ஏற்றுக் கொள்ளவோ/ நிராகரிக்கவோ அரசுக்கு முழு உரிமையுண்டு.

ii. டெண்டர் / ஏல கேட்புகளை ஏற்றுக் கொள்வது என்பது அரசுக்கு உரித்தானதாகும் உயர்ந்தபட்ச அல்லது எந்த ஒரு டெண்டர் / ஏல விண்ணப்பத்தையும் ஏற்றுக் கொள்ள வேண்டிய நிர்பந்தம் அரசுக்கு இல்லை.

iii. டெண்டர் / பொது ஏலக் கேட்பில் கலந்து கொள்ளும் விண்ணப்பதாரர்கள் அனைவரும் இந்திய அரசின் வருமான வரித்துறையினரால் வழங்கப்பட்ட நிரந்தர கணக்கு எண் (PAN) பெற்றிருக்க/பெற்றுக்கொள்ள வேண்டும்.

iv. குவாரி குத்தகை உரிமம் உறுதி செய்யப்பட்ட டெண்டர் தொகை / ஏலதாரர் செலுத்தும் ஏல கேட்புத் தொகையில் 2% தொகையினை வருமான வரியாக துணை இயக்குநர் அலுவலக வரி பிடித்த கணக்கு எண்:CHEA11977A-ல் செலுத்தி உரிய செலுத்துச்சீட்டை புவியியல் மற்றும் சுரங்கத் துறை, துணை இயக்குநரிடம் தாக்கல் செய்ய வேண்டும்.

v. குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட பின்னர் குத்தகைதாரர்கள் தங்களால் எடுத்துச் செல்ல வழித்தடச் சான்று கோரி விண்ணப்பிக்கும் போது மொத்த கிராணைட் கற்துண்டங்களின் அளவிற்கு செலுத்த வேண்டிய கனிம சீனியரேஜ் தொகையில் 2% தொகையினை வருமான வரியாக செலுத்த வேண்டும்.

vi. வழித்தடச்சான்று கோரி விண்ணப்பிக்கும் கிராணைட் கற்களின் அளவிற்கு செலுத்தும் சீனியரேஜ் தொகையில் 10% தொகையினை தர்மபுரி மாவட்ட கனிமவள அறக்கட்டளை நிதியாக தர்மபுரி இந்தியன் வங்கி கிளையின் சேமிப்பு கணக்கு எண். 6636419266-ல் தவறாது செலுத்த வேண்டும்.

vii. மாலை 6.00 மணிக்கு மேல் காலை 6.00 மணி வரை கிராணைட் கற்துண்டங்களை எடுத்துச் செல்லக் கூடாது.

viii. குத்தகைதாரர்கள் சட்டப்பூர்வமான மற்றும் தேவையான பாதுகாப்பு வழிமுறைகளை தவறாது கடைபிடிக்க வேண்டும்.

ix. குவாரி பணி செய்யும் போது கிடைக்கக்கூடிய கழிவுகற்களை குவாரி குத்தகை வழங்கப்பட்ட பகுதியிலேயே கொட்டி இருப்பு வைக்க வேண்டும்.

x. மத்திய / மாநில அரசு சட்ட விதிகளின்படியும், அவ்வப்போது வெளியிடப்படும் வழிகாட்டு நெறிமுறைகளின்படியும் அங்கீகரிக்கப்பட்ட சுரங்கத் திட்டத்தின்படியே குவாரி பணி மேற்கொள்ளப்பட வேண்டும்.

xi. மேற்கூறிப்பிடப்பட்ட விதிமுறைகளின்படி குத்தகைதாரர்கள் சீராய்வு சுரங்க திட்டம் (Scheme of Mining), இறுதி சுரங்க முடிவு திட்டம் (Mine Closure Plan) மற்றும் இதர சட்டப்பூர்வமாக சமர்ப்பிக்கப்பட வேண்டிய தேவையானவற்றை குறிப்பிட்டுள்ள உரிய காலவரையரைக்குள் சமர்ப்பிக்க வேண்டும்.

xii. குத்தகைதாரர்களால் 1999-ஆம் ஆண்டு கிராணைட் பாதுகாப்பு (ம) மேம்படுத்துதல் விதிகளின் படி அரையாண்டு மற்றும் ஆண்டுக்கு ஒரு முறை சமர்ப்பிக்கப்பட வேண்டிய படிவங்களான "F" (ம) "G"-ல் உரிய விவரத்தினை குறித்த காலத்திற்குள் சமர்ப்பிக்க வேண்டும்.

xiii. குத்தகைதாரர்கள் அரசால் குத்தகை உறுதி ஆவணத்தில் குறிப்பிடப்பட்டுள்ள நிபந்தனைகள், சுற்றுச் சூழல் ஆணையத்தால் விதிக்கப்பட்டுள்ள நிபந்தனைகள், இயக்குநர் புவியியல் மற்றும் சுரங்கத் துறை, மாவட்ட ஆட்சியர், தர்மபுரி ஆகியோர்களால் அவ்வப்போது வழங்கப்படும் வழிகாட்டுதல்கள்/ நெறிமுறைகளின்படி குவாரி பணி மேற்கொள்ள வேண்டும்.

xiv. அரசு அமைப்புகள் (Government Authorities) இதர சட்டபூர்வ அமைப்புகளால் (Statuatory Authorities) விதிக்கப்படும் எந்த ஒரு நிபந்தனைகளுக்கும் குத்தகைதாரர் உடன்பட்டிருக்க வேண்டும்.

குறிப்பு:

மாண்புமிகு தமிழக முதலமைச்சர் அவர்களின் செ.கு.எண்.182, நாள்.30.08.2020-ன் படி தமிழகத்திற்குள் ஒரு மாவட்டத்தில் இருந்து பிற மாவட்டங்களுக்கு பொதுமக்கள் சென்று வர மின் அனுமதி (e- pass) தேவையில்லை என தெரிவிக்கப்பட்டுள்ளது. ஆனால் பிற மாநிலத்தில் இருந்து தமிழகத்திற்கு வருபவர்கள் மின் அனுமதி (e-pass) பெறும் வழக்கம் நடைமுறையில் உள்ளது. எனவே தர்மபுரி மாவட்டத்தில் நடைபெற உள்ள கிராணைட் டெண்டர்/ பொது ஏலத்தில், பிற மாநிலங்களில் இருந்து கலந்துக் கொள்ள விருப்பம் உடையவர்கள் ஆதார் அட்டை, பயணச்சீட்டு மற்றும் தொலைபேசி/ அலைபேசி எண்ணுடன் e-pass விண்ணப்பித்த அனைவருக்கும் Auto generated முறையில் கணினி மூலமே சுய அனுமதி உடனடியாக பெறும் வகையில் e-pass வழங்கப்படும். மின் அனுமதி (e-pass) பெற்றுக் கொண்டு கிராணைட் டெண்டர்/பொது ஏலத்தில் கலந்துக்கொள்ளுமாறு தெரிவிக்கப்படுகிறது.

iv. குவாரி குத்தகை உரிமம் உறுதி செய்யப்பட்ட டெண்டர் தொகை / ஏலதாரர் செலுத்தும் ஏல கேட்புத் தொகையில் 2% தொகையினை வருமான வரியாக துணை இயக்குநர் அலுவலக வரி பிடித்த கணக்கு எண்:CHEA11977A-ல் செலுத்தி உரிய செலுத்துச்சீட்டை புவியியல் மற்றும் சுரங்கத் துறை, துணை இயக்குநரிடம் தாக்கல் செய்ய வேண்டும்.

v. குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட பின்னர் குத்தகைதாரர்கள் தங்களால் எடுத்துச் செல்ல வழித்தடச் சான்று கோரி விண்ணப்பிக்கும் போது மொத்த கிராணைட் கற்துண்டங்களின் அளவிற்கு செலுத்த வேண்டிய கனிம சீனியரேஜ் தொகையில் 2% தொகையினை வருமான வரியாக செலுத்த வேண்டும்.

vi. வழித்தடச்சான்று கோரி விண்ணப்பிக்கும் கிராணைட் கற்களின் அளவிற்கு செலுத்தும் சீனியரேஜ் தொகையில் 10% தொகையினை தர்மபுரி மாவட்ட கனிமவள அறக்கட்டளை நிதியாக தர்மபுரி இந்தியன் வங்கி கிளையின் சேமிப்பு கணக்கு எண். 6636419266-ல் தவறாது செலுத்த வேண்டும்.

vii. மாலை 6.00 மணிக்கு மேல் காலை 6.00 மணி வரை கிராணைட் கற்துண்டங்களை எடுத்துச் செல்லக் கூடாது.

viii. குத்தகைதாரர்கள் சட்டப்பூர்வமான மற்றும் தேவையான பாதுகாப்பு வழிமுறைகளை தவறாது கடைபிடிக்க வேண்டும்.

ix. குவாரி பணி செய்யும் போது கிடைக்கக்கூடிய கழிவுகற்களை குவாரி குத்தகை வழங்கப்பட்ட பகுதியிலேயே கொட்டி இருப்பு வைக்க வேண்டும்.

x. மத்திய / மாநில அரசு சட்ட விதிகளின்படியும், அவ்வப்போது வெளியிடப்படும் வழிகாட்டு நெறிமுறைகளின்படியும் அங்கீகரிக்கப்பட்ட சுரங்கத் திட்டத்தின்படியே குவாரி பணி மேற்கொள்ளப்பட வேண்டும்.

xi. மேற்கூறிப்பிடப்பட்ட விதிமுறைகளின்படி குத்தகைதாரர்கள் சீராய்வு சுரங்க திட்டம் (Scheme of Mining), இறுதி சுரங்க முடிவு திட்டம் (Mine Closure Plan) மற்றும் இதர சட்டப்பூர்வமாக சமர்ப்பிக்கப்பட வேண்டிய தேவையானவற்றை குறிப்பிட்டுள்ள உரிய காலவரையரைக்குள் சமர்ப்பிக்க வேண்டும்.

xii. குத்தகைதாரர்களால் 1999-ஆம் ஆண்டு கிராணைட் பாதுகாப்பு (ம) மேம்படுத்துதல் விதிகளின் படி அரையாண்டு மற்றும் ஆண்டுக்கு ஒரு முறை சமர்ப்பிக்கப்பட வேண்டிய படிவங்களான "F" (ம) "G"-ல் உரிய விவரத்தினை குறித்த காலத்திற்குள் சமர்ப்பிக்க வேண்டும்.

xiii. குத்தகைதாரர்கள் அரசால் குத்தகை உறுதி ஆவணத்தில் குறிப்பிடப்பட்டுள்ள நிபந்தனைகள், சுற்றுச் சூழல் ஆணையத்தால் விதிக்கப்பட்டுள்ள நிபந்தனைகள், இயக்குநர் புவியியல் மற்றும் சுரங்கத் துறை, மாவட்ட ஆட்சியர், தர்மபுரி ஆகியோர்களால் அவ்வப்போது வழங்கப்படும் வழிகாட்டுதல்கள்/ நெறிமுறைகளின்படி குவாரி பணி மேற்கொள்ள வேண்டும்.

xiv. அரசு அமைப்புகள் (Government Authorities) இதர சட்டபூர்வ அமைப்புகளால் (Statuatory Authorities) விதிக்கப்படும் எந்த ஒரு நிபந்தனைகளுக்கும் குத்தகைதாரர் உடன்பட்டிருக்க வேண்டும்.

குறிப்பு:

மாண்புமிகு தமிழக முதலமைச்சர் அவர்களின் செ.கு.எண்.182, நாள்.30.08.2020-ன் படி தமிழகத்திற்குள் ஒரு மாவட்டத்தில் இருந்து பிற மாவட்டங்களுக்கு பொதுமக்கள் சென்று வர மின் அனுமதி (e- pass) தேவையில்லை என தெரிவிக்கப்பட்டுள்ளது. ஆனால் பிற மாநிலத்தில் இருந்து தமிழகத்திற்கு வருபவர்கள் மின் அனுமதி (e-pass) பெறும் வழக்கம் நடைமுறையில் உள்ளது. எனவே தர்மபுரி மாவட்டத்தில் நடைபெற உள்ள கிராணைட் டெண்டர்/ பொது ஏலத்தில், பிற மாநிலங்களில் இருந்து கலந்துக் கொள்ள விருப்பம் உடையவர்கள் ஆதார் அட்டை, பயணச்சீட்டு மற்றும் தொலைபேசி/ அலைபேசி எண்ணுடன் e-pass விண்ணப்பித்த அனைவருக்கும் Auto generated முறையில் கணினி மூலமே சுய அனுமதி உடனடியாக பெறும் வகையில் e-pass வழங்கப்படும். மின் அனுமதி (e-pass) பெற்றுக் கொண்டு கிராணைட் டெண்டர்/பொது ஏலத்தில் கலந்துக்கொள்ளுமாறு தெரிவிக்கப்படுகிறது.

(1)	(2)	(3)	(4)	(5) (ஹெக்டேரில்)	(6)	(7)
16	பென்னாகரம்	சுண்ணல்நத்தம்	587 (பகுதி)	4.52.0	தீ.ஏ.த கரடு	கருப்பு கிராணைட்
17	பென்னாகரம்	மஞ்சிநாய்க்கன அள்ளி	134/1 (பகுதி)	1.40.0	நீ.ஏ.த. கல்லாங் குத்து	கருப்பு கிராணைட்
18	பென்னாகரம்	ராமகொண்ட அள்ளி	802(பகுதி)	1.94.0	தீ.ஏ.த குன்று	கருப்பு கிராணைட்
19	காரிமங்கலம்	ஐக்குப்பட்டி	151 (பகுதி) Bit -1	3.70.0	தீ.ஏ.த	கருப்பு கிராணைட்
20	காரிமங்கலம்	ஐக்குப்பட்டி	151 (பகுதி) Bit -2	3.70.0	தீ.ஏ.த	கருப்பு கிராணைட்
21	அரூர்	கோபிநாதம்பட்டி	281(பகுதி)	4.54.0	தீ.ஏ.த கரடு	கருப்பு கிராணைட்
22	அரூர்	போளையம்பள்ளி	383/1 (பகுதி) Bit -1	2.60.0	தீ.ஏ.த கரடு	கருப்பு கிராணைட்
23	அரூர்	போளையம்பள்ளி	383/1 (பகுதி) Bit -2	2.00.0	தீ.ஏ.த கரடு	கருப்பு கிராணைட்
24	அரூர்	போளையம்பள்ளி	383/1 (பகுதி) Bit -3	1.52.0	தீ.ஏ.த கரடு	கருப்பு கிராணைட்
25	அரூர்	ரெட்டிப்பட்டி	9 (பகுதி) Bit -1	3.20.0	தீ.ஏ.த குன்று	கருப்பு கிராணைட்
26	அரூர்	ரெட்டிப்பட்டி	9 (பகுதி) Bit - 2 & 13/2	1.40.0 1.03.5 2.43.5	தீ.ஏ.த குன்று & கல்லாங்குத்து	கருப்பு கிராணைட்
27	பாப்பிரெட்டிப்பட்டி	ஆலாபுரம்	386 (பகுதி)	4.88.5	தீ.ஏ.த கல்லாங் குத்து	கருப்பு கிராணைட்
28	பாப்பிரெட்டிப்பட்டி	நல்லகுட்லஅள்ளி	94 (பகுதி) Bit -2	2.20.0	தீ.ஏ.த பாறை	கருப்பு கிராணைட்
29	பாப்பிரெட்டிப்பட்டி	சிந்தல்பாடி	44 (பகுதி)	1.10.0	தீ.ஏ.த	கருப்பு கிராணைட்
30	பாப்பிரெட்டிப்பட்டி	சிந்தல்பாடி	74 (பகுதி) & 75	0.40.0 1.05.0 1.45.0	தீ.ஏ.த பாறை	கருப்பு கிராணைட்
			மொத்த பரப்பு	96.52.0		

தர்மபுரி,
02-09-2020.

சு. மலர் விழி
மாவட்ட ஆட்சியர்,
தர்மபுரி மாவட்டம்.

தமிழ்நாடு எழுதுபொருள் மற்றும் அச்சுத்துறை இயக்குநரால் சேலம் அரசினர் இளை அச்சகத்தில் அச்சிடப்பட்டு மாவட்ட ஆட்சியரால் வெளியிடப்பட்டது.

இணைப்பு VI-A

(விதி எண்.8-A-வைப் பார்க்கவும்)

கிராணைட் குவாரி குத்தகை உரிமத்திற்கான ஒப்படைப்புள்ளி/ஏல விண்ணப்பம்

(மூன்று பிரதிகளில் சமர்பிக்கப்பட வேண்டும்)

நாள்: ..... திங்கள் 2020

அனுப்புநர்

பெறுநர்

உயர்திரு. மாவட்ட ஆட்சியர் அவர்கள்,

மாவட்ட ஆட்சியரகம்,

தர்மபுரி.

அய்யா/அம்மையீர்,

I.1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச் சலுகை விதிகளின், விதி எண். 8-A-ன்படி நான்/நாங்கள் இந்த விண்ணப்பத்தினை மாவட்ட அரசிதழ் சிறப்பு வெளியீடு அறிவிக்கை எண்..... நாள்..... ..... (அல்லது) செய்தித்தாள் விளம்பர நாள்.....ல் உள்ள வரிசை எண்..... .....ல் குறிப்பிட்ட இடத்திற்கு விண்ணப்பிக்கிறேன் / விண்ணப்பிக்கின்றோம்.

1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச் சலுகை விதிகளின் விதி எண். 8-A-ன் படியும் மற்றும் இதர விதிகளின் படியும் குவாரி குத்தகை எனக்கு/எங்களுக்கு வழங்க வேண்டுமாய் கேட்டுக்கொள்கிறேன்/கொள்கிறோம்.

II. திரும்ப வழங்கப்படாத விண்ணப்பக் கட்டணமான தொகை ரூ.5000/-(ரூபாய் ஐந்தாயிரம் மட்டும்) கீழே குறிப்பிட்ட கணக்குகளில் சலான் மூலம் செலுத்தப்பட்டது.

"“0853 Non-ferrous Mining and Metallurgical Industries-102, Mineral Concession Fees Rent and Royalties-AA Quarries and Minerals 2705- Non –Taxation Fee-Application D.P.Code.No.0853 00 102-AA-2752".

(அல்லது)

ரூ.5000/-(ரூபாய் ஐந்தாயிரம் மட்டும்)-க்கான தேசியமயமாக்கப்பட்ட வங்கி அல்லது கூட்டுறவு வங்கியில் மாவட்ட ஆட்சியர் அவர்களின் பதவியின் பெயரில் கேட்பு வரைவோலை (Demand Draft) எடுக்கப்பட்டது.

III. தேவையான விவரங்கள் கீழே கொடுக்கப்பட்டுள்ளது:-

1. குவாரி குத்தகை வழங்க கோரிய மனுதாரரின் பெயர் மற்றும் முகவரி விவரங்கள் :

2. (அ) விண்ணப்பதாரர் தனி நபர்கள் (Individuals) / நிறுவனங்கள் (Companies) / பங்குதாரர் நிறுவனம் (Partnership firm) / இவற்றில் எதற்கு சொந்தமானது. :

(ஆ) விண்ணப்பதாரர் தனிநபராக இருந்தால் அன்னாரது பெயர், எந்த நாட்டினர் மற்றும் முகவரி. :

(இ) விண்ணப்பதாரர் /தனிப்பட்ட நிறுவனம் / பங்குதாரர் நிறுவனம் சொந்தமானதாக இருந்தால் அவைகளின் இயக்குநர்கள், பங்குதாரர்கள்/ உறுப்பினர்கள் மற்றும் அவர்கள் எந்த நாட்டினர் என்பது பற்றிய விவரம் (தக்க ஆவணச் சான்று இணைக்கப்பட வேண்டும்). :

3 (அ) விண்ணப்ப கட்டணம் செலுத்தியதற்கான விவரங்கள் (சலான் எண் மற்றும் நாள் குறிப்பிட்டு அசல் சலான் இணைக்கப்பட வேண்டும்),(அல்லது) தேசிய மயமாக்கப்பட்ட வங்கி அல்லது கூட்டுறவு வங்கியில் மாவட்ட ஆட்சியர் அவர்களின் பதவியின் பெயரில் கேட்பு வரைவுவோலை (Demand Draft) எடுக்கப்பட வேண்டும் (அசல் கேட்பு வரைவோலை இணைக்கப்பட வேண்டும்) கேட்பு வரைவோலை எண்.
நாள்....... குறிப்பிட வேண்டும். :

(ஆ) பிணை வைப்புத்தொகை (Earnest Money Deposit) செலுத்தியதற்கான விவரங்கள் (தொகை கேட்பு வரைவோலை எண். நாள் குறிப்பிட வேண்டும். அசல் கேட்பு வரைவோலை இணைக்கப்பட வேண்டும்). :

4. விண்ணப்பதாரர் தமது ஆணை உறுதி வாக்கு மூலத்தில் கீழே குறிப்பிட்டபடி தகவல்கள் கொடுக்க வேண்டும். :

அ மனுதாரர் நாளது தேதி வரைக்குள்ள வருமானவரி விவர அறிக்கை சமர்பித்து விட் .ரா என்பது பற்றிய விவரம். :

ஆ விண்ணப்பதாரருக்கு விதிக்கப்பட்ட வருமான வரியை செலுத்தி விட்டாரா என்பது பற்றிய விவரம் :

இ 1961-ஆம் ஆண்டு வருமானவரிச் சட்டபடி சுயமதிப்பீடு செய்ததின் அடிப்படையிலும் (அல்லது) மத்திய அரசின் மற்ற அறிவிப்புகளின் படியும் வருமான வரி செலுத்தப்பட்டுள்ளதா என்பது பற்றிய விவரம். :

138A/9 (6) சி.வெ. 5-4.

5	(அ) சுரங்கக் குத்தகைக்கான சுரங்க வரி நிலுவையின்மைச் சான்றிதழ் இணைக்கப்பட்டுள்ளதா?	:	
	(ஆ) விண்ணப்பத்தேதியில் விண்ணப்பதாரர் குவாரி/ சுரங்கக் குத்தகை ஏதும் வைத்திராவிடில் அதற்கான உறுதிமொழி சான்றாவணம் இணைக்கப்பட்டுள்ளதா?	:	
6	மனுதாரர் பெயரில் தற்போது கிராணைட் மெருகேற்றும் தொழிற்சாலை இயங்கிக்கொண்டிருக்கிறதா (அல்லது) தொடங்க உத்தேசிக்கப்பட்டுள்ளதா? என்பது பற்றிய கீழ்க்கண்ட விவரம் இணைக்கப்பட வேண்டும்.	:	
	(அ) தற்போதுள்ள (அல்லது) ஆரம்பிக்கப்பட உள்ள கிராணைட் மெருகேற்றும் தொழிற்சாலை எந்த வகையைச் சார்ந்தது பற்றிய தகவல் (e.g.100 % E.O.U/ D.G.T.D/ S.S.I)	:	
	(ஆ) உரிமம் (Licence) எண் மற்றும் நாள்	:	
	(இ) நிறுவப்பட்டதிறன்/ உற்பத்திதிறன் (சதுரமீட்டர்/ஆண்டு).	:	
	(ஈ) தொழிற்சாலைக்கான மொத்த முதலீட்டு தொகை	:	
	(உ) தொழிற்சாலை தொடங்கும் நாள்	:	
	(ஊ) உற்பத்தி செய்யப்படும் பொருள்களின் தன்மை [ஒவ்வொரு வகைக்கும் தனித் தனியே அளவுகள் குறிப்பிடவேண்டும் (உதாரணம், கட்டிட கற்கள், நினைவுக் கற்கள், ஓடுகள் முதலியன) சதுர மீட்டர்/ ஆண்டொன்றிற்கு].	:	பொருந்தாது
	(எ) ஒவ்வொரு வருடத்திற்கும் தேவைப்படும் கச்சாப்பொருள்களின் விவரம் ஆண்டு ஒன்றிற்கு கன மீட்டரில்	:	
	(ஏ) விரிவாக்கம் ஏதேனும் இருந்தால் அதை பற்றிய தகவல்கள் (தக்க ஆவணங்களுடன் சான்று இணைக்கப்பட வேண்டும்) இது வரை உரிமம் (Licence) பெறாவிடில் வரிசை எண்.6 (ஆ)6 (உ) மற்றும் 6 (எ) தவிர மேற்கூறப்பட்ட விவரங்களை உத்தேசிக்கப்பட்ட தொழிற்கூட திட்டம் உள்ளவர்களும் கொடுக்க வேண்டும்.	:	
7.	மனுதாரர் குவாரி செய்ய உள்ள சிறுவகை கனிமம் பற்றிய விவரக்குறிப்பு	:	
8.	தேவைப்படும் குவாரி குத்தகை காலம்	:	

9. விண்ணப்பித்துள்ள இடத்திற்கான மொத்தப் பரப்பளவு. :

10. ஒப்பந்தப்புள்ளி ஏல விண்ணப்பம் சமர்பிக்கப்பட்டுள்ள இடங்கள் பற்றிய விவரம். :

மாவட்ட அரசிதழ் சிறப்பு வெளியீடு குவாரி பட்டியல் வ.எண்.	மாவட்டம்	வட்டம்	கிராமம்	புல எண்கள்.	பரப்பு ஹெக்டேர்
(1)	(2)	(3)	(4)	(5)	(6)

11. குவாரி செய்யும் பொருட்டு குத்தகை முறையில் மேற்கண்ட இடத்தைப் பெறவேண்டிய மனுதாரர் கேட்கும் அதிகபட்ச ஒப்பந்தபுள்ளி தொகை (மேற்படி தொகையை எண்ணால் மற்றும் எழுத்தால் எழுதவும்). :

12 மாநிலத்தில் உள்ள மாவட்ட வாரியாக கனிம வாரியாக விண்ணப்பதாரர் / ஏலதாரர் நேரடியாகவோ அல்லது பங்குதாரராகவோ தொடர்புள்ள குவாரிகள் பற்றிய விவரங்கள் [அனுபவத்திலிருக்கும் குவாரி குத்தகை அனுமதி பற்றி விவரம், ஏற்கனவே விண்ணப்பித்து இதுவரை அனுமதி வழங்கப்படாத குவாரி குத்தகை அனுமதி பற்றிய விவரம், தற்போது உடனிசுழ்வாக விண்ணப்பிக்கும் குவாரி குத்தகை அனுமதி விவரம், ஆணை உறுதி வாக்குமூலம் (அபிடவிட்) மூலம் தெரிவிக்க வேண்டும்]. :

13. விண்ணப்பதாரரால் சமர்பிக்க விரும்பும் ஏனைய தகவல்கள் ஏதேனும் இருப்பின் அதன் விவரம். :

நான்/நாங்கள் இதன் மூலம் உறுதிப்படுத்துவது என்னவென்றால், மேற்கூறப்பட்ட அனைத்து தகவல்களும், சமர்பிக்கப்பட்ட ஆவணங்கள் சரியானது என்றும், மாவட்ட வன அலுவலர், (அல்லது) மாவட்ட ஆட்சியர் (அல்லது) அரசாங்கம் கேட்கும் அனைத்து தகவல்கள் மற்றும் காப்புத் தொகையையும் சமர்பிக்கின்றோம் என்று உறுதி கூறுகிறேன்/கூறுகின்றோம். குவாரி குத்தகை வழங்குவது குறித்து குவாரி பணி சம்பந்தமான அனைத்து நிபந்தனைகளையும் 1959-ஆம் ஆண்டு சிறுவகைக் கனிமச் சலுகை விதிகளில் குறிப்பிட்ட அனைத்து நிபந்தனைகள் மற்றும் சட்ட விதிகளையும் நான்/நாங்கள் நன்றாக அறிந்து கொண்டோம் என்று இதன் மூலம் தெரிவித்து உறுதி அளிக்கின்றோம்.

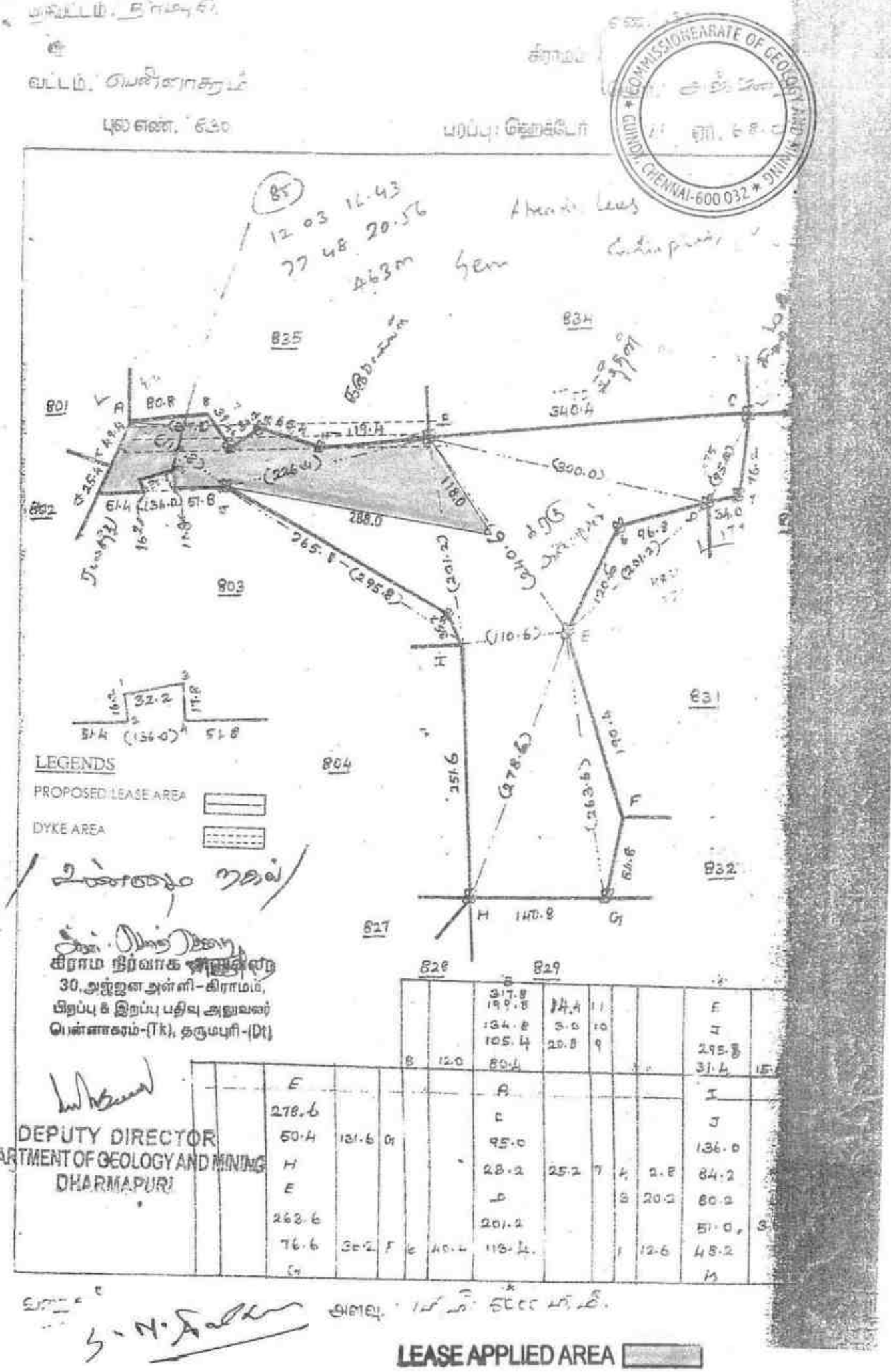
தங்கள் உண்மையுள்ள,

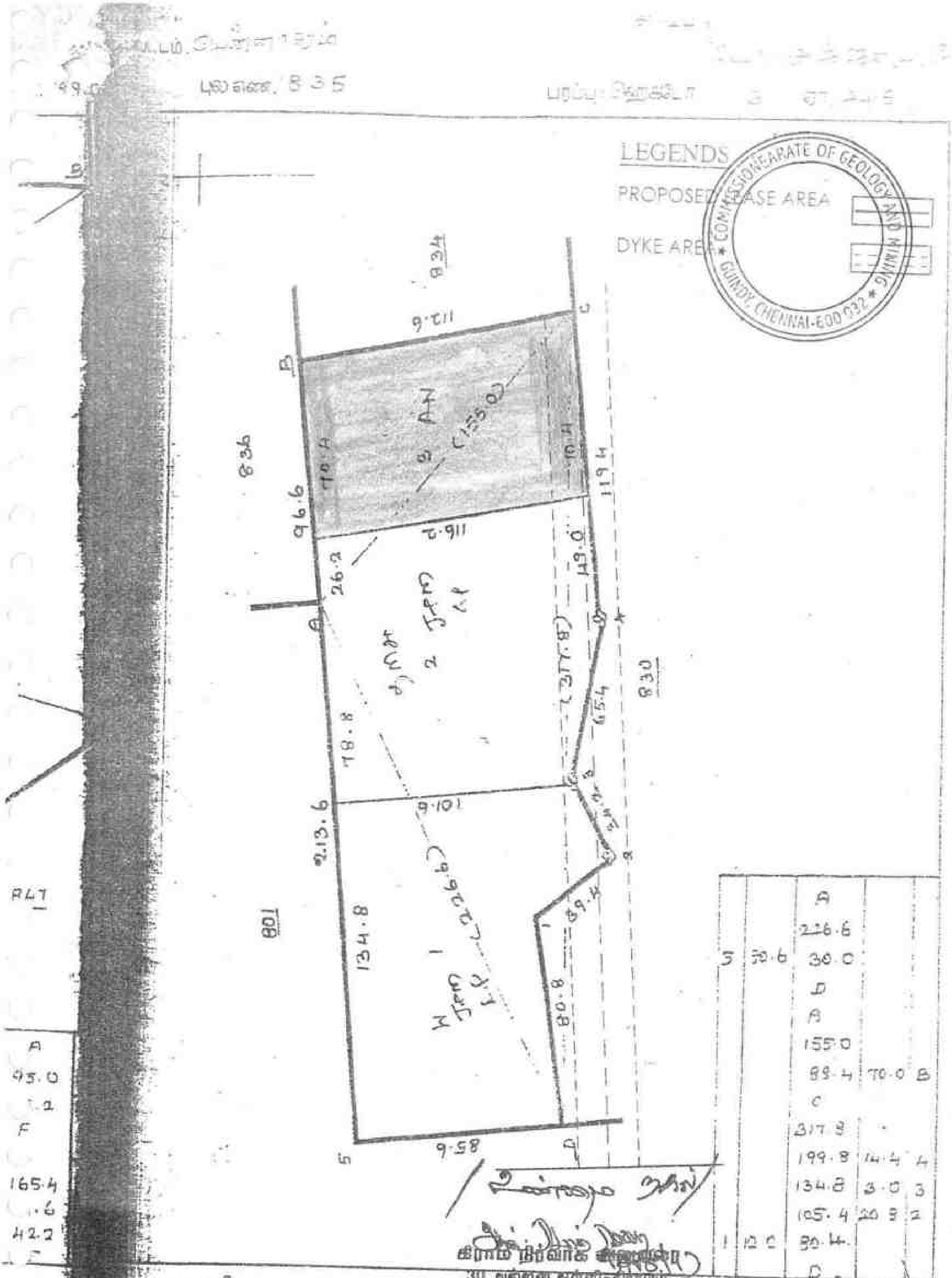
இடம்:

நாள்:

விண்ணப்பதாரர் கையொப்பம்.

ANNEXURE - III



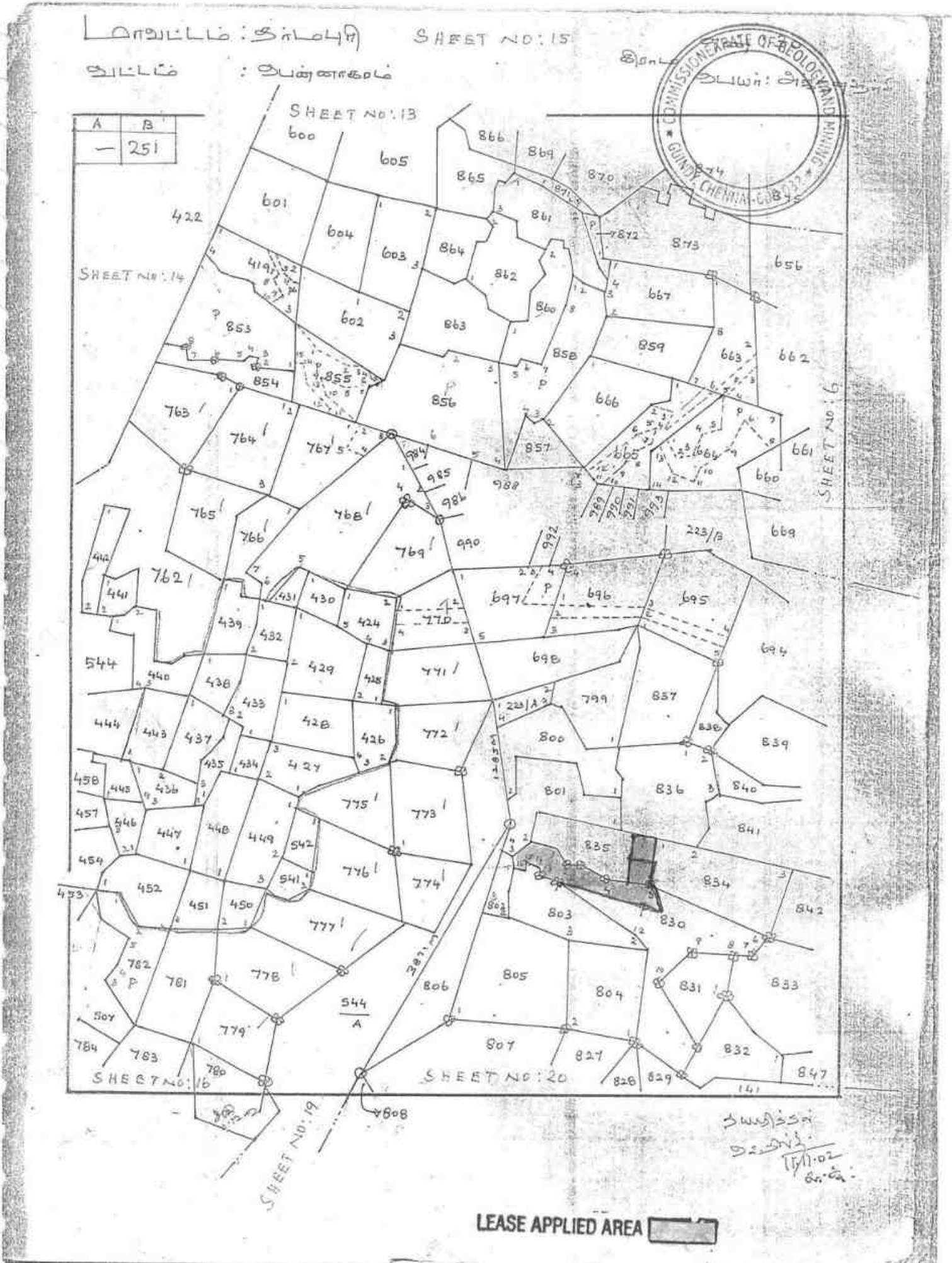


கிராம நிர்வாக அலுவலர்
30.அஜ்ஜனஅள்ளி-கிராமம்
அளிநேப்புக்கீமிர்புருமிதசநிர்வதா
பென்னாகரம்-(Tk), தருமபுரி-(Dt)

DEPUTY DIRECTOR
DEPARTMENT OF GEOLOGY AND MINING
DHARMAPURI

LEASE APPLIED AREA

ANNEXURE - IV


SHEET NO: 15
SHEET NO: 13
SHEET NO: 14
SHEET NO: 6
SHEET NO: 16
SHEET NO: 20
SHEET NO: 19
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LEASE APPLIED AREA

கி. எண் 30. அஜ்ஜனஹள்ளி

ANNEXURE - V

2	3	4	5	6	7	8	9	10	11	12
						ரூ. பை	ஹெ. ஏர்ஸ்	ரூ. பை		
828-2	அ	பு	...	8-5	12	0 62	0 65.0	0 40	......	அனாதீன
							6 46.0	3 99		
829-1	அ	பு	...	8-5	12	0 62	2 58.0	1 60	......	அனாதீன
-2	அ	பு	...	8-5	12	0 62	2 90.0	1 79	......	அனாதீன
							5 48.0	3 39		
830	அ	தி.ஏ.த.	...	...	...	...	11 68.0	...	......	காடு.
831	அ	பு	...	8-5	12	0 62	2 60.0	1 61	......	அனாதீன.
832	அ	பு	...	8-5	12	0 62	3 21.0	1 98	......	அனாதீன.
833-1	அ	பு	...	8-5	12	0 62	1 94.0	1 20	......	அனாதீ.
-2	அ	பு	...	8-5	12	0 62	4 05.0	2 50	......	அனாதீன
							5 99.0	3 70		
834-1	அ	பு	...	8-5	12	0 62	1 29.0	0 80	......	அனாதீன
-2	ர	பு	...	8-5	12	0 62	1 21.5	0 75	736 வெ. சித்தன்.	
-3	ர	பு	...	8-5	12	0 62	1 21.5	0 75	408 வெ. சித்தன்.	
-4	ர	பு	...	8-5	12	0 62	1 21.5	0 75	519 வெ. தங்கவேல்.	
							4 93.5	3 05		
835-1	ர	பு	...	8-5	12	0 62	1 21.5	0 75	158 க. நெ. கந்தசாமி.	
-2	ர	பு	...	8-5	12	0 62	1 21.5	0 75	159 நெ. கா. கருங்கண்ணன்.	
-3	அ	பு	...	8-5	12	0 62	0 81.5	0 51	......	அனாதீன
							3 24.5	2 01		
836-1	அ	பு	...	8-5	12	0 62	2 68.0	1 66	......	அனாதீன.
-2	ர	பு	...	8-5	12	0 62	0 54.5	0 34	157 அ. கவுண்டப்பன்.	
-3	ர	பு	...	8-5	12	0 62	0 64.0	0 40	643 ரா. பச்சமுத்து.	
-4	ர	பு	...	8-5	12	0 62	0 67.0	0 41	50 ப. அங்கமுத்து.	
-5	ர	பு	...	8-5	12	0 62	0 67.0	0 41	681 ப. பூமலைக்கவுண்டன்.	
-6	ர	பு	...	8-5	12	0 62	0 67.0	0 41	478 ப. செம்மண்ணன்.	
-7	ர	பு	...	8-5	12	0 62	0 61.0	0 38	49 ப. அய்யண்ணன்.	

கிராம நிர்வாக அலுவலர்
30, அஜ்ஜன அள்ளி - கிராமம்
பிறப்பு & இறப்பு பதிவு அலுவலர்

ANNEXURE - VII

(THE COMPANIES ACT, 1956)

(COMPANY LIMITED BY SHARES)

MEMORANDUM OF ASSOCIATION

OF

TAMIL KUMARAN PRODUCTIONS PRIVATE LIMITED

I. The Name of the Company **TAMIL KUMARAN PRODUCTIONS PRIVATE LIMITED**

II. The Registered Office of the Company will be situated in the State of Tamil Nadu.

III. THE OBJECTS FOR WHICH THE COMPANY IS ESTABLISHED ARE:—

A. THE MAIN OBJECTS TO BE PURSUED BY THE COMPANY ON ITS INCORPORATION ARE:-

1. To manufacture, distribute, exhibit, trade, exploit, turn in to account and deal as agents or otherwise in motion pictures of all kind including pictures on films, tapes microwave/ satellite transmission or cables.

2. To Make distribute, trade, process, exploit, turn in to account and deal as agents or otherwise in blank or pre-recorded audio and or video cassettes, discs and other recording media and acquire or selling rights therein.

3. To carry on the business of production, distribution of films and motion pictures, including the running theaters cinemas, studios and cinematographic stalls & exhibitions.

4. *To buy, take on lease or under a license, concession, grant or otherwise acquire mines, mining rights in any land or other place and metalliferious land and any interest there in and to explore, work, develop,crush, win, get, quarry, smelt, refine, manipulate, manufacture, process, excavate, break, acquire, develop, exercise, turn to account, survey, produce, prepare, remove, undertake, barter, convert, finish, load, unload, handle, transport, buy, sell, stock, distribute, consult, act as agent, broker, import, export, supplier,contractors, manager, operator, mine owner or otherwise to deal in all sorts of minerals and mineral substances of all kinds their ore, concentrates, products, by-products, substances, derivatives including manufactured sands, River sand, Garnet Sand, Basalt Sand, Silica Sand, Filter Sand natural sand, stones including granite, blue metal, clay, china clay, marbles, iron ore, fine ores, dolomites, coal, lime, bauxite ore, copper ore, rare earth ore, manganese ore, lead, zinc, tin, limestone, brass precious and other stones and to do all incidental acts and things necessary for the attainment of the foregoing objects.

***Altered vide special resolution passed at the EGM held on03.09.2020**

B. OBJECTS ANCILLARY OR INCIDENTAL TO THE ATTAINMENT OF THE MAIN OBJECTS ARE:-

1. To carry on the business of immovable property and its consultants and to give on rent sale and purchase , designing , and construction of residential houses, commercial building flats and factory sheds and building in or outside of India and to act as builders colonozers and civil and constructional contractors and purchase hire or otherwise sell and mortgage any estates, building, basements or such other interest in any immovable property and to develop and turn to account by laying out plotting and preparing the same for building purposes constructing building multistoried building and altering , pulling down , decorating , maintaining , furnishing , nutting up and improving building and by paying , draining and letting building on lease and on rent.

2. To establish facilities for games like golf, tennis, swimming, billiards, table tennis, squash and other sports, health farms and clinics, yoga centres and nature cure Clinics , and generally provide for recreational facilities in door and outdoor and holiday activities.

3. To take over the running business of any other concern doing business similar to that of the Company as going concern with all its liabilities, licenses quota, rights and do all such things as may be necessary for taking over of the business.

4. To develop and turn into account any land by laying or/ an d pre paring the same for buildings purposes, constructing, altering, pulling down, decorating, maintaining, filling up an d improving buildings and by planting, pairing, draining, farming, cultivating and letting on building lease or building agreement and by advancing money to and entering into contracts and arrangements of all kinds with builders and others.

5. To pay all the costs, charges and expenses of and incidental to the promotion and formation, Registration and establishment of the company and issue of its capital including any underwriting or other commission, brokers' fee and charges in connection therewith including costs, charges, expenses or negotiations and contracts and arrangements made prior to and in anticipation of the formation and incorporation of the company.

6. To issue or guarantee the issue of or the payment of interest on the shares, debenture stocks or other security or any company or association and to pay or provide brokerage commission and underwriting in respect of any such issue.

7. To apply for tender purchase or otherwise acquire any contracts and concessions for or in

relation to the construction, erection, equipment, improvement, management, administration or control of works and conveniences and to undertake, execute, carry out, dispose of or otherwise turn to account the same.

8. To invest and deal with the moneys of the company not immediately required in such investment, movable or immovable and in such manner as may from time to time seems expedient.

9. To purchase or otherwise and undertake the whole or any part of the business, goodwill, assets and liabilities of any company or person carrying on or possessing to carry in any business which this company is authorized to carry on or possessed of properties for the purpose of the company.

10. To amalgamate, enter into partnership or into any arrangement for sharing profits union of interests, cooperation, joint adventures. or reciprocal concession, or for limiting competition with any person, firm, corporation or company in India or any part of the world, carrying on or engaged in or about to carry on or engage in any business transaction which the company is authorized to carry on or engage in or which can be carried on in conjunction therewith or which is capable of being conducted so as, directly or indirectly benefit the company.

11. To purchase, take on lease, or in exchange, hire or otherwise acquire any property whether movable or immovable and any rights or privileges which may be necessary or convenient for the purpose of its business or may enhance the value of any other property of the company

12. To sell, mortgage, assign give charge, transfer or lease and in any other manner deal with or dispose off the undertakings or properties of the Company or any part thereof, whether movable or immovable for such considerations as the Company may think fit ant in particular for shares, debentures or other securities of any other Company having objects altogether or in part similar to those of this company

13. To engage to employ and hire professional, clerical, manual and other staff, workers and employees and to enter into agreements with such staff, workers, employees for the purpose of businesses of the company, to provide or procure the provisions by others of every and any service, need, want or requirement of any business nature required by and person, firm or company and/or in connection with any business carried on by this company.

14. To draw. make, accept, endorse. discount, execute , issue, buy, sell and negotiate bills of exchange , promissory notes, cheques, drafts, hundies and other instruments of every description

15. To give donations or subscription to any charitable or social institutions or to give any charity incidental to or conducive to any business that may be carried on by the company.

16. To establish or aid in the establishment of Association or Institutions, Companies, Trusts and other conveniences intended to benefit the Employees or Ex-employees of the Company or their dependents and to grant pension or allowances.
17. To obtain from any Government or authority whomsoever any licenses, concessions, privileges and right or other form of statutory or official authority that may seem to the Company conducive to the carrying into effect of the objects of the Company and to exercise, utilize and comply with the same.
18. To sub let all or any contracts from time to time and upon such terms and conditions as may be expedient.
19. To become a member of any trade association, chamber of commerce and subscribe for any periodicals, journals of such institutions and to make subscriptions, donations etc., to them as may seem expedient subject to the provisions of the Companies Act, 1956.
20. To adopt means to making the business carried on by the Company as may deem necessary and in particular by advertising in the News papers, periodicals, by Circulars, or by exhibition and publication of books and periodicals and through television and electronic media.
21. To execute any trusts which may seem beneficial to the company in the fulfillment of its objects
22. To indemnify members, officers, directors and other staff of the Company against proceedings, costs, claims and demands in respect of anything done or ordered to be done by them for and in the interest of the company.
23. To employ experts to investigate and examine into the conditions, prospects, value, character and circumstances of any person or business concerns and undertaking and generally of any assets, property of rights.
24. To sell and transfer any shares, stocks, debentures, debenture stocks, bonds obligations and securities.

25. To open accounts with any individual, firm or company or with any bank or banks and to pay into and to withdraw moneys from such account or accounts, to operate these accounts, whether overdrawn or not, transactions and operations of all kinds in relation to the company.
26. To issue on commission, subscribe for, take acquire and hold, sell exchange and deal in shares, stocks, bonds, obligations or securities of any Government, local authority or company
27. To borrow or raise money with or without security or to receive within the permissible limits money on deposit at interest, provided and however the company shall not carry on banking business.
28. To distribute amongst the members of the company in specie or in kind any property of the company, or any proceeds of sale or disposal of any property of the company in the event of winding up of the company.
29. To provide for the welfare of the Directors, Ex-directors, employees or ex-employees of the company or its predecessors in its business and the spouses and families or the dependents or connection, such person and to build or contribute to the building, house or dwelling units or quarters, to give, award or allow any gratuity, compensations, grants of money, allowances, bonus, profit sharing bonus or profit or other payments to or for the benefit of, such persons as may appear to the Directors just and proper whether they have or have not any legal set aside portion of the profits of the company to form a fund to provide for such payment and in particular for the welfare of such persons by building of houses, dwelling or chawls, or by creating and from time to time subscribing or contributing to provide other associations, institutions, funds or trusts, and by providing or subscribing or contributing toward places of instructions, recreation, hospitals and dispensaries, medicals and other assistance and other facilities as the Directors shall think fit.

C. OTHER OBJECTS NOT INCLUDED IN (A) AND (B) ABOVE:

1. To manufacture, make, fabricate, sell lease let out all types of furniture items.
2. To construct roads, bridges, dams and other infrastructures including development of SEZ and turnkey project development.
3. To acquire, convert, hold sell and deal in foreign exchange, subject to the approval of competent authority.

4. To carry on business of designer, architecture, builders, contractors, dealers in pre-fabricated and pre-case houses, buildings and erections and materials, tools, implements, machinery, metal ware in connection therewith.

5. To manage lands, buildings and other properties whether belonging to the company or not, and to collect rents and income, and to supply to tenants and occupiers and others refreshments, attendants, messengers, light waiting rooms, reading rooms, meeting rooms, lavatories laundry conveniences, and other advantages.
6. To carry on the business of real estate agents and brokers.

IV. The liability of the members is limited to the extent of their share capital.

V. The Authorised Share Capital of the company is Rs.1,00,000/- (Rupees One Lac) divided into 10,000 (Ten Thousand) Equity shares of Rs.10/- (Rupee Ten only) each and the company shall have power to alter, amend and enlarge the Capital from time to time subject to the Provisions of the Companies Act.

VI. We the several person whose names and addresses are hereunder subscribed are desirous of being formed into a company in pursuance of this Memorandum of Association and we respectively agree to take the number of shares in the capital of the company that opposite to out respective names

Sl No.	Signature, Name, Description, Occupation and address of the subscribers	Number of Equity shares	Name,Description, Occupation, Address & Signature of the Witness
1.	G.M. Tamilkumaran S/o. G.K. Mani Door No. 36, Govindapadi, Kolathur, Mettur, Salem District - 63623 Business.	9000 (Nine Thousands)	MOHAMED ISMAIL S/o. Abdul Azeez. 9A, Kalaivanar Street, Anakaputhur, Chennai - 70. Company Secretary. A30854
2.	C. Balaji Son of Mr. Chandrasekar New No 46, Pillayar Koil Street Valasai Vettikadu, Thiruvallur - 602002 Business.	1000 (One Thousand)	MOHAMED ISMAIL S/o. Abdul Azeez 9A, Kalaivanar Street. Anakaputhur, Chennai - 17. Company Secretary A.30854
		10 000	(Ten Thousands).

Place : Chennai

Date : 30th January 2013

The Companies Act, 1956
Company Limited by Shares

ARTICLES OF ASSOCIATION

OF

TAMIL KUMARAN PRODUCTIONS PRIVATE LIMITED

PRELIMINARY

1. Regulations contained in Table "A" in First Schedule to the Companies Act, 1956 (hereinafter referred to as Table "A") in so far as they apply to a Private Company will be deemed to be incorporated with and to form part of these Articles with the exception of such portions of Table " A " as are hereinafter expressly or by necessary implication excluded, altered or modified.

2. In these Articles:

Unless the context otherwise requires:

a). The words expressions contained in these regulations shall bear the same meaning in the Act or any statutory modification thereof.
b). "The Act" means the Companies Act, 1956 as amended from time to time.
c). "These Articles" or "These Regulations" means these Articles of Association of the Company as altered from time to time by Special Resolutions.
d). "Company" means TAMIL KUMARAN PRODUCTIONS PRIVATE LIMITED
e). "Dividend" includes bonus but excludes bonus shares.
f). "The Seal" means the Common Seal of the Company.
g). Words importing singular shall include plural and vice versa and words importing the masculine gender shall include feminine gender and words importing persons shall include bodies corporate.
h) "The Board" means the Board of Directors for the time being of the company.
i). Expressions referring to writing shall be construed as including references to typing, printing, lithograph, photography and other modes of representing or reproducing words in a visible form.

PRIVATE COMPANY

3. The Company is a Private Company within the meaning of Section 3 (1) (iii) of the Companies Act, 1956 and accordingly, the minimum paid - up capital of the Company shall be Rupees One Lakh or such higher amount as may be prescribed, and

S. N. Sadhan

(a) no invitation shall be issued to the public to subscribe for any shares or debentures of the Company.

(b) the number of members of the Company (exclusive of persons in the employment of the Company and of persons who have been formerly in the employment of the Company were members of the Company while in the employment and have continued to be the members after ceasing to be in employment of the Company) shall be limited to fifty provided that for the purpose of this Article, when two more persons jointly hold one or more shares in the Company, they shall be treated as a single member.

(c) the right to transfer the shares of the Company is restricted in the manner hereinafter provided.

(d) no invitation or acceptance of deposits shall be made from persons other than the members of the Company, Directors or their relatives.

SHARE CAPITAL

4. The Authorized Share Capital of the Company shall be as in Clause V of the Memorandum of Association of the company as amended from time to time.

5. Subject to the rules and restrictions in the Companies Act, 1956 the Company shall have power to increase or reduce the Capital and to issue preference share carrying right to redemption out of profits or out of proceeds of a fresh issue or liable to be so redeemed in such manner as the Board, before the issue of such shares, may determine.

6. Subject to the provisions of the Articles, the shares shall be under the control of the Board who may allot or otherwise dispose of the same to such persons, on such terms and conditions, at such time, either at par or at premium and for such consideration as the Board think fit.

TRANSFER OF SHARES

7. Without prejudice to the provisions contained in these presents no share shall be transferred to a person who is not a member of the Company, so long as any member or person selected by the Directors unanimously as one who it is desirable in the interest of the Company to admit to membership, is willing to purchase the same at the fair value as agreed between themselves. In case any difference arises between the proposing transferor and the purchasing member as to the fair value of shares the Auditor of the Company shall, on the application of either party, certify in writing the sum which, in his opinion, is the fair value and in so certifying the Auditor shall be considered to be acting as an expert, and not as an arbitrator and accordingly the Arbitration Act, 1943 shall not apply.

8. Any share may be transferred:

(a). by a member or other persons entitled to transfer to any member

(b). by a member to his / her child and / or lineal descendant, father, mother and spouse of such member.

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9. In case of death of members, the shares held by him may be transferred by his heirs, executors, administrators, or by the holder of the succession certificate to any child or lineal descendant, father, mother and widow or widower of such deceased member.

10. Subject to Articles 7, 8 and 9 the Directors may refuse to register any transfer of shares:

(a). where the share is not fully paid up :
(b). when the Company has a lien on the shares :
(c). without assigning any reason therefore where the Directors are of opinion that the proposed transferee (not being already a member) is not a desirable person to admit to membership.
(d). if the Directors refuse to register the transfer of any share, they shall, within two months from the date on which the transfer was lodged with the Company, send to the transferor notice of the refusal.

BUY BACK OF SHARES

11. Subject to and in full compliance of the requirements of Sections 77A, 77AA and 77B of the Companies Act, 1956 or corresponding provisions of any re-enactment thereof and any Rules and Regulations as may be prescribed by the Central Government, or any other authority in this regard, either the Company in a General Meeting may, at any time and from time to time, by a Special Resolution authorise or the Board of Directors may itself approve and authorise buy-back of any part of the share capital of the Company fully paid up on that date.

DIRECTORS

12. The minimum and maximum number of Directors shall be two and twelve respectively, including special, technical, additional, exofficio, co- opted and Directors nominated by financial institutions.

13. The First Directors of the Company shall be:

1. Mr. G.M. Tamil Kumaran
2. Mr. C. Balaji

14. The Directors shall not be liable to retire by rotation and they need not hold qualification shares

15. The Board of Directors may appoint an alternate Director to act for a Director (hereinafter in this article, called the original Director) during his absence for a period of not less than three months from the state in which the meetings of the Board are ordinarily held. An alternate Director shall not hold office as such for a longer period than that permissible to the original Director in whose place he has been appointed and shall vacate office when the original Director returns to the said state. If the term of office of the original Director is determined before he return to the state of aforesaid any provision for the automatic re-appointment of retiring Directors in default of another appointment shall apply to the original and not the alternate Director.

16. If one or more Director, being willing, shall be called upon to perform any extra services or to make any special exertion for any of the purposes of the Company or to give special attention to the business of the Company or as a member of a committee of the Board, the Board may, subject to Section 314 of the Companies Act, 1956 remunerate the Directors so doing either by a fixed sum or by a percentage of profits or sales or both or otherwise and such remuneration may be either in addition to or in substitution of any other remuneration to which he may be entitled.

17. The Central Government or any State Government or any financial institutions owned or sponsored by the Central or any State Government or any Bank shall be entitled to nominate a person who shall be Director of this Company. Such entitlement can be exercised by such Government, Financial Institutions and Banks, from time to time, until the same granted or guarantees given by them are complete discharged. Such Director shall be called "Nominee Director" who need not be a member of the Company.

MANAGING DIRECTOR

18. The Board may, from time to time, subject to the provisions of the Act, appoint Managing Director of the Company, either for a fixed term or without any limitation as to the period for which he is to hold such office and may, from time to time (subject to the provisions of any contract between him and the Company) remove or dismiss him or them from office and appoint another person in his place.

19. The Managing Director of the Company shall receive such remuneration whether by way of salary, commission or participation in profit or partly in one way partly in another as the Board may determine. The Managing Director entrusted with substantial power and he / she in not disqualified under Section 267 of the Companies Act, 1956.

20. The Managing Director shall have, subject to the provisions, control and directions of the Board, the management of the whole of the business of the Company and of all its affairs and shall exercise all powers and perform all duties in relation to the management of the affairs and transactions of the Company in general meeting or by the Board of Directors, subject further to the conditions or restrictions imposed by the Act of by these presents.

21. The Board of Directors may appoint one more of their Body as a whole time Director under the designation Executive Director, Administrative Director or under such other designation and on such terms and conditions and with such powers and duties as they may deem fit. The whole time Directors shall perform such duties, and exercise such powers as the Board of Directors may from time to time determine and subject to the conditions and restrictions if any, that the Board may impose, shall exercise all such powers and perform such duties subject to the control, supervision and directions of the Board of Directors and subject to the supervision and directions of Managing Directors. The remuneration payable to such whole time Directors shall, be determined by the Board from time to time.

22. The Board shall have power at any time and from time to time to appoint any person to be a Director of the Company, either to fill a casual vacancy or as an additional Director of the Board, subject to a maximum as fixed under the Articles. Any person so appointed shall hold office only up-to the next Annual General Meeting of the Company.

23. Subject to the provisions of the Act, the Board may from time to time, appoint one Director to be the Chairman of the Board of Directors, either for a fixed term or without limitation as to the period for which he should hold such office and the Company may remove or dismiss him from office and appoint another in his place.

PROCEEDINGS OF THE BOARD

24. A Director may on his own volition and the manager or secretary on the requisition of a Director shall, at any time, summon a meeting of the Board.

25. The quorum for a meeting of the Board of Directors or a committee of Director shall be two Directors or one third of its total strength whichever is higher.

26. The Board of Directors, subject to the provisions of the Act, shall transact all or any of the business of the Company either at a meeting called for the purpose or by circulation.

BORROWING POWERS

27. The directors may from time to time at their discretion raise or borrow or secure the payments of any sums of money for the purpose of the company's business and may secure the payment or repayment of such money by mortgage or charge upon the whole or any part of the assets and property of the company (present and future) including its uncalled and unpaid capital.

28. Subject to as aforesaid, any bonds, debentures/stock or other securities issued by the company shall be under the control of the Directors who may issue them upon terms and conditions and in such manner and for such consideration as they shall consider to be for the benefit of the company.

GENERAL MEETING

29. All General Meeting other than Annual General Meeting shall be convened by not less than seven clear days' notice to the members. In every such notice for a meeting of the Company, there shall appear a statement that a member is entitled to appoint a proxy to attend and vote instead of himself. A General Meeting may, with the consent of all the members, be called at such shorter notice and in such manner as the Board may think fit.

30. Two members personally shall form the quorum of the General Meeting. If the quorum is not formed within half an hour after the appointed hour of the General Meeting, the meeting will stand adjourned to the same day, the same time and place in the next week. The members who attend the adjourned meeting will form the requisite quorum for the meeting, and if the quorum is not formed, the meeting shall stand dissolved.

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31. The provisions of Section 173 of the Act, shall not apply to this Company.

CAPITALISATION OF RESERVES

32. Any General Meeting may resolve that any moneys, investments or other assets forming part of the undivided profits of the Company or standing to the credit of the Reserves or any Capital Redemption Reserve Account in the hands of the Company and available for dividend or representing premium received on the Account be capitalized and distributed amongst such of the share holders as would be entitled to receive the same if distributed by way of dividend and in the same proportions on the footing that they become entitled thereto as capital and that all or any part of such capitalized fund be applied on behalf of such share holder in paying up in full any unissued shares, debentures or accordingly or towards payment of uncalled liability on any accepted by such share holder in full satisfaction of their interest in the said capitalized sum. Provided that any sum standing to the credit of a Share Premium Account or Capital Redemption Reserve Account may, for the purpose of this Article, only be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares

33. For the purpose of giving effect to any resolution under the preceding Articles the Board may settle any difficulty which may arise in regard to the distribution in such manner it thinks expedient and in particular may issue fractional certificates and may determine that cash payment shall be made to any member in order to adjust the rights of all parties and may rest such cash in Trustees upon such Trust for the persons entitled to the dividend or capitalized fund, and such appointment shall be effective

COMMON SEAL

34. The Company shall have a Common Seal and the Board shall have power, from time to time, to destroy the same and substitute a new Seal in lieu thereof and the Board shall provide for the safe custody of the Seal for the time being and shall determine the place and manner of use of such Seal and confer the authority for its use to such person or persons as they shall, from time to time, designate.

DIVIDENDS

35. Subject to Sections 205 and 206 of the Act, there may, from time to time, be paid to the members such dividends, interim or otherwise, as may appear to the Board to be justified by the profits of the Company. A transfer of shares shall not pass the right to any dividend declared thereon before the registration of the transfer by the Company

WINDING - UP

36. The liquidator on winding - up (whether voluntary, under supervision or compulsory) may, with the sanction of the special resolution, divide amongst the contributories, in specie, any part of the assets of the Company in trustees upon trusts for the benefit of the contributories as the liquidator, within the like sanction, shall think fit.

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SECRECY

37. No member shall be entitled to require disclosure of any details of the Company's business or any matter in relation to the conduct of the business of the Company which, in the opinion of the Directors, may be inexpedient in the interest of the Company to communicable to the public.

ACCOUNTS

38. Sections 209 to 222, both inclusive of the Companies Act, 1956 and regulation 95 of Table "A" shall be applicable. The Balance Sheet and Profit and Loss Account shall be approved by the Board of Directors before they are signed on behalf of the Board in accordance with the provisions of this Article and before they are submitted to the Auditor for their report there on.

AUDIT

39. Once in every year the Accounts of the Company shall be examined and the Balance Sheet ascertained by the Company's Auditors.

INDEMNITY

40. Subject to the provisions of the Section 201 of the Companies Act, 1956, every Director, Auditor, Manager or Secretary and other Officer or servant of the Company and their heirs, executors or administrators shall be indemnified out of the funds to the Company against all suits, proceedings, losses, damages and expenses incurred by him in or about the faithful discharge of the respective duties except such as shall happen from his willful act, negligence or default.

S. N. Sadhu

Sl. No.	Signature, Name, Address, Description and Occupation of the Subscriber	Signature, Name, Address, description and occupation of the witness
1.	G. M. Tamilkumaran G. M. Tamil kumaran S/o. G. K. MANI ~~Door~~ No. 36, Govindpadi Kolathur, Mettur dam. Salem District - 636303 Business	Mohamed Ismail S/o. Abdul Azeez 9A, Kalaivanan Street, Arumbakkam, Chennai - 106. Company Secretary. A. 30654
2.	C. Balaji C. Balaji Son of. Mr. Chandrasekaran. New no. 46, Pillayar Koil Street, Valasai Vellandur, Thiruvallur - 602 002. Business.	

Place: Chennai
Date : 1st January 2013.

8

G. M. Tamilkumaran

MCA

Acknowledgement of Stamp Duty payment for Articles of Association

Name of office of RoC :	Registrar of companies , Tamil Nadu, Chennai, Andaman and Nicobar Islands
State/ Union Territory :	Tamil Nadu
Serial Number (SRN) :	D05288477
Payment Date :	13/02/2013
Value in Rupees :	300.00
Value in Words :	Rupees three hundred only
Date of Generation :	15/02/2013
Corporate Identity Number (CIN) :	U74900TN2013PTC089631
Company Name :	TAMIL KUMARAN PRODUCTIONS PRIVATE LIMITED
Company Address :	16/8, BAGAVANDHAM STREET , GOOD WILL COURT, T.NAGAR, CHENNAI - 600017, Tamil Nadu, INDIA

ANNEXURE-VIII

COMMISSIONERATE OF GEOLOGY AND MINING * GUINDY, CHENNAI-600 032 *

தமிழ்நாடு तमिलनाडु TAMILNADU 27.9.2020 / KSN.

Tamilhumaran Productions Private Limited, Chennai

BA 101706

K.S.N.

உறுதிமொழிப் பத்திரம்

தமிழ்நாடு, சென்னை, T.நகர், Good Will Court, பாகவந்தம் தெரு, கதவு எண்.16/8 என்னும் முகவரியில் இயங்கிவரும் தமிழ்குமரன் பிரடெக்சன்ஸ் பிரைவேட் லிமிடெட்டின் இயக்குநர்களில் ஒருவரான பாலாஜி ஆகிய நான் உண்மையாயும், பிரமாணமாயும் கூறுவதாவது:-

1. எங்களது நிறுவனம் மேற்படி முகவரியில் இயங்கி வருகிறது. மேற்படி நிறுவத்தை நானும், G.M.தமிழ்குமரன் அவர்களும் இயக்குநர்களாக இருந்து நிர்வகித்து வருகிறோம்.

2. 29.09.2020ம் தேதி செவ்வாய்க்கிழமை அன்று தருமபுரி மாவட்ட ஆட்சியர் அலுவலகத்தில் நடைபெறவுள்ள குவாரி பொது ஏலத்தில் ஏலம்

27/9/2020

M. VIJAYAN B.Com., B.L.,
Advocate & Notary, Roll No.:694/89
28, P.R. Sundaram Iyer Street,
Opp. to Senthilkumar Textiles,
DHARMAPURI - 636 701.
Cell: 94432 86820

எடுக்க விண்ணப்பித்துள்ளோம். தற்போது அவசர நிமித்தமாக நான் வெளியூர் செல்லவிருப்பதால் எங்களது நிறுவனம் சார்பாக மற்றொரு இயக்குநரான G.M.தமிழ்குமரன் கலந்துக் கொள்ளவுள்ளார். இவர் கலந்து கொள்வதில் பாலாஜி ஆகிய எனக்கு எந்தவிதமான ஆட்சேபணையும் இல்லை. டெண்டர் சம்மந்தமான அனைத்து ஆவணங்களிலும் G.M.தமிழ்குமரன் கையொப்பமிடுவதற்கும் நான் அனுமதிக்கிறேன். இவர் எடுக்கும் முடிவே இறுதியானது. இவரின் முடிவால் எங்களது நிறுவனத்திற்கு ஏற்படும் கஷ்ட நஷ்டங்களுக்கும், இழப்புகளுக்கும் மேற்படி நிறுவனமே முழுப் பொறுப்பேற்றுக்கொள்கிறது என்று இதன் மூலம் உறுதியளிக்கிறேன். மேற்படி திரு. G.M.தமிழ்குமரன் கையொப்பத்தை கிழே அட்டஸ்ட் செய்துள்ளேன்.

G.M.தமிழ்குமரன் மாதிரி கையொப்பம்:

SIGNED BEFORE ME பிரமாணதாரர் கையொப்பம்

மேலேகண்டவர் மேலேகண்ட சங்கதிகள் யாவும் உண்மையென்று உறுதி கூறி என் முன் தருமபுரியில் 27.09.2020ம் தேதியில் கையொப்பம் செய்தார்.

27/9/2020

நோட்டரி பப்ளிக்.

K. VIJAYAN, B.Com., B.L.,
Advocate & Notary, Roll No.:694/89
21, P.R.Sundaram Iyer Street,
Opp. to Senthamizh Textiles,
DHARMAPURI - 636 701.
Cell: 94432 86670

NOTARIAL NOTARIAL

ANNEXURE - IX

-95-

வனம் காப்போம் பசுமை காப்போம்

TAMILNADU FOREST DEPARTMENT

From

Thiru.K.Thirumal, I.F.S.,
District Forest Officer,
Dharmapuri.
E-M@il : dfodharmapuri@gmail.com
Telephone : 04342-230003
Fax: 04342- 230613.

To

The District Collector,
Dharmapuri.

C.No.1729/2017/D, Dated. 23 .04.2018.

Madam,

Sub: Mines and Minerals - No objection Certificate of Forest Department for conducting open lease of black Granite quarries in the Government Revenue (Puramboke) land - requested - reg.

Ref:
1) District Collector, Dharmapuri C.No.410/2016 (Mines), Dated 06.06.2017.
2) This office C.No. 1729/2017, dated 06.06.2017.
3) Forest Range Officer, Pennagaram C.No. 256/2017, dated 06.09.2017.

With reference to the above subject, remarks of the Forest Department is detailed below

1) All the proposed mining areas falls in the Government Revenue (Purambokku) lands which is outside the Reserved Forest and Protected areas.

2) New quarries (minor and major minerals), stone quarrying and crushing units shall be prohibited upto **one km** distance from the Protected area (i.e., Eco-Sensitive Zone).

All existing quarries present **within 500 meters** distance shall be prohibited and those quarries that are present **beyond 500 meters** (but within one km) will be allowed to operate until it reach economically unfeasible stage or till the validity of lease period, after which shall be banned.

However, for meeting the domestic needs of local residents, Gravel quarry and Digging of earth for manufacture of Country tiles or bricks for construction, repair of houses and for other bonafide activities shall be permitted.

3) The mining operations shall be carried out in accordance with the orders of the Hon'ble Supreme Court dated 04.08.2006 in the in the matter of TN Godavaram Thirumalpad Vs UOI in W.P. (C) No.202 of 1995 and dated 21.04.2014 in the matter of Goa Foundations Vs UOI in W.P. (C) No. 435 of 2012.

4) 1/20th or 5% of Revenue realized from the mining activity should be utilized for Wild Life Management and improvement of Green Cover through in consultation with Forest Department.

5) The details of Each Survey Field number (S.F.No.) where the mining activity is proposed is marked with the actual distance from the Cauvery North Wild Life Sanctuary and Proposed Eco - Sensitive Zone is marked in the S.I.Sheet.

This is for further kind necessary action at your end please.

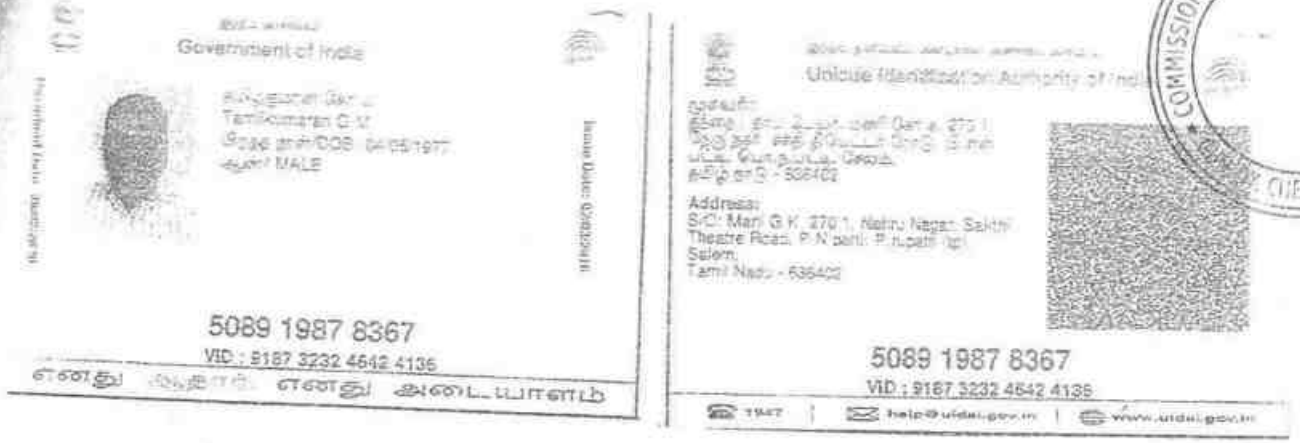
Encl.: PROFORMA -I, II & III

Yours faithfully,

23/09/18.

District Forest Officer,
Dharmapuri.

ANNEXURE – X



COMMISSIONERATE OF GEOLOGY & MINING CHENNAI-600 032

ANNEXURE - XI

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES

अर्हताप्राप्त व्यक्ति के रुप में मान्यता प्रमाण पत्र
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एस. इलवरसन, पिता यू. सनंतानम, 7सी, मेट्टु स्ट्रट, भीमा नगर, तिरुची - १, तमिलनाडु, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोषजनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हताप्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri S.Ilavarasan, S/o.U.Santhanam, 7C, Mettu Street, Beema Nagar, Tridhy -1, Tamilnadu, whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

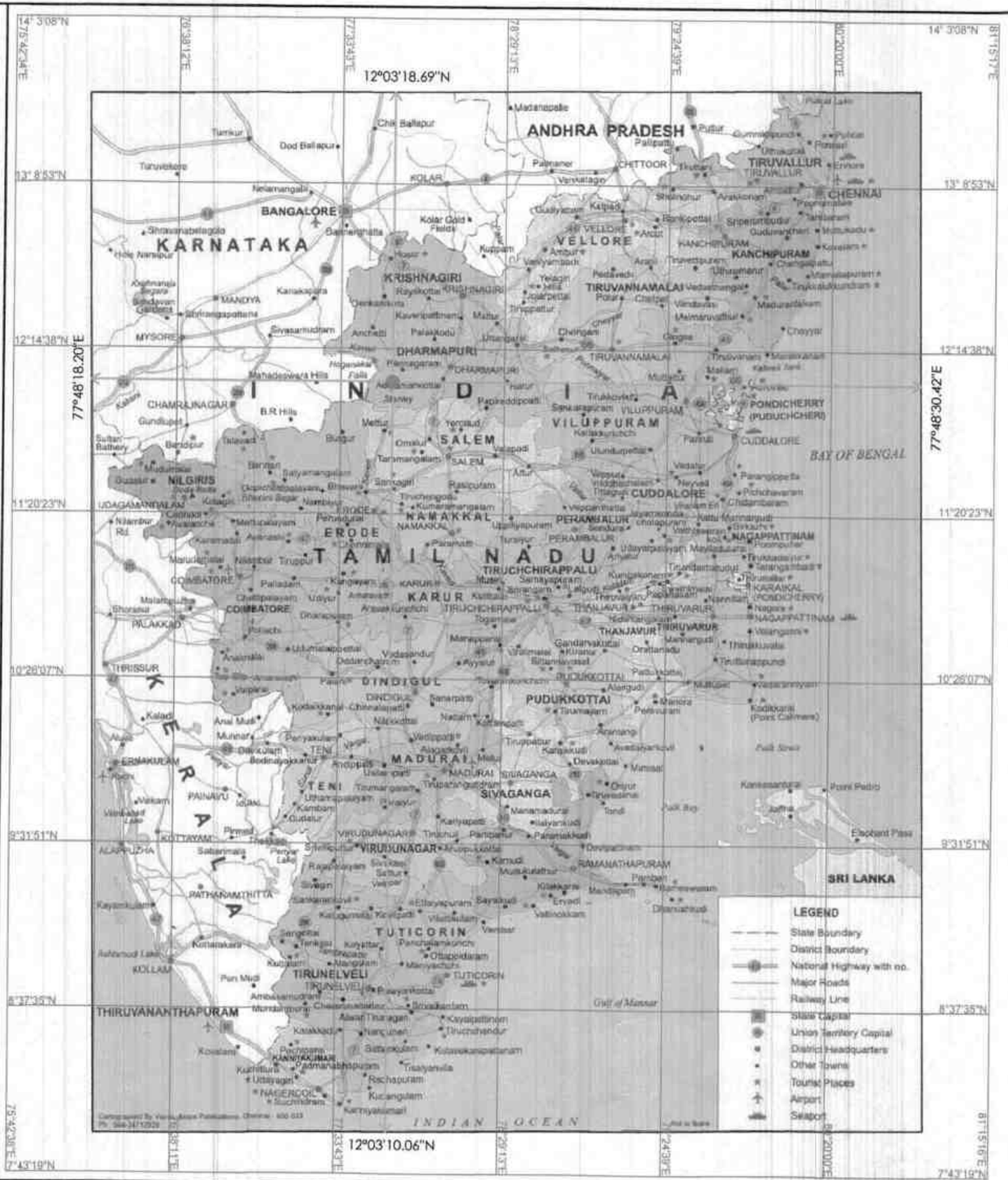
उनकी पंजीयन संख्या है
His registration number is : RQP /MAS/253/2013/A

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 27.08.2023 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 27.08.2023

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिती में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।
This certificate will liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान / Place : Chennai
दिनांक / Date : 28.08.2013

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines
भारतीय खान ब्यूरो / Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region



INDEX

Q.L.APPLIED AREA :

TOPO SHEET NO. : 57 H/16

LATITUDE : 12°03'10.06"N to 12°03'18.69"N
LONGITUDE : 77°48'18.20"E to 77°48'30.42"E

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - I

DATE OF SURVEY : 25.02.2021

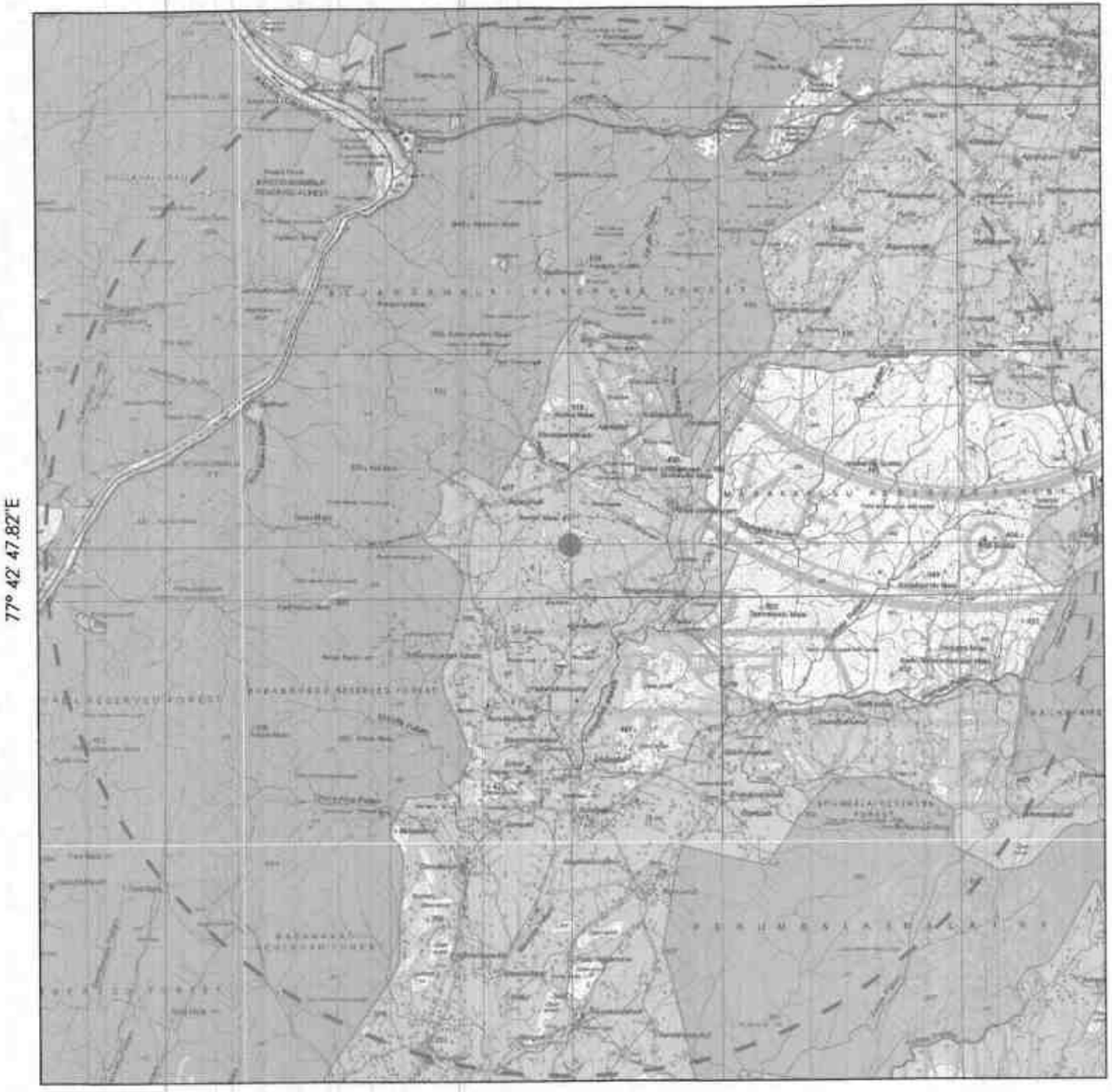
LOCATION PLAN

SCALE. 1:24,00,000

PREPARED BY :

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

S.ILAVARASAN,M.Sc,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A



TOPO SHEET NO. : 57 H/16

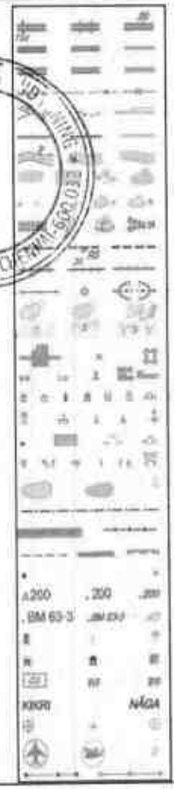
LATITUDE : 12°03'10.06"N to 12°03'18.69"N
LONGITUDE : 77°48'18.20"E to 77°48'30.42"E

10km RADIUS :

Q.L.APPLIED AREA :

INDEX

Express highway: with toll; with bridge; with distance stone.....
Roads metalled: according to importance.....
Roads, double carriageway; according to importance.....
Unmetalled road. Cart-track. Pack-track with pass. Foot-path.....
Streams: with track in bed; undefined. Canal.....
Dams: masonry or rock-filled; earthwork. Weir.....
River; dry with water channel; with island & rocks. Tidal river.....
Submerged rocks. Shoal. Swamp. Reeds.....
Wells: lined; unlined. Tubewell. Spring. Tanks:perennial; dry.....
Embankments: road or rail; tank. Broken ground.....
Railways, broad gauge: double: single with station; under constn.....
Railways, other gauges: double; single with distance stone; do.....
Mineral line or tramway. Kiln. Cutting with tunnel.....
Contours with sub-features. Rocky slopes. Cliffs.....
Sand features: (1)flat. (2)sand-hills(permanent). (3)dunes(shifting).
Towns or Villages: inhabited; deserted. Fort.....
Huts: permanent; temporary. Tower. Antiquities.....
Temple. Chhatri. Church. Mosque. Idgah. Tomb. Graves.....
Lighthouse. Lightship. Buoys: lighted; unlighted. Anchorage.....
Mine. Vine on trellis. Grass. Scrub.....
Palms: palmyra; other. Plantain. Conifer. Bamboo. Other trees.....
Areas: cultivated; Wooded. Surveyed trees.....
Boundary, international.....
Boundary, state: demarcated; undemarcated.....
Boundary, district; subdivision; tahsil or taluk; forest.....
Boundary pillers: surveyed; unlocated.....
Heights. triangulated: station: point; approximate.....
Bench-mark: geodetic; tertiary; canal.....
Post office. Telegraph office. Overhead tank.....
Rest house or inspection bungalow. Circuit house. Police station....
Camping Ground. Forest: reserved; protected.....
Spaces names: administrative; locality or tribal.....
Hospital. Dispensary. Veterinary: Hospital/Dispensary.....
Aerodrome. Helipad. Tourist site.....
Powerline: with pylons surveyed; with poles unsurveyed.....



APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS
PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - I-A

DATE OF SURVEY : 25.02.2021

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

S.ILAVARASAN, M.Sc,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A

PLATE NO : I-B

ROUTE MAP

INDEX

LEASE APPLIED AREA

STATE HIGHWAY

VILLAGE ROAD

APPROACH ROAD

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.A AREA:

S.F.Nos :830 (P) & 835/ 3 (P).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

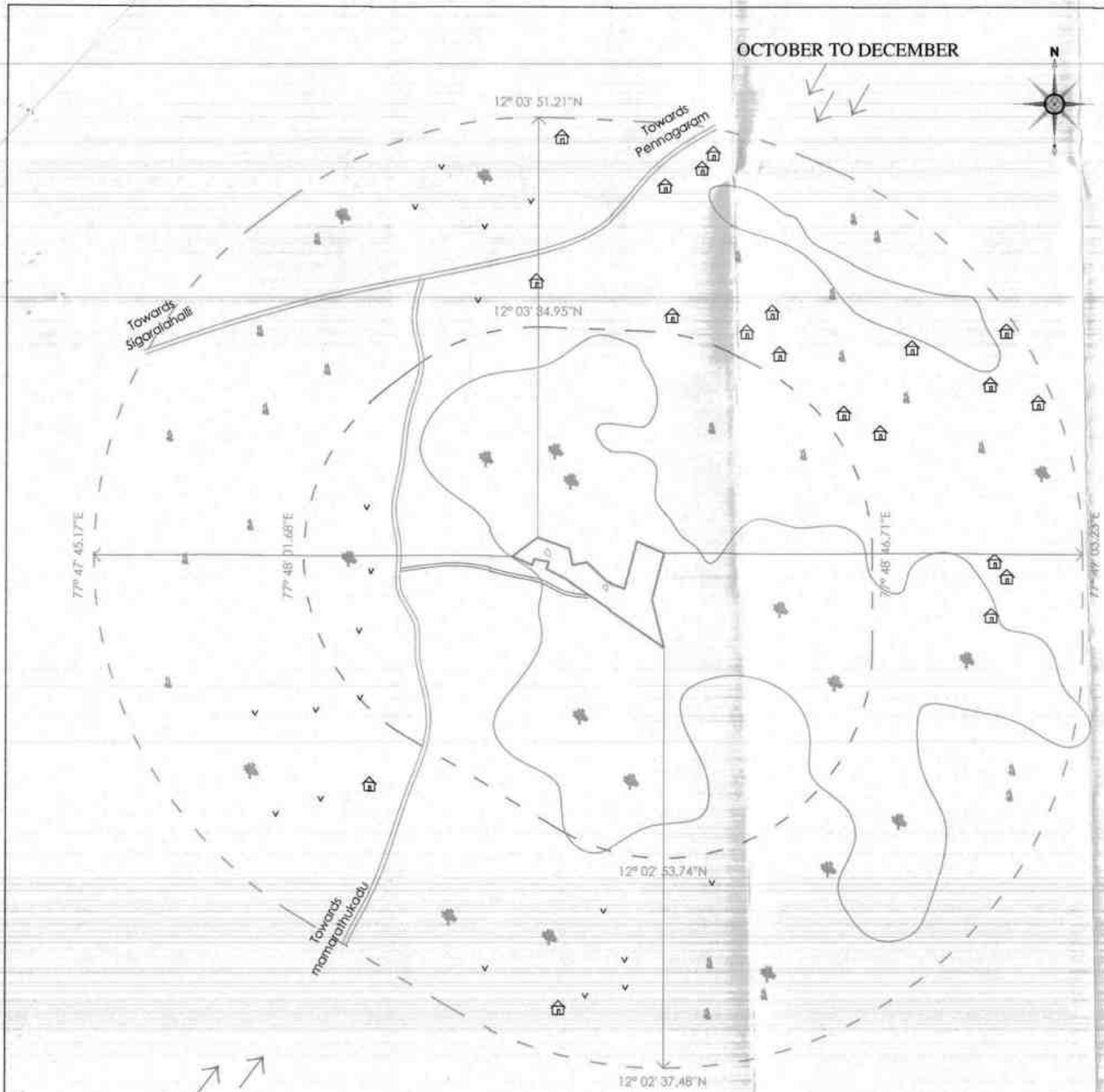
SCALE :

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

S.ILAVARASAN,M.Sc,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A



INDEX

- Q.L.APPLIED AREA
- 1 Km RADIUS
- 500m RADIUS
- SEASONAL AGRICULTURE LAND
- TREES
- HABITATION
- WIND DIRECTION
- PANCHAYAT ROAD
- APPROACH ROAD
- BARREN LAND
- QUARRY PIT
- ELEVATED AREA

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - I- C

DATE OF SURVEY : 25.02.2021

ENVIRONMENTAL & LAND USE PLAN (For 1km Radius)

SCALE. 1:10,000

LAND USE PATTERN

DESCRIPTION	PERCENTAGE	INDEX
SEASONAL AGRI LAND	(30%)	
BARREN LAND	(18%)	
ROADS	(06%)	
TREES	(07%)	
HABITATION	(05%)	
ELEVATED AREA	(34%)	
TOTAL	100%	

TOPO SHEET NO. : 57 H/16

LATITUDE : 12°03'10.06"N to 12°03'18.69"N
LONGITUDE : 77°48'18.20"E to 77°48'30.42"E

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

S.ILAVARASAN,M.Sc,
RECOGNIZED QUALIFIED PERSON
ROP/MAS/253/2013/A

N

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 500m RADIUS
- 300m RADIUS

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS
PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - I-D

DATE OF SURVEY : 25.02.2021

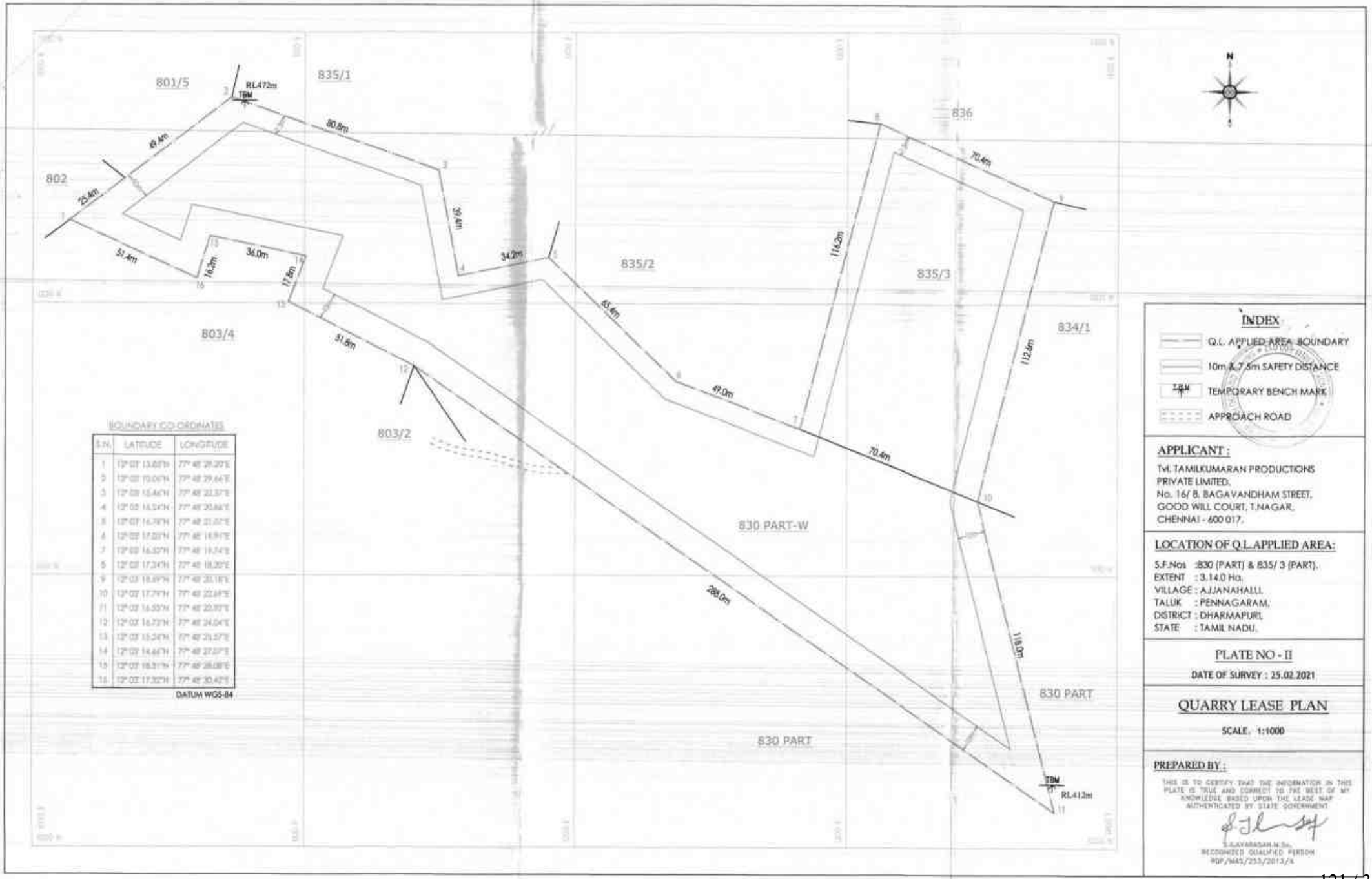
SATELLITE IMAGERY SHOWING 500m & 300m RADIUS MAP

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

S.ILAVARASAN.M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A



BOUNDARY CO-ORDINATES

S.N.	LATITUDE	LONGITUDE
1	12° 03' 13.60"N	77° 48' 28.20"E
2	12° 03' 10.06"N	77° 48' 29.66"E
3	12° 03' 15.46"N	77° 48' 32.37"E
4	12° 03' 16.54"N	77° 48' 30.86"E
5	12° 03' 16.78"N	77° 48' 31.07"E
6	12° 03' 17.02"N	77° 48' 16.91"E
7	12° 03' 16.32"N	77° 48' 19.74"E
8	12° 03' 17.24"N	77° 48' 18.20"E
9	12° 03' 18.89"N	77° 48' 20.18"E
10	12° 03' 17.79"N	77° 48' 22.69"E
11	12° 03' 16.55"N	77° 48' 20.95"E
12	12° 03' 16.73"N	77° 48' 24.04"E
13	12° 03' 15.24"N	77° 48' 25.57"E
14	12° 03' 14.46"N	77° 48' 27.07"E
15	12° 03' 16.31"N	77° 48' 28.08"E
16	12° 03' 17.32"N	77° 48' 30.42"E

DATUM WGS-84

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 10m & 7.5m SAFETY DISTANCE
- TBM TEMPORARY BENCH MARK
- APPROACH ROAD

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART).
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - II

DATE OF SURVEY : 25.02.2021

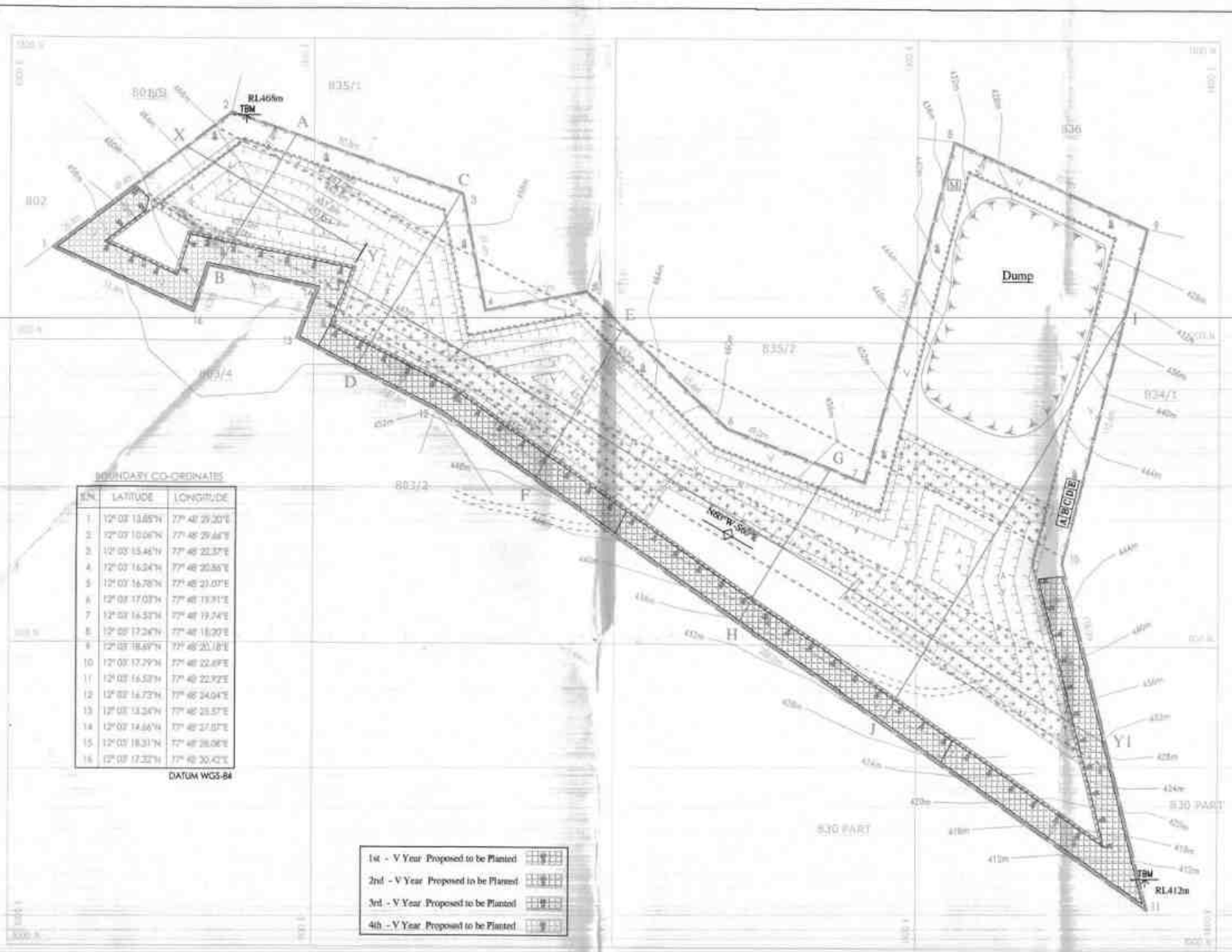
QUARRY LEASE PLAN

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.

S.A.JAYARASAN M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A



SITE SERVICES

A - OFFICE
B - STORE ROOM
C - FIRST AID ROOM
D - REST SHELTER
E - TOILET
M - MAGAZINE

BOUNDARY CO-ORDINATES

S.N.	LATITUDE	LONGITUDE
1	12° 03' 13.85"N	77° 48' 29.20"E
2	12° 03' 10.06"N	77° 48' 29.66"E
3	12° 03' 15.46"N	77° 48' 22.57"E
4	12° 03' 16.24"N	77° 48' 20.86"E
5	12° 03' 16.78"N	77° 48' 21.07"E
6	12° 03' 17.03"N	77° 48' 19.91"E
7	12° 03' 16.53"N	77° 48' 19.74"E
8	12° 03' 17.26"N	77° 48' 18.20"E
9	12° 03' 18.69"N	77° 48' 20.18"E
10	12° 03' 17.79"N	77° 48' 22.69"E
11	12° 03' 16.53"N	77° 48' 22.92"E
12	12° 03' 16.73"N	77° 48' 24.04"E
13	12° 03' 13.26"N	77° 48' 25.57"E
14	12° 03' 14.66"N	77° 48' 27.57"E
15	12° 03' 18.31"N	77° 48' 26.06"E
16	12° 03' 17.32"N	77° 48' 30.42"E

DATUM WGS-84

1st - V Year Proposed to be Planted
2nd - V Year Proposed to be Planted
3rd - V Year Proposed to be Planted
4th - V Year Proposed to be Planted

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- DUMP
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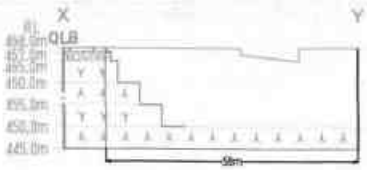
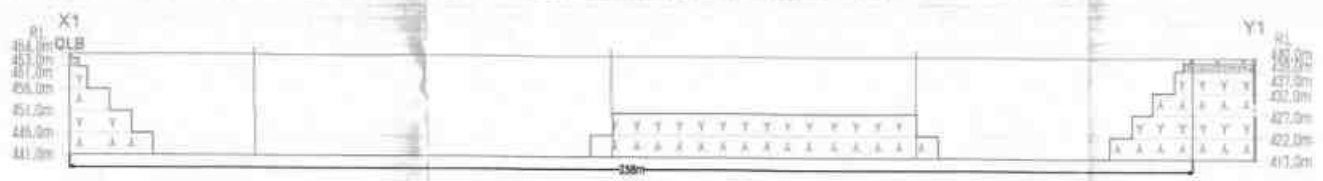
- SHRUBS
- QUARRY ROAD
- APPROACH ROAD
- BUND & BARBED WIRE FENCING
- PROPOSED GARLAND DRAIN
- AFFORESTATION
- OLD SURFACE LEVEL
- FINISHED SURFACE LEVEL

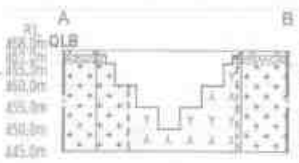
SECTION ALONG : X-Y



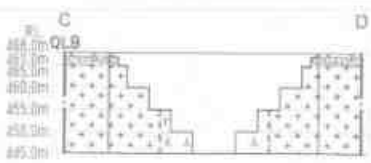
SECTION ALONG : X1-Y1



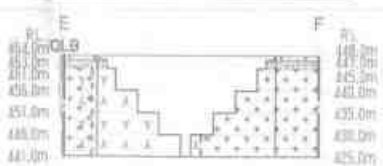
SECTION ALONG : A-B



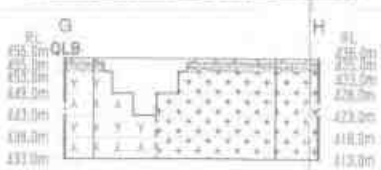
SECTION ALONG : C-D



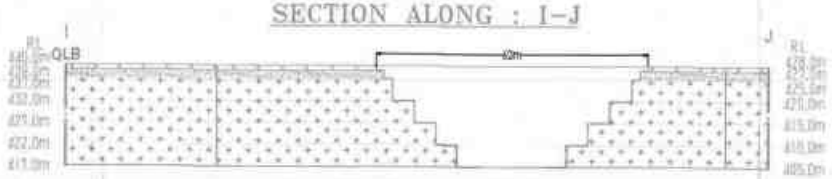
SECTION ALONG : E-F



SECTION ALONG : G-H



SECTION ALONG : I-J



Proposed waste,weathered & Side burden Temporary dump = 73mX50mX33.37m(h)

Ultimate Pit Dimension (max) = 316mX62mX23m(d-AGL)

APPLICANT :

Tvl. TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED,
No. 16/ 8, BAGAVANDHAM STREET,
GOOD WILL COURT, T.NAGAR,
CHENNAI - 600 017.

LOCATION OF Q.L.APPLIED AREA:

S.F.Nos :830 (PART) & 835/ 3 (PART),
EXTENT : 3.14.0 Ha.
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU.

PLATE NO - IX

DATE OF SURVEY : 25.02.2021

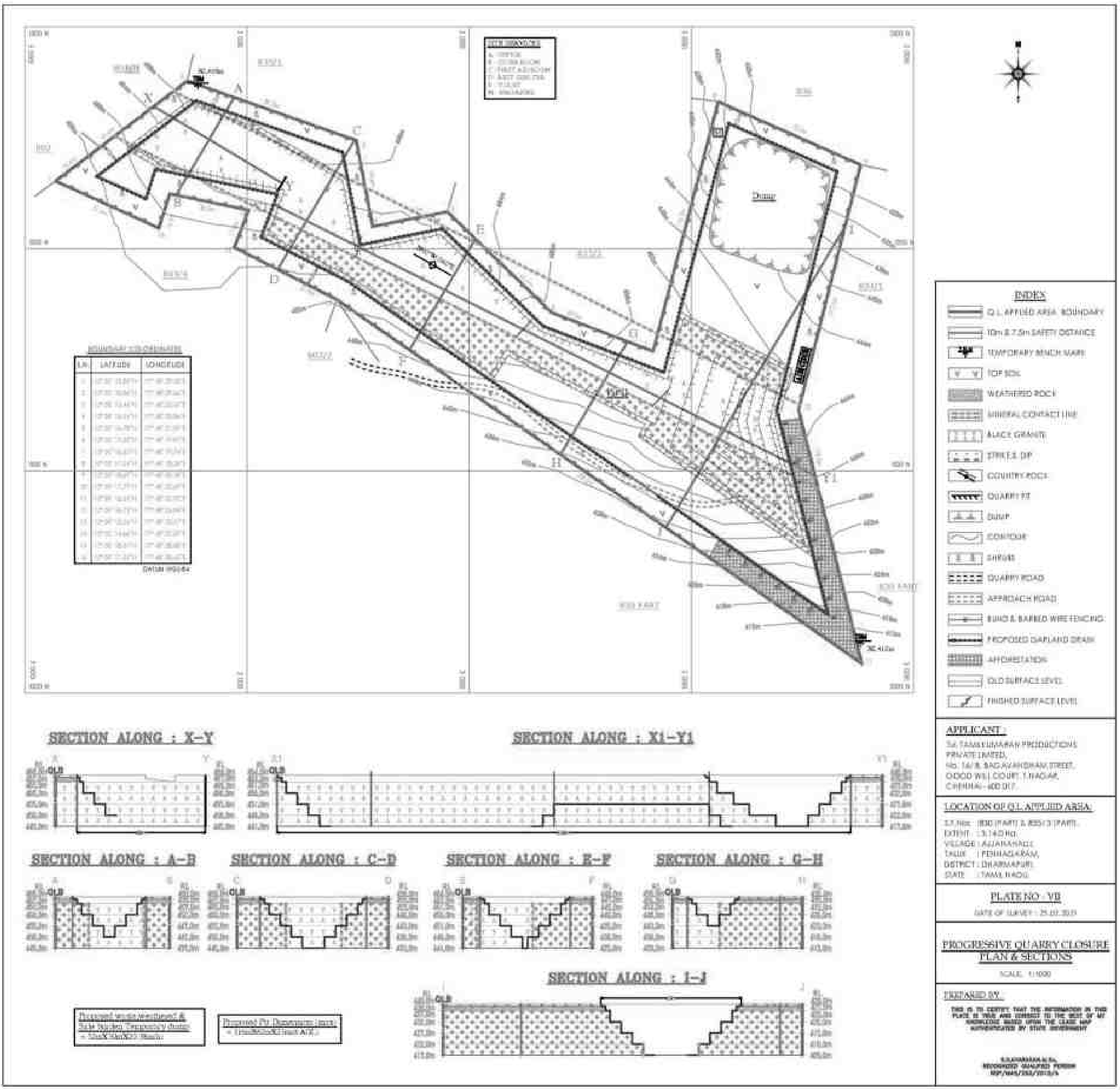
CONCEPTUAL PLAN & SECTIONS

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.

S.ILAYARASAN, M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/253/2013/A


SECTION ALONG : X-Y
SECTION ALONG : X1-Y1
SECTION ALONG : A-B
SECTION ALONG : C-D
SECTION ALONG : E-F
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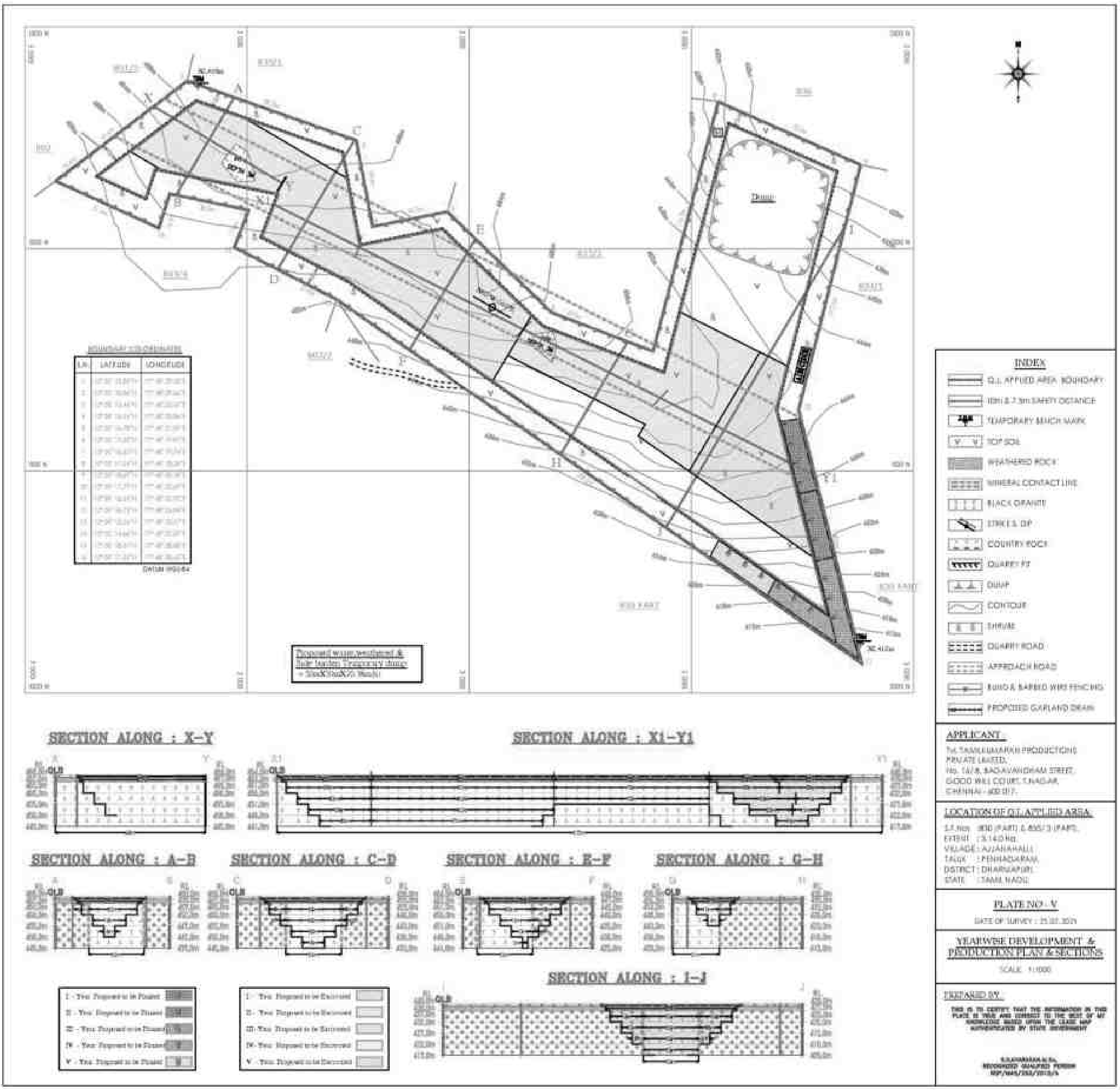
LOCATION OF Q.L APPLIED AREA:
DISTRICT : DHARMAPURI
STATE : TAMIL NADU
PLATE NO - VII
PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS
SCALE 1:1000
PREPARED BY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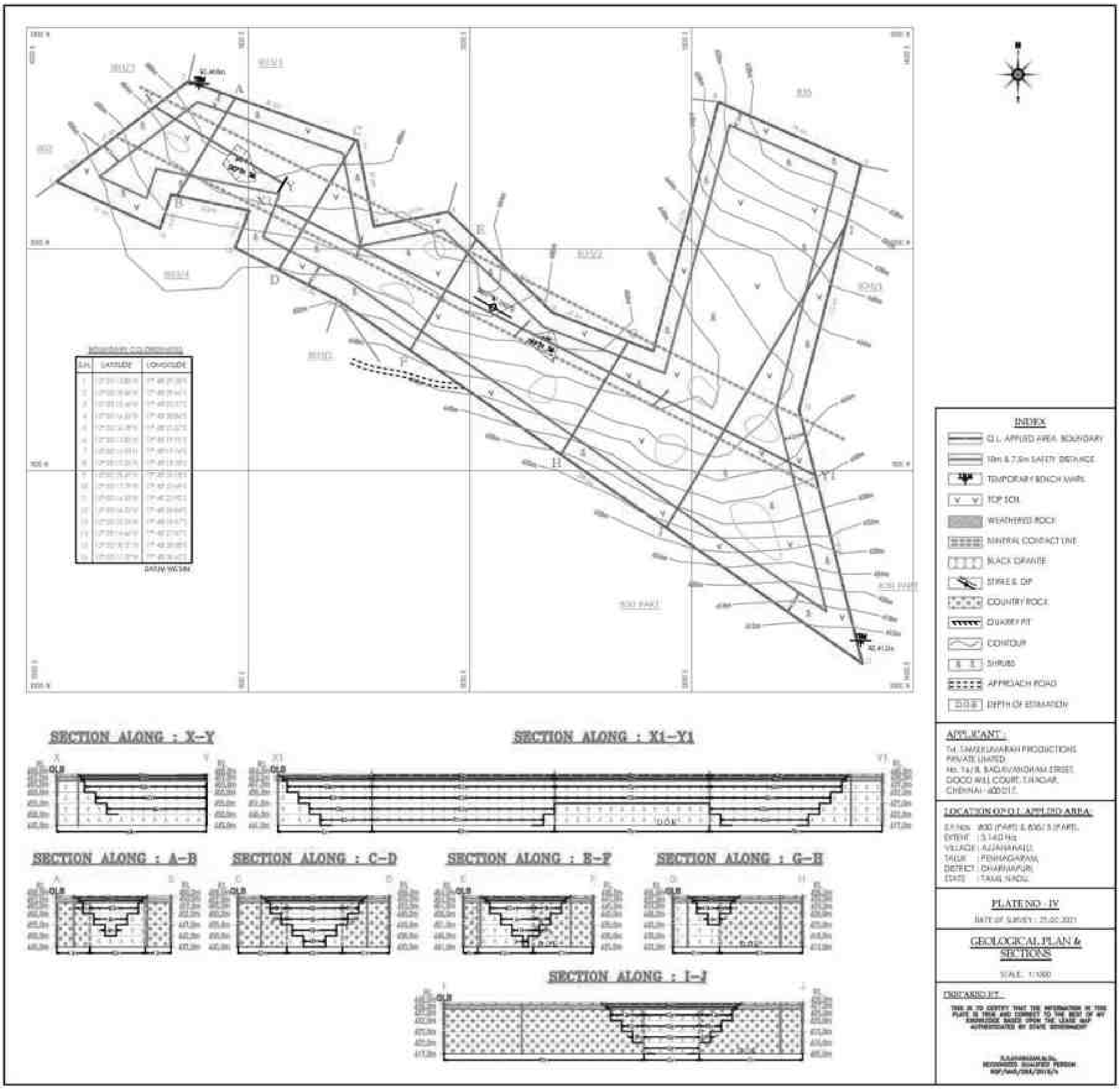
LOCATION OF Q.L APPLIED AREA
VILLAGE : AJJANAHALLI
STATE : TAMIL NADU
PLATE NO - V
YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTIONS
SCALE 1:1000
PREPARED BY


SECTION ALONG : X–Y
SECTION ALONG : X1–Y1
SECTION ALONG : A–B
SECTION ALONG : C–D
SECTION ALONG : E–F
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SHRUBS
APPROACH ROAD
DEPTH OF ESTIMATION
APPLICANT :
LOCATION OF Q.L APPLIED AREA
PLATE NO - IV
GEOLOGICAL PLAN & SECTIONS
SCALE 1:1000

சான்று

தருமபுரி மாவட்டம் பென்னாகரம் வட்டம் 30. அஜ்ஜனஹள்ளி கிராம புல எண் 830/- பரப்பு 11.68.0 ஹெக்டேர் புறம்போக்கு காடு மற்றும் புல எண் 835/3 பரப்பு 0.81.50 ஹெக்டேர் புறம்போக்கு அனாதீனம் ஆகும். மேற்கண்ட புல எண் 830/- மற்றும் 835/3 ஐ சுற்றி 300 m சுற்றளவில் பள்ளிகள், கோயில்கள், குடியிருப்புகள் ஏதும் இல்லை என்ற விவரம் சான்றளிக்கப்படுகிறது.

ப.கு
25/6/2021

கிராம நிர்வாக அலுவலர்
30. அஜ்ஜனஹள்ளி கிராமம்
பிறப்பு & இறப்பு பதிவு அலுவலர்
பென்னாகரம் (TK) தருமபுரி-DT

தமிழ்நாடு तमिलनाडु TAMILNADU

Rs. 100/-
Tamil Kumaran Productions Private Ltd. Chennai

CE 233204

14/06/2021

K.C. வேலாயுதம்
மு.வி. L.No: 4564/21/2007,
காரியங்கலம்-(P.O), தருமபுரி-(Dt).

Affidavit TO SEIAA, Tamil Nadu

We, **Tvl. Tamilkumaran Productions Private Limited, No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai, Tamil Nadu – 600 017** solemnly declare and sincerely affirm that:

We have applied for getting Environmental Clearance to SEIAA, Tamil Nadu for quarry lease for quarrying of **Black Granite** over an extent of **3.14.0 Hectares of Government Poramboke land in S.F.No. 830(Part) West and 835/3 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State.**

1. We swear to state and confirm that within 10km radius of the quarry site, we have applied for environmental clearance, none of the following is situated.
   a. Protected areas notified under the wild life (Protection) Act, 1972
   b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act 1974.

15/6/2021

K. VIJAYAN B.Com.,B.L.,
Advocate & Notary, Roll No.:694/89
21, P.R.Sundaram Iyer Street,
Opp. to Senthilkumar Textiles,
DHARMAPURI - 636 701.
Cell: 94432 86820

S. N. [illegible]

SIGNED BEFORE ME

c. Eco-Sensitive areas as notified.

2. Tamil Nadu – Karnataka State Border is situated in 6.10km on the Northwestern side of lease applied area.

3. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

CER Activity	Project Cost (Rs. In Lakh)	CER Cost 2.0% of project cost (Rs in Lakh)
The Company Indents to involve corporate Environment responsibilities (CER) activity like Water purifier, Solar Lamp, Medicine storage rack, Air conditioner, sanitary facility, Cot and Bed facilities to the Eriyur Dispensary and Pennagaram Govt. Hospital and Water purifier and sanitary facility to the Eriyur Govt. School.	772.01	15.44
Total Cost Allocation	**772.01**	**15.44**

4. The following quarries located within the radius of 500m from the periphery of our proposed quarry.

A. Existing Quarries

S. No.	Name of the Applicant	S. F. No.	Extent in Ha.	Quarry status
.....Nil.....				

B. Abandoned Quarries

S. No.	Name of the Applicant	S. F. No.	Extent in Ha.	Quarry status
.....Nil.....				

C. Proposed Quarries

S. No.	Name of the Applicant	Village & Taluk	S. F. No.	Extent in Ha.	Classification of land
1.	M/s.PVI Tranding Corporation, No.62-A, 1st Pulikuthi Street, Gugai, Salem	Ajjanahalli & Pennagaram	830 (part) East & 834/1	5.00.0	Govt. Poramboke land
2.	Tvl. Tamilkumaran Productions Private Limited, No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai – 600 017.	Ajjanahalli & Pennagaram	830 (Part) West and 835/3,	3.14.0	Govt. Poramboke land
Total				**8.14.0**	

5. There will not be any hindrance or disturbance to the people during transportation.

15/6/20

Cell: 94432 86820
K. VIJAYAN B.Com.,B.L.,
Advocate & Notary, Roll No.:694/89
21, P.R.Sundaram Iyer Street,
Opp. to Senthilkumar Textiles,
DHARMAPURI - 636 701.

SIGNED BEFORE ME

6. There is no approved habitation situated within 300m radius from the periphery of our quarry.
7. We swear that afforestation will be carried out during the course of quarrying operation and maintained.
8. The required insurance will be taken in the name of the labourers working in our quarry site.
9. Approach road belongs to us only and no other private patta roads encountered.
10. We will not engage any child labour in our quarry site and we aware that engaging child labour is punishable under the law.
11. All types of safety / protective equipment will be provided to all the labourers working in our quarry.
12. There is no permanent structures, temples etc., are located within 300m radius from the periphery of our proposed quarry site.

We ensure to do all the social and Environmental commitment as mentioned in the Mining plan to the best of our knowledge.

Signature of the applicant
For Tvl. Tamilkumaran Productions Private Limited

(G.M.Tamil Kumaran)

SIGNED BEFORE M

Managing Director
Deponent

NOTARIAL NOTARIAL

16/2021

Cell: 94432 86820
K. VIJAYAN B.Com.,B.L.,
Advocate & Notary, Roll No.:694/89
21, P.R.Sundaram Iyer Street,
Opp. to Senthilkumar Textiles,
DHARMAPURI - 636 701.

TAMILKUMARAN
PRODUCTIONS PVT LTD

EXTRACT FROM THE MINUTES OF THE MEETING OF THE BOARD DIRECTORS OF M/S.TAMILKUMARAN PRODUCTIONS PVT LIMITED HELD ON 15.02.2013 AT THE REGISTERED OFFICE OF THE COMPANY AT NO.16/8, BAGAVANTHAM STREET GOOD WILL COURT, T.NAGAR, CHENNAI- 600017.

AUTHORISATION OF THIRU.G.M.TAMILKUMARAN TO PURCHASE/ LEASE/ SELL THE LAND IN BEHALF OF THE COMPANY.

The Board informed the company to register the land in the name of the company. The Resolution was passed unanimously.

RESOLVED:

That the said **Thiru.G.M.TAMILKUMARAN** Director of the Company now **Thiru.G.M.TAMILKUMARAN** either person is authorized to negotiate and finalize the terms of such acquisition and to sign execute/ sale / lease deed and all other documents and papers which deemed to be necessary related to purchase of the property and to give effect to the above resolution.

// CERTIFIED TRUE EXTRACT//

FOR TAMILKUMARAN PRODUCTIONS PRIVATE LIMITED.

G.M.

G.M.TAMILKUMARAN
DIRECTOR

R.C.BALAJI
DIRECTOR

No. 8, Goodwill Count, (2nd Floor), No.16, Bhagavantham Street, T.Nagar, Chennai - 600 017.
Email : tamilkumaran94@gmail.com | Ph : 044 - 4201 9559

மின்னஞ்சல் – dfodharmapuri@gmail.com
தொலைபேசி எண் – 04342 – 230003

தமிழ்நாடு வனத்துறை

அனுப்புநர்

திரு. கே.வி.அப்பால நாயுடு, இ.வ.ப.,
மாவட்ட வன அலுவலர்,
தருமபுரி வனக்கோட்டம்,
தருமபுரி – 5.

பெறுநர்

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
தருமபுரி.

ந.க.எண். 1025 / 2023 / வ, நாள். 15–02–2023

பொருள் : கனிமங்களும் குவாரிகளும் – சிறுகனிமம் – கருப்பு கிராணைட் கற்கள் – தருமபுரி மாவட்டம் – பென்னாகரம் வட்டம் – அஜ்ஜனஅள்ளி கிராமம் புல எண்.830 (பகுதி), மேற்கு மற்றும் 835/3 பரப்பு 3.14.0 ஹெக்டர் அரசு நிலத்தில் அமைந்துள்ள கருப்பு கிராணைட் குவாரிக்கு டெண்டருக்கு இணைந்த ஏல முறையில் குத்தகை வழங்க பொது ஏலம் நடத்தப்பட்டது – அதிக தொகை கோரிய TVI.Tamilkumaran Productions Private Limited, என்பவருக்கு குவாரி குத்தகை வழங்குவதல் தொடர்பாக இப்புல எண்ணை சுற்றிலும் 25 கி.மீ தூரத்தில் உள்ள காப்புக்காடுகள், வனஉயிரின சரணாலையம் மற்றும் யானை வழிதடங்கள் குறித்து – அறிக்கை அனுப்புதல் – தொடர்பாக.

பார்வை :

1. சுற்றுச்சூழல் வனம் மற்றும் காலநிலை மாற்றம் (IA Division) இந்திய அரசு க.எண்.F.No.22–43/2018–IA–III நாள். 08–08–2022
2. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, தருமபுரி ROC.No.175/2020 (கனிமம்) நாள். 29–12–2022.
3. இவ்வலுவலக மே.கு.எண்.1025/2023/வ நாள் 01–02–2023.
4. வனச்சரக அலுவலர், பென்னாகரம் ந.க.எண்.46/2022, நாள் 13–02–2023.

~ • ~ • ~ • ~ • ~

பார்வையில் காணும் கடிதங்களின் மீது தங்களின் கவனம் ஈர்க்கப்படுகிறது. அதில் பார்வை (1)இல் புல எண்.830 (பகுதி), மேற்கு மற்றும் 835/3 பரப்பு 3.14.0 ஹெக்டர் கருப்பு கிராணைட் குவாரிப்பணி அஜ்ஜனஅள்ளி கிராமம். மேற்கூறிய புல எண்ணில் குவாரிப்பணி மேற்கொள்ள மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மைச் சான்று பெற குவாரி பணி மேற்கொள்ளவுள்ள புலத்திலிருந்து

காப்புக்காடுகள், வன உயிரினச் சரணாலயத்தின் சூழல் உணர்திறன் மண்டலம் (ECO Sensitive Zone), புலிகள் காப்பாகம் மற்றும் யானை வழிதடங்கள் போன்ற தொலைவு விவரங்களை கோரப்பட்டதை தொடர்ந்து வனச்சரக அலுவலர், பென்னாகரம் உரிய புலத்தை 10-02-2023 ஆம் தேதியன்று களத்தணிக்கை மேற்கொண்டு பார்வை (3)இல் காணும் கடிதத்தில் அறிக்கையினை சமர்ப்பித்துள்ளார்.

வனச்சரக அலுவலர், பென்னாகரம் அறிக்கையினை இவ்வலுவலகத்தில் தீர ஆய்வு செய்து கீழ்க்கண்டவாறு விவரங்கள் தெரிவிக்கப்படுகிறது.

1. இப்புல எண்ணிற்கு அருகாமையில் பேவனூர் காப்புக்காடு 1.29 கி.மீ தொலைவிலும், மசக்கல் காப்புக்காடு 2.50 கிமீ தொலைவிலும் மற்றும் பதனவாடி காப்புக்காடு 2.10 கி.மீ தொலைவிலும் அமைந்துள்ளது.
2. இப்புல எண்ணிலிருந்து காவேரி தெற்கு வனஉயிரினச் சரணாலயம் 7.59 கி.மீ தொலைவில் அமைந்துள்ளது.
3. இப்புல எண்ணிலிருந்து காவேரி ஆற்றை ஒட்டி கர்நாடக மாநில காவேரி வனஉயிரினச் சரணாலயம் 6.52 கி.மீ தொலைவிலும் அமைந்துள்ளது.
4. இப்புல எண்ணின் வழியாக யானை வழித்தடங்கள் ஏதுமில்லை.
5. காவிரி தெற்கு வனஉயிரினச் சரணாலயத்தின் எல்லையிலிருந்து 7.59 கி.மீ தொலைவில் மேற்கூறிய குவாரிப்பணி செய்யவுள்ள புலமானது அமைந்துள்ளது. மேலும் காவேரி தெற்கு வன உயிரினச் சரணாலயமானது தமிழக அரசால் 07–11–2022ஆம் தேதியன்று வன உயிரினச் சரணாலயமாக அறிவிக்கை வெளியிடப்பட்டது. ஆனால் சுற்றுச்சூழல் உணர்திறன் மண்டலம் (Eco Sensitive Zone) இதுவரை தொலைவு குறிப்பிட்டு அறிவிக்கை ஏதும் அரசால் குறிப்பிடப்படவில்லை. எனவே உச்ச நீதிமன்ற வழிக்காட்டுதலின்படி தற்போது தோராய சூழல் உணர்திறன் மண்டலத்திற்கு (Default Eco Sensitive Zone) 10 கீ.மீ ஆரத்தொலைவில் குவாரிப்பணி / கட்டமைப்புகள் மேற்கொள்ள வன உயிரின வாரியத்தின் அனுமதி பெறப்பட வேண்டும் என்பதை தெரிவித்துக்கொள்கிறேன்.

ஒம்./ கே.வி.அப்பால நாயுடு,
மாவட்ட வன அலுவலர்,
தருமபுரி வனக்கோட்டம்,
தருமபுரி.

// உண்மை நகல்//

கண்காணிப்பாளர்.

20/2/2023

20/2/2023

Topographical view of Ajjanahalli Black Granite Quarry lease applied area

Name of the Applicant : **Tvl. Tamilkumaran Productions Private Limited,**

Address : No.16/8, Bagavandham Street,
Good Will Court, T.Nagar,
Chennai,
Tamil Nadu – 600 017.

Location of the area:

Extent	:	3.14.0 Ha
S.F.No.	:	830 (Part) West and 835/3
Village	:	Ajjanahalli
Taluk	:	Pennagaram
District	:	Dharmapuri
State	:	Tamil Nadu.

Signature of the applicant
For Tvl. Tamilkumaran Productions Pvt., Ltd.,

G.M.

(G.M. Tamil Kumaran)
Managing Director

9/6/2021

Attestation
(Village Administrative Officer)

G.M.

2000Rs

THIS INDENTURE MADE THIS the 2nd day of August 1991 between the Governor of Tamilnadu (hereinafter referred to as "the lessor" which expression shall where the context so admits include his successors in office and assigns) on the one part and KARIM GRANITES, 58/1 SECOND CROSS, I MAIN ROAD CHAMRAJPET BANGALORE-560 018 (hereinafter called "the lessee" which expression shall where the context so admits include his heirs, executors, administrators, legal representatives and assigns on the other part)

(---2---)

8439
29.6.91

WHEREAS the lessee has applied for a lease of land in Dharmapuri District for the purpose of quarrying black granite and has deposited with the Collector of Dharmapuri District a sum of Rs.7,51,010/- (Rupees Seven lakhs Fifty one thousand and ten only) towards obtaining the quarrying rights for the area mentioned in the schedule hereunder and a sum of Rs. 75,101/- (Rupees Seventy five thousand one hundred and ten only) as security for the due and faithful performance by the lessee of the covenants and conditions on the part of lessee of the covenants and conditions on the part of the lessee hereinafter contained.

(...3...)

Vishnu Granites

Proprietor.

1000Rs

INDIA NON JUDICIAL

१000रु.

Rs 1000

सत्यमेव जयते

भारत

एक हज़ार रुपये ONE THOUSAND RUPEES

STAMP DEPARTMENT

Rs 1000

7349

AND WHEREAS the lessor has agreed to grant the lessee, a lease of the lands and premises hereinafter described.

NOW THESE PRESENTS WITNESS as follows:-

1. The lessor hereby demises to the lessee all those several pieces or parcels of land situated in the village of AJJANAHALLI in the Sub-Registration district of Pennagaram in the State of Tamilnadu being more particularly described in the schedule hereunder written.

2. There are included in the said demise and for the purposes thereof the liberties following:-

1. To get black granite from the said demised pieces of land.

..2..

1000Rs

INDIA NON JUDICIAL

१000रु. Rs 1000

सत्यमेव जयते

भारत

एक हज़ार रुपये ONE THOUSAND RUPEES

12 JUN 1991

K.T. GOPALAKRISHNAN
PALACODE

::4::

(n) For the purpose aforesaid to use any water in or under the said demised piece of land [illegible] and to make or construct any water courses or ponds, however, that nothing shall be done in the exercise of this authority which shall interfere with the rights of any adjoining owners or tenants of the lessor in respect of such water.

(o) Generally to do all things which shall be convenient or necessary for getting the black granite and materials hereby authorised to be got and for removing and disposing thereof as aforesaid.

(...5...)

1000 Rs

INDIA NON JUDICIAL

१000 रु.

Rs 1000

एक हजार रुपये ONE THOUSAND RUPEES

1000

725

L.V. GOPALAKRISHNAN, L.V.
PALACODE

1. The following are excepted from and reserved to the lessor out of this demise:-

(1) All earth, minerals and other substances not herein before expressly authorised to be got from the demised lands by the lessee.

(2) Liberty for the lessor or other persons authorised by him to search for work, get, carry away and dispose of the excepted minerals and other substances and for such purposes to have the right of ingress, egress and regress over the said demised pieces of land and to make erect and use all pits, machinery, buildings, roads and other [illegible] works and

(contd...)

7622 18.6.91

/111/

conveniences, provided that the rights hereby reserved shall be exercised in such a way as to cause as little obstruction as possible to the lessee in the use and enjoyment of his rights hereunder and that reasonable compensation for damages caused by any destruction shall be paid to the lessee the amount thereof in case of difference to be settled by arbitration as herein after provided.

4. The said premises shall be held by the lessee for the term of ten years from the 2nd day of August 1991

(...7...)

INDIA NON JUDICIAL

७५० रु. Rs 750

भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

7639 18.6.57

to the 1st day of [illegible] which shall however be determinable as hereinafter provided.

5. The lessee shall pay during the said term the land assessment, seigniorage on the minerals mined or dead rent whichever is more and such other levies which may be imposed by the Government from time to time.

(i) The said assessment amounting to Rs.613/- shall be paid without any deduction on the 10th day of January in everyyear in advance.

(.....)

For Mahaboob

7/67

INDIA NON JUDICIAL

७५० रु.

Rs 750

सत्यमेव जयते

भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

(c) The said [illegible] of Rs.[illegible]/- (Rupees Four hundred only) per [illegible]., which may be subsequently enhanced shall be paid before the [illegible] is removed from the said demised pieces of land.

6. The lessee hereby covenants with the lessor as follows:-

750Rs.

INDIA NON JUDICIAL

७५० रु.

Rs 750

सत्यमेव जयते

भारत

सात सौ पचास रुपये

SEVEN HUNDRED & FIFTY RUPEES

1/2/1

(g) To pay the assessment, and [illegible] rent etc., on the date and in manner of [illegible].

(h) To bear pay and discharge all existing and future rates taxes, assessment, [illegible] and other [illegible] imposed [illegible] upon the [illegible] of the [illegible].

INDIA NON JUDICIAL

७५० रु. Rs 750

सत्यमेव जयते

भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

7642
18-6-91

::11::

(5) Before digging or opening any part of the said demised piece of land for black granite carefully remove the surface soil to depth of at least 1 metre and lay aside and store the same in some convenient part of the said demised piece of land until the land from which it has been removed is again restored to a state fit for cultivation as herein after provided.

....12.

INDIA NON JUDICIAL

७५० रु. Rs 750

सत्यमेव जयते
भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

7646
18.6.91

Rs 750/-

XXVI

(x) To effectually fence off the demised pieces of land from the adjoining lands and to keep the fences in good repairs and condition.

(y) Not to assign, underlet or part with the possession of the demised premises or any part thereof without the written consent of the lessor being first obtained.

(....12....)

INDIA NON JUDICIAL

७५० रु.

Rs 750

सत्यमेव जयते

भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

(e) After working out any part of the said demised pieces of land forthwith to level the same and replace the surface soil thereof and slope the sides where necessary so as to afford convenient connection with the adjoining land.

...13.

750Rs

INDIA NON JUDICIAL

७५० रु.

Rs 750

सत्यमेव जयते

भारत

सात सौ पचास रुपये SEVEN HUNDRED & FIFTY RUPEES

5499 4.6.71

[illegible]

1851

(7) That the lessee shall remove and transport the mineral from the leasehold area [illegible] to his industry [illegible] after obtaining a transport permit from the District Collector concerned or any officer authorised in this behalf.

[illegible] Granites

Proprietor

..14..

13/[illegible]

500Rs

//14//

(8) That the lessee shall not utilise the mineral in any manner other than utilising in his own industry set up in Tamilnadu and also shall keep correct accounts showing the quantity and other particulars of all minerals obtained at the mine site, factory site and despatched from the factory. The lessee shall also allow any officer authorised by the Government in this behalf to inspect the mine and the unit and verify its records and accounts and furnish such information and returns as may be required by him.

Grantee

(....15...)

200Rs

1918
10.7.91

ரூ. 200/-

//15//

9. That the lessee shall carry out the quarrying operations in a skilful scientific and systematic manner keeping in view the proper safety of the labour. Conservation of minerals and preservation of environment and ecology and shall also allow any officer authorised by the Director of Geology and Mining and the District Collector concerned to enter upon the leasehold area and inspect.

For Kabini Granites

Proprietor.

15/27

5 RS

INDIA

पांच रुपए

सत्यमेव जयते

FIVE RUPEES भारत FIVE RUPEES

/107/

17. That the lessee shall keep correct accounts in such form as the Government/Collector shall from time to time require and direct showing the quantities and other particulars of the mineral obtained and despatched by the lessee from the said lands and also the number of persons employed in carrying on the said mining operations therein and shall from time to time when so directed by the Government/Collector prepare and maintain complete and correct plans of all mines and working in the said lands and

....17.

For Rohini Granites

Proprietor.

COLLECTOR

shall allow any officer thereunto authorised by the Government from time to time and at any time to examine such accounts and any such plan and shall when so required supply and furnish to the government all such information and returns regarding all or any of the matters aforesaid, the government shall from time to time require and direct.

For Kabini Granites

Proprietor.

...18.1.87

(11) That the lessor's agents, servants and workmen shall be at liberty at all reasonable time during the said terms to inspect and examine the works carried on by the lessee under the liberties herein before granted and the lessee shall and will from time to time and at all times during the said term hereby granted conform to and observe all orders and regulations which the lessor or his authorised agent as the result of such inspection may from time to time see fit to impose to keep the permission in good and substantial repair order and conditions or in the interest of the public health and safety.

12) That the lessee shall not without express sanction in writing of the Collector cut down or injure any timber or trees on the said lands but he may clear away bush wood or undergrowh which interferes with operation authorised by the presents.

For Kabini Granites

Proprietor

(..... 19...)

COLLECTOR

//19//

13) That if the lands shall be used for any purpose other than quarrying for black granite or if they are not under any time cease to be used for the said purpose, the lessor shall be\pt liberty to terminate the lease without notice.

14) That this lease may be terminated in respect of the whole or any part of the land premises and structures thereon by six months notice in writing on either side.

15) That on such determination, the lessee shall have no right to compensation of any kind.

16) That the land assessment, and other levels, and seigniorage or dead rent payable under these presents shall be recoverable under the provisions of Madras Act II of 1864, or any subsisting statutory modification thereof.

For Kabini Granites
Proprietor

(....20...) 19/12

COLLECTOR
[illegible]

17. At the determination of the lease to deliver up the demised land and premises,and structures in such conditions as shall be in accordance with the prvesions of the presents save that the lessee shall,if so, required by the lessor, festore in manner provided by the foregoing covenant in that behalf the surface of any part of the land which has been occupied by the lessee for the purpose of the works hereby authorised and has not been so restored.

18. That the lessee shall abide by the conditions laid down in the payment of wages Act, 1936, the Mines Act 1952 (Central Act XXXV of 1952) and the Indian Explosives Act,1884 (Central Act IV of 1884).

7. The lessor hereby covenants with the lessee that the lessee paying the land assessment and other levies, the seignorage fee or dead rent hereby reserved and observing and performing the several

For Kabini Granites

Proprietor.

(....2...)

covenants and stipulations herein contained the lessee shall peaceably hold and enjoy the premises liberties and powers hereby demised and granted during the said term without any interruption by the lessor or any persons rightfully claiming under or in trust for him.

3. It is hereby further agreed between the parties as follows:-

1. If any part of the land assessment, and other levies, seigniorage or dead rent hereby reserved shall be unpaid for thirty days after becoming payable (whether formely demanded or not) or if the lease while the demised premises or any part thereof remain vested in him, shall become insolvent or if any covenants on the lessee's part herein contained sh ll not become insolvent or if any covenant on the lessee's part herein contained shall not be performed or observed then and in anyof the said cases it shall be lawful for the lessor at any time thereafter to declare the whole or any part of the said security deposit of Rs. 75,101/- to be forfeited and also to re-enter upon the demised premises or any part thereof

....2....

For Kabini Granites
M Ayyandalu
Proprietor.

COLLECTOR
DHARWAR DIST.

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in the name of the whole and thereupon the demised shall absolutely determine but without prejudice to the rights of action of the lessor in respect of any breach or non-observence of the lessee's covenants herein contained.

3. At the determination of the lease, the lessee shall be at liberty to remove, carry away and dispose of all the stock of black granite ready for delivery and all engines, machinery and all also articles and things whatsoever (not being building or brick stones or stone) the lessee first paying any land assessment and other levies and seigniorage or dead rent and other sums which may be due and performing and observing the covenants on his part herein before reserve and contained and also making good any damage done by such removal but any building which shall be erected on the said demised pieces of lands by the lessee and left thereon at the determination of lease shall be the absolute property of the lessor who shall not be bound to pay any price for the same.

For Kabini Granites

Proprietor.

COLLECTOR 23. 22/87

(3) If the lessee shall h ve paid the land assessment and other levies seigniorage or dead rent due to the Government and duly observed and performed and covenenants and conditions on his part herein contained, the said deposit of Rs.75,100/- shall be returned to him at the expiration of the said term of ten years.

(4) Should any question or dispute arise regarding an agreement executed in pursuance of these rules or any matter or thing connected therewith or the powers of the registered holders there-under the amount or payment of the seignioraae fee or dead rent or area assessment, odd other levies made payable thereby, the matter in issue shall be decided by the state Government.

(5) Every lessee holding the quarrying lease shall be entitled for one renewal of his quarrying lease for a period of not exceeding the period for which the lessee was originally granted subject to the following conditions namely:-

For Kohini Granites
Proprietor.

CHAIRMAN.

/12/

SPECIAL CONDITIONS.

1. No hindrance shall be caused to the adjoining pattadars or public and the plantations raised, if any under social Forestry till necessary clearance is obtained or issued.

2. The lessee should restrict his mining operation strictly within the lease hold area as defind in the sketch.

3. The terms and conditions are also subject to such further modifications, deletion and additional alteration as may be ordered by the Government to be included in the lease to be executed for this purpose.

25/87

For Kabini Granites

Proprietor.

...2b.

::2::

4. The lessee should maintain at his cost proper sign boards indicating the survey numbers, year of the lease, name of the lessee and the lease period to the satisfaction of the District Collector/Director of Geology and Mining, and maintain it at all times at the quarry site.

5. No working shall be made within a distance of 7.5 metres of the boundries of the lease area.

6. The lessee should make his own arrangements to form the approach road from the public road to the placeof his quarry.

For Kabini Granites

Proprietor.

COLLECTOR

(....2)....)

//27//

7. The lessee shall make his own arrangements for securing area for stocking the quarried materials and also handling of mining machinery with the prior permission from authority concerned.

8. The lessee shall strictly adhere the Rules and Regulation as amended from time to time by the Government in respect of safety,quarrying etc..

9. That if the lessee will commit any irregularities, breaches or non observance of the rules or conditions of the lease and any kind of hindrance to the forestry,etc., the lessor shall be at liberty to suspend the quarrying operation without prior notice.

For Kabini Granites

Proprietor.

21/27

...20...

NAME OF TALUK	NAME OF VILLAGE	SURVEY FIELD NUMBER WITH SUB-DIVISION	EXTENT (SQ. METRES)	ASSESSMENT	BOUNDARIES NORTH SOUTH EAST AND WEST.
1.	2.	3.	4.	5.	6.
PENNAGARAM	AJJANAHALLI	830/1	3.19.0 Hectares		North:835 South:830/1,2, 803. East 830/3 West: 801,802.

IN WITNESS WHEREOF N.MURUGAN,COLLECTOR, DHARMAPURI

Acting for and on behalf of and by the order and direction of the Governor of Tamilnadu and KABINI GRANITES,58/1 SECOND CROSS Ist MAIN ROAD CHAMRAJPET, BANGALORE-560 018 have hereunto set their respective hands.

For Kabini Granites

Proprietor.

COLLECTOR
DHARMAPURI.

LESSEE IN THE PRESENCE

1.

2.

SIGNED BY THE ABOVE NAMED:

LESSOR IN THE PRESENCE OF

1. ASSISTANT DIRECTOR
(GEOLOGY AND MINING)
DHARMAPURI-1.

2. Deputy Tahsildar. (Mines)
DHARMAPURI.

மாவட்டம்: [redacted]

கிராமம்

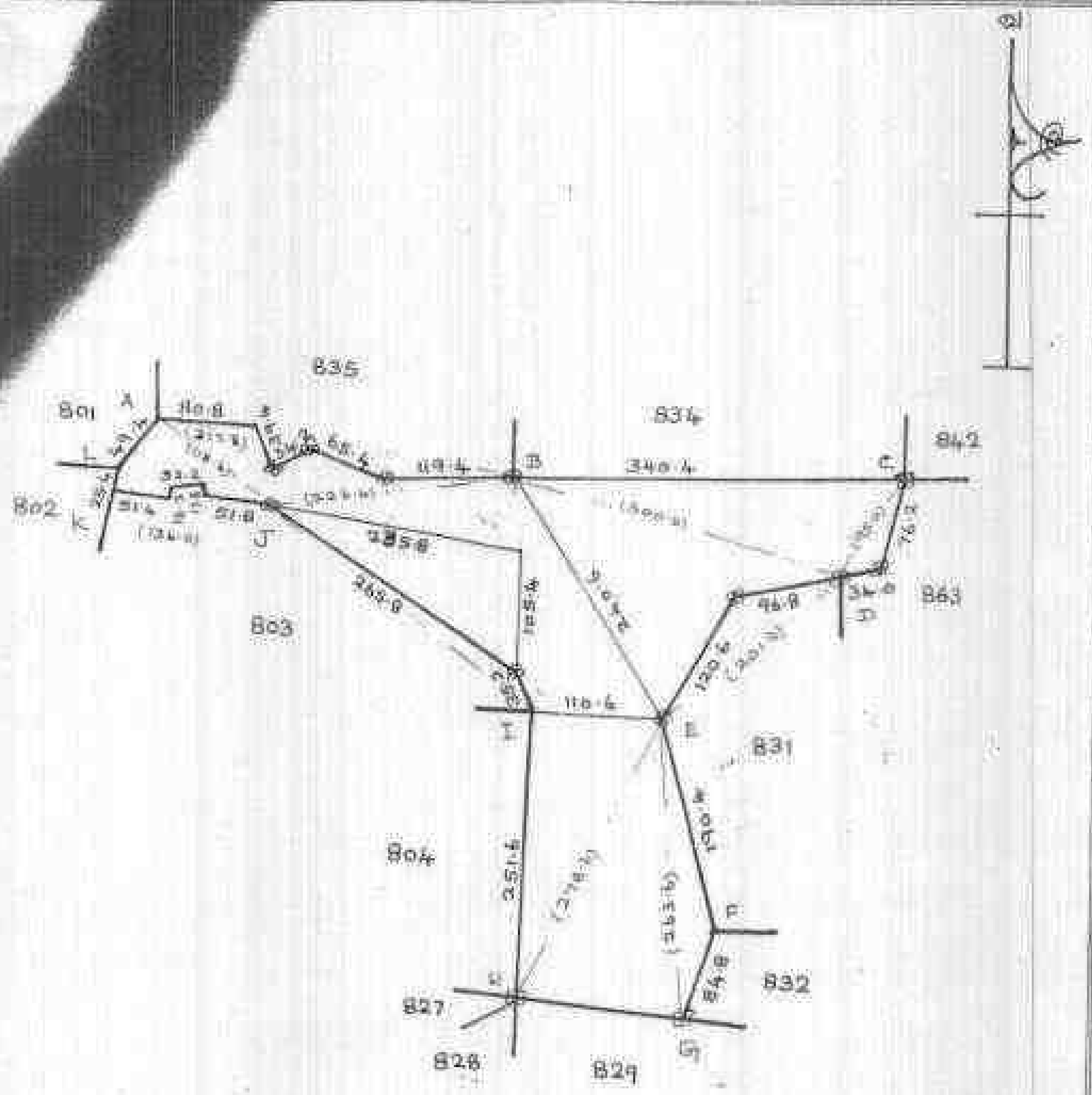
எண்: 30

பெயர்: அஜ்ஜனஹள்ளி

வட்டம்: [redacted]

பரப்பு: 11-68.0 ஹெக்

புல எண்: 830



[illegible]
குத்தகைக்கு கோரும்
பகுதி 3-10.0 ஹெக்டேர்

For Kabini Granites

Proprietor.

அளவு 1 செ.மீ. = 5000 செ.மீ

R-13/81
Presented in the Office of the Sub Registrar of Pennagaram and fee of Rs. 9595.00 paid between the hours of ... and 3 P.m. on the 25 day of October 1981 by

Document No. 434 /2004 of Book 1 contains 29 sheets / Sub sheet

SUB REGISTRAR.

M. Arjundas
Execution Admitted By

M. Arjundas S/o Munni Venkatappa Proprietor Vaishnavi Granites, 53/1, Second Cross Ilaa Raman Road, Chamrajpet Bangalore - 560018.

Identified by

1. ... S/o ... Mothi..., ... Firm Mosee.
2. ... S/o ... Varma ...
Driver. Dharmapuri.

I have satisfied myself as to the execution of the instrument by Thiru K. ... IAS. Collector Dharmapuri. who is exempted from personal appearance under section 88 (1) of the Registration Act.

... October 1981.

Sub Registrar.

Registered as No 434 of 2004/01
Book 1 Volume 926 Pages 243 to 250 and Volume No 927
Page No 1 to 2 25th Day Of March 2004

Sub Registrar.

From

Tmt.N.Vijiyalakshmi, M.Sc.,
Deputy Director,
Dept. of Geology and Mining,
Dharmapuri.

To

Tvl.Tamilkumaran Productions
Private Limited, No.16/8,
Bagavandham Street,
Good Will Court, T.Nagar,
Chennai -600017.

Roc.No.175/2020 (Mines) dated. 29.06.2021.

Sir,

Sub: Mines and Quarries – Minor Mineral- Black Granite- Dharmapuri District - Pennagaram Taluk – Ajjanahalli Village S.F.Nos.830 (Part) West & 835/3 over an extent of 3.14.0Hects. of Government Poramboke lands – Quarry lease application preferred by Tvl.Tamilkumaran Productions Private Limited - Precise area communicated by the Government – Mining plan approved by the Commissioner of Geology and Mining - obtaining prior clearance from State Level Environment Impact Assessment Authority, Chennai for grant of quarry lease - Permitted quarry pit dimensional - details called for - furnished - reg.

Ref:
1. Quarry Lease Application of the Highest Auctioner Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai, dated 29.09.2020.
2. The Principal Secretary to Government, Industries (MME2) Department, Secretariat, Chennai - 600 009 Letters No.273/MME.2/2021-1, dated 23.02.2021 and 26.02.2021.
3. Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai Letter dated 10.05.2021.
4. The Commissioner of Geology and Mining, Chennai-32 letter Rc.No.6163/MM4/2020 dated 21.05.2021.
5. Tvl.Tamilkumaran Productions Private Limited, T.Nagar, Chennai Letter dated 28.06.2021.

The Government in the reference 2nd cited has communicated the precise area to Tvl.Tamilkumaran Productions Private Limited with a direction to submit the Approved Mining Plan in respect of the area applied for the grant of

Black Granite quarry lease over an extent of 3.14.0Hectares of Government Poramboke land in S.F.Nos.830 (Part) West & 835/3 of Ajjanhalli Village, Pennagaram Taluk, Dharmapuri District for a period of 20 years as per Rule 8-A (a) (ii) of Tamil Nadu Minor Mineral Concession Rules, 1959 by incorporating certain conditions stipulated in the Government letter.

2) In the reference 5th cited, the applicant company Tvl.Tamilkumaran Productions (P) Limited, has given a representation stating that while they are applying Environmental Clearance in SEIAA, they have been instructed to get the details of permitted quarry pit dimension for the subject quarry and hence they requested to give the above requested details so as to get Environmental Clearance.

3) In this regard, the subject quarry was inspected by the Special Revenue Inspector (Mines), Dharmapuri and measured the existing pit as follows,

Pit No.	Length (in metres)	Width (in metres)	Depth (in metres)
Pit-1	14	13	3
Pit-2	12	12	3

4) Based on the verification of the available records, it is ascertained that, in the subject area a quarry lease was first granted in favour of Tvl.Kabini Granites, vide G.O.(2D) No.167, Industries Department Dated 12.06.1991 and ten years lease period from 02.08.1991 to 01.08.2001 and another quarry lease granted in favour Tvl.Poosya Exports vide G.O.Ms. 2D No. 677, Industries Department dated 12.08.1991 and ten years lease period from 10.09.1991 to 09.09.2001 for the period of twenty years in respect of the subject quarry lease.

Deputy Director,
Geology and Mining,
Dharmapuri.

GSTIN: 33AAUFS1950P1ZH

Sri Devi Explosives

Specialist in : Al Type of Drilling & Blasting, Chemical Method Blasting, Supply Explosives, Rope Cutting Method

Dt:19/06/2021

Place: Mettur dam.

To:

TNL.TAMILKUMARAN PRODUCTIONS PVT LTD.,

No.16/8,BAGAVANDHAM STREET,

GOOD WILL COURT ,T.NAGAR,

CHENNAI-600 017

REF: Your Letter dated

Sub: Regarding blasting work using explosives in your proposed quarry.

******

Sir,

We are having explosives license in **M/S.SRI DEVI EXPLOSIVES form 22 holding No: E/SC/TN/22/72(E10244) situated in Survey S.F.NO: 214/4E, Mavathal village, Salem Dist, Tamil Nadu.** Our office functions at Address:-

We are enacting 2 explosives vans for Transporting detonators and class 2 separately for our magazine to our work site and well experienced and licensed blasters and shot firer for safe Blasting work since 2 years without untoward incident.

We are willing to undertake work on contract basis at your **SF No: 830 (PART) WEST (2.32.5) & 835/3 (0.81.5)-over an extent of 3.14.0 hectares, Pennagaram taluk ,Ajjanahalli village, Dharmapuri dist.**

Submitted for kind information.

Thanking you,

SRI DEVI EXPLOSIVES Opp. R.C. Plant. Raman Nagar (P.O) METTUR DAM-3

For SRI DEVI EXPLOSIVES

(Partner)

Enclosure:

1. Licence Copy

98427 33654
81444 29999
99523 66280

Sridevi.devi16@gmail.com

No. 5-1-60, Erattai Puliyamarathur, Raman Nagar, Mettur Dam, Salem - 636 403

अनुज्ञप्ति प्ररूप एल. ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क)-से (घ) देखिए)
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1,2,3,4,5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक रखने के लिए अनुज्ञप्ति
Licence to possess : (c) for use explosives of class 1, 2,3,4,5,6 or 7 in a mag

अनुज्ञप्ति सं. (Licence No.) : E/SC/TN/22/72(E10244)
वार्षिक फीस रुपए (Annual Fee Rs): 6700/-

1. Licence is hereby granted to

SRIDEVI EXPLOSIVES (अधिभोगी / Occupier : C ARJUNAN), METTUR DAM 5-1 old OPP.R.C.PLANT RAM NAGAR POST, DIST SALEM - METTUR DAM -3, Town/Village - Mettur, District-SALEM, State-Tamil Nadu, Pincode - 636403
को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रस्थिति Status of licensee : **Individual**

3. अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है। Licence is valid only for the following purpose : possess for use of **Nitrate mixture - Slurry Explosives, Safety Fuse, Detonating Fuse, Detonators.** - के प्रयोग के लिए

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।
Licence is valid for the following kinds and quantity of explosives :- (क) (a)

क्र. Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप-प्रभाग Sub-division	मात्रा किसी एक समय में Quantity at any one time
1.	Nitrate mixture - Slurry Explosives	2,0	0	2000 Kg
2.	Safety Fuse	6,1	0	10000 Mtrs
3.	Detonating Fuse	6,2	0	10000 Mtrs
4.	Detonators	6,3	0	10000 Nos

(ख) किसी एक कलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए)
(b) Quantity of explosives to be purchased in a calendar month(applicable for licence under article 3(b) and (c)) : **15 times as above.**

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) में अनुज्ञप्त परिसर की पुष्टि होगी है।
The licensed premises shall conform to the following drawing(s) : रेखाचित्र क्र (Drawing No.) E/SC/TN/22/72(E10244) दिनांक (Dated) 31/08/2000

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address :
314/4, ग्राम (Town/Village) : **MAVATAIL** पुलिस थाना (Police Station) : **TULASAMPATTI**
जिला (District) : **SALEM** राज्य (State) : **Tamil Nadu** पिनकोड (Pincode) :
दूरभाष (Phone) : ई मेल (E-Mail) : फैक्स (Fax) :

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अन्तर्विष्ट हैं। The licensed premises consist of following facilities : **MAIN MAGAZINES ROOM A LOBBY DETONATORS ROOM**

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम 1884 और उसके अधीन विरचित विस्फोटक नियम 2008 के उपबंधों शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाबंधों के अधीन रहते हुए अनुदत्त की जाती है।
The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules 2008 framed there under and the conditions, additional conditions and the following Annexures :

1. उपर्युक्त क्रम सं. 5 में यथा वर्णित रेखाचित्र (स्थल, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।
   Drawings (showing site, constructional and other details) as stated in serial No. 5 above.
2. अनुज्ञप्ति प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञप्ति की शर्तें और अतिरिक्त शर्तें।
   Conditions and Additional Conditions of this licence signed by the licensing authority.
3. दूरी प्ररूप DE-2 : Distance Form DE-2

9. यह अनुज्ञप्ति तारीख **31 मार्च 2008** तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2008.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपवर्णित इस अनुज्ञप्ति की शर्तों का अतिक्रमण करने या यदि अनुज्ञप्त परिसर योजना या उससे संलग्न उपाबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहृत की जा सकती है, जहां वह लागू हो।
This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

Sd/-

तारीख (The Date) : 31/08/2000 संयुक्त मुख्य विस्फोटक नियंत्रक Joint Chief Controller of Explosives South Circle, Chennai

अनुज्ञप्ति प्ररूप एल.ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) देखिए।)
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1,2,3,4,5 या वर्ग 7 के विस्फोटक या किसी मैगज़ीन में वर्ग 6 के विस्फोटक रखने के लिए अनुज्ञप्ति

Licence to possess : (c) for use,explosives of class 1, 2,3,4,5,6 or 7 in a mag

अनुज्ञप्ति सं. (Licence No.) : E/SC/TN/22/72(E10244)
वार्षिक फीस रुपए (Annual Fee Rs): 6700/-

1 Licence is hereby granted to

SRIDEVI EXPLOSIVES (अधिभोगी / Occupier : C ARJUNAN), METTUR DAM 5 1 40 OPP.R.L.PLANT RAM NAGAR POST,DIST SALEM - METTUR DAM -3 Town/Village - Mettur, District-SALEM, State-Tamil Nadu, Pincode - 636403
को अनुज्ञप्ति अनुदत्त की जाती है।

2 अनुज्ञप्तिधारी की प्रास्थिति Status of licensee : **Individual**

3 अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है। Licence is valid only for the following purpose: possess for use of **Nitrate mixture - Slurry Explosives, Safety Fuse, Detonating Fuse, Detonators.** के उपयोग के लिए

4 अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।
Licence is valid for the following kinds and quantity of explosives: -- (क) (a)

क्र Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप-प्रभाग Sub-division	मात्रा किसी एक समय में Quantity at any one time
1	Nitrate mixture - Slurry Explosives	2.0	0	2000 Kg
2	Safety Fuse	6.3	0	10000 Mtrs
3	Detonating Fuse	6.2	0	10000 Mtrs
4	Detonators	6.3	0	10000 Nos

(ख) किसी एक कलैंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा [अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए] **15 times as above.**
(b) Quantity of explosives to be purchased in a calendar month[applicable for licence under article 3(b) and (c)]

5 निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञप्त परिसर की पुष्टि होती है।
The licensed premises shall conform to the following drawing(s):
रेखाचित्र क्र (Drawing No.) E/SC/TN/22/72(E10244)
दिनांक (Dated) 31/08/2000

6 अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित हैं। The licensed premises are situated at following address:
214/4E, ग्राम (Town/Village) : **MAVATAIL** पुलिस थाना (Police Station) : **ELASAMPATTI**
जिला (District) **SALEM** राज्य (State) **Tamil Nadu** पिनकोड (Pincode)
दूरभाष (Phone) ई मेल (E-Mail) फैक्स (Fax)

7 अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं। The licensed premises consist of following facilities: **MAIN MAGAZINES ROOM A LOBBY DETONATORS ROOM**

8 अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम 2008 के उपबंधो शर्तो और अतिरिक्त शर्तो और निम्नलिखित उपाबन्धो के अधीन रहते हुए अनुदत्त की जाती है।
The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2008 framed there under and the conditions, additional conditions and the following Annexures:

1. उपर्युक्त क्रम सं 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।
   Drawings (showing site, constructional and other details) as stated in serial No. 5 above
2. अनुज्ञप्ति प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञप्ति की शर्ते और अतिरिक्त शर्ते।
   Conditions and Additional Conditions of this licence signed by the licensing authority.
3. दूरी प्ररूप DE-2 / Distance Form DE-2.

9 यह अनुज्ञप्ति तारीख 31 मार्च 2008 तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2008.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपवर्णित इस अनुज्ञप्ति की शर्तो का अतिक्रमण करने या यदि अनुज्ञप्त परिसर योजना या उससे संलग्न उपाबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहृत की जा सकती है जहां वह लागू हो।
This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

Sd/-

तारीख / The Date : 31/08/2000

संयुक्त मुख्य विस्फोटक नियंत्रक Joint Chief Controller of Explosives
South Circle, Chennai

S. M. [signature]

Form 5.N-5

Amendments :

- Amendment of Quantity of Explosives Monthly Purchase Limit dated 01/05/2017

नवीनीकरण के पृष्ठांकन के लिए स्थान
Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature of licensing authority and stamp
06/02/2019	31/03/2024	Controller of Explosives, Vellore विस्फोटक नियंत्रक, वेल्लूर Controller of Explosives, Vellore

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।
Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

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

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

TERMS OF REFERENCE (ToR)

Lr No.SEIAA-TN/F.No.8650/ToR-1231/2022 Dated: 24.08.2022.

To

M/s.PVT TRADING CORPORATION
D.No.62-A, 1st Pulikuthi Street,
Gugai
Tamilnadu
Salem -636006

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with public Hearing (ToR) for the Proposed Black Granite quarry lease area over an extent of 5.00.0Ha at S.F.Nos. 830 (Part) East & 834/1 Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu by M/s. PVI Trading Corporation- under project category – "B1" and Schedule S.No.1 (a) – ToR issued along with Public Hearing - preparation of EIA report – Regarding.

Ref: 1. Online proposal No.SIA/TN/MIN/64515/2021, dt: 07.07.2021.
2. Your application submitted for Terms of Reference dated:22.07.2021.
3. Minutes of the 237thSEAC meeting held on 08.10.2021
4. Minutes of the 268thSEAC meeting held on 09.04.2022
5. Minutes of the 298thSEAC meeting held on 22.07.2022.
6. Minutes of the 543rdSEIAA meeting held on 24.08.2022.

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

MEMBER SECRETARY
SEIAA-TN

The proponent, M/s.PVT TRADING CORPORATION has submitted application for Terms of Reference (ToR) in Form-I, Pre- Feasibility report for the proposed Black Granite quarry lease over an extent of 5.00.0Ha inS.F.Nos. 830 (Part) East & 834/1 ,Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

The proposal was placed in 298th meeting of SEAC held on 22.07.2022. The details of the project furnished by the proponent are given inthewebsite(parivesh.nic.in). TheSEACnotedthefollowing:

1. The project proponent, M/s. PVI Trading Corporation has applied for Terms of Reference for the proposed Black Granite quarry lease area over an extent of 5.00.0Ha at S.F.Nos. 830 (Part) East & 834/1 Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu . It is a Govt. Promboke land.
2. The project/ activity is covered under category "B1" of Item 1 (a)"Mining of Minerals Projects" of the schedule to the EIA Notification,2006.
3. As per the mining plan, the lease period is for 20 years. As per the Mining plan, the Total excavation quantity for the first 5 years not to exceed 154818 m^3 which includes the ROM quantity of 37125 m^3 possessing the recoverable Black granite quantity of 3713 m3 & granite waste of 33413 m^3; Side Burden of 99440 m^3 and Weathered Rock of 18252 m^3. The Annual peak total excavation as per mining plan is 59268 m^3 and the Annual peak ROM & recoverable quantity of Black Granite is 7500 m^3& 750 m^3 respectively with maintaining an ultimate depth of 25m BGL.

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

1. The project proponent shall furnish a letter from DFO indicating the exact distance of the **Masakkal RF** from the project site.

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2. A detailed study on flora and fauna shall be carried around the proposed mine area by adopting standard procedures by involving the scholars of the nearby science college for providing a comprehensive biodiversity report.
3. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.
4. As per the provisions of the Granite Conservation & Development Rules, 1999, the Proponent shall ensure that the overburden, waste rock and non-saleable granite generated during prospecting or mining operations of the granite quarry shall be stored separately in properly formed dumps on grounds earmarked. For this, the PP shall show the details of the ground selected within the mine leasehold area for dumping of overburden, waste material, the sub-grade or non-saleable ores or minerals is proved for absence or presence of underlying mineral deposits before it is brought into use for dumping..
5. The PP shall furnish the proposal to adapt the SOP for wire saw cutting during the operation.
6. 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.
7. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
    a. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b. Quantity of minerals mined out.
    c. Highest production achieved in any one year
    d. Detail of approved depth of mining.
    e. Actual depth of the mining achieved earlier.
    f. Name of the person already mined in that leases area.
    g. If EC and CTO already obtained, the copy of the same shall be submitted.

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h. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.

8. 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).
9. The PP shall carry out Drone video survey covering the cluster, Green belt , fencing etc.,
10. 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.
11. 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.
12. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
13. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
14. 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.
15. 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

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impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.

16. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
17. 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.
18. 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.
19. 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.
20. 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.
21. Impact on local transport infrastructure due to the Project should be indicated.
22. 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.
23. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
24. Public Hearing points raised and commitments of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
25. The Public hearing advertisement shall be published in one major National daily and one

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most circulated vernacular daily.

26. The PP shall produce/display the EIA report, Executive summery and other related information with respect to public hearing in Tamil Language also.
27. 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.
28. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the **appendix-I** in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
29. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
30. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
31. 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.
32. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
33. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
34. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community

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

35. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
36. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
37. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
38. 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.
39. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

Appendix -I
List of Native Trees Suggested for Planting

No	Scientific Name	Tamil Name	Tamil Name
1	*Aegle marmelos*	Vilvam	[illegible]
2	*Adenanthera pavonina*	Manjadi	[illegible]
3	Albizia lebbeck	Vaagai	[illegible]
4	Albizia amara	Usil	[illegible]
5	*Bauhinia purpurea*	Mantharai	[illegible]
6	*Bauhinia racemosa*	Aathi	[illegible]
7	*Bauhinia tomentosa*	Iruvathi	[illegible]
8	*Buchanania axillaris*	Kattuma	[illegible]
9	*Borassus flabellifer*	Panai	[illegible]
10	*Butea monosperma*	Murukkamaram	[illegible]
11	*Bobax ceiba*	Ilavu, Sevvilavu	[illegible]
12	*Calophyllum inophyllum*	Punnai	[illegible]
13	*Cassia fistula*	Sarakondrai	[illegible]
14	*Cassia roxburghii*	Sengondrai	[illegible]
15	*Chloroxylon sweitenia*	Purasamaram	[illegible]
16	*Cochlospermum religiosum*	Kongu, Manjalilavu	[illegible]
17	*Cordia dichotoma*	Naruvili	[illegible]
18	*Creteva adansoni*	Maralingum	[illegible]
19	*Dillenia indica*	Uva, Uzha	[illegible]
20	*Dillenia pentagyna*	SiruUva, Sitruzha	[illegible]
21	*Diospyro ebenum*	Karungali	[illegible]
22	*Diospyro chloroxylon*	Vaganai	[illegible]
23	*Ficus amplissima*	Kallichi	[illegible]
24	*Hibiscus tiliaceous*	Aatrupoovarasu	[illegible]
25	*Hardwickia binata*	Aacha	[illegible]
26	*Holoptelea integrifolia*	Aavili	[illegible]
27	*Lannea coromandelica*	Odhiam	[illegible]
28	*Lagerstroemia speciosa*	Poo Marudhu	[illegible]
29	*Lepisanthus tetraphylla*	Neikottaimaram	[illegible]
30	*Limonia acidissima*	Vila maram	[illegible]
31	*Litsea glutinosa*	Pisinpattai	[illegible]
32	*Madhuca longifolia*	Illuppai	[illegible]
33	*Manilkara hexandra*	UlakkaiPaalai	[illegible]
34	*Mimusops elengi*	Magizhamaram	[illegible]
35	*Mitragyna parvifolia*	Kadambu	[illegible]
36	*Morinda pubescens*	Nuna	[illegible]
37	*Morinda citrifolia*	Vellai Nuna	[illegible]
38	*Phoenix sylvestre*	Eachai	[illegible]
39	*Pongamia pinnat*	Pungam	[illegible]

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40	*Premna mollissima*	Murrai	முரசை
41	*Premna serratifolia*	Narumunrai	நற முரசை
42	*Premna tomentosa*	Malaipoovarasu	மலை பூவரசு
43	*Prosopis cineras*	Vanni maram	வன்னி மரம்
44	*Pterocarpus marsupium*	Vengai	வேங்கை
45	*Pterospermum canescens*	Vennangu, Tada	வெள்ளாங்கு
46	*Pterospermum xylocarpum*	Polavu	புலவு
47	*Putranjiva roxburghi*	Karipala	கரிபாலை
48	*Salvadora persica*	Ugas Maram	உகாய் மரம்
49	*Sapindus emarginatus*	Manipungan, Soapukai	மணிப்புங்கன் சோப்புக்காய்
50	*Saraca asoca*	Asoca	அசோகா
51	*Streblus asper*	Piray maram	பிரய் மரம்
52	*Strychnos nuxvomic*	Yetti	எட்டி
53	*Strychnos potatorum*	Therthang Kottai	தேத்தாங் கொட்டை
54	*Syzygium cumini*	Naval	நாவல்
55	*Terminalia belleric*	Thandri	தான்றி
56	*Terminalia arjuna*	Ven marudhu	வெள் மருது
57	*Toona ciliate*	Sandhana vembu	சந்தன வேம்பு
58	*Thespesia populnea*	Puvarasu	பூவரசு
59	*Walsuratrifoliata*	valsura	வல்சுரா
60	*Wrightia tinctoria*	Veppalai	வெப்பாலை
61	*Pithecellobium dulce*	Kodukkapuli	கொடுக்காப்புளி

Discussion by SEIAA and the Remarks:-

The subject was placed in the 543rd authority meeting held on 23.08.2022. The authority noted that the proposal was appraised in the 298th SEAC meeting held on 22.07.2022. SEAC recommended to grant Terms of Reference (TOR) with Public Hearing subject to the conditions stated therein. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions in addition to the following conditions:

1) 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.
2) As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.

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3) 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.
4) 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.
5) Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
6) The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
7) The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
8) The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
9) The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
10) The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
11) The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
12) The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
13) The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
14) The project proponent shall study and furnish the impact of project on plantations in adjoingpatta lands, Horticulture, Agriculture and livestock.
15) The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
16) The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.

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17) 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.

18) The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.

19) Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following

a) Soil health & bio-diversity.
b) Climate change leading to Droughts, Floods etc.
c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
d) Possibilities of water contamination and impact on aquatic ecosystem health.
e) Agriculture, Forestry & Traditional practices.
f) Hydrothermal/Geothermal effect due to destruction in the Environment.
g) Bio-geochemical processes and its foot prints including environmental stress.
h) Sediment geochemistry in the surface streams.

20) 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.

21) 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.

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

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

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

A. STANDARD TERMS OF REFERENCE

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

2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

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

6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ 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

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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

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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

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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

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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

MEMBER SECRETARY
SEIAA-TN

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.

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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.

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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

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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 -11013/77/2004-IA-II(I) dated 2nd December,

MEMBER SECRETARY
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2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.

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

MEMBER SECRETARY
SEIAA-TN

Copy to:

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

From

Tmt.N.Vijiyalakshmi, M.Sc.,
Deputy Director,
Dept. of Geology and Mining,
Dharmapuri.

To

M/s PVI Trading Corporation,
No.62-A, 1st Pulikuthi Street,
Gugai, Salem -636006.

Roc.No.174/2020 (Mines) dated. 17.06.2021.

Sir,

Sub: Mines and Quarries – Minor Mineral- Black Granite- Dharmapuri District - Pennagaram Taluk - Ajjanahalli Village - S.F.Nos.830 (Part) East & 834/1 - Over an extent of 5.00.0 Hects of Govt. poramboke land – Quarry lease application preferred by M/s PVI Trading Corporation - Precise area communicated by the Government – Mining plan approved by the Commissioner of Geology and Mining - obtaining prior clearance from State Level Environment Impact Assessment Authority, Chennai for grant of quarry lease - existing/proposed/abandoned quarries situated within 500 mts. radial distance - requested by the applicant - details furnished - reg.

Ref:

1. Quarry Lease Application of the Highest Auctioner M/s PVI Trading Corporation, Gugai, Salem dated 28.09.2020.
2. The Principal Secretary to Government, Industries (MME2) Department, Secretariat, Chennai - 600 009 Letters No.277/MME.2/2021-1, dated 22.02.2021 and 26.02.2021.
3. M/s PVI Trading Corporation, Gugai, Salem Letter dated 10.05.2021.
4. The Commissioner of Geology and Mining, Chennai-32 letter Rc.No.6162/MM4/2020 dated 21.05.2021.
5. M/s PVI Trading Corporation, Gugai, Salem Letter dated 17.06.2021 along with report of the Village Administrative Officer, Ajjanahalli Village.

The Government in the reference 2nd cited has communicated the precise area to M/s PVI Trading Corporation with a direction to submit the Approved Mining Plan in respect of the area applied for the grant of Black Granite quarry lease over an extent of 5.00.0 Hectares of Government Poramboke land in S.F.Nos.830 (Part) East & 834/1 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District for a period of 20 years as per Rule 8-A (a) (ii) of Tamil Nadu Minor Mineral Concession Rules, 1959 by incorporating certain conditions stipulated in the Government letter.

2) Accordingly, the draft Mining plan submitted by the applicant company in the reference 3rd cited was approved by the Commissioner of Geology and Mining, Chennai-32 vide letter in the reference 4th cited.

3) In the reference 5th cited, the applicant company M/s PVI Trading Corporation, Salem have requested to furnish the details of abandoned, existing and proposed mines/quarries located within 500 mts. radius from the lease area for obtaining Environmental Clearance from State Level Environmental Impact Assessment Authority (SEIAA), Chennai.

4) In the circumstances stated above, based on the report of the Village Administrative Officer, Ajjanahalli Village and the records available in this office, it is informed that at present the following abandoned/ existing/proposed quarries are located within 500 mts. radial distance from the periphery of the applied area as detailed below:

Abandoned Quarry

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F. No.	Extent (in Hects.)	Classification of land	Lease period
.....Nil....						

Existing Quarry

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F. No.	Extent (in Hects.)	Classification of land	Lease period
.....Nil....						

Proposed Quarries

Sl. No.	Name and Address of the lessee	Village & Taluk	S.F.No.	Extent (in Hects.)	Classification of land
1.	M/s PVI Trading Corporation, No.62-A, 1st Pulikuthi Street, Gugai, Salem.	Ajjanahalli Village & Pennagaram Taluk	830 (Part) East & 834/1	5.00.0	Govt. Poramboke land
2.	Tvl.Tamilkumaran Productions Private Limited, No.16/8, Bagavandham Street, Good Will Court, T.Nagar, Chennai -600017.	Ajjanahalli Village & Pennagaram Taluk	830 (Part) West & 835/3	3.14.0	Govt. Poramboke land
			Total	**8.14.0**	

17.6.2024

Deputy Director,
Geology and Mining,
Dharmapuri.

17.6.24

COMMISSIONERATE OF GEOLOGY AND MINING

From
Dr.L.Subramanian, I.A.S.,
Commissioner,
Commissionerate of Geology and Mining,
Guindy, Chennai-32.

To
Tvl. PVI Trading Corporation,
No.62A, 1st Pulikuthi Street,
Gugai,
Salem – 636 006

Rc. No.6162/MM4/2020 dated: 21.05.2021

Sir,

Sub: Mines and Minerals – Minor Mineral – Black Granite – Dharmapuri district – Pennagaran taluk – Ajjanahalli village - S.F.No.830 (P) East (3.71.0 ha) & 834/1 (1.29.0 ha) - over an extent of 5.00.0 ha in Government poramboke lands – highest bid amount offered by Tvl.PVI Trading Corporation, Salem – Precise area communication issued by the Government – Mining Plan submitted – Recommended by the Deputy Director (G&M), Dharmapuri district - Approval accorded – Reg.

Ref:
1) Dharmapuri District Gazette Extraordinary issue in English and Tamil No.05 dated.03.09.2020.
2) Application of Highest auctioner Tvl.PVI Trading Corporation, Salem on 29.09.2020.
3) Commissioner of Geology and Mining File Rc No 6162/MM4/2020 dated 30.12.2020 and 06/02/2021
4) Precise area communicated by the Government vide letter Rc No 272/MME.2/2021-1 dated 22.02.2021 and 26.02.2021.
5) Mining Plan submitted by Tvl.PVI Trading Corporation, Salem vide letter dated 26.03.2021 to the district office.
6) The District Collector, Dharmapuri in letter Roc. No. 174/2020 (Mines), dated: 07.05.2021
7) The Deputy Director (G&M), Dharmapuri letter Roc No 174/2020 (Mines) dated 12.05.2021

-ppppp-

Kind attention is invited to the references cited

2) A proposal recommending for grant of Black Granite quarry lease to the highest bidder Tvl.PVI Trading Corporation, Salem over an extent of 5.00.0 ha of Government poramboke lands in S.F.No. 830 (P) East (3.71.0 ha) & 834/1 (1.29.0 ha) of Ajjanahalli village, Pennagaram taluk, Dharmapuri district was forwarded to the Government vide reference 3rd cited. In the reference 4th cited, as per Rule 8-A(8)(a) (ii) of Tamil Nadu

Minor Mineral Concession Rules 1959, the Government have communicated precise area to the applicant with a direction to remit the balance lease amount of Rs. 5,50,00,000/- within a period of one month from the date of receipt of the communication and to submit the approved mining plan within a period of three months from the date of receipt of the communication from the State Government.

3) The District Collector, Dharmapuri in the reference 6th cited has stated that the highest bidder Tvl.PVI Trading Corporation, Salem has enclosed the challan for the remaining lease amount of Rs 5,55,00,000/- remitted by them within the stipulated time.

4) The highest bidder, Tvl.PVI Trading Corporation, Salem has submitted the Mining Plan to the Deputy Director (G&M), Dharmapuri. The Deputy Director (G&M), Dharmapuri has scrutinized the mining plan submitted by Tvl.PVI Trading Corporation, Salem and recommended the Mining Plan for approval vide reference 7th cited.

5) The mining plan submitted by Tvl.PVI Trading Corporation, Salem the report of the Deputy Director (G&M), Dharmapuri have 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. The mining plan submitted by Tvl.PVI Trading Corporation, Salem is approved subject to the following conditions in addition to the conditions stipulated in the precise area communication issued by the Government under reference 4th cited.

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 there under shall be complied with.

vi. Relaxation to be obtained under Rule 106(2)(b) of Metalliferous Mines Regulations, 1961 from the Director of Mines Safety, if necessary.

vii. The applicant should comply with the additional condition stipulated in the GOI, Ministry of Mines, Order No. 11/02/2020 dated:14.01.2020 issue as per the order of the Hon'ble Supreme Court of India dated: 08.01.2020 which stipulates "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 the mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna, etc"

Encl: 2 copies of Approved mining plan.

Sd/- L.Subramanian
Commissioner of Geology and Mining

Forwarded by order

21/5/2021

Joint Director

Copy Submitted to:
The Principal Secretary to Government,
Industries Department,
Secretariat, Chennai-600009.

21/05/2021

Copy to:

1. The Director of Mines Safety,
   Lapis Lagoon, AA Block
   New No.05, (Old No.46),
   2nd Street, Shanthi Colony,
   Anna Nagar, Chennai-40.

2. The District Collector,
   Dharmapuri District

MINING PLAN

FOR

AJJANAHALLI VILLAGE BLACK GRANITE MINING LEASE WITH PROGRESSIVE QUARRY CLOSURE PLAN

Govt Poramboke Land/Opencast Semi-Mechanized Mining/Non-Forest/ Non-Captive use- 'B2' Category

Lease period 20 Years *from the date of Lease Execution*

(Prepared under rule 12,13 & 16 of Granite Conservation and Development Rules, 1999)

LOCATION OF THE LEASE AREA

STATE	:	TAMILNADU
DISTRICT	:	DHARMAPURI
TALUK	:	PENNAGARAM
VILLAGE	:	AJJANAHALLI
S.F.NO	:	830 (Part) East & 834/1
EXTENT	:	5.00.0 HECTARES

ADDRESS OF THE APPLICANT

M/s. PVI TRADING CORPORATION
D.No:62-A, 1st PULIKUTHI STREET
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE – 636006.

PREPARED BY

Dr. S.KARUPPANNAN.M.Sc., Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
(A NABET Accredited & ISO Certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841, +917010076633
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

CONTENTS

ANNEXURES

Sl. No.	Description	Annexure No.
1.	Copy of Tender Gazette notification for collector order	I
2.	Copy of Precise area Communication letter	II
3.	Copy of **FMB** (Field Measurement book)	III
4.	Copy of Village Map	IV
5.	Copy of "A" Registered	V
6.	Photo copy of the Lease area	VI
7.	Copy of Company registration certificate and partnership deed	VII
8.	Copy of Partnership Deed	VIII
9.	Copy of ID Proof of the lessee	IX
10.	Copy of willingness letter for explosives, Blasting work & license form	X
11.	Copy of RQP Certificate	XI

LIST OF PLATES

Sl. No.	Description	Plate No.	Scale
1	Route Map	I	Not to scale
2	Location Plan	I-A	Not to scale
3	Topo Map	I-B	1:1,00,000
4.	Satellite Image for 1km radius	I-C	1: 10000
5	Environmental and land use plan for 1km Radius	I-D	1: 10000
6	Lease Plan	II	1:1000
7	Surface Plan	III	1:1000
8	Geological Plan	IV	1:1000
9	Geological Sections	IVA	**Sections** HOR 1:1000 VER 1:500
10	Yearwise Development and Production Plan	V	1:1000
11	Yearwise Development and Production Sections	VA	**Sections** HOR 1:1000 VER 1:500
12	Quarry Layout and Afforestation Plan	VI	1:1000
13	Progressive Quarry closure plan	VII	1:1000
14	Progressive Quarry closure sections	VIIA	**Sections** HOR 1:1000 VER 1:500
15	Conceptual Plan	VIII	1:1000
16	Conceptual Sections	VIIIA	**Sections** HOR 1:1000 VER 1:500

M/s. PVI TRADING CORPORATION
D.No:62-A, 1st PULIKUTHI STREET
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE – 636006.

CONSENT LETTER FROM THE APPLICANT

The Mining Plan in respect of Black granite quarry lease over an extent of 5.00.0 Hectares in S.F.Nos. 830(Part) East (3.71.0 hectares) and 834/1 (1.29.0 hectares) of Government poramboke land, Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State has been prepared by

Dr. S. KARUPPANNAN. M.Sc., Ph.D. Regn. No. RQP/MAS/263/2014/A (under rule 13 of Granite Conservation and Development Rules, 1999)

we request **"The Commissioner, Department of Geology and Mining, Guindy, Chennai-600032"** to make further correspondence regarding modifications of the mining plan with the said recognized qualified person on this following address,

Dr. S.KARUPPANNAN.M.Sc.,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
(ISO 9001: 2015 certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841,
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

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

Place: Dharmapuri, TN

Date: 10/5/21

Signature of the Applicant
(for M/s. PVI Trading Corporation)

M/s. PVI TRADING CORPORATION
D.No:62-A, 1st PULIKUTHI STREET
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE – 636006.

DECLARATION

The mining plan in respect of black granite (Dolerite) quarry lease over an extent of 5.00.0 Hectares in S.F.Nos. 830(Part) East (3.71.0 hectares) and 834/1 (1.29.0hectares) of Government poramboke land, Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State have been prepared with my consultation and I have understood and agree the contents to implement in accordance with the Granite Conservation & Development Rules, 1999.

Place: Dharmapuri, TN

Date: 10/5/21

Signature of the Applicant
(for M/s. PVI Trading Corporation)

Dr. S.KARUPPANNAN,M.Sc.,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
(ISO 9001: 2015 certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841,
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

CERTIFICATE

This is to certify that, the provisions of ***8A(8)(a)(ii) of Tamil Nadu Minor Minerals Concession Rules, 1959 and 15 of Granite Conservation and Development Rules, 1999*** have been observed in the Mining Plan for the grant of black granite quarry lease over an extent of 5.00.0 Hectares in S.F.Nos. 830(Part) East (3.71.0 hectares) and 834/I (1.29.0hectares) of Government poramboke land, Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State prepared to ***M/s. PVI Trading Corporation, D.No: 62-A, ISt Pulikuthi Street, Gugai, Salem District, Tamil Nadu State.***

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

Place: Dharmapuri, TN
Date: 10/5/21

Signature of the Recognized Qualified Person.

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
1/213-B, Ground Floor, Natesan Complex,
Collectorate Post Office, Oddapatti,
Dharmapuri - 636 705. Tamil Nadu.

Dr. S.KARUPPANNAN M.Sc.,Ph.D
RQP/MAS/263/2014/A
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(ISO 9001: 2015 certified Company)
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Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841,
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

CERTIFICATE

I certified under rule ***13 of Granite Conservation and Development Rules, 1999*** that the preparation of Mining Plan for Black granite quarry lease over an extent of 5.00.0 Hectares in S.F.Nos 830(Part) East (3.71.0 hectares) and 834/1 (1.29.0hectares) of Government poramboke land, Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State prepared to **M/s. PVI Trading Corporation, Salem-636006** covers all the provisions of mines act, rules and regulations etc., made therein and if any specific permissions required the applicant should approach **"The Director General of Mines and Safety", Chennai-600040**. The standards prescribed by DGMS with respect to mines health will be strictly implemented.

Place: Dharmapuri, TN

Date: 10/5/21

Signature of the Recognized Qualified Person.

Dr. S. KARUPPANNAN M.Sc.,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
1/213-B, Ground Floor, Natesan Complex
Collectorate Post office,
Dharmapuri - 636 705. Tamil Nadu.

MINING PLAN

FOR

AJJANAHALLI VILLAGE BLACK GRANITE (DOLERITE) MINING LEASE

WITH PROGRESSIVE QUARRY CLOSURE PLAN

Govt Poramboke Land/Opencast-Semi Mechanized Mining/Non-Forest/ Non-Captive Use - "B2" Category

Lease Period 20 Years *from the Date of Lease Execution*

(Prepared under rule 12,13 & 16 of Granite Conservation and Development Rules, 1999)

INTRODUCTORY NOTES:

Introduction:

M/s.PVI Trading Corporation, residing at D.No:62-A, 1st Pulikuthi Street Gugai, Salem-636 006 had taken the black granite quarry lease through tender cum action over an extent of 5.00.0Hectares in Govt Poramboke land and its S.F.Nos.830(Part)East (3.71.0hectares)& 834/1(1.29.0hectares) of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State.

The precise area communication letter was issued by **"The Principal Secretary to Government of Tamilnadu", (272/MME.2/2021-1, Dated 22.02.2021)** to submit mining plan and progressive quarry closure plan as per rule 12,13 & 16 of Granite Conservation and Development Rules, 1999.

As per the communication letter issued the mining plan was prepared subject to the following conditions,

1) A safety distance of 7.5 meters and 10 meters should be provided to the adjacent Patta and Government Poramboke lands, respectively.
2) All conditions stipulated in the District Gazette No.5 Extra ordinary notification dated 03.09.2020 should be adhered by the lessee.
3) Environmental clearance should be obtained from the State Level Environmental Impact Assessment Authority before grant of quarry lease as per under rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959.

4) The applicant firm should fence the lease granted area with barbed wire before the execution of the lease deed as follows,

- The pillar post shall be firmly grounded with concrete foundation of height not less than 2meters with a distance between two pillars shall not be more than 3meters.
- The applicant firm 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 CD form to the Deputy Director, Dharmapuri.

5) The District administration and Geology and Mining Department should ensure the conditions imposed in G.O.(Ms).79, Industries Department, dated 06.04.2015.

6) As per Rule 12(V) of Minerals (other than Atomic & Hydro carbons Energy Minerals) Concession Rules, 2016, the applicant firm shall at his own expenses erect, maintain and keep in repair all the boundary pillars.

7) The applicant firm should use mild explosives during quarrying.

8) Child labourers should not be engaged in quarry works.

9) If any violation is found during quarrying operation, the penal provisions of the Tamilnadu Miner Mineral Concession Rules, 1959 and other rules and act in force will attract.

10) The applicant firm should ensure that while starting the quarry work, all the quarry workers working under their control are registered in the labour welfare board and also enrolled in the ingoing insurance scheme.

11) The District Collector, Dharmapuri shall obtain a sworn-in-affidavit from the applicant firm containing the above conditions before execution of lease deed and ensure that the instructions issued in Government letter No.12789/MMB2/2002-7, Industries Department, dated 09.01.2003 are complied with.

a) **Preparation and Submission of Mining Plan:**

The Mining Plan with progressive quarry closure plan is prepared under rule 12,13&15 of Granite Conservation and Development Rules, 1999 and the conditions mentioned in the precise area communication letter No. **272/MME.2 /2021-1, Dated 22.02.2021.**

b) **Geological Resources and Mineable Reserves:**

Geological resource of black granite (Dolerite) is estimated as **30825Cbm** and weathered rock is **143820Cbm** (Refer Plate No's.IV & IVA). Mineable reserves of black granite are estimated about **14853Cbm** and weathered rock is calculated as **54057Cbm** upto a depth of 20m below ground level (R.L.400-380m) and elevation of 30m above ground level (R.L. 430-400m) and (Refer Plate No's.VIII & VIIIA) after leaving necessary safety distance from the lease boundary.

c) **Proposed Production Schedule:**

Total proposed production of black granite is **3713Cbm** upto a depth of 25m from the top of the hillock above ground level (R.L. 430-405m (Refer Plate No's.V & VA) for the first 5 years plan period. Average production shall be **743Cbm** of black granite per year.

f) **Environmental Sensitivity of the Proposed Lease Area: -**

i) **Interstate Boundary:** No interstate boundary around 10 Km radius periphery of proposed lease area.

ii) **Wildlife Protection Act, 1972:** There is no wild life animal sanctuary within radius of 10Kms from the project site area under the Wildlife (Protection) Act, 1972.

iii) **Indian Reserve Forest Act, 1980:** There is no reserve forest within permissible limit. The nearest reserve forest is Bevanormalai RF which is situated about 1.4km away from western side and Masakallu RF is situated about 2.5km away from the eastern side of lease area.

iv) **CRZ Notification, 1991:** There is no Sea coastal zone found around 10km radius and this project site doesn't attract CRZ Notification, 1991.

g) Environmental measures to be adopted shall be during the ongoing activity period,

i) Wet drilling method is to be adopted to control dust emissions.

ii) Roads shall be graded to mitigate the dust emission

iii) Unnecessary land degradation should be avoided or damaged land should be reclaimed or rehabilitated.

iv) Dust Control at source while drilling and blasting,

v) Dust suppression at loading point and transport haul roads,

vi) Noise Control in blasting, control of fly rock missiles and vibration by doing peak particle velocity with in standard as prescribed by the DGMS and MOEF.

vii) And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.

1.0 GENERAL:

a.	Name of the Applicant	**M/s. PVI Trading Corporation**
	Applicant address	**M/s. PVI Trading Corporation** D.No: 62-A, I St Pulikuthi Street, Gugai, Salem District -636006.
	District	Salem
	State	TamilNadu
	Pin code	636006
	Phone	9944456001
	Fax	---
	Gram	---
	Telex	---
	E-mail	**rvgranitesalem@gmail.com**
b.		
	Private individual	---
	Cooperative Association	---
	Private company	Private Firm
	Public Company	---
	Public Sector Undertaking	---
	Joint Sector Undertaking	---
	Other (pl. specify)	---
c.	Mineral(s) Which are occurring in the area and which the applicant intends to mine	Black granite (Dolerite)
d.	Period for which the mining lease granted/renewed/proposed to be applied	Mining lease granted for the period of twenty years from the date of lease execution

e.	Name of the RQP preparing the Mining Plan	Dr. S.KARUPPANNAN.M.Sc.,Ph.D.,
	Address	**Geo Technical Mining Solutions** (ISO 9001: 2015 certified Company) No: 1/213-B, Ground Floor, Natesan Complex, Oddapatti, Collectorate Post office, Dharmapuri-636705
	Phone	+91 9443937841
	Fax	Nil
	e-mail	info.gtmsdpi@gmail.com
	Telex	Nil
	Registration Number	RQP/MAS/263/2014/A
	Date of grant/renewal	16.12.2014
	Valid upto	15.12.2024
f.	Name of the prospecting agency	Commissioner, Dept of Geology and Mining
	Address	State Geological Department O/o The Commissioner of Geology and Mining, Thiru.Ve.Ka.Industrial Estate,Guindy, Chennai-600032
	Phone	-----
g.	Reference No. and date of consent letter from the state government	The Principal secretary to government, Government of Tamilnadu - Letter. **No. 272/MME.2/2021-1, Dated 22.02.2021**

2.0 LOCATION AND ACCESSIBILITY:

a.	Details of the Area:	:	Refer plate no: IA & IB
	District & State	:	Dharmapuri, Tamil Nadu
	Taluk	:	Pennagaram
	Village	:	Ajjanahalli
	Khasra No./ Plot No./ Block Range/Felling Series etc.	:	830(Part) East (3.71.0 hectares) and 834/I (1.29.0hectares)
	Lease area (hectares)	:	5.00.0 Hectares
	Whether the area is recorded to be in forest (please specify whether protected, reserved etc)	:	The proposed lease area is recorded as Govt Poramboke land. (Ref. Annexure No: V)
	Ownership / Occupancy	:	Govt of Tamilnadu (Ref. Annexure No: V).
	Existence of Public Road / Railway line if any nearby and	:	✓ Exploited materials shall be transported through the

	approximate distance		Village approach road is situated on the Northern side. ✓ The SH is situated about 2.5 km away from the Eastern side which is connecting Pennagaram - Eriyur.
	Toposheet No. with latitude and longitude	:	Toposheet No. **57 H/16** Latitude: 12°3'6.1265"N to 12° 3'17.3265"N longitude: 77°48'28.5887"E to 77°48'39.5422"E
	DGPS Geo-Coordinates of the lease boundary:		

PILLAR ID	LATITUDE	LONGITUDE
1	12° 3'9.4289"N	77°48'39.5422"E
2	12° 3'7.6024"N	77°48'37.8412"E
3	12° 3'7.8821"N	77°48'36.7514"E
4	12° 3'8.5256"N	77°48'33.6293"E
5	12° 3'6.1265"N	77°48'30.4946"E
6	12° 3'6.6621"N	77°48'28.5887"E
7	12° 3'10.0671"N	77°48'29.6612"E
8	12° 3'13.8574"N	77°48'29.2098"E
9	12° 3'17.3265"N	77°48'30.4295"E
10	12° 3'16.5772"N	77°48'33.7062"E
11	12° 3'12.4442"N	77°48'32.4641"E

	Land use pattern (Forest, Agricultural, Grazing, Barren etc.)	:	It is a dry, barren, waste land.
b).	***Attach a general location and vicinity map showing area boundaries and existing and proposed access routs. It is preferred that the area to be marked on a survey of India topographical map or a cadastral map or forest map as the case may be. However if none of these are available, the area should be shown on an accurate sketch map on scale of 1 : 5000.***	:	Refer plate No-IA & IB

i) INFRASTRUCTURE AND COMMUNICATION:

a.	Nearest post office	:	Post office is available at Ajjanahalli about 1.5 km away from the site towards Southern side.
b.	Nearest police station	:	Police Station is available at Eriyur about 4.6 km away from the site towards Southern side.
c.	Nearest fire station	:	Fire Station is available at Pennagaram about 13 km away from the site towards Northeastern side.
d.	Nearest Medical facility	:	Primary health center is available at Ajjanahalli about 1.6 km away from the site towards Southern side.
e.	Nearest school	:	Primary School Education is available at Ajjanahalli about 1.6 Km away from the site towards Southern side.
f.	Nearest Taluk road	:	The SH road is situated about 2.5 km away from the Eastern side which is connecting Pennagaram - Eriyur.
g.	Nearest Rail Head	:	The Nearest Railway junction is available at Dharmapuri about 60km away from Northeastern side.
h.	Nearest port facility	:	The Nearest Port is available at Chennai about 320kms away from Northeastern side.
i.	Nearest Airport	:	The Nearest Airport is available at Omalur about 62km away from Southeastern side
j.	Nearest DSP office	:	The Nearest DSP office is available at Dharmapuri about 56km away on the Western side.
j	Nearest Villages	:	i. North - Chinnappanallur - 3.3 km ii. South - Ajjanahalli - 1.6 km iii. East - Chinna Vathalapuram - 1.5 km iv. West - Sigaralahalli - 1.7km

ii) BOUNDARY OF THE LEASE AREA:

i.	Boundary	:	i. North - Patta Land - S.F.Nos 836/8 & 841-Govt land ii. South - Govt Poramboke Land - S.F.No. 831, S.F.No. 833/1. iii. East - Patta Land -S.F.Nos 834/2 & 834/3, 834/4 & 842 iv. West - Govt Poramboke land -S.F.Nos 830 & 835/3

PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

(a) Briefly describe the topography and general geology and local/mine geology of the mineral deposit including drainage pattern:

(i)	Topography	:	The proposed lease area exhibits elevated topography with an elevation whose altitude various from 436m maximum to a minimum of 382m above MSL. The area is sloping towards Southeastern side covered with Weathered and boulders falls in Toposheet no. 57 H/16.
(ii)	General Geology	:	**Geomorphology:** The geological formations of the Dharmapuri District belong mainly to Archaean age along with rock of Proterozoic age. The Charnockite Group occupies a major part of this District. Two small patches of pyroxenite and gabbro are seen to occur in the pyroxene granulite near about 10 km NE of Harur. Main rock unit exposed in the district is Charnockites. It covers most area of the district and mainly in the western part. The rock trend in general NE-SW. Within the charnockite NNE-SSW trending syenite is seen. It is exposed NE of Pennagaram area, Hokkanaikkal and in Harur. Eastern part of the area is dominated by Epidote-hornblende gneiss. The later intrusive rock geologically called dolerite is exposed EW trending in and around Dharmapuri district. **Soils:** The analysis of the soil type reveals that the study area is predominantly

covered by red with loamy soils.

Lineaments: A lineament may be a fault, fracture, master joint, a long and linear geological formation, vegetation served may be the result of faulting and fracturing and hence it is inferred that they are the areas and zones of increased porosity and permeability in hard rock areas. The data have been checked by field studies and Survey of India topographical maps at the 1:1,00,000 scale.

Age	Group	Rock Formation
Recent to Sub recent	----	Top Soil (1-2m Thick)
Archaean to Lower Proterozoic	Ultra basic complex	Gabbro/ proxenite, Younger Granite
Archaean	Charnockite Group	Pyroxene granulite, Charnockite.

(iii) Local / Mine Geology of the Mineral Deposit : **a) Topography of the proposed lease area:**

1. The area is exhibits outcrops well exposed on the western side of the dyke and has strike direction of NW-SE with steep dip and traversed by dolerite dyke trending NW-SE deviates upto N60°W-S60°E direction with steep dip.
2. The lease area is an elevated terrain in a height of 54 mts above ground level (minimum contour from 382 – 436) have cluster of outcrops exposed on the surface and also in certain region boulders bonded with soil.
3. The dyke's extents on East western direction in the periphery of the proposed lease area.

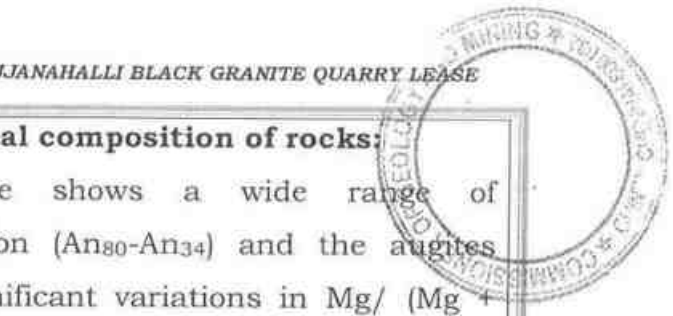
4. The black granite dyke having a average length of 225m to a width of 25m. The special team has estimated the inferred reserve of black granite as 14853CBM for a depth persistence of 20m bgl with recovery of 10%.
5. The black granite is mainly composed of Augite, plagioclase feldspar, pyroxene. There are 3 sets of joints, one along the strike direction and other 2 are diagonal direction.

b) Mode of origin:

Dolerite is typically found as a hypabyssal igneous rock, typically within dykes. Formation of dolerite cools under basaltic volcanoes, dyke and has strike direction of NW-SE with steep dip and traversed by dolerite dyke trending NW-SE deviates upto N60°W-S60°E direction. It cools moderately quickly when magma moves up into fractures and weak zones below a volcano. There, it forms dikes (tabular igneous rock bodies that cut across pre-existing rock layers or bodies) or sills (tabular igneous rock bodies that form parallel to pre-existing rock layers). The moderate cooling rate allows small visible crystals to form in the rock.

c) Physiography of the rocks:

A medium grained mafic intrusive rock whose main components are calcic plagioclase and clinopyroxene and which is characterized by ophitic to sub ophitic texture; usually found in sills and dykes.



			d) Chemical composition of rocks: Plagioclase shows a wide range of composition (An_{80}-An_{34}) and the augites show significant variations in Mg/ (Mg + $\sum Fe2+$) and these correlates, in general, with whole-rock composition. **Order of superposition of the proposed lease area,**

Age	Group	Rock Formation
Recent to Sub recent	----	Red Soil (1m thick)
Archaean	Charnockite Group	Black granite, Migmatites, Charnockites

(iv)	Drainage Pattern	:	There are no major water bodies like rivers, pond, etc., located within a radius of 50m. The drainage is sub-dendritic in general.

(b) The topographic plan of the lease area prepared on a scale of 1 :1000 or 1: 2000 with contour interval of 3 to 10m depending upon the topography of the area should be taken as the base plan for preparation of geological plan. The details of exploration already carried out including evidences of mineral existence should be shown on the geological plan:

Topographic Plan of lease area – Plate IB prepared on a scale of 1 :1,00,000

Geological Plan – Plate No. IV (1:1000 Scale)

(i) Present status:

RQP along with hydrogeologists and DGPS team of Geotechnical Mining Solutions, Dharmapuri analyzed the lease area for mining plan preparation. The proposed lease area is a fresh lease grant and the area exhibits outcrops well exposed on the western side of the dyke and has strike direction of NW-SE with steep dip and traversed by dolerite dyke trending NW-SE deviates up to N60°W-S60°E direction with steep dip.

(ii) Surface Plan:

Surface plan is prepared in 1: 1000 scale with reference to ground level. The grid pattern is adopted while considering various lithological factors of dolerite.

(iii) Geological sections should be prepared at suitable intervals on a scale of 1: 1000 / 1: 2000:

Geological plan is prepared in 1: 1000 scale (Plate No.IV) with reference to ground level considering the lithological factors of dolerite for grid pattern. The sections are prepared along the boundary perpendicular to the strike of the rock in 1:1000 scale in horizontal axis and 1:500 in vertical axis. It is given in plate No-IVA.

(c) ***Broadly indicate the Year wise future programme of exploration, taking into consideration the future production programme planned in next five years as in table below: -***

Year	No. of bore holes	Total meterage	No. of Pits and Dimensions	No. of Trenches and Dimensions
First	N.A	---	---	N.A
Second	N.A	---	---	N.A
Third	N.A	---	---	N.A
Fourth	N.A	---	---	N.A
Fifth	N.A	---	---	N.A
Total	**N.A**	**---**	**---**	**---**

Since, its proved government tender quarry. Its does not required for black granite (Dolerite).

(d) Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations along with required sections (giving split up of various categories i.e. proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.

The Geological cross sections were chosen for three lines across the axis. One in longitudinal axis and two in horizontal axis of deposit have been drawn. The proposed area is an elevated topography Maximum R.L 436m to R.L 382m Minimum MSL. The depth of Geological resources has been computed upto a depth of 50m from the top of elevation which is 30m above ground level (L.430-400m) and 20m below ground level

(R.L.400-380m) (Refer Plate No's. IV & IVA). The total Geological resources of black granite is **30825Cbm** and weathered rock is **143820Cbm.**

The weathered rock is obtained about 3m from the slope of the hill and a black granite starts from 0-50m, which is (R.L.430m-400m) above ground level and 20m (R.L.400m-380m) below ground level.

GEOLOGICAL RESOURCE										
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Geological Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	Hill Slope	70	264	3	55440	....	....	....	....	55440
	I	45	25	5	5625	5625	563	5063	....	....
	I	45	44	5	9900	....	....	....	9900	....
	II	100	25	5	12500	12500	1250	11250	....	....
	II	100	94	5	47000	....	....	....	47000	....
	III	100	25	5	12500	12500	1250	11250		....
	III	100	124	5	62000	....	....	....	62000	....
	IV	100	25	5	12500	12500	1250	11250	....	....
	IV	100	152	5	76000	....	....	....	76000	....
	V	100	25	5	12500	12500	1250	11250	....	....
	V	100	174	5	87000	....	....	....	87000	....
	VI	100	25	5	12500	12500	1250	11250	....	....
	VI	100	184	5	92000	....	....	....	92000	....
	VII	100	25	5	12500	12500	1250	11250	....	....
	VII	100	190	5	95000	....	....	....	95000	....
	VIII	100	25	5	12500	12500	1250	11250	....	....
	VIII	100	197	5	98500	....	....	....	98500	....
	IX	100	25	5	12500	12500	1250	11250	....	....
	IX	100	198	5	99000	....	....	....	99000	....
	X	100	25	5	12500	12500	1250	11250	....	....
	X	100	198	5	99000	....	....	....	99000	....
TOTAL						**118125**	**11813**	**106313**	**765400**	**55440**
X1Y1-CD	Hill Slope	227	90	3	61290	....	....	....	....	61290
	I	58	25	5	7250	7250	725	6525	....	....
	I	58	35	5	10150	....	....	....	10150	....
	II	118	25	5	14750	14750	1475	13275	....	....
	II	118	17	5	10030	....	....	....	10030	....
	III	210	25	5	26250	26250	2625	23625	....	....
	III	210	7	5	7350	....	....	....	7350	....
	IV	227	25	5	28375	28375	2838	25538	....	....

	IV	227	26	5	29510	....	....	....	29510	....
	V	227	25	5	28375	28375	2838	25538	....	....
	V	227	42	5	47670	....	....	....	47670	....
	VI	227	25	5	28375	28375	2838	25538	....	....
	VI	227	57	5	64695	....	....	....	64695	....
	VII	227	25	5	28375	28375	2838	25538	....	....
	VII	227	57	5	64695	....	....	....	64695	....
	VIII	227	25	5	28375	28375	2838	25538	....	....
	VIII	227	57	5	64695	....	....	....	64695	....
TOTAL						**190125**	**19013**	**171113**	**298795**	**61290**
X2Y2-EF	Hill Slope	86	105	3	27090	....	....	....	....	27090
	I	25	43	5	5375	....	....	....	5375	....
	II	31	99	5	15345	....	....	....	15345	....
	III	67	105	5	35175	....	....	....	35175	....
TOTAL						**0**	**0**	**0**	**55895**	**27090**
GRAND TOTAL						**308250**	**30825**	**277425**	**1120090**	**143820**

(e) Indicate mineable reserves by slice plan / level plan method, as applicable, as per the proposed mining parameters.

The Mineable reserves of black granite is estimated as **14853**Cbm and weathered rock is **54057Cbm** upto a depth of 50m from the top of the hillock which have 30m above ground level (R.L. 430-400m) and 20m below ground level (R.L.400-380m). Black granite is estimated by deducting the reserves after leaving safety different and benches from the total Geological resources available in the lease area. The commercially viable black granite has been prepared on 1: 1000 scale (Refer Plate no.VIII) and sections are prepared in horizontal axis as 1:1000 scale and 1:500 scale in vertical axis (Plate No.VIIIA).

MINEABLE RESERVES										
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Mineable Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	Hill Slope	52	117	3	18252	....	....	....	....	18252
	I	37	25	5	4625	4625	463	4163	....	....
	I	37	40	5	7400	....	....	....	7400	....
	II	82	25	5	10250	10250	1025	9225	....	....
	II	82	64	5	26240	....	....	....	26240	....

	III	82	25	5	10250	10250	1025	9225		....
	III	82	70	5	28700	....	....	....	28700	....
	IV	72	25	5	9000	9000	900	8100	....	
	IV	72	60	5	21600	....	....	....	21600	....
	V	62	25	5	7750	7750	775	6975	....	....
	V	62	50	5	15500	....	....	....	15500	....
	VI	52	25	5	6500	6500	650	5850	....	....
	VI	52	40	5	10400	....	....	....	10400	....
	VII	42	25	5	5250	5250	525	4725	....	....
	VII	42	30	5	6300	....	....	....	6300	....
	VIII	32	25	5	4000	4000	400	3600	....	....
	VIII	32	20	5	3200	....	....	....	3200	....
	IX	22	25	5	2750	2750	275	2475	....	....
	IX	22	10	5	1100	....	....	....	1100	....
	X	12	25	5	1500	1500	150	1350	....	....
TOTAL						**61875**	**6188**	**55688**	**120440**	**18252**
X1Y1-CD	Hill Slope	217	55	3	35805	....	....	....	....	35805
	I	58	20	5	5800	5800	580	5220	....	....
	I	58	13	5	3770	....	....	....	3770	....
	II	119	20	5	11900	11900	1190	10710	....	....
	II	119	13	5	7735	....	....	....	7735	....
	III	210	20	5	21000	21000	2100	18900	....	....
	III	210	5	5	5250	....	....	....	5250	....
	IV	217	20	5	21700	21700	2170	19530	....	....
	IV	217	22	5	23870	....	....	....	23870	....
	V	212	15	5	15900	15900	1590	14310	....	....
	V	212	17	5	18020	....	....	....	18020	....
	VI	207	10	5	10350	10350	1035	9315	....	....
	VI	207	12	5	12420	....	....	....	12420	....
TOTAL						**86650**	**8665**	**77985**	**71065**	**35805**
GRAND TOTAL						**148525**	**14853**	**133673**	**191505**	**54057**

4. MINING:

(a) <u>Briefly describe the existing / proposed method for developing / working the deposit with all design parameters.</u>

(Note: In case of pocket deposits, sequence of development/working may be indicated on the same plan)

It is a fresh lease. Under the regulation 106 (2) (a) of the Metalliferous Mines Regulations, 1961 all open cost working methods of hard rock are used and it should be properly benched and sloped. The bench height

should not exceed 5m and the bench width should not be less than the bench height. The slope of the benches should not exceed 45° from horizontal.

(b) Indicate quantum of development and tonnage and grade of production expected pit wise as in table below.

The proposed production of black granite estimated as **3713Cbm** upto a depth of 25m above ground level (R.L. 430-405m) from the top of the hill for the first five years plan period.

Year	Pit No.(s)	Topsoil/ Overburden (Cbm)	ROM (Cbm)	Saleable black granite(Cbm) @ 10%	rejects(Cbm) @90%	Weathered rock in (Cbm)	Side burden (Cbm)	Black granite to Overburden ratio
First	I	---	59267	738	6638	18252	33640	1:54.57
Second	I	---	7500	750	6750	---	---	1:9.0
Third	I	---	36075	738	6638	---	28700	1:47.88
Fourth	I	---	29100	750	6750	---	21600	1:37.8
Fifth	I	---	22875	738	6638	---	15500	1:29.99
Total	**---**	**---**	**154817**	**3713**	**33413**	**18252**	**99440**	1:40.69

(c) ***Composite plans and Year wise sections (In case of 'A' class mines):***

Not applicable

Composite plans and Year wise sections (In case of 'B' class mines):

YEARWISE PRODUCTION											
Section	Year	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Mineable Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	I-YEAR	Hill Slope	52	117	3	18252	....	....	....	....	18252
		I	37	25	5	4625	4625	463	4163	....	....
		I	37	40	5	7400	....	....	....	7400	....
		II	22	25	5	2750	2750	275	2475	....	....
		II	82	64	5	26240	....	....	....	26240	....
	TOTAL						7375	738	6638	33640	18252

	II - YEAR	II	60	25	5	7500	7500	750	6750	....	....
	TOTAL						7500	750	6750	0	0
	III - YEAR	III	59	25	5	7375	7375	738	6638	....	....
		III	82	70	5	28700	....	....	....	28700	....
	TOTAL						7375	738	6638	28700	0
	IV - YEAR	III	23	25	5	2875	2875	288	2588		....
		IV	37	25	5	4625	4625	463	4163	....	....
		IV	72	60	5	21600	....	....	....	21600	....
	TOTAL						7500	750	6750	21600	0
	V - YEAR	IV	35	25	5	4375	4375	438	3937.5	....	....
		V	24	25	5	3000	3000	300	2700	....	....
		V	62	50	5	15500	....	....	....	15500	....
	TOTAL						7375	738	6638	15500	0
GRAND TOTAL							37125	3713	33413	99440	18252

(d) Attach supporting composite plan and section showing pit layouts, dumps, stacks of sub-grade mineral, if any, etc.

The proposed area is a fresh lease. (Refer Plate No: III)

(e) Indicate proposed rate of production when the mine is fully developed and the expected life of the mine and the year from which effected:

The proposed production is **62Cbm/month**. At this rate of production, the expected life of quarry is calculated for production details are given as below: -

Minable reserves of Black granite	=	**14853Cbm**
First five years production	=	**3713Cbm**
Yearly production	=	**743Cbm**
Remaining minable reserves for	=	**11140Cbm**
Estimated life of mine(**14853Cbm/743Cbm**)	=	**20 years**

The regular working of the quarry and its production depends upon the demand in the market. The market is always fluctuating and flexible one. Accordingly, there is a possibility to increase or decrease the production. The year wise production, anticipated life of quarry etc., are only a tentative figure.

(f) ***Attach a note furnishing a conceptual mining plan for the entire lease period (for "B" category mines) and upto the life of the mine***

(for "A" category mines) based on the geological, mining and environments considerations:

(i) *Time frame of completion of mineral exploration for core program in leasehold area: Give broad description identified potential areas to be covered in the given time frame:*

Consider the indefinite depth the black granite deposit is proved beyond the workable limits about a depth of 50m from the top of the elevated topography which is 30m above ground level (R.L. 430-400m) and 20m below ground level (R.L.400-380m).

(ii) Whether ultimate pit limit has been determined and demarcated on Conceptual plan: -

The ultimate pit limit has been determined and demarcated in the conceptual mining plan

ULTIMATE PIT – SECTION XY-AB					
Section	**Bench**	**Bench RL**	**length in (m)**	**Width in (m)**	**Depth in (m)**
XY-AB	Hill Slope		52	117	3
	I	430-425	37	25	5
	I		37	40	
	II	425-420	82	25	5
	II		82	64	
	III	420-415	82	25	5
	III		82	70	
	IV	415-410	72	25	5
	IV		72	60	
	V	410-405	62	25	5
	V		62	50	
	VI	405-400	52	25	5
	VI		52	40	
	VII	400-395	42	25	5
	VII		42	30	
	VIII	395-390	32	25	5
	VIII		32	20	
	IX	390-385	22	25	5
	IX		22	10	
	X	385-380	12	25	5
ULTIMATE PIT – SECTION X1Y1-CD					
X1Y1-CD	Hill Slope		217	55	3
	I	420-415	58	20	5
	I		58	13	
	II	415-410	119	20	5
	II		119	13	
	III	410-405	210	20	

	III		210	5	5
	IV	405-400	217	20	5
	IV		217	22	
	V	400-395	212	15	5
	V		212	17	
	VI	395-390	207	10	5
	VI		207	12	

(iii) Whether the site for disposal of waste rock or an un-saleable material have/ has been examined for adequacy of land and suitability of long-term use in the event of continuation of mining activity: -

The black granite rejects are **33413Cbm** (up to90%) and side burden is **99440Cbm** will be removed and dumped in the north and southern side of the lease area average dimensions of (L82m X W73m X H5.58m) and (L95m X 80m X H13m) for the period of five years. The weathered rock is **18252Cbm** shall be removed and stacked for earth bund in the lease hold area to prevent inherent entry of cattle's and human as per rules 119 (1), Metalliferous Mines Regulations, 1961. If black granite may be unsold will be keep within the lease boundary.

(iv) Whether back filling of pits after recovery of mineral upto techno-economically feasible depth envisaged. If so, describe the broad features of the proposal: -

No immediate proposal for back filling as the granite deposit is still persisting at deeper level.

(v) Whether post mining land use envisaged: -
No, since it is a government poramboke land.

g.	***Open Cast Mines:***		
	i)Describe briefly giving salient features of the mode of working (Mechanized, Semi-Mechanized, manual)	:	The mining operation is opencast semi-mechanized method adopted on single shift basis only. Under the regulation 106 (2) (a) of the Metalliferous Mines Regulations, 1961 in all open cost workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not

			exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal.
	ii) Describe briefly the layout of mine workings, the layout of faces and sites for disposal of overburden/waste. A reference to the plans enclosed under 4(b) and 4(d) will suffice	:	The Black (Dolerite) Granite is proposed to quarry at 5m bench height & width conventional open cast method. i) Drill hole diameter 32mm ii) Depth and inclination of drill hole: generally drilled vertically in an alignment, however in primary cutting in the absence of sheet joints to bottom level, horizontal holes also are drilled. iii) Spacing and burden: The spacing shall be about 0.1m to 0.3m from hole to hole and burden goes up to 1.6m for the splitting of the rock. The intrusive body will be tackled with latest technology by deploying diamond wire saw cutting for obtaining the good recovery factor of sizeable blocks.
	a. Details of Topsoil/ Overburden	:	There is no topsoil shall be removed in the periphery of the proposed lease area.
	b. Black granite waste and side burden waste: -	:	The black granite rejects are **33413Cbm** (up to 90%) and side burden is **99440Cbm** will be removed and dumped in the north

			and southern side of the lease area. The weathered rock is **18252Cbm** shall be removed and stacked for earth bund of lease hold area and to prevent inherent entry of cattle's and human as per rules 119 (1), Metalliferous Mines Regulations, 1961. If black granite may be unsold will be keep within the lease boundary.
h.	***Underground Mines:***	:	It is an open cast quarry operation only

i. ***Extent of mechanization:***

Being a fresh quarry, opencast semi- mechanized methods of mining adopted. Deployment of drills, compressors, excavators, tipper, Diamond wire saw, and line drilling machineries are deployed depending upon the size of the quarry, rate of production, etc. There will not continue or regular work to the above machinery. Hence, most of the quarry operations engage this equipment on hire basis.

The following machinery already deployed in this quarry by project proponent: -

Drilling and cutting equipment:

a). Drilling equipment:

Type	Nos	Dia of hole (mm)	Size/Capacity	Make	Motive power
Jack Hammers	4	32mm	110Cfm	Atlas copco	Compressor Air
Compressors	2	--	600Cpm		Diesel

b). Cutting equipment's:

i. Diamond wire saw machine = 2 nos

ii. Line drilling machinery = 2nos

(1)Loading Equipment:

Type	No	H.P	Size/Capacity	Make	Motive power
Excavator	1	180	1.7Cbm	Tata Hitachi	Diesel

(2) Haulage and Transport Equipment

(a) Haulage within the mining leasehold:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Tipper	2	15 M.T	BMW	Diesel	110

Whether the dumpers are fitted with exhaust conditioner should be indicated: The dump is not used in this quarry area, hence it's a small B2 category mine.

(b) Transport from mine head to the destination	:	15 M.T capacity of tipper will be used for transport.
c. Describe briefly the transport system (please specify)	:	The hired tipper and excavator will be used for carrying out day to day mining activities on the day basis or hourly basis as per market scenario.
d. Ore transported by: own trucks / hired trucks	:	Hired tippers and hydraulic excavator for initially production purposes.
e. Main destination to which ore is transported (giving to and from distance)	:	The excavated black granite transported to needy buyers

f. Details of hauling / transport equipment:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Nil	Nil	Nil	Nil	Nil	Nil

(3) Miscellaneous:

Describe briefly any allied operations and machineries related to the mining of the deposit not covered earlier.

(A) Operations	:	The mining operation is opencast, semi-mechanized

			method.
	(B) Machineries deployed	:	Deployment of drills, compressors, excavators, tipper, Diamond wire saw, and line drilling machineries are deployed depending upon the size of the quarry, rate of production, etc. There will not continue or regular work to the above the machinery.
5.	**BLASTING:** ***a) Broad blasting parameters like charge per hole, blasting pattern, charge per delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.*** **Blasting pattern:** It is an Eco-friendly quarry operation, no blasting is proposed, Diamond wire saw cutting method is adopted by the applicant. Now a day, the splitting within the sheet rock is affected by diamond wire-sawing, which largely reduces the use of explosives in granite mining. Besides, chemical powder called as "Rock breaking Powder" [Ca (OH)2] are also used for splitting. Many adverse effects of blasting are avoided and hence diamond wire cutting will substantially increase the recovery. Since primary cutting comprising splitting from the sheet rock is affected by diamond wire-sawing there will not be any drilling or blasting involved. Hence, there will not any adverse effects and vibration due to this type of mining operation. **Chemical Blasting Method:** The Black Granite operations should not be conducted with any blasting. This will totally damage the possible output by inducing cracks in the rock. For this reason, Chemical explosives are not used for this process. Inserted the rock is split with help of chemical powder which is an expander of the rock. The process is as under long jack hammer holes of around 3 to 6 meters are drilled in close spacing. The spacing is		

	generally 5 to 10mm after the entire line is drilled, it is plugged to prevent any foreign materials entering the hole, later two vertical and one bottom cut are made with slotters and wire saw machines. After these operations are complete, the holes are loaded with chemical generates a crack which is through the holes drilled. The crack is expanded any hydraulic bags are used to pull the rock.		
	c) Miscellaneous: Apart from the above, the following tools and tackles already provided by lessee in quarry leased area for quarry operations. a) For operation: 1. Drill rods 0.4m, 0.5, 0.6m, 0.75m, 1.65m, 2.25m, 3m and 3.6m. 2. Steel alloy chains of sufficient length of 12mm, 16mm, 18mm sizes. 3. "D' Shackles to link the chain length, 4. Rubber hose of required length, 5. Hose clamps to link the compressor delivery hoses, 6. Feather and wedges of 6" and 12" sizes, utilized for splitting the block from the mother rock. This is an important tool in the operation of the quarry. 7. Crow bars, 8. Spades, 9. Sludge hammer, 10. Iron pans, 11. Pitcher hammer, 12. Chisels, **13.** Consumables, such diesel, Hydraulic oil, etc		
	d) Whether secondary blasting is needed, if so describe it briefly	:	Not applicable
	e) Storage of explosives (like	:	1. . The applicant is advised to

	capacity and type of explosive magazine)		engage an authorized explosive agency to carry out blasting. 2. The blasting time at a day is proposed to be 1 PM to 2 PM. 3. First Aid Box will be kept ready at all the time. 4. Necessary precautionary announcement will be carried out before the blasting operation.
6.	***MINE DRAINAGE***		
	a) Likely depth of water table based on observations from nearby wells and water bodies	:	The ground water table is reported as of 70m in summer and 65m in rainy season from the ground level which was predicted by observation of adjacent bore wells around the lease area.
	b) Workings expected to be _____ m. above / reach below water table by the year _____ .	:	Ultimate mining depth is 50m which is 30m above the ground level and 20m below ground level. So, the present mine lease shall be proposed above the water table and hence, quarrying may not affect the ground water.

	c) Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged	:	The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300 Lpm and it shall be pumped out periodically by diesel powered centrifugal pump of 7.5 H.P. Motor. The quality of water is potable and it is not contaminated with any hazardous things.

7. *STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:*

a) Indicate briefly the nature and quantity of top soil, overburden / waste and mineral rejects likely to be generated during the next five years:

Year	Topsoil/Over burden (Cbm)	Weathered rock/ Side burden (Cbm)	Mineral rejects/Waste
First	---	51892	6638
Second	---	---	6750
Third	---	28700	6638
Fourth	---	21600	6750
Fifth	---	15500	6638
Total	**---**	**117692**	**33413**

	b) Land chosen for disposal of waste with proposed justification	:	There is no topsoil shall be removed.
	c) Attach a note indicating the manner of disposal and configuration, sequence of buildup of dumps along with the proposals for the stacking of sub-grade ore, to be indicated Year wise.	:	Mineral waste for five years is **33413Cbm** and some quantity may use to lay roads within the quarry area and the rest will be dumped in the area earmarked in the plan as per rules 119 (1), Metalliferous Mines Regulations, 1961.

8.	***USES OF MINERAL:***		
	a) Describe briefly the end-use of the mineral (sale to intermediary parties, captive consumption, export, industrial use)	:	The quarried black granite blocks are used to make floors, monuments etc.
	b) Indicate physical and chemical specifications stipulated by buyers	:	The materials produced at this quarry are Black Granite (Dolerite) which is used in floors, furniture, counter tops and monuments. The properties of granite which are normally valued for exploitation are compressive strength, tensile strength, density, p-wave velocity, etc. For marketability, other requirements like colour, texture, granularity, size, water absorption, porosity, hardness, moisture content, etc. are also essential. Raw blocks should be free from normal defects like fractures, joints, shears, hairline cracks, segregation, veins, etc.
	c) Give details in case blending of different grades of ores is being practiced or is to be practiced at the mine to meet specifications stipulated by buyers.	:	No blending process is involved in quarry. Blocks approved for export are shipped from harbor to exporter's designations.

9.	*OTHERS*		
	Describe briefly the following a) Site services	:	Infrastructure required for such mines like office, stores, canteen, first aid station, shelter latrine and bath rooms have been providing as per the Metalliferous Mines Rules, 1961 as a welfare amenity for mine laborers. Being a semi-mechanized mine to proposed stack of spares, lubricant and fuels are required to be maintained at the mine site.

b) Employment potential:

As per Mines safety under the provisions of Metalliferous Mines Rules, 1961 under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified Mining Mate to keep all the production workers directly under his control and supervision.

The following man power is proposed for quarrying Black granite during the five years period the same manpower will be utilize for this Mining Plan period to achieve the proposed production and to comply the provisions of the DGPS norms.

1.	Highly Skilled	Quarry Manager	1No.
		Mines Forman	---
		Geologist	1No
		Accountant cum & admin	1No.
2.	Skilled	Earth moving Operator	2 No.
		Driver	4 Nos.
		Mechanic	1 No.
		Blaster/Mat	---
3.	Semi – skilled	Helpers, Greaser's	4 Nos
4.	Unskilled	Musdoor / Labours	10Nos
		Cleaners	2Nos
		Attendant's	1No
		Total =	**27 Nos**

10	**MINERAL PROCESSING/BENEFICIATIONS:**		
	a) If processing / beneficiations of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing /beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product), recovery rate.	:	Excavated Black (Dolerite) Granite raw blocks shall be directly sale to the needy customer.
	b) Explain the disposal method for tailings or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam).	:	No water shall be used for quarrying or any other processing except drinking water to be drawn from public sources. Some stagnation of rain water in the pit shall be used for drilling and spraying haul roads. Therefore, need for tailing dam doesn't arise. But tailing control of rain water flow during rainy season has to be done by decanting the SPM in a pit before passing the water in to natural system.
	c) A flow sheet or schematic diagram of the processing procedure should be attached.	:	Not applicable
	d) Specify quantity and type of chemicals to be used in the processing plant.	:	Not applicable
	e) Specify quantity and type of	:	Not applicable

	chemicals to be stored on site / plant.		
	f) Indicate quantity (KLD per day) of water required for mining and processing and sources of supply of water. Disposal of water and extent of recycling.	:	Drinking is 0.4KLD, utilized water is 1.0KLD, Dust suppression is 1.5KLD and Green Belt is 1.6KLD. Minimum quantity of water 4.5KLD per day has to be maintained as per the Mines Rules, 1960. It is proposed to make an own borewell for providing uninterrupted supply of RO drinking water, dust suppression and Green belt development.

PART – B

11.0 ENVIRONMENTAL MANAGEMENT PLAN :

a) **Attach a note on the status of Baseline information with regard to the following:**

11.1 Existing land use pattern indicating the area already degraded due to quarrying /pitting, dumping, roads, processing plant, workshop, township etc in a tabular form. The present and proposed land use pattern is given as below.

Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Under Quarrying Area	Nil	0.79.0
2	Infrastructure	Nil	0.02.0
3	Roads	Nil	0.03.0
4	Unutilized	5.00.0	2.74.5
5	Waste dump	-	1.16.5
6	Green Belt	Nil	0.25.0
	Total =	**5.00.0**	**5.00.0**

11.2	Water Regime	:	Water table in this area is noticed at a depth of 65m in rainy season and 70m in summer from general ground level and presently the quarrying of Black Granite is proposed depth of mining is 20m from below the ground level. Hence, it will not affect the ground water depletion of this area. It is proposed to make an own bore well for providing uninterrupted supply of RO drinking water, dust suppression and Green belt development.
11.3	Flora and Fauna	:	There is no major flora found in this area. No other valuable trees are noticed in the lease area.

			Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.
11.4	Quality of air, ambient noise level and water	:	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc.., will be suppressed by periodical wetting of land by water spraying. In this quarry, the machinery operations like jack hammer drilling compressor and excavators will generate sound pollution. The sound level should be within the limits of 58dBA. To minimize this sound pollution within the permissible limits, the machinery will be operated at different places and time. The sound pollution can be reduced periodical maintenance of the mining equipment. However, periodical noise level monitoring will be carried out every six months around the quarry site.
11.5	Climatic conditions	:	Generally sub-tropical climatic condition prevails throughout the year and this District receives rain both in South west and North east monsoon. The average rainfall is about 850mm to 900mm and the temperature ranges from 180C during winter and to a maximum

			of 380C during the summer.

11.6 Human Settlement:

The nearest Villages are found in the buffer zone with population as per 2011 census. The Ajjanahalli Village have 1023 houses 4203 peoples both Male (2133) and Female (2070).

S.N	Village	Direction	Distance in Kms	Population
1	Chinnappanallur	North	3.3 km	3383
2	Ajjanahalli	South	1.6 km	4203
3	Chinna Vathalapuram	East	1.5 km	4563
4	Sigaralahalli	West	1.7km	5213

11.7	Public buildings, places of worship and monuments	:	No infrastructure like residential building, places of special interest like archeological monuments, etc., are found around 300m radius. The private houses situated about 450meters away on the eastern and northern side respectively.
11.8	Attach plans showing the locations of sampling stations	:	The proposed Ambient air quality, Water quality Ambient noise level and vibration are periodically tested for every season (6 months once) around 5km radius as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.
11.9	Does area (partly or fully) fall under notified area under Water (Prevention & Control of Pollution), Act, 1974	:	The proposed area not fall under notified area under Water (Prevention & Control of Pollution), Act, 1974

b) Attach an Environmental Impact Assessment Statement describing the impact of Mining and beneficiation on environment on the following over the next five years (and upto conceptual plan period for 'A' category mines):

i) ***Land area indicating the area likely to be degraded due to quarrying / pitting, dumping, roads, workshop, processing plant, township etc:***

Due to quarrying and exploitation of the Black Granite, there will impact in the form i.e. change in the ground profile, pits, and dumps. The details of the land use pattern, during the ensuing plan period and till lease period is shown in the tabular form:

Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Under Quarrying Area	Nil	0.79.0
2	Infrastructure	Nil	0.02.0
3	Roads	Nil	0.03.0
4	Unutilized	5.00.0	2.74.5
5	Waste dump	-	1.16.5
6	Green Belt	Nil	0.25.0
	Total =	**5.00.0**	**5.00.0**

ii).	Air Quality	:	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc.., will be suppressed by periodical wetting of land by water spraying.
iii).	Water Quality	:	A water sample from the open/bore wells was tested to NABL approved lab to assess hardness, Salinity, colour, Specific gravity, etc.
iv).	Noise Levels	:	Quarrying of Black (Dolerite) Granite will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very

			minimum. However, periodical noise level monitoring will be carried out every six months around the quarry site.
v).	Vibration Levels (due to blasting)	:	It is an Eco-friendly quarry operation, no blasting is proposed, Diamond wire saw cutting method is adopted by the lessee. Now a days, the splitting within the sheet rock is affected by diamond wire-sawing, which largely reduces the use of explosives in granite mining. Besides, chemical powder called as "**Rock breaking Powder**" [$Ca(OH)^2$] are also used for splitting. Many adverse effects of blasting are avoided and hence diamond wire cutting will substantially increase the recovery. Since primary cutting comprising splitting from the sheet rock is affected by diamond wire-sawing there will not be any drilling or blasting involved. Hence, there will not any adverse effects and vibration due to this type of mining operation. The maximum peak particles velocity shall be recoded using mini seismograph devises as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.
vi).	Water Regime	:	No major river or any other water bodies are found around 50m radius.
vii).	Socio-Economics	:	1. To provide Employment opportunities of the nearby villagers. 2. For the cultural development of the nearby villagers.

			3. To provide medical facilities and periodical health checkup for the surrounding village peoples.
viii).	Historical monuments etc.	:	There are no historical monuments, etc found around 10km radius.

c) Attach an Environmental Management Plan (supported by appropriate plans and sections) defining the time bound action proposed to be taken with sequence & timing in the following areas (or diagrams should be used) :

i).	Temporary storage and utilization of topsoil	:	There is no topsoil shall be removed
ii).	Year wise proposal for reclamation of land affected by abandoned quarries and other mining activities during first five years (and upto conceptual plan period for 'A' category mines) clarifying the extent of back filling and re-contouring and / or alternative use of unfilled / partially filled excavations / road sides / slopes and mine. In case abandoned quarries/ pits are proposed to be used as reservoir, their size, water holding capacity and proposal for utilization of such water be given.	:	The ultimate mining is proposed to an up to depth of 50m from top of the elevated topography which is 30m above ground level (R.L. 430-400m) and 20m below ground level (R.L.400-380m) has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of open cast working with S1 fencing. No immediate proposals for closure of pit as the Black granite persist still at deeper level

iii). ***Programme of afforestation, Year wise for the initial five years (and upto conceptual plan period for 'A' category mines) indicating the number of plants with name of species to be afforested under different areas in hectares.***

7.5m and 10m safety barrier, school and Nearest Panchayat Roads has been identified to be utilized for Greenbelt appropriate native species of Neem, Pungan and other regional trees will be planted in a phased manner as described below

Year	Place	Type of trees	No. of plants	Rate of survival
First	Lease boundary & approach road	Neem, Pungan, Casuarinas and other regional trees	150	80%
Second	Lease boundary & approach road	Neem, Pungan, Casuarinas and other regional trees	150	80%
Third	Lease boundary & approach road	Neem, Pungan, Casuarinas and other regional trees	150	80%
Fourth	Lease boundary & approach road	Neem, Pungan, Casuarinas and other regional trees	150	80%
Fifth	Lease boundary & approach road	Neem, Pungan, Casuarinas and other regional trees	150	80%

iv).	Stabilization and vegetation of dumps along with waste dump management Year wise for the first five years (and upto conceptual plan period for 'A' category mines).	:	The black granite rejects are **133673Cbm** (up to 90%) and side burden is **191505Cbm** will be removed and dumped in the North and southern side of the lease area. The weathered rock is **54057Cbm** shall be removed and stacked for earth bund of lease hold area and to prevent inherent entry of cattle's and human as per

			rules 119 (1), Metalliferous Mines Regulations, 1961. If black granite may be unsold will be keep within the lease boundary.
v).	Measures to control erosion / sedimentation of water courses.	:	No soil erosion takes place in this quarrying activity.
vi).	Treatment and disposal of water from mine.	:	It will not be harmful and it does not require any treatment before discharging into the natural courses.
vii).	Measures for minimizing adverse effects on water regime.	:	There is no water to be pumped out will be very pure and portable and therefore, it will not affect any water regime surrounding the quarry.
viii).	Protective measures for ground vibrations / air blast caused by blasting,	:	It is a small B2 category opencast, semi mechanized mining and no heavy machinery shall be used. The only smooth blasting is proposed, therefore no change for ground vibration or noise from the quarry.
ix).	Measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity.	:	No historical monuments and for rehabilitation of human settlements doesn't to be disturbed during mining activity.
x).	Socioeconomic benefits arising out of mining.	:	The nearest villages are will get employment benefits.

d). Monitoring schedules for different environmental components after the commencement of mining and other related activities. (for 'A' category mines only)

Not applicable. It is B2 category quarry

12.0 PROGRESSIVE MINE CLOSURE PLAN:

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	:	The present mining is proposed depth is 25m. which is 25m above ground level (R.L.430-405m). The mined-out area will be fenced on top of opencast working with S1 fencing to arrest the entry of cattle's and public in to the quarry site.
12.2	Measures to be under taken on mine closure as per Act & Rules	:	Measures will be taken as per the Acts and Rules. The quarried pit will be fenced by Barbed wire fencing. Green belt development at the rate of 150 trees per year will be proposed. No immediate proposals for closure of pit as the black granite persist still at deeper level.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	:	The quarry lease is a fresh mining lease for 20 years lease period.
12.4	Mine closure activity	:	The mined-out area will be fenced on top of opencast working with S1 fencing. Low lying areas with water logging shall be used for fish culture. No immediate proposals for closure of pit as the black granite persist still at deeper level.
12.5	Safety and security	:	Safety measures implement to the prevent access to surface opening excavations will be taken as Metalliferous mine rules, 1960, it

			is a small open cast mining method adopted. Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation.
12.6	Disaster management and Risk Assessment	:	Open cast mining method is adopted in this quarry. If the benches are made with proposed height and width no risk will be there. Even then if any minor or major accident happens the quarry staffs having First aid facilities with first aid box with all necessary medicine and stretches etc., to give first aid treatment at the site and will arrange immediately the vehicle to reach nearest hospital, if any disaster happens the lessee is capable to meet such eventualities. At the time of any accident during mining activity, proposal of first aid facility at quarry and one vehicle always ready at quarry site.
12.7	Care and maintenance during temporary discontinuance	:	During temporary discontinuance the working place will be fenced completely and a board of

			discontinuance will be changed on the main entrance of the working place. One watch man will be kept on the quarry area for security purposes also look after the survival of the plants.
12.8	Economic repercussions of closure of quarry and man power entrenchments	:	During the five years mining period the employment potential will be generated, general financial status and socio-economic conditions of approx. 27 labors will be improved. During the next five-year compensations will be given as per rules.

12.9 Proposed Financial Estimate / Budget for (EMP) Environment Management:

A	**Fixed Asset Cost:**		
	1. Land Cost (Tender cost)	:	Rs. 5,75,00,000/-
	2. Labour Shed		Rs. 2,00,000/-
	3. Sanitary Facility	:	Rs. 50,000/-
	4. Fencing	:	Rs. 3,00,000/-
	Total	:	**Rs. 5,80,50,000/-**
B	**B. Machinery Cost**	:	**Rs.20,00,000/-** (Hire Basis)
C	**EMP Cost: Per year** (Minimum 2 Station * 2 Season):		
	1. Air quality test	:	Rs. 20,000/-
	2. Water quality sampling(2No's)	:	Rs. 12,000/-
	3. Noise test	:	Rs. 15,200/-
	4. Soil analysis	:	Rs. 16,800/-
	Total Cost	:	**Rs. 64,000/- per year**
	Total Cost for 5 Years	:	**Rs. 3,20,000**
D	**Total Expenditure cost** (For Five Years)		

	1. Drinking Water Facility for the labours	:	Rs. 2,00,000/-
	2. Sanitary Maintenance	:	Rs. 75,000/-
	3. Water Sprinkling	:	---
	4. Afforestation etc.,	:	Rs. 2,25,000/-
	5. Safety Kits	:	Rs. 1,00,000/-
	Total	:	**Rs. 6,00,000/-**
E	**Total Project Cost (A+B+C+D)**	:	**Rs. 6,09,70,000/-**

13.0 FINANCIAL ASSURANCE:

Not applicable, it is a small B2 black granite quarry.

14.0 CERTIFICATES:

All required certificates are enclosed.

15.0 PLAN AND SECTIONS, ETC:

Plan and Sections are submitted along with mining plan.

16.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

(i) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.

(ii) The applicant will endeavor every attempt to quarry the Black granite economically without any wastage and to improve the environment and ecology.

(iii) The Mining Plan with progressive quarry closure plan is prepared by incorporating the conditions stipulated in the precise area communication issued by Principal Secretary of Tamil Nadu, vide letter **No. 272/MME.2/2021-1, Dated 22.02.2021,**

(iv) Total mineable reserve of black granite is **14853Cbm** upto a depth of 50m. Which is 30m above ground level (R.L. 430-400m) and 20m below ground level (R.L.400-380m) (Refer Plate No's.VIII & VIIIA) for the 20 years lease period.

17.0 CSR Expenditure:

CSR (Corporate Social Responsibility) shall provide by the lessee @ 2.0% of average net profit of the company for the last three financial years to the neighboring villages on the provisions under section 135(1) of the companies Act, 2013 and Rule 3(2) companies CSR Rules, 2014 as circular no.05/01/2014.

Place: Dharmapuri, TN

Date:

Signature of the Recognized Qualified Person

Dr. S. KARUPPANNAN, M.Sc.,Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
1/213-B, Ground Floor, Natesan Complex,
Collectorate Post Office, Oddapatti,
Dharmapuri - 636 705, Tamil Nadu, India.

21/5/2021

COMMISSIONER OF
GEOLOGY AND MINING,
GUINDY, CHENNAI-600 032.

21/05/2021

This Mining Plan is Approved
Subject to the Conditions/ Stipulation
Indicated in the Mining Plan Approval
Letter No./6162/mmu/2020 Dated 5.2021

ANNEXURE - I

© GOVERNMENT OF TAMIL NADU
2020

DHARMAPURI DISTRICT GAZETTE

EXTRAORDINARY

PUBLISHED BY AUTHORITY

No. 5] DHARMAPURI, SEPTEMBER 3, 2020
[Sarvari, Aavai 18 — Thiruvalluvar Aandu 2051]

NOTIFICATION BY THE COLLECTOR

[Roc.No.410/2016/(Mines). Dated: 02.09.2020]

[Notice Inviting Tender Applications for the Grant of Quarry Lease for Black Granite situated in Government lands in Dharmapuri District under Tender-Cum-Auction system as per Rule 8-A of the TamilNadu Minor Mineral Concession Rules, 1959].

Last date and time for submission of tender application - 28.09.2020 @ 03.00 P.M
Date and time on which open auction will be conducted and opening of tender applications - 29.09.2020 @ 11.00 A.M

1. For and on behalf of the Government of Tamil Nadu sealed Tender applications in Triplicate are invited by the District Collector Dharmapuri at Collectorate, Dharmapuri up to 03.00 P.M. on 28.09.2020 (as per the office clock of the Deputy Director of Geology and Mining, Dharmapuri, 2nd Fioor, DRDA Building, Collectorate, Dharmapuri) from the individuals or companies or partnership firms for the purpose for obtaining quarry lease to quarry black granite from the areas situated in Government lands in Dharmapuri District specified in the schedule for a period twenty years in accordance with the Tamil Nadu Minor Mineral Concession Rules, 1959 more specifically as per rule 8-A of the above said rules notified in G.O.Ms.No.103/Industries/MMC1/Department Dt:13.07.1996 and published in Tami lNadu Government Gazette, Extraordinary No.337, part-III, section 1(a) Dt:13.07.1996 and subsequently amended.

2. The tender applications submitted as per the notification shall be in the form prescribed as per appendix VI-A of Tamil Nadu Minor Mineral Concession Rules, 1959. Model application form is enclosed with this gazette notification. The applications not submitted as prescribed in appendix VI-A and the applications without statutory enclosures shall not be entertained.

3. The tenderers / Bidders shall make their own arrangements to visit the notified proposed quarry sites, assess the quantity and the quality of granite before making their offers. They should also make their own arrangements for providing necessary infrastructure including approach roads, etc., for quarrying granite, if the area is allotted to them on lease eventually.

4. (a). All applications made in response to this notification shall be in the form prescribed in Appendix VI-A to these rules and they shall be sent directly to the District Collector, Dharmapuri District and submitted to the O/o The Deputy Director, Geology and Mining, 2nd Floor, DRDA Building, Collectorate, Dharmapuri on or before 03.00 P.M. of 28.09.2020 in person or by RPAD in a sealed cover super scribed as 'TENDER APPLICATION FOR GRANT OF QUARRYING LEASE-ITEM Sl.No.....IN THE NOTICE/ ADVERTISEMENT, DATED.....". The name and address of the applicant shall also be legibly written on the sealed cover. For each item of area specified in the District Gazette Notification or in the news paper advertisement separate tender application shall be made.

(b) Every tender application made for grant of quarrying lease shall be accompanied by:-

(i) Original challan for payment of Rs.5000/- (Rupees Five Thousand only) towards non-refundable application fee in a Government Treasury in the District concerned. The amount can also be remitted through demand draft drawn in favour of the District Collector, Dharmapuri obtained from any Nationalized Bank or Co-Operative Bank and the original Demand Draft should be enclosed.

(ii) A demand draft for (Rs.25,00,000/-) (Rupees Twenty Five Lakhs only) towards Earnest Money Deposit in favour of the District Collector, Dharmapuri drawn in any Nationalized Bank or Co-Operative Bank and the original Demand Draft should be enclosed.

(iii) An affidavit showing the particulars of the areas mineral wise in each District of the State, which the applicant or any person jointly with him :-

(i). already holds under a quarrying lease

(ii). already applied for but not yet granted

(iii). is being applied for simultaneously;

(iv). A valid mining dues clearance certificate obtained from the Collector of the District where the quarrying or mining lease area is situated in the form prescribed in Appendix-VIII to these rules for having paid the mining dues, such as royalty, seigniorage fee, lease amount, dead rent, surface rent, area assessment, penalty amount or any other dues payable under the Act or these rules or under the lease deed or agreement already executed or entered into by the applicant if the applicant is not having any Mining/ Quarrying lease in the State of Tamil Nadu an Affidavit towards no mining dues also to be enclosed.

(v). An affidavit stating that the applicant has:-

i. Filed upto date Income tax return.

ii. Paid the income tax assessed on him.

iii. Paid the income tax on the basis of the self assessment as provided in the Income Tax Act, 1961 (Central Act 43 of 1961) or any other later instructions of the Central Government.

(c). The application thus made shall contain the particulars about the maximum amount the applicant is willing to offer for getting the area applied for lease for quarrying purpose.

(d) All applications shall reach the addressee specified in the notice or advertisement within the specified time and date.

5. (a) Where the application is delivered personally, its receipt shall be acknowledged in the form in Appendix-IX to the rules of TNMMCR,1959. Where an application is sent by post it shall be sent by registered post and its receipt shall also be acknowledged to the applicant by RPAD within three days from the date of receipt of application. The District Collector shall have no responsibility for any delay in receipt or loss in postal transit of any application or communication.

(b). If any application is made for an area when there is no invitation of the application, it shall summarily be rejected as premature application. If any application is received after, the due time and date fixed for receipt of application, it shall be rejected by the District Collector as time barred application. Failure to satisfy the conditions and to comply with the requirements specified above will result in summarily rejection of an application for participation in auction or tender proceedings and the person who made such application is not entitled to participate in the auction or tender as the case may be. The rejection order passed on such application with the demand draft if any shall be sent through registered post to the applicant within seven days from the date of receipt of the application retaining the application and the cover.

TENDER - CUM - AUCTION PROCEDURE

6. (a) (i) Before opening tender applications received for each area for which applications are invited through notification and advertisement, an auction shall be conducted in which all tender applicants and also others who consider themselves as eligible and pay an Earnest Money Deposit of (Rs.25,00,000/-) by a bank draft can participate. The auction bids of the non-tender applicants will be accepted subject to verification of their eligibility and subject to their submitting the application form with statutory enclosures and payment of application fee before commencement of the tender-cum-auction proceedings. For people who have already paid Earnest Money Deposit in tender, no separate fee need be levied for participating in auction.

(ii) In the absence of the applicant one nominee of the applicant may be permitted to participate in the auction and allowed to be present when the tender applications are opened provided the nominee produces a letter from the applicant authorising the nominee to do so and signed before a Notary Public who shall attest the signature of the applicant and his nominee.

(b) (i) Before opening tender applications received for each area, auction shall be conducted by the District Collector or the officer authorized by the District Collector allowing all eligible applicants to bid at the auction for making their offer of lease amount to obtain the area on lease. Immediately after conclusion of the auction, all the valid tender applications for the area shall be opened and examined by the District Collector or the authorized officer.

(ii) The sealed tender applications shall be opened in the presence of the tender applicants or their nominees who may choose to be present. Failure on the part of any tender applicant or his nominee to be present on the date and time of auction or at the time of opening of the sealed tender applications shall not prevent the authorities concerned from conducting the auction and opening of the sealed tender applications with the participation of the other tender applicants or their nominees or others.

(iii) Where the receipt of total no. of Tender cum Auction applications are less than three, auction process shall be annulled and recommended for a retender for one time within one month.

(iv) The authorized officer shall declare the total number of valid applications received for an area, names of the applicants and the tender amount offered for the area by each of the applicants. He shall also declare the highest bid amount offered at the auction and the highest tender amount quoted in the tender applications and the names of the highest offerers of the bid amount and the tender amount before concluding the proceedings.

(v) In a case where the highest auction amount is found to be less than the highest tender amount and where the said highest tender amount has been quoted by two or more applicants, the District Collector or the officer authorized by the District Collector shall call such applicants alone to make their further offers.

(vi) After declaring the name of the highest bidder/tender applicant for an area, the EMD received from the applicant bidders other than the highest bidder/tender applicant shall be returned forthwith to the applicants/bidders present on obtaining acknowledgement for receipt of the same or sent by registered post in due course, if they are not present. The Earnest Money Deposit made by the highest bid amount or tender amount offeror, as the case may be, shall be adjusted towards payment of lease amount in case he is selected for grant of the area on lease to him for quarrying purpose.

7. The District Collector after the conclusion of the Auction Cum Tender procedures, shall forward all the applications received to the State Government through the Director of Geology and Mining. On receipt of the proposal from the District Collector, the Director of Geology and Mining shall forward the same to the State Government with his recommendations.

8 (a) (i). On receipt of the recommendation of the Director of Geology and Mining for grant of lease for an area the State Government shall communicate its decision to grant the lease to the applicant who is declared as the successful offer or of the bid amount or Tender amount whichever is greater.

(ii). The State Government shall communicate its decision to grant the lease for the precise area directing to remit the balance amount indicated in the order of the State Government in the District Treasury concerned and to submit the original challan to the State Government within one month from the date of receipt of such communication and to submit the approved mining plan as per Rule 12 of the Granite Conservation and Development Rules, 1999 to the State Government within a period of three months from the date of receipt of the communication from the State Government.

(iii). Where the applicants fail to remit the balance amount within the stipulated period, the amount already remitted shall be forfeited and the communication issued, shall be deemed to be cancelled. When the said applicants have remitted the amount within the stipulated period but are not able to submit the approved mining plan as per Rule 12 of the Granite Conservation and Development Rules, 1999 to the State Government within the stipulated period for reasons beyond their control, they may apply for extension of time for submission of the approved mining plan. The State Government on receipt of such request and after satisfying that the balance amount has been paid within the prescribed period, may grant extension of time for a further period not exceeding three months, if satisfied with the reasons furnished by the applicant. In case the applicant fails to submit the approved mining plan as per Rule 12 of the Granite Conservation and Development Rules, 1999 even in the extended period, the amounts remitted by the applicant shall be forfeited and the communication letter shall be deemed to be cancelled.

(iv). The applicant shall also submit the Environmental Clearance from the competent authority as per Rule 42 of Tamil Nadu Minor Mineral Concession Rules 1959 within the time limit as prescribed by the State Government.

(v). On receipt of the approved mining plan as per Rule 12 of the Granite Conservation and Development Rules, 1999 and the Environmental Clearance from the competent authority as per Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 the State Government shall issue the order granting the lease.

(b) Where the State Government is satisfied that the highest amount offered by the applicant is not reasonable in the circumstances of the case and that it will not be in the interest of mineral development to grant the lease to the said applicant, an order refusing to grant the lease to the applicant shall be passed by the State Government, communicating the reasons there for to the applicant.

(c)The lease deed shall be executed by the applicant with the District Collector concerned within one month from the date of receipt of the order of the State Government or within such further period not exceeding a period of thirty days as the District Collector may allow in this behalf. The lease deed shall be executed by the applicant on the appointed day and time with a map of the demarcated leased out area signed by the District Collector and the lessee, appended to it.

(d) Where the State Government has granted a quarrying lease, to an applicant, if the applicant fails to produce the signed copy of the demarcated map of the area or fails to produce the required stamp papers for preparing the lease deed or fails to execute the lease deed within the stipulated time, the State Government may cancel the order granting the lease to the defaulter and forfeit all amounts paid by him to the State Government. In the case of an area for which there are two or more applicants, after cancellation of the order granting the quarrying lease to the defaulter the State Government may grant the quarrying lease in favour of the next below highest bidder or tender applicant, Subject to the provision of clauses (a) and (b) If the next highest bidder or tender applicant is not communicating his acceptance of such an offer of the State Government within fifteen days from the date of receipt of the State Governments offer, the State Government shall call for fresh tender applications for the area concerned.

CONDITIONS FOR CARRYING OUT QUARRYING OPERATIONS.

9. (a) The date of commencement of the period for which the quarry lease is granted under this Rule shall be the date on which the lease deed is executed.

(b) Before execution of the lease deed the successful bidder/tender applicant shall deposit as security @ twenty percent (20%) of the bid/tender amount for which the lease has been granted by the State Government.

(c) All the lessees, besides the one time payment of the bid amount / tender amount which is the lease amount, shall also pay seigniorage fee or dead rent whichever is more in respect of the actual quantity of the mineral removed or consumed at the rates prescribed from time to time in Appendix-II to these rules. Besides the onetime payment of lease amount and seigniorage fee or dead rent whichever is greater the lessee shall pay such other levies as may be prescribed by the State Government from time to time.

In the event of failure to pay the seigniorage fee or dead rent whichever is greater the lease shall be cancelled.

Provided that the lessee shall pay the dead rent for the first year of the lease before the execution of the lease deed and for the subsequent years thirty days before the date of commencement of each year of the lease period.

Provided further that the lessee is entitled to obtain transport permit and despatch slips for removal of the mineral from the leasehold area without paying seigniorage fee until the amount of dead rent already paid is got adjusted towards seigniorage fee payment.

(d) No lessee is entitled to raise any dispute with reference to the survey and demarcation of the area leased out to him after execution of the lease deed.

(e) The lease shall expire on the date specified in the lease deed and in no case extension of the period of the lease shall be made.

(f) No lessee shall commence any quarrying operation in any area without executing the lease deed. No lessee shall continue quarrying in the area after the expiry of the stipulated lease period. If any quarrying or transportation of the mineral is done without complying with or in violation of the above conditions, it shall be treated as illicit quarrying and illicit transportation and the lessee is liable to be punished for the offence without prejudice to any other actions that can be taken on the person as provided in these Rules or the Act.

(g) The lessee shall remove and transport the mineral from the leasehold area after obtaining transport permit from the District Collector concerned or any Officer authorized by him in this behalf and complying with the other conditions stipulated in these Rules.

(h) The lessee shall not quarry any other mineral other than the purpose for which the lease is granted. If, any other mineral / valuable metal is found to be noticed, the quarrying operation shall be stopped at once and intimated to the District Collector / Government.

(i) The lessee shall not without the previous consent in writing of the State Government assign, sublet, mortgage or in any other manner transfer the quarrying lease as specified in Rule-36F of Tamil Nadu Minor Mineral Concession Rule 1959.

(j) The lessee shall keep correct accounts showing the quantity and other particulars of all minerals quarried and transported from the quarry site. The lessee shall also allow any officer authorized by the State Government or the Director of Geology and Mining or the District Collector in this behalf to inspect the quarry and verify the records and accounts and to furnish such information and returns as may be required by him.

10. (a) The lessee shall carryout the quarrying operations in a skilful, scientific and systematic manner keeping in view the proper safety of the labour, conservation of minerals and preservation of the environment and ecology of the area.

(b) The lessee shall allow any officer authorized by State Government, or the Director of Geology and Mining, or the District Collector concerned to enter upon the leasehold area and inspect for the purpose mentioned in clause (a) and for any other purpose which may be required for compliance of the provisions of the Act and these rules or any other Act or Rules framed by the Central Government or the State Government.

11. The lease granted under this rule may be renewed for a period not exceeding twenty years, provided that renewal of lease shall be subject to the satisfactory performance of the lessee during the quarry work in the past in fulfilling the conditions of lease and as per the Tamil Nadu Minor Mineral Concession Rules, 1959.

12. ADDITIONAL CONDITIONS

a) The period for which the area granted on lease for quarrying under this rules is only for twenty years.

b) The quarrying lease will be granted only in the name of the successful Tenderer/bidder declared by the state Government.

c) No quarrying activities commenced there to shall be done before the execution of the agreement.

d) The Executed lease deed shall be registered at the cost of the lessee.

e) While quarrying no hindrance shall be caused to the adjoining pattadars and public.

f) The lessee should restrict his mining operations strictly within the permitted area as defined in the sketch without any encroachments.

g) The lessee should maintain, at his cost proper signboards indicating the survey numbers, years of lease, name of the lease holder and lease period to the satisfaction of the District Collector and Commissioner/ Director of Geology and Mining and maintain it all time at the quarry site.

h) The lessee should make his/her own arrangement to form the approach road from the public road to the place of the quarry.

i) The lessee shall abide to all the provisions of Mines and Minerals (Development and Regulation) Act, 1957, The Metalliferrous Mines Regulations 1961 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 Minerals Concession Rules, 1959.

j) Quarry lease area should be demarcated state on ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar with DGPS reading shall be erected before commencement of quarrying and it should be maintained throughout the period of lease.

k) No quarrying shall be made within the safety distance of 7.5 mts to the adjacent patta lands and 10 mts to the adjacent Government Poramboke lands.

l) Pit Mouth register should be maintained in the quarry site.

m) A minimum distance of 50 mts. from any Civil structure/ habitation, Electric / Telephone lines, Railway line, Reservoir, Canal, National highways and other public works shall be kept from the periphery of any excavation area and 10mts safety distance to the village roads shall be kept and maintained during the entire lease period.

n) Quarry operations shall be carried only after appointing Mines Manager/Mines Mate and it should be carried out on the supervision of Mines Manager/Mines Mate.

o) Notice of opening of the quarry should be sent to the Director of Mines Safety, Bangalore.

p) In any accident occur in the quarry area the lessees should give intimation to the Director of Mines Safety Bangalore and District Collector, Dharmapuri at once and lessee is solely responsible for any violation.

q) The lessee should get the consent for establishment and for operation from the Tamil Nadu Pollution Control Board before the commencement of quarrying operation.

r) The conditions imposed by the TNPCB in the consent order should be adhered without any omission.

s) The Environmental Clearance and the consent of the TNPCB should be renewed periodically without any lapse.

t) If any quarrying is found in the area granted on lease before the date of execution of lease deed, the lease is liable to be cancelled and criminal action will be initiated.

u) No lease granted under this rule shall be extended.

v) The lessee shall provide safety distance in the area as per the rules in force or any rule which may be imposed by Government. He must also take up all safety measures as directed by the Government at his own cost.

13. SPECIAL CONDITIONS

i. The Government reserves the right to accept or reject any or all tender / bid applications either in part or in full without any liability to the Government or any of the officers of the Government.

ii. The authority for acceptance of tender / bid shall rest with the Government. The Government do not bind themselves to accept the highest or any other tender / bid applications.

iii. The applicants participating in the tender / bid either should have (or) shall obtain a valid Permanent Account Number issued by the Income Tax department of Government of India.

iv. The successful bidder shall pay 2% on the total tender / bid amount into the TAN number CHEA11977A as TDS to IT Department and produce the remittance challan to the Deputy Director of Geology and Mining, Dharmapuri.

v. After execution of the lease deed the lessees shall have to pay as 2% on the seigniorage fee as TDS to Income Tax Department on the total Seigniorage fee paid for the total volume of transportation at the time of obtaining transport permit.

vi. The lessee shall pay 10% of the total amount of the seigniorage fee paid for obtaining transport permit towards the contribution of Dharmapuri District Mineral Foundation Trust Fund and the said amount should be remitted to current account number 6636419266 @ the Indian Bank, Dharmapuri Branch then and there without fail.

vii. Transportation of Black Granite blocks should not be carried out from 6.00 P.M to 6.00 A.M.

viii. The lessee shall strictly adhere to the statutory and safety requirements.

ix. The waste materials generated during quarrying operation shall be dumped only within the area granted under lease.

x. Quarrying shall be done as per the approved Mining Plan and as such laws made by the Central Government/State Government and any other notifications issued then and there.

xi. The lessee/grantee shall submit scheme of mining, mine closure plan and other statutory requirements within the time stipulated for submission of the above as per rules.

xii. The lessee shall submit half yearly returns in Form 'F' and Annual returns in Form 'G' as per GCDR 1999 within the prescribed time limit.

xiii. The lessee should strictly adhere all the conditions imposed by the state Government, in the lease granting order, conditions imposed in the Environmental Clearance Certificate, conditions imposed by the Director of Geology and Mining and the District Collector, Dharmapuri and any other directions / instructions issued from time to time.

xiv. Any other conditions stipulated by other Statutory/Government authorities shall be complied with.

Note:

As per announcement of the Hon'ble Chief Minister of Tamil Nadu News Letter No.182, dated 30.08.2020, there shall be no restriction on intra-State movement of persons and goods. No separate permission/ approval/e-permit will be required for such movements. But the other state persons, who are enter into the Tamil Nadu, they should obtain e-pass. Hence, other state persons, who are interested in Granite Tender cum Auction, they are instructed to apply with valid documents viz., Aadhar Card, Travelling Ticket and Telephone/ Mobile No. for getting e- pass through Auto generated method by computer. After obtaining e-pass should attend the Tender Cum Auction accordingly.

14. SCHEDULE

Areas notified for lease under Tender-Cum-Auction as per Rule 8-A of Tamil Nadu Minor Mineral Concession Rules, 1959.

Sl. No	Taluk	Village	S.F. No.	Extent Proposed for lease	Classification of land	Mineral
(1)	*(2)*	*(3)*	*(4)*	*(5) (in hects.)*	*(6)*	*(7)*
1	Dharmapuri	Adagapadi	495 (part)	2.48.5	U.A.W. Karadu	Black Granite
2	Pennagaram	Sidumanahalli	938 Part Bit-1	6.20.0	Anathinam	Black Granite
3	Pennagaram	Sidumanahalli	938 Part Bit-2	5.63.0	Anathinam	Black Granite
4	Pennagaram	Ajjanahalli	98 & 686/4 (part)	1.31.5 1.44.0 2.75.5	U.A.W	Black Granite
5	Pennagaram	Ajjanahalli	856 (Part)	4.91.5	U.A.W	Black Granite
6	Pennagaram	Ajjanahalli	682/2 (Part)	2.91.0	U.A.W	Black Granite
7	Pennagaram	Ajjanahalli	223/B Part (Bit-1)	2.58.0	Anathinam	Black Granite
8	Pennagaram	Ajjanahalli	223/B Part (Bit-2)	2.65.0	Anathinam	Black Granite
9	Pennagaram	Ajjanahalli	830 (P) East & 834/1	3.71.0 1.29.0 5.00.0	U.A.W Karadu & Anathinam	Black Granite
10	Pennagaram	Ajjanahalli	830 (P) West & 835/3	2.32.5 0.81.5 3.14.0	U.A.W Karadu & Anathinam	Black Granite
11	Pennagaram	Ajjanahalli	824/3 & 823 Part	2.11.5 2.38.5 4.50.0	Anathinam	Black Granite
12	Pennagaram	Ajjanahalli	810/2 (part)	2.48.0	Anathinam	Black Granite
13	Pennagaram	Ajjanahalli	608/2B	4.00.0	Anathinam	Black Granite
14	Pennagaram	Ajjanahalli	775/1	1.08.5	Anathinam	Black Granite

(1)	(2)	(3)	(4)	(5) (in hects.)	(6)	(7)
15	Pennagaram	Mangurichi	22 (part)	5.00.0	U.A.W. Karadu	Black Granite
16	Pennagaram	Sunjalanatham	587 (Part)	4.52.0	U.A.W. Karadu	Black Granite
17	Pennagaram	Manchi-naickanahalli	134/1 (part)	1.40.0	U.A.W Kalankuthu	Black Granite
18	Pennagaram	Ramakonda-halli	802(part)	1.94.0	U.A.W. Kundru	Black Granite
19	Karimangalam	Jakkupatty	151 Part Bit-1	3.70.0	U.A.W	Black Granite
20	Karimangalam	Jakkupatty	151 Part Bit-2	3.70.0	U.A.W	Black Granite
21	Harur	Gobinatham-patty	281(part)	4.54.0	U.A.W. Karadu	Black Granite
22	Harur	Polayamballi	383/1 Part Bit-1	2.60.0	U.A.W. Karadu	Black Granite
23	Harur	Polayamballi	383/1 Part Bit-2	2.00.0	U.A.W. Karadu	Black Granite
24	Harur	Polayamballi	383/1 Part Bit-3	1.52.0	U.A.W. Karadu	Black Granite
25	Harur	Reddipatti	9 (Part) Bit-1	3.20.0	U.A.W. Kundru	Black Granite
26	Harur	Reddipatti	9/Part Bit-2 & 13/2	1.40.0 1.03.5 2.43.5	U.A.W. Kundru & Kallankuthu	Black Granite
27	Pappireddipatty	Alapuram	386 (Part)	4.88.5	U.A.W Kallankuthu	Black Granite
28	Pappireddipatty	Nallagudala halli	94/ Part Bit-2	2.20.0	U:A.W. Parai	Black Granite
29	Pappireddipatty	Sinthalpadi	44 (Part)	1.10.0	U.A.W	Black Granite
30	Pappireddipatty	Sinthalpadi	74 (Part) & 75	0.40.0 1.05.0 1.45.0	U.A.W. Parai	Black Granite

Dharmapuri, .
02-09-2020.

S. MALARVIZHI
DISTRICT COLLECTOR,
DHARMAPURI DISTRICT.

PRINTED BY THE DIRECTOR OF STATIONERY AND PRINTING AT THE GOVERNMENT BRANCH PRESS, SALEM
AND PUBLISHED BY THE COLLECTOR OF THE DISTRICT.

APPENDIX VI-A

(See Rule 8-A)

TENDER APPLICATION FOR GRANT OF QUARRYING LEASE FOR GRANITE

(To be submitted in triplicate)

Dated Day of 2020

From

To

The District Collector,

Dharmapuri.

Madam,

I. I/We submit the application under Rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959, in respect of item No..... .... in District Gazette Notification No....., Dt:..... or in newspaper advertisement, dated..... I/ We request that quarrying lease under Rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959 may granted to me /us as per the procedure laid down in the above Rule.

II. A sum of Rs.5000/- (Rupees Five Thousand only) being the non-refundable application fee has been remitted through challan under the following head of account.

"0853 Non-ferrous Mining and Metallurgical Industries-102, Mineral Concession Fees Rent and Royalties-AA Quarries and Minerals 2705- Non –Taxation Fee-Application D.P.Code.No.0853-00-102-AA-2752" Vide Challan number.....Dated .....@ State Bank of India, Dharmapuri.

(or)

Demand draft Rs.5000/- (Rupees Five thousand only) from a Nationalized Bank (or) Co-operative Bank drawn in favour of the District Collector, Dharmapuri, DD No. ..... dated .....of..... Bank ....., Branch is enclosed.

III. The required particulars are given below:

1. Name of the applicant in which the quarry lease is required to be granted with full address.

2. (a) Is the applicant an Individual or Private Company, Firm or Association?

   (b) If the applicant is an Individual, specify his name, nationality and address:

   (c) If the applicant is private company, firm or association, specify name of directors, partners, members and their Nationality (Documentary evidence should be produced)

3. (a) Particulars of remittance of application fee (enclose original chalan or Demand draft from Nationalised bank / Co-operative bank)

   (b) Particulars of remittance of Earnest Money Deposit (enclose original chalan or Demand draft from Nationalised bank / Co-operative bank)

4. Has the applicant filed an affidavit stating that the applicant-

   (a) has filed up-to date income-tax returns:

   (b) has paid the Income tax on him and

   (c) has paid the income tax on the basis of self-assessment as prescribed in the Income Tax Act, 1961.

5. (a) Whether Mining Dues Clearance Certificate towards payment of quarrying dues, if any, enclosed?

   (b) If on the date of application the applicant does not hold any quarrying lease / mining lease whether an affidavit to this effect is furnished?

6. Is the applicant having an existing industry or Industrial programme for proposed industry? Specify and enclose the industrial programme and furnish the following.

   (a) Category of the existing / proposed Industry: (e.g.100 % E.O.U/ D.G.T.D/ S.S.I)

   (b) License Number and Date:

   (c) Installed capacity / Production capacity per annum in Sq.Mts

   (d) Total investment in the industry:

   (e) Date of commencement of the Industry:

   (f) Nature of products manufactured [Specify quantities of individual items (e.g. building slabs/monuments/ tiles etc.)] per annum in Sq. Mts.:

   (g) Annual requirement of raw materials per annum in cubic metres:

   (h) Expansion details, if any (furnish documentary evidence) (Furnish above details for proposed industry also excepting Sl.No.6(b) if license is not yet obtained, 6(e) and 6(h):

   Not Applicable

7. Minor Mineral which the applicant intends to quarry with descriptions:

8. Period for which quarrying lease is required:

9. Total extent of the area applied for:

10 Details of the area for which the tender application is made.

ıl. No in the Gazette notification	District	Taluk	Village	Survey Number	Area in Hectare
(1)	(2)	(3)	(4)	(5)	(6)

11 Maximum tender amount the applicant is willing to offer for getting the area in lease for quarrying: (Specify both in figures and words)

12 Particulars of areas already held under quarrying lease in TamilNadu. (Enclose an affidavit showing the particulars of areas mineral wise in each District of the State which the applicant and any other person jointly with him already holds under a quarry lease; already applied for but not yet granted; and being applied for simultaneously).

13 Any other particulars which the applicant wishes to furnish:

I /We do hereby declare that the particulars furnished above are correct and am /are ready to furnish any other details and curity deposit as may required by the Government or District Collector or District Forest Officer. I hereby swear and state that ı know very well about the provisions contained in the Tamil Nadu Minor Mineral Concession Rules, 1959 in respect of anting of quarry lease applied for and other conditions stipulated in connection with the quarrying and other operations.

ace :

Yours faithfully

Signature of the applicant

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE II

Industries (MME.2) Department,
Secretariat, Chennai – 600 009

Letter No.272/MME.2/2021 – 1 , Dated 22.02.2021

From

Thiru N. Muruganandam, I.A.S.,
Principal Secretary to Government.

To

M/s. PVI Trading Corporation,
No.62-A, 1st Pulikuthi Street,
Gugai, Salem- 636 006.

Sir,

Sub: Mines and Minerals – Minor Mineral – Black Granite – Ajjanahalli Village - Pennagaram Taluk - Dharmapuri District - S.F.Nos.830 (Part) East (3.71.0 hectares) and 834/1 (1.29.0 hectares) - Over an extent of 5.00.0 hectares of Government Poramboke land – Highest Bid amount offered by M/s. PVI Trading Corporation, Salem – Precise Area Communicated - Balance Lease Amount - Approved mining Plan and Environmental Clearance – Called for.

Ref:
1. Dharmapuri District Gazette Extraordinary issue in English and Tamil No. 05 dated 03.09.2020.
2. Application of Highest Bidder of M/s.PVI Trading Corporation, Salem on 28.09.2020.
3. From the District Collector, Dharmapuri, Letter Roc No.174/2020(Mines), dated 23.10.2020.
4. From the Director of Geology and Mining, File No.6162/MM4/2020, dated: 30.12.2020 and 06.02.2021.

*****

I am directed to state that in the references third and fourth cited, the District Collector, Dharmapuri and the Director of Geology and Mining have recommended to declare you as Successful bidder and to grant quarry lease for quarrying of Black Granite over an extent of 5.00.0 hectares of Government Poramboke land in S.F.Nos.830 (Part) East (3.71.0 hectares) and 834/1 (1.29.0 hectares) in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri District for a period of 20 years under rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959.

PTO

2. I am directed to declare you as successful bidder to grant quarry lease for quarrying of Black Granite over an extent of 5.00.0 hectares of Government Poramboke land in S.F.Nos.830 (Part) East (3.71.0 hectares) and 834/1 (1.29.0 hectares) in Ajjanahalli Village of Pennagaram Taluk, Dharmapuri District for a period of 20 years under rule 8-A of the Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the outcome of W.P.No.13811 of 2020 and W.M.P.No.17315 of 2020 and W.P.No.14092/2020.

3. In this connection, I am directed to request you to remit the balance lease amount of Rs.5,50,00,000/- in the District Treasury concerned and to submit the original challan to Government within a period of one month from the date of this communication and to submit the approved Mining Plan as per Rule 12 of Granite Conservation and Development Rules, 1999 through the Commissioner of Geology and Mining to Government within the period of 3 months from the date of receipt of this communication as per Rule 8A(8)(a)(ii) of the TNMMCR, 1959 and also to produce Environmental Clearance obtained from the Competent Authority for the above said area in the conditions stipulated in the prescribed Act and Rules in addition to the following conditions:-

1) A safety distance of 7.5 meters and 10 meters should be provided to the adjacent patta and Government Poramboke lands, respectively.

2) All conditions stipulated in the District Gazette No.05 Extra ordinary notification dated 03.09.2020 should be adhered by the lessee.

3) Environmental clearance should be obtained from the State Level Environmental Impact Assessment Authority before granting quarry lease as per rule 42 of the Tamil Nadu Minor Mineral Concession Rules, 1959.

4) The applicant firm 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 meters with a distance between two pillars shall not be more than 3 meters.

   - The applicant firm 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 digitized map with DGPS readings should be submitted in the CD form to the Deputy Director, Dharmapuri.

5) The District Administration and Geology and Mining Department should ensure the conditions imposed in G.O.(Ms) No.79, Industries Department, dated 6.04.2015.

6) As per Rule 12(V) of Minerals (other than Atomic & Hydro- carbons Energy Minerals) Concession Rules, 2016, the applicant firm shall at his own expenses erect, maintain and keep in repair all the boundary pillars.

7) The applicant firm should use mild explosives during quarrying.

8) Child Labourers should not be engaged in quarry works.

9) 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.

10) The applicant firm should ensure that while starting the quarry work, all the quarry workers working under his control are registered in the Labour Welfare Board and also enrolled in the ongoing insurance scheme.

11) The District Collector, Dharmapuri shall obtain a sworn-in-affidavit from the applicant firm containing the above conditions before execution of lease deed and also ensure that the instructions issued in Government Letter No.12789/MMB2/2002-7, Industries Department, Dated 09.01.2003 are complied with.

Yours faithfully,

23.2.2021

for Principal Secretary to Government.

23/2/2021

Copy to:-

The Commissioner of Geology and Mining,
Guindy, Chennai – 600 032.

The District Collector,
Dharmapuri District.

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

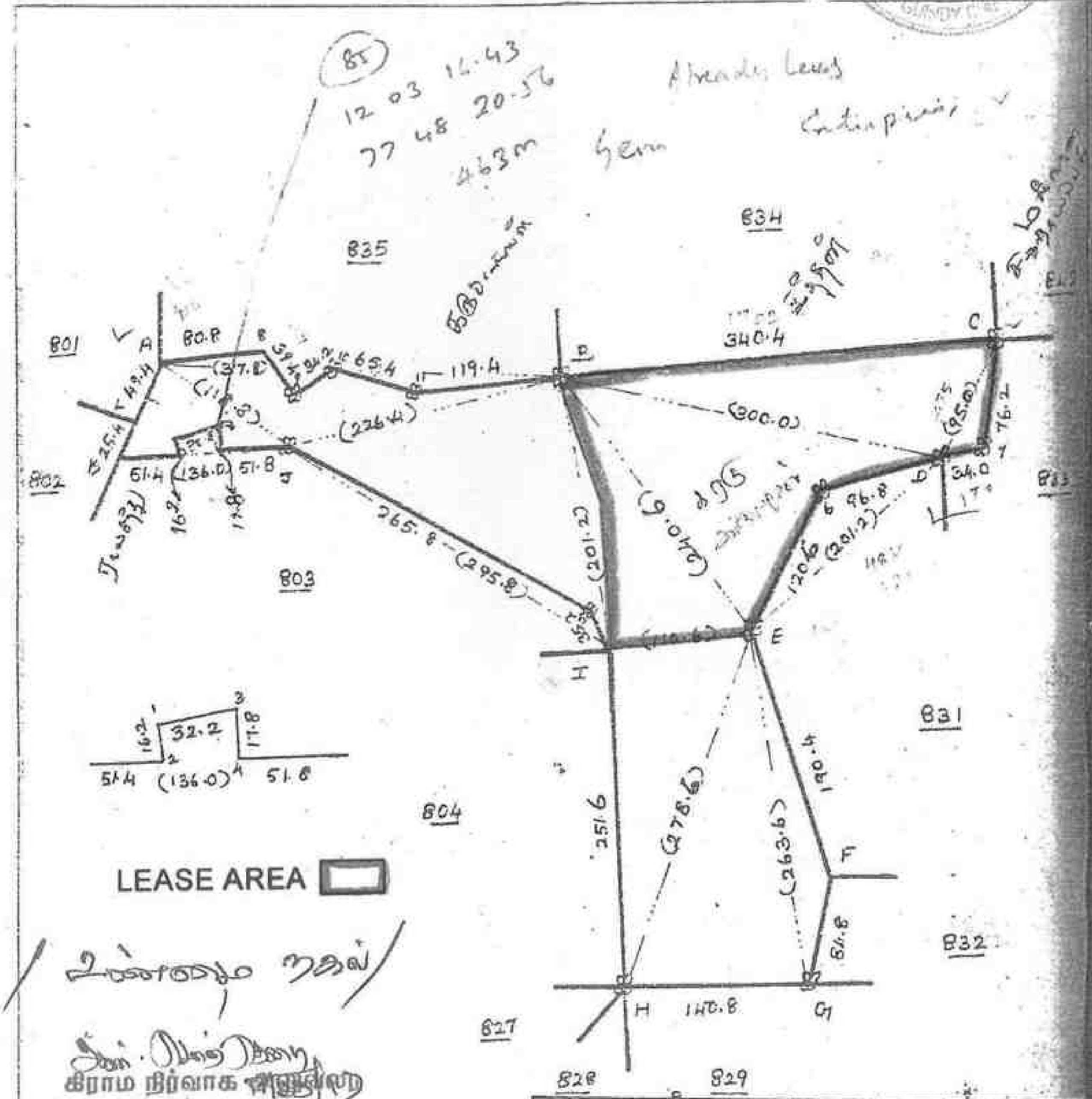
அளவைப்படிவ எண் 23

மாவட்டம்: தர்மபுரி

வட்டம்: பென்னாகரம்

கிராமம் { எண் ... பெயர்: அஜ்ஜனஅள்ளி

புல எண். 830 பரப்பு: ஹெக்டேர் ... ஏர். 68.0



உண்மை நகல்

கிராம நிர்வாக அலுவலர்
30, அஜ்ஜன அள்ளி-கிராமம்,
பிறப்பு & இறப்பு பதிவு அலுவலர்
பென்னாகரம்-(Tk), தருமபுரி-(Dt)

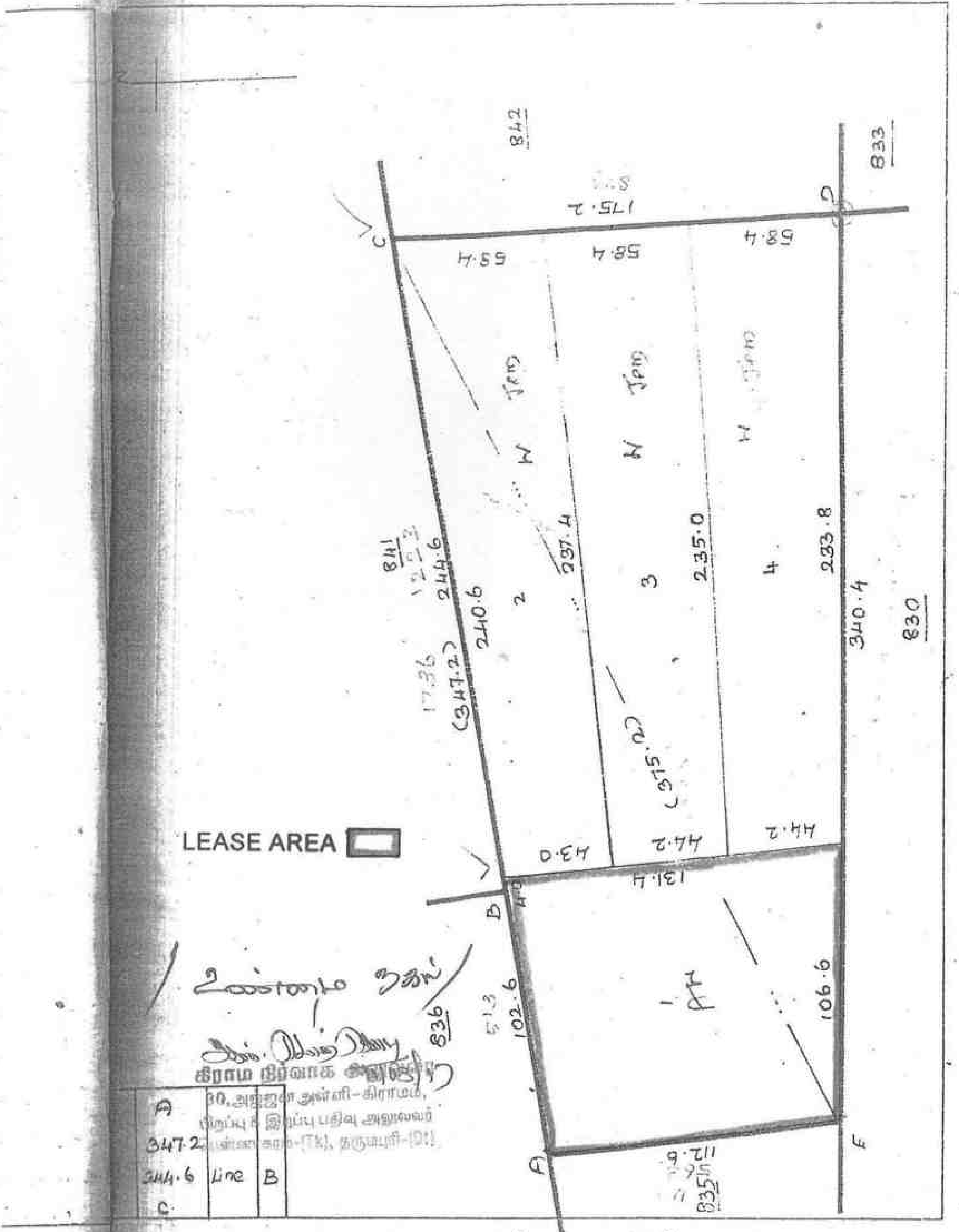
828		829					
		317.8				E	
		199.8	14.4	11			
		134.8	3.0	10		J	
		105.4	20.8	9		295.8	
B	12.0	80.4				31.4	15.6

E					A					I	
278.6					C					J	
50.4	131.6	G			95.0					136.0	
H					23.2	25.2	7	4	2.8	84.2	
E					D			3	20.2	80.2	
263.6					201.2					51.0	3.8
76.6	36.2	F	6	40.4	113.4			1	12.6	48.2	
G										K	

வரை ... அளவு. 1 ச.மீ ... மீ.

கிராமம் {
பெயர்:

புல எண்: 834 பரப்பு: ஹெக்டேர் 4 ஏர். 93.5



அளவு: 1 மி.மீ : 2000 மி.மீ

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE - IV

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

A · REGISTER

District : Dharmapuri Taluk : Pennagaram Village : Ajjanahalli

818	1	-1		அ	புஞ்சை			8 - 5	12	0	62	0	15.00	0	10	0	அனாதீனம்
818	2	-2		அ	புஞ்சை			8 - 5	12	0	62	0	34.00	0	21	0	அனாதீனம்
818	3	-3		அ	புஞ்சை			8 - 5	12	0	62	0	5.00	0	06	0	அனாதீனம்
818	4	-1	P	ர	புஞ்சை			8 - 5	12	0	62	0	21.50	0	13	1856-செல்வராஜ்	
818	5	-1	P	ர	புஞ்சை			8 - 5	12	0	62	0	24.50	0	15	1857-பழனிசாமி	
818	6	-1	P	அ	புஞ்சை			8 - 5	12	0	62	0	28.00	0	17	0	அனாதீனம்
Total For Survey Number- 818												1	28.0	0	82		
819	1	-1		ர	புஞ்சை			8 - 5	12	0	62	0	71.00	0	44	1580-கல்லான்	
819	2	-2		ர	புஞ்சை			8 - 5	12	0	62	0	53.00	0	33	1581-மாதம்மாள்	
819	3	-3		ர	புஞ்சை			8 - 5	12	0	62	0	60.00	0	37	1581-மாதம்மாள்	
819	4	-4		ர	புஞ்சை			8 - 5	12	0	62	0	3.00	0	06	1582-பசுவராஜ்	
Total For Survey Number- 819												1	87.0	1	20		
820	1	-1		ர	புஞ்சை			8 - 5	12	0	62	1	15.00	0	71	1582-பசுவராஜ்	
820	2	2	P	அ	புஞ்சை			8 - 5	12	0	62	0	75.00	0	46	0	அனாதீனம்
820	3	-3		ர	புஞ்சை			8 - 5	12	0	62	0	74.00	0	46	1583-பசுவராஜ்	
820	4	-4		ர	புஞ்சை			8 - 5	12	0	62	1	13.00	0	70	1584-கிருஷ்ணம்மாள் மற்றும் 3 நபர்(கள்)	
Total For Survey Number- 820												3	77.0	2	33		
821	1	-1		அ	புஞ்சை			8 - 5	12	0	62	1	44.00	0	89	0	அனாதீனம்
821	2	-2		அ	புஞ்சை			8 - 5	12	0	62	3	50.50	2	17	0	இரயில் பாதை
Total For Survey Number- 821												4	94.5	3	[illegible]		
822	-	822		அ	புஞ்சை			8 - 5	12	0	62	3	39.00	2	10	0	அனாதீனம்
823	-	823		அ	புஞ்சை			8 - 5	12	0	62	4	98.00	3	08	0	அனாதீனம்
824	1	-1		அ	புறம்போக்கு			0 -	0	0	0	0	8.00	0	00	0	பாட்டை
824	2	-2		அ	புஞ்சை			8 - 5	12	0	62	0	30.00	0	21	0	அனாதீனம்
824	3	-3		அ	புஞ்சை			8 - 5	12	0	62	2	11.50	1	42	0	அனாதீனம்
824	4	-4		ர	புஞ்சை			8 - 5	12	0	62	0	53.50	0	33	407-[illegible] பிரைவேட்	
824	5	824-5		ர	புஞ்சை			8 - 5	12	0	62	0	41.50	0	25	1916-மணி	
824	6	-6		ர	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	680-பூவாயி	
824	7	-7		ர	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	768-புமாலை(எ) மணி	
824	8	-8		அ	புஞ்சை			8 - 5	12	0	62	0	40.50	0	26	0	அனாதீனம்
824	9	824-9		ர	புஞ்சை			8 - 5	12	0	62	0	80.00	0	50	2016-முத்தம்மாள்	
Total For Survey Number- 824												7	8.0	4	47		
825	1	-1		அ	புறம்போக்கு			0 -	0	0	0	0	16.00	0	00	0	பாட்டை
825	2	-2		அ	புஞ்சை			8 - 5	12	0	62	3	36.50	2	08	0	அனாதீனம்
Total For Survey Number- 825												3	52.5	2	88		
826	-	826		அ	புஞ்சை			8 - 5	12	0	62	5	2.00	3	10	0	அனாதீனம்
827	1	-1		அ	புஞ்சை			8 - 5	12	0	62	3	27.50	2	03	0	அனாதீனம்
827	2	-2		ர	புஞ்சை			8 - 5	12	0	62	1	19.50	0	73	251-குருசாமி	
827	3	-3		ர	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	1063-வீராசாமி	
827	4	-4		ர	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	1064-வீரப்பன்	
827	5	-5		ர	புஞ்சை			8 - 5	12	2	62	1	21.50	0	75	1095-ஜெயமாது	
827	6	-6		அ	புஞ்சை			8 - 5	12	0	62	1	56.50	0	97	0	அனாதீனம்
Total For Survey Number- 827												9	68.0	5	59		
828	1	-1		அ	புஞ்சை			8 - 5	12	0	62	5	81.00	3	59	0	அனாதீனம்
828	2	-2		அ	புஞ்சை			8 - 5	12	0	62	0	65.00	0	40	0	அனாதீனம்
Total For Survey Number- 828												6	46.0	3	99		
829	1	-1		அ	புஞ்சை			8 - 5	12	0	62	2	58.00	1	60	0	அனாதீனம்
829	2	-2		அ	புஞ்சை			8 - 5	12	0	62	2	90.00	1	79	0	அனாதீனம்
Total For Survey Number- 829												5	48.0	3	39		
830	-	830		அ	தரிசு			0 -	0	0	0	11	68.00	0	00	0	கரடு
831	-	831		அ	புஞ்சை			8 - 5	12	0	62	2	60.00	1	61	0	அனாதீனம்
832	-	832		அ	புஞ்சை			8 - 5	12	0	62	3	21.00	1	99	0	அனாதீனம்
833	1	-1		அ	புஞ்சை			8 - 5	12	0	62	1	94.00	1	20	0	அனாதீனம்
833	2	-2		அ	புஞ்சை			8 - 5	12	0	62	4	5.00	2	50	0	அனாதீனம்

Total For Survey Number- 833												5	99.0	3	70		
834	1	-1		அ	புஞ்சை			8 - 5	12	0	62	1	29.00	0	80	0	அனாதீனம்
834	2	-2		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	158-ரவீந்திரன்	
834	3	834		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	158-ரவீந்திரன்	
834	4	-4		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	158-ரவீந்திரன்	
Total For Survey Number- 834												4	93.5	3	05		
835	1	-1		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	158-ரவீந்திரன்	
835	2	-2		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	158-ரவீந்திரன்	
835	3	-3		அ	புஞ்சை			8 - 5	12	0	62	0	81.50	0	51	0	அனாதீனம்
Total For Survey Number- 835												3	24.5	2	01		
836	1	836-1		அ	புஞ்சை			8 - 5	12	0	62	0	35.00	0	21	0	இரயில் பாதை
836	2	-2		ச	புஞ்சை			8 - 5	12	0	62	0	54.50	0	34	157-கவுண்டப்பன்	
836	3	-3		ச	புஞ்சை			8 - 5	12	0	62	0	64.00	0	40	643-பச்சமுத்து	
836	4	-4		ச	புஞ்சை			8 - 5	12	0	62	0	67.00	0	41	50-அங்கமுத்து	
836	5	-5		ச	புஞ்சை			8 - 5	12	0	62	0	67.00	0	41	681-பூமலைக் கவுண்டன்	
836	6	-6		ச	புஞ்சை			8 - 5	12	0	62	0	67.00	0	41	478-செம்மண்ணன்	
836	7	-7		ச	புஞ்சை			8 - 5	12	0	62	0	61.00	0	38	49-அப்பண்ணன்	
836	8	-8		ச	புஞ்சை			8 - 5	12	0	62	0	62.00	0	38	157-கவுண்டப்பன்	
836	9	836-1		ச	புஞ்சை			8 - 5	12	0	62	0	79.00	0	49	1968-அழகம்மாள்	
836	10	836-1		ச	புஞ்சை			8 - 5	12	0	62	0	77.00	0	48	1967-காந்தியம்மாள்	
836	11	836*11 8		அ	புஞ்சை		0	8 - 5	12	0	0	0	77.00	0	00	0	அனாதீனம்
Total For Survey Number- 836												7	19.5	3	91		
837	1	837-1		ச	புஞ்சை			8 - 5	12	0	62	0	69.50	0	43	409-சின்னண்ணன்	
837	2	-2		அ	புஞ்சை			8 - 5	12	0	62	1	53.00	0	94	0	அனாதீனம்
837	3	-3		ச	புஞ்சை			8 - 5	12	0	62	0	63.00	0	39	252-குஞ்சி பையன்	
837	4	-4		ச	புஞ்சை			8 - 5	12	0	62	0	77.50	0	48	156-கவுண்டப்பன்	
837	5	-5		ச	புஞ்சை			8 - 5	12	0	62	0	71.50	0	44	1027-ராஜி	
837	6	-6		ச	புஞ்சை			8 - 5	12	0	62	0	72.00	0	45	274-கொழந்தைசாமி	
Total For Survey Number- 837												5	6.5	3	13		
838	1	838--		அ	புஞ்சை			8 - 5	12	0	62	0	8.50	0	05	0	அனாதீனம்
838	2	838--		ச	புஞ்சை			8 - 5	12	0	62	0	79.00	0	49	1958-ரஞ்சிதம்	
Total For Survey Number- 838												0	87.5	0	54		
839	1	839-1		ச	புஞ்சை			8 - 5	12	0	62	0	71.00	0	44	1964-பூங்கொடி	
839	2A	-2		ச	புஞ்சை			8 - 5	12	0	62	0	86.00	0	53	875-மாது	
839	2B	-2		ச	புஞ்சை			8 - 5	12	0	62	0	35.00	0	22	629-பச்சமுத்து	
839	3	839-3		ச	புஞ்சை			8 - 5	12	0	62	0	81.00	0	50	1966-தங்கம்மாள்	
839	4	839-1		ச	புஞ்சை			8 - 5	12	0	62	0	81.00	0	50	1965-கோவிந்தம்மாள்	
839	5	839-1		அ	புஞ்சை			8 - 5	12	0	62	0	34.00	0	21	0	அனாதீனம்
839	6	839-3		அ	புஞ்சை			8 - 5	12	0	62	0	99.50	0	62	0	அனாதீனம்
Total For Survey Number- 839												4	87.5	3	02		
840	1	840-1		ச	புஞ்சை			8 - 5	12	0	62	0	44.00	0	26	1913-தனம்	
840	2	-2		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	1084-வெள்ளையன்	
840	3	840-3		ச	புஞ்சை			8 - 5	12	0	62	0	33.00	0	20	1989-பாவாயி	
840	4	840-1		ச	புஞ்சை			8 - 5	12	0	62	0	48.50	0	30	1914-சதாமணி	
Total For Survey Number- 840												2	47.0	1	51		
841	-	841		அ	புஞ்சை			8 - 5	12	0	62	5	29.50	3	27	0	அனாதீனம்
842	1	842-1		ச	புஞ்சை			8 - 5	12	0	62	1	1.00	0	68	644-மரகதவள்ளி	
842	2	-2		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	644-மரகதவள்ளி	
842	3	-3		ச	புஞ்சை			8 - 5	12	0	62	1	21.50	0	75	644-மரகதவள்ளி	
Total For Survey Number- 842												3	44.0	2	18		
843	1	843--		ச	புஞ்சை			8 - 5	12	0	62	0	51.50	0	32	2029-கலா	
843	2	843--		ச	புஞ்சை			8 - 5	12	0	62	0	46.00	0	29	2023-செல்வி	
843	3	843--		ச	புஞ்சை			8 - 5	12	0	62	0	56.00	0	35	2020-கலைச்செல்வி	
843	4	843--		ச	புஞ்சை			8 - 5	12	0	62	0	78.00	0	48	2028-பச்சியம்மாள்	
843	5	843--		ச	புஞ்சை			8 - 5	12	0	62	0	78.00	0	48	2012-சந்திரா	

Dr. S. KARUPPANNAN, M.Sc., Ph.D.
ROP/MAS/263/20[illegible]

PHOTOCOPY OF THE LEASE AREA

Field photos in respect of granite quarry lease, Govt land through tender cum auction in quarry lease over an extent of 5.00.0Hectares in S.F.No: 830 (Part) East & 834/1 of Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamil Nadu State belongs to **M/s.PVI Trading Corporations.**

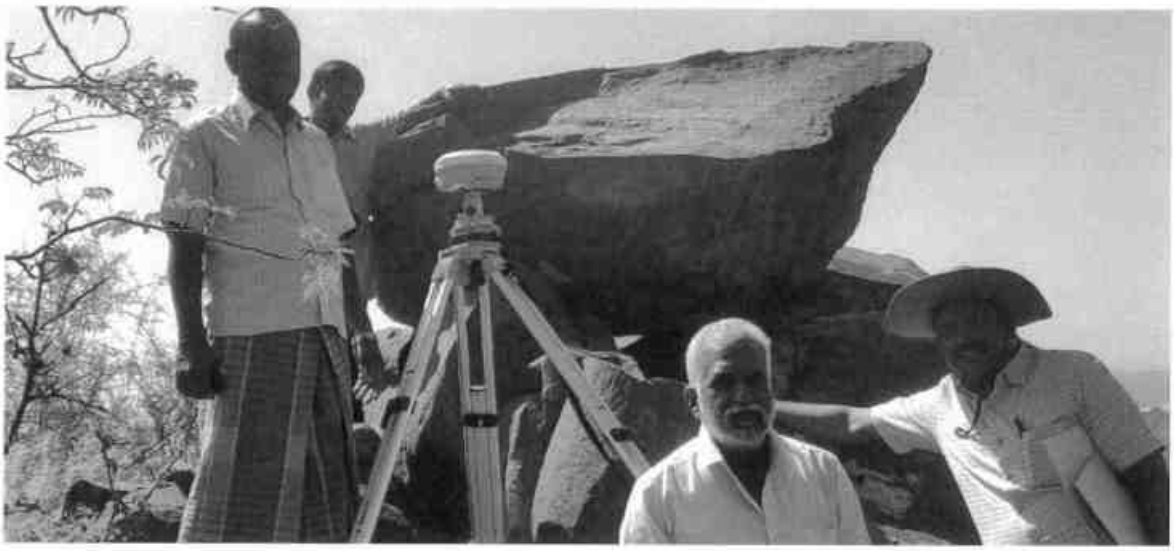


Fig.1 Photographs showing DGPS Survey of the Base Point

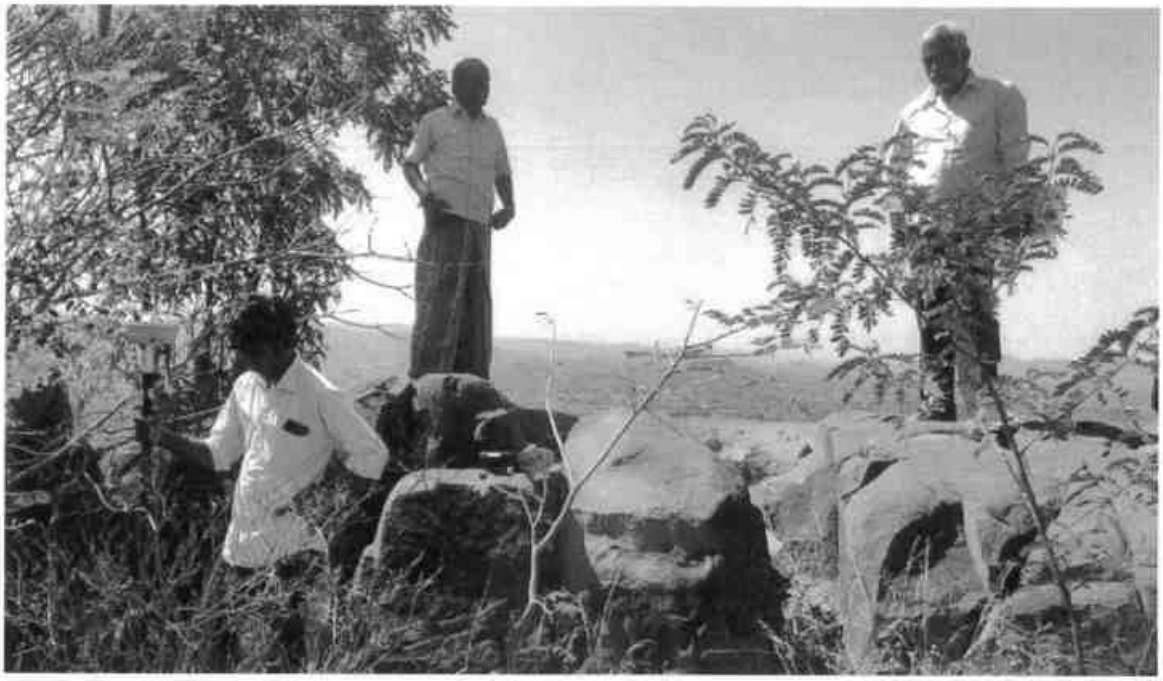


Fig.2 Photographs showing DGPS Survey of the Rover Unit Pillar No.

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE - VII

FORM C

[See rule 9(a)]

Acknowledgement of Registration of Firms

The Registrar of Firms, TamilNadu, hereby acknowledges the receipt of the statement prescribed by Section 58(1) of the Indian Partnership Act, 1932. The statement has been filed and the name of the firm PVI TRADING CORPORATION has been entered in the Register of Firms as No. FR/Salem East/87/2020.

DISTRICT REGISTRAR OFFICE
SALEM EAST.
Date : 24-Aug-2020
Station : Salem East

Digitally Signed by Thiru/ Tmt/ Selvi subithalakshmi s
Registrar of Firms

REGISTRAR OF FIRMS

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

தமிழ்நாடு तमिलनाडु TAMILNADU 24 JAN 2020

M/S. P.V.I. Trading Corporation. Salem. 6

CA 206091

M.V. சந்தியசேகர
மு.தா.வி சேலம்-1,
உரிம 16149-5/இ1/96

PARTNERSHIP DEED

This deed of partnership entered into this the 07th day of February 2020, between:

1. Mrs.V.Lakshmidhevi [PAN:ADKPL2067M], Wife of Shri.V.Venkateshwaran. aged 41 years residing at New No.86-A Old No-77-A, Ram Nagar Kumarasamypatti Salem-636007 [Hereinafter referred to as First Partner]

V. Lakshmi Dh	Nehaol Sri L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

தமிழ்நாடு तमिलनाडु TAMILNADU 24 JAN 2020

M/S. P.V.I Trading Corporation.
Salem.

CA 206092

M.V. சந்திரசேகர
மு.தா.வி சேலம்-1,
உரண 16149-5/இ1/98

2. Miss.Nehaol Sri LV [AADHAR: 7154 2780 0538], Daughter Of Shri.V.Venkateshwaran aged 18 years presently residing at New No.86-A Old No-77-A,Ram Nagar Kumarasamypatti Salem-636007 [Hereinafter referred to as Second Partner]

V. Lakshmi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

தமிழ்நாடு तमिलनाडु TAMILNADU 24 JAN 2020

M/S PVI. Trading Corporation.
Salem.6

CA 206093

M.V. சந்திரசேகரன்
மு.தா.வி சேலம்-1.
உரிமம் 16149-5/இ1/96

Whereas the partnership was originally formed on 11.04.2016 and was carrying on business in partnership in the name and style of PVI Trading Corporation, [PAN: AASFP8453A] with the main place of business at No.62-A,1st Pulikuthi Street Gugai Salem-636006.

Whereas the partnership has undergone changes in its constitution and presently consists of the above mentioned two partners

Whereas the two partners above mentioned have agreed as to the terms and conditions governing this partnership, now reduce the same in writing as under:

V. Lakshmi ..	Nehaol Sri. LV.
V.Lakshmidhevi	Nehaol Sri L.V
First Partner	Second Partner

Now therefore this indenture witnesses as follows:

NAME:

1. The name and style under which this partnership is to carry on business shall be "PVI Trading Corporation".

OBJECT:

2. The business to be carried out are

   2.1. Trading, Processing, import, export, or otherwise deal in all kinds and varieties of Dhall and allied products

   2.2. Excavating, Mining, Cutting, Polishing, Processing, treating, trading, importing, exporting or otherwise deal in all types stones, including marble, granite, rough blocks, Lime stone, sand stone, quartz, blue metal or any other stone of all description, including setting, processing, trading or dealing into waste and by products arising from such activities

   2.3. Any other business or businesses as may be found profitable may also be carried on by this partnership subject to the terms of this deed of partnership.

PLACE OF BUSINESS:

3. The main place of business shall be at No.62, 1st Pulikuthi Street Gugai Salem-636006; either this main place may be shifted to some other place or places and/or branch or branches may be opened at such other place or places as may be decided by all the partners from time to time.

V. Lakshmi dhevi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

CAPITAL:

4. The capital of this partnership shall be the amounts standing to the credits of the partners from time to time and such accounts may carry simple interest not exceeding twelve percent per annum.

POWERS AND DUTIES:

5. V.Lakshmidhevi [First Partner] and shall have power Individually

5.1. Submit a dispute relating to the business of the firm to arbitration, compromise, resolution or otherwise;

5.2. Open, operate all types of banking accounts (Including current overdrawn or otherwise);

5.3. Compromise or relinquish any claim or portion of a claim by the firm;

5.4. Proceed or take action on behalf of the company either by filing of suit, case or otherwise;

5.5. To alter, acquire, purchase, manage, develop, exchange, lease, mortgage, underlet, sell, give in gifts or dispose of, improve or otherwise deal with all kinds of land, building or other immovable property, on behalf of the firm, either in full or any part thereof for such consideration as may be agreed upon by all and to sign all related deeds, agreements or documents related to it;

5.6. Invest funds of the partnership in such modes and to modify or otherwise handle it as may be decided from time to time;

5.7. Enter into ventures, association, partnership, subscribe shares or associate otherwise on behalf of the firm;

5.8. Receive articles (either by post, courier, delivery or otherwise) addressed to the firm

V. Lakshmi Dh	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

5.9. To nominate persons to act on behalf of partnership firm by execution of a power of attorney, letter, or otherwise. In such a case all such actions done by such duly nominated person on behalf of the partnership shall be binding on all partners and partnership firm.

5.10. Represent this firm before any Court of Law or other Government Departments, Agencies, Corporations, associations or otherwise or to authorize any other person to so represent;

6. However in respect of the following, V.Lakshmidhevi [First Partner] and Nehaol Sri LV [Second partner] alone shall have powers to

6.1. Borrow funds for the business

6.2. Do such other acts, deeds or activities that are necessary, incidental, or conducive for the management of the affairs of the business of this partnership

BOOKS OF ACCOUNTS:

7. The fiscal year of the partnership shall be the financial year starting from 1st April of every year and ending on 31st March of every year.

8. Proper books and records shall be kept with reference to all partnership transactions, and each partner shall at all reasonable times during business hours have access to the books and records.

8.1. The books shall be kept upon such method of accounting as shall properly reflect the income of the partnership and as shall be agreed upon by the partners.

8.2. The books and records shall include the designation and identification of any property in which the partnership owns a beneficial interest; such records shall include, but shall not be limited to, the ownership of property, real, personal, and mixed, as well as any property in which the partnership owns an interest

V. Lakshmidhevi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

REMUNERATION:

9. The day to day affairs of partnership shall be taken care by active participation in the management of the affairs by following partner who will be paid remuneration as under:

Serial	Name	Salary
1.	V.Lakshmidhevi	40000 per month
	Total	40000 per month

SHARING RATIO:

10. The accounts of this partnership shall be closed to profit and loss account on the 31st of March every year and the resultant net profit or loss shall be divided among or borne by the partners in the following ratios:

Serial	Name	Profit/Loss sharing ratio
1.	V.Lakshmidhevi	55.00 %
2.	Nehaol Sri L.V	45.00 %
	Total	100.00%

OTHERS:

11. All real or personal property, including all improvements placed or located on such property, acquired by the partnership shall be owned by the partnership, such ownership being subject to the other terms and provisions of this Agreement. Each partner hereby expressly waives the right to require partition of any partnership property or any part of that property.

V. Lakshmidhevi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri L.V
First Partner	Second Partner

12. The Partnership can obtain Government or Private lease for mining, operation of quarries or otherwise, either in the name of the partnership or any of the partners of the firm out of the funds of the partnership and in such a case such lease, mine or quarry shall be the property of partnership and shall be operated by it for its purposes.

13. If any of the partners desire to retire from this partnership then he/she may do so by giving one month's advance intimation. Such retiring partner shall have no right to demand dissolution of this partnership. Such retiring/expelled partner shall have no right to claim a share in the goodwill of the firm, if any.

14. Any difference of opinion among the partners shall be decided by First partner and such decision shall be binding upon the partnership firm. However if the difference of opinion still continues it may be left to arbitration and settled amicably. Arbitration shall be conducted in English in accordance with Arbitration and Conciliation Act, 1996

15. This partnership shall be a partnership at will.

16. The headings used in this Agreement are used for administrative purposes only and do not constitute substantive matter to be considered in construing the terms of this Agreement.

17. This Agreement shall not be more strictly construed against any one party than against any other.

V. Lakshmi Devi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

18. Modification of the addresses due to renumbering or reclassification or renaming or otherwise by operation of law will not invalidate the agreement and the addressees referred to above shall accommodate such modification and operate accordingly.

19. Subject to the foregoing, this partnership shall be governed by the provisions of the Indian Partnership Act of 1932.

V. Lakshmidhevi	Nehaol Sri. L.V.
V.Lakshmidhevi	Nehaol Sri LV
First Partner	Second Partner

Witnesses:		
1.	Signature	[signature]
	Name	S.Kannan.
	Father's Name	K. Subbaiah
	Address	No.12, Tipperary Road, Yercaud-1. Salem. Dist.
	Aadhaar Number	5821 9055 2252
2	Signature	A. Murugan
	Name	A. Muruganandam
	Father's Name	A. Annamalai
	Address	No.3/17A, Marngoundan pudur Pannappatty post, Omalur, Salem District
	Aadhaar Number	4068 0876 8933

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE - IX

இந்திய அரசாங்கம்
Unique Identification Authority of India
Government of India

பதிவேட்டு எண்/ Enrolment No.: 2192/50232/45399

To
லட்சுமிதேவி வெங்கடேஷ்வரன்
Lakshmidhevi Venkateshwaran
W/O: Venkateshwaran
OLD No 77 A, NEW No 86 A
RAMNAGAR
KUMARASAMIPATTI
Salem
Hasthampatti
Salem Tamil Nadu - 636007
9944455990

Download Date: 26/03/2018
Generation Date: 26/01/2016

QR Code with Photograph

உங்கள் ஆதார் எண் / Your Aadhaar No. :

3323 4895 2158

VID : 9123 5966 4858 3718

எனது ஆதார், எனது அடையாளம்

Government of India

லட்சுமிதேவி வெங்கடேஷ்வரன்
Lakshmidhevi Venkateshwaran
பிறந்த நாள்/DOB: 19/06/1978
பெண்/ FEMALE

3323 4895 2158

VID : 9123 5966 4858 3718

எனது ஆதார், எனது அடையாளம்

Government of India

AADHAAR

நகல்

- ஆதார் அடையாளத்திற்கான சான்று, குடியுரிமைக்கு அல்ல.
- அடையாள சான்றை ஆன்லைன் ஆதன்டிகேஷன் மூலமாகப் பெறவும்.
- இது எலக்ட்ரானிக் செயல்முறை மூலம் தயாரிக்கப்பட்ட கடிதமாகும்.

INFORMATION

- **Aadhaar** is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

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

Unique Identification Authority of India

முகவரி:
கணவர் பெயர்: வெங்கடேஷ்வரன், பழைய எண் 77 அ, புதிய எண் 86 அ, ராம்நகர், குமாரசாமிபட்டி, சேலம், சேலம், தமிழ் நாடு - 636007

Address:
W/O: Venkateshwaran, OLD No 77 A, NEW No 86 A, RAMNAGAR, KUMARASAMIPATTI, Salem, Salem, Tamil Nadu - 636007

QR Code with Photograph

3323 4895 2158

VID : 9123 5966 4858 3718

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE - IX

Sri Krishnaa Explosives

"Sri Vishnu Kiruba"
Plot No. 7, (Door No. 4/197-1)
Indane Nagar Extension,
Jagir Reddipatti, SALEM-636 302.
Phone : 0427-2340736, 94432-44078
E-mail: srivishnumohan.2008@rediffmail.com

Prop. **G. MOHAN,** B.E.,

Date : 23.04.2021

To

M/s PVI Trading Corporation,
No. 62-A, Ist Pulikuthi Street,
Gugai, Salem-636 006.

Dear Sir,

Sub: Regarding Blasting Work using Explosives in your proposed quarry.

.oo.

We are having Explosive Licence in Form LE-3 holding No. E/SC/TN/22/515(E47493) valid upto 31.03.2024 situated in S.F.No. 18/2 Kadiripuram Village, HarurTk, Dharmapuri-Dt and our office functioning at above address. We are enacting Two Explosive Vans for transporting Explosives(Classs-2) and Detonators(Class-3) separately from our magazine to your worksite and well experienced licensed blasters, Certified 2nd class Managers and shotfirers for safe blasting works.

We are willing to undertake blasting work on contract basis at your S.F.Nos. 830(Part) East (3.71.0 Hect) and 834/1(1.29.0 Hect) in Ajjanahalli Village, Pennagaram Tk, Dharmapuri-Dt, Tamilnadu.

Thanking you,

Yours faithfully,
For SRI KRISHNAA EXPLOSIVES

G. MOHAN,B.E
PROPRIETOR

SRI KRISHNAA EXPLOSIVE SALEM 636 302

Enclosure:

1. Our Explosive Licence copy.

अनुज्ञप्ति प्ररुप एल. ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग I के अनुच्छेद 3(क) से (घ) देखिए।)
(See article 3(a) to (d) of Part I of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1,2,3,4,5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक रखने के लिए अनुज्ञप्ति

Licence to possess : (c) for use,explosives of class 1, 2,3,4,5,6 or 7 in a maga

अनुज्ञप्ति सं. (Licence No.) : E/SC/TN/22/515(E47493)
वार्षिक फीस रुपए (Annual Fee Rs): 4800/-

1. Licence is hereby granted to

Shri G. MOHAN, Proprietor M/s.Sri Krishnaa Explosives (अधिभोगी / Occupier : Shri G. Mohan), Sri Vishnu Kiruba, Plot No.7,(Door No.4/197), Indane Nagar Extension, Jagir Reddipatti,Salem-636302, state: Tamilnadu., Town/Village - Salem, District-SALEM, State-Tamil Nadu, Pincode - 636302

को अनुज्ञप्ति अनुदत्त की जाती है।

2. अनुज्ञप्तिधारी की प्रास्थिति | Status of licensee : **Individual**

3. अनुज्ञप्ति निम्नलिखित प्रयोजनों के लिए विधिमान्य है। : possess for use of **Nitrate Mixture, Safety Fuse, Detonating Fuse, Detonators,** - के उपयोग के लिए
Licence is valid only for the following purpose.

4. अनुज्ञप्ति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।
Licence is valid for the following kinds and quantity of explosives: -- (क) (a)

क्र Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप-प्रभाग Sub-division	मात्रा किसी एक समय में Quantity at any one time
1.	Nitrate Mixture	2 ,0	0	750 Kg.
2.	Safety Fuse	6 ,1	0	10000 Mtrs
3.	Detonating Fuse	6 ,2	0	25000 Mtrs
4.	Detonators	6 ,3	0	20000 Nos.

(ख) किसी एक कलैंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा [अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञप्ति के लिए] : **23 times as above.**

(b) Quantity of explosives to be purchased in a calendar month[applicable for licence under article 3(b) and (c)] :

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञप्त परिसर की पुष्टि होती है। : रेखाचित्र क्र. (Drawing No.) E/SC/TN/22/515(E47493)
The licensed premises shall conform to the following drawing(s): . दिनांक (Dated) 17/10/2008

6. अनुज्ञप्ति परिसर निम्नलिखित पते पर स्थित हैं। The licensed premises are situated at following address:
Survey No(s). 18/2 , ग्राम (Town/Village) : Kadiripuram village,Harur Taluk पुलिस थाना (Police Station) : Bommidi
जिला (District) **DHARMAPURI** राज्य (State) **Tamil Nadu** पिनकोड (Pincode)
दूरभाष (Phone) ई. मेल (E-Mail) फैक्स (Fax)

7. अनुज्ञप्ति परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं। : **A Main Magazine room, Lobby and a Detonator Room**
The licensed premises consist of following facilities.

8. अनुज्ञप्ति समय - समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधो, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपाबध्दों के अधीन रहते हुए अनुदत्त की जाती है।
The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2008 framed there under and the conditions, additional conditions and the following Annexures.

1. उपर्युक्त क्रम सं. 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।
Drawings (showing site, constructional and other details) as stated in serial No. 5 above.
2. अनुज्ञप्ति प्राधिकारी व्दारा हस्ताक्षरित इस अनुज्ञप्ति की शर्तें और अतिरिक्ति शर्तें।
Conditions and Additional Conditions of this licence signed by the licensing authority.
3. दूरी प्ररुप DE-2 | Distance Form DE-2.

9. यह अनुज्ञप्ति तारीख **31 मार्च 2010** तक विधिमान्य रहेगी। This licence shall remain valid till **31st day of March 2010.**

यह अनुज्ञप्ति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपवर्णित इस अनुज्ञप्ति की शर्तों का अधिक्रमण करने या यदि अनुजप्त परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहृत की जा सकती है, जहां वह लागू हो।
This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

तारीख | The Date - 17/10/2008

Sd/-
संयुक्त मुख्य विस्फोटक नियंत्रक | **Joint Chief Controller of Explosives**

South Circle, Chennai

Amendments :

- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 06/01/2011
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 13/06/2011
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 05/10/2011
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated : 25/04/2014

Transfers :

- Change in Licensee Name/Address/Status dated : 15/04/2014

नवीनीकरण के पृष्ठांकन के लिए स्थान
Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature of licensing authority and stamp
25/01/2019	31/03/2024	Controller of Explosives, Vellore विस्फोटक नियंत्रक, वेल्लूर Controller of Explosives, Vellore

कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने या उनका दुरूपयोग विधि के अधीन गंभीर दांडिक अपराध होगा।
Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A

ANNEXURE -XI

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES

अर्हता प्राप्त व्यक्ति के रुप मेंमान्यता प्रमाण पत्र
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एस. करुपण्णण, मॉग्गनीकाडू, मुत्तमंपटटी पोस्ट, बोम्मीडी वयॉ , ओमलूर तालुक, सेलम डीस्टीक्ट, तमिलनाडू – 635 301, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोष जनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हता प्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri S. Karuppannan, Manganikadu, Muthampatty (Post), Bommidi (Via), Omalur Taluk, Salem District, Tamilnadu – 635 301, whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

उनकीपंजीयन संख्या है
His registration number is **RQP /MAS/263/2014/A**

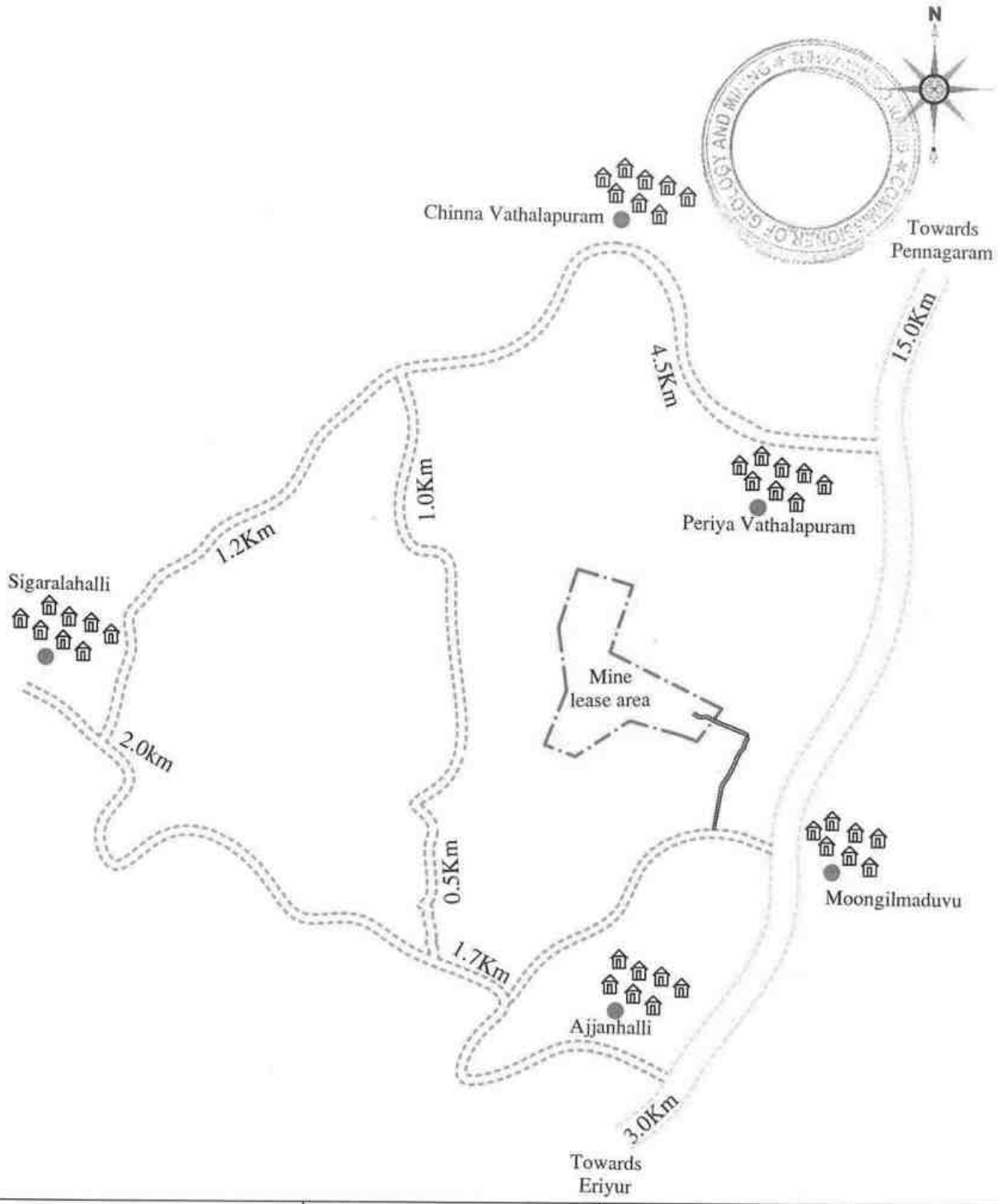
यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 15.12.2024 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 15.12.2024.

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिती में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।
This certificate will liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान/ Place : Chennai
दिनांक/ Date : 16.12.2014.

क्षेत्रीय खाननियंत्रक / Regional Controller of Mines
भारतीय खानब्यूरो/ Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
RQP/MAS/263/2014/A



APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

PLATE NO-I

INDEX

QUARRY LEASE AREA
APPROACH ROAD
VILLAGE ROAD
SH ROAD

ROUTE MAP

Not to Scale

Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

N

PLATE NO-IC

APPLICANT:

M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

INDEX

TOPO SHEET NO : 57-H/16

LATITUDE: 12° 3'06.1265"N - 12° 3'17.3265"N

LONGITUDE:77°48'28.5887"E - 77°48'39.5422"E

QUARRY LEASE AREA	
300M RADIUS	
500M RADIUS	
1KM RADIUS	
APPROACH ROAD	
VILLAGE ROAD	

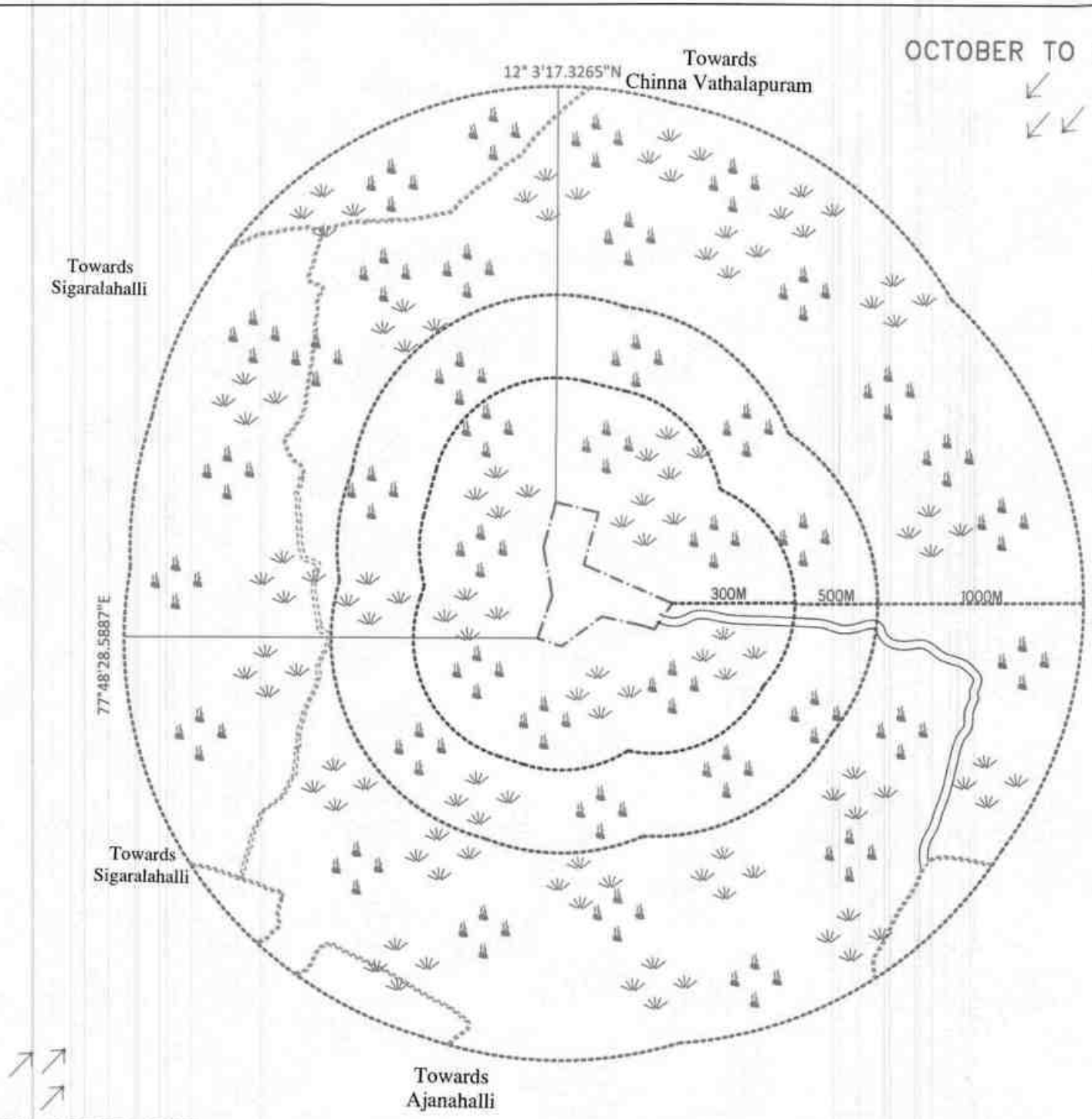
SATELLITE IMAGE FOR 1KM RADIUS

SCALE- 1:10000

PREPARED BY:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



N

PLATE NO-ID

APPLICANT:

M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

INDEX

TOPO SHEET NO : 57-H/16

LATITUDE: 12° 3'06.1265"N - 12° 3'17.3265"N

LONGITUDE:77°48'28.5887"E - 77°48'39.5422"E

QUARRY LEASE AREA

300M RADIUS

500M RADIUS

1KM RADIUS

APPROACH ROAD

VILLAGE ROAD

SHRUB AND TREES

ENVIRONMENTAL AND LAND USE PLAN FOR 1KM RADIUS

SCALE- 1:10000

PREPARED BY:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

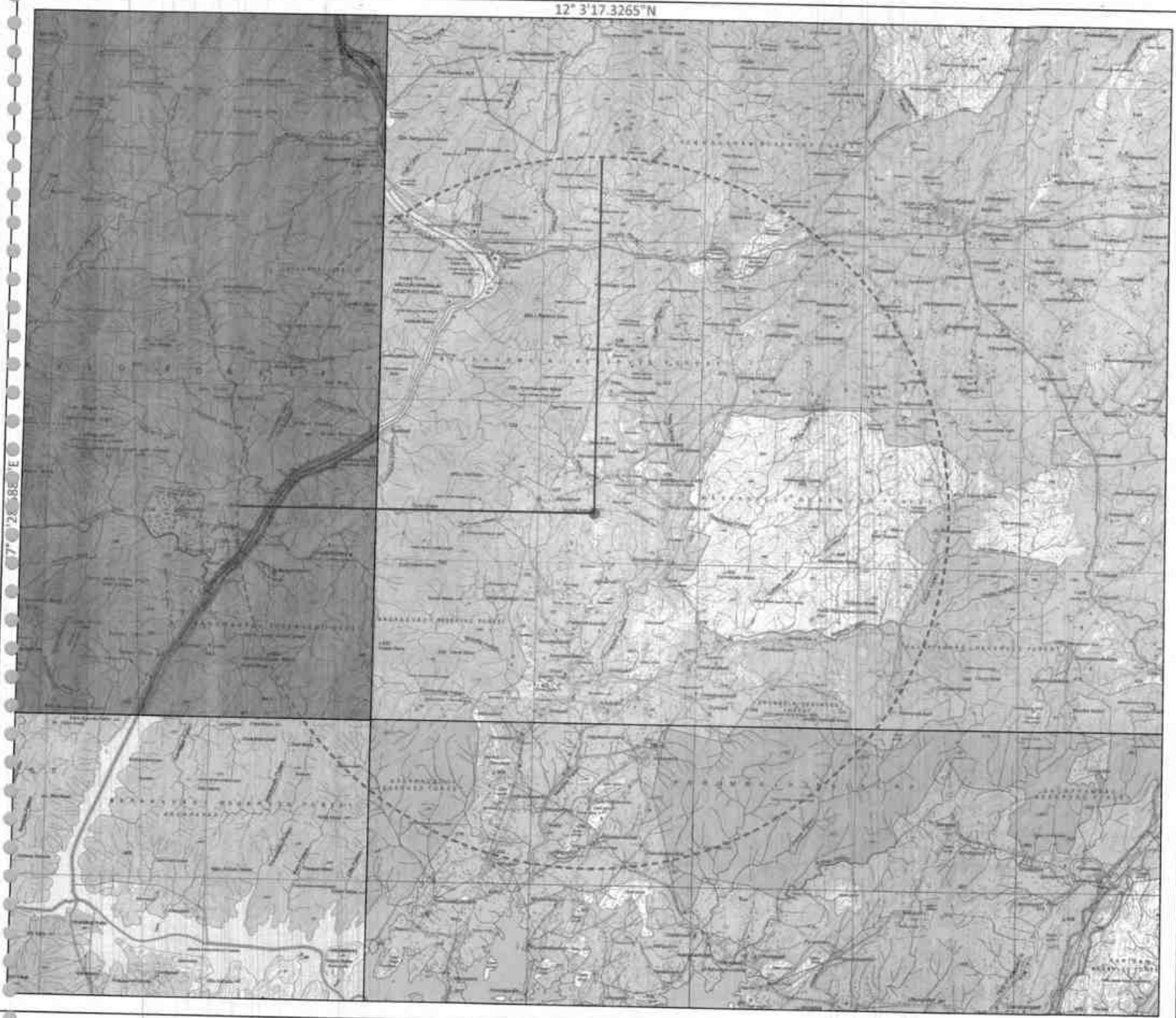


PLATE NO-IB

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

INDEX

TOPO SHEET NO : 57-H/16

LATITUDE: 12° 3'06.1265"N - 12° 3'17.3265"N

LONGITUDE:77°48'28.5887"E - 77°48'39.5422"E

QUARRY LEASE AREA

10KM RADIUS

TOPO MAP

SCALE– 1:1,00,000

PREPARED BY :

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

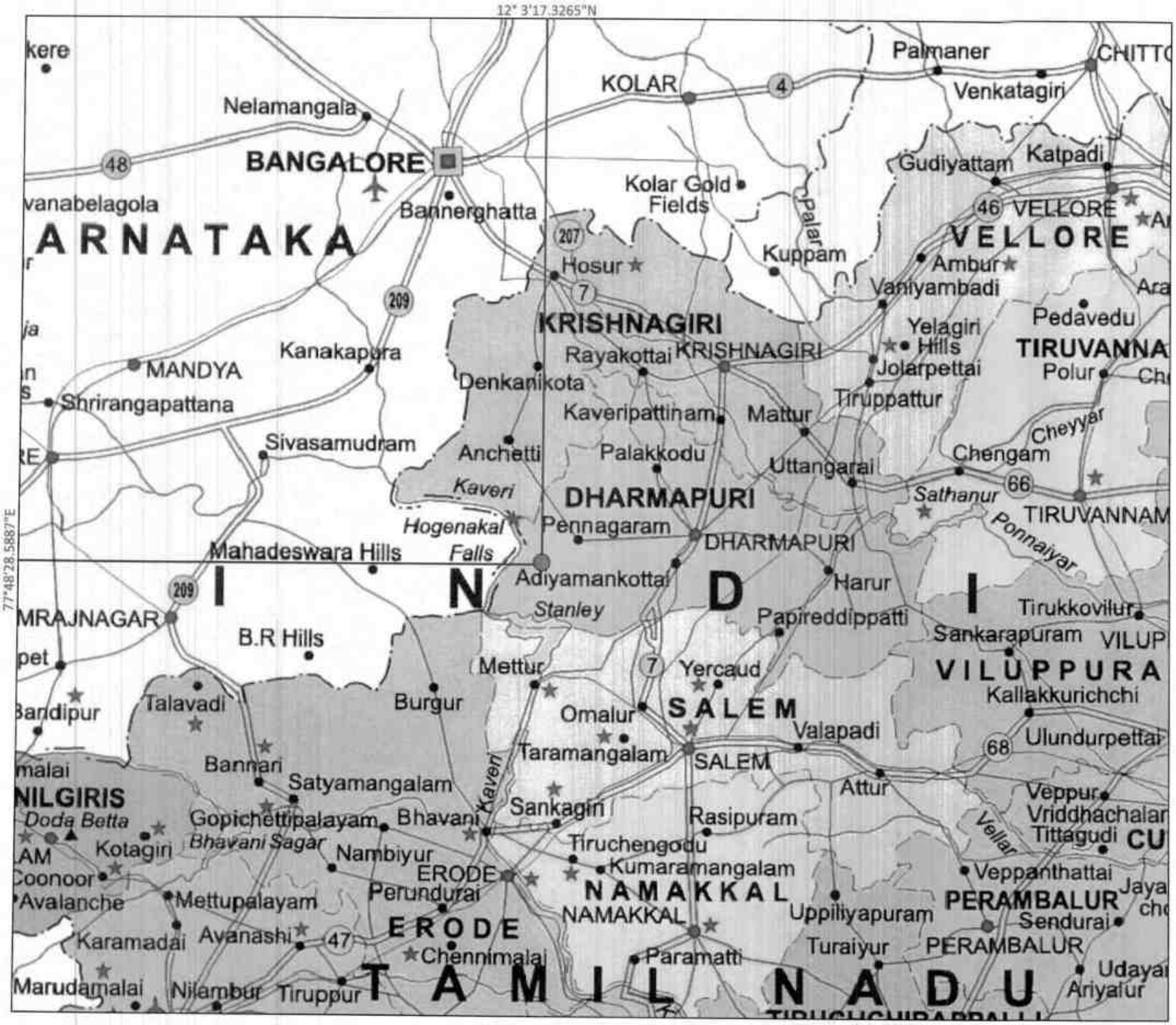


PLATE NO-IA

APPLICANT:

M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

INDEX

QUARRY LEASE AREA:

TOPO SHEET NO : 57-H/16

LATITUDE: 12° 3'06.1265"N - 12° 3'17.3265"N

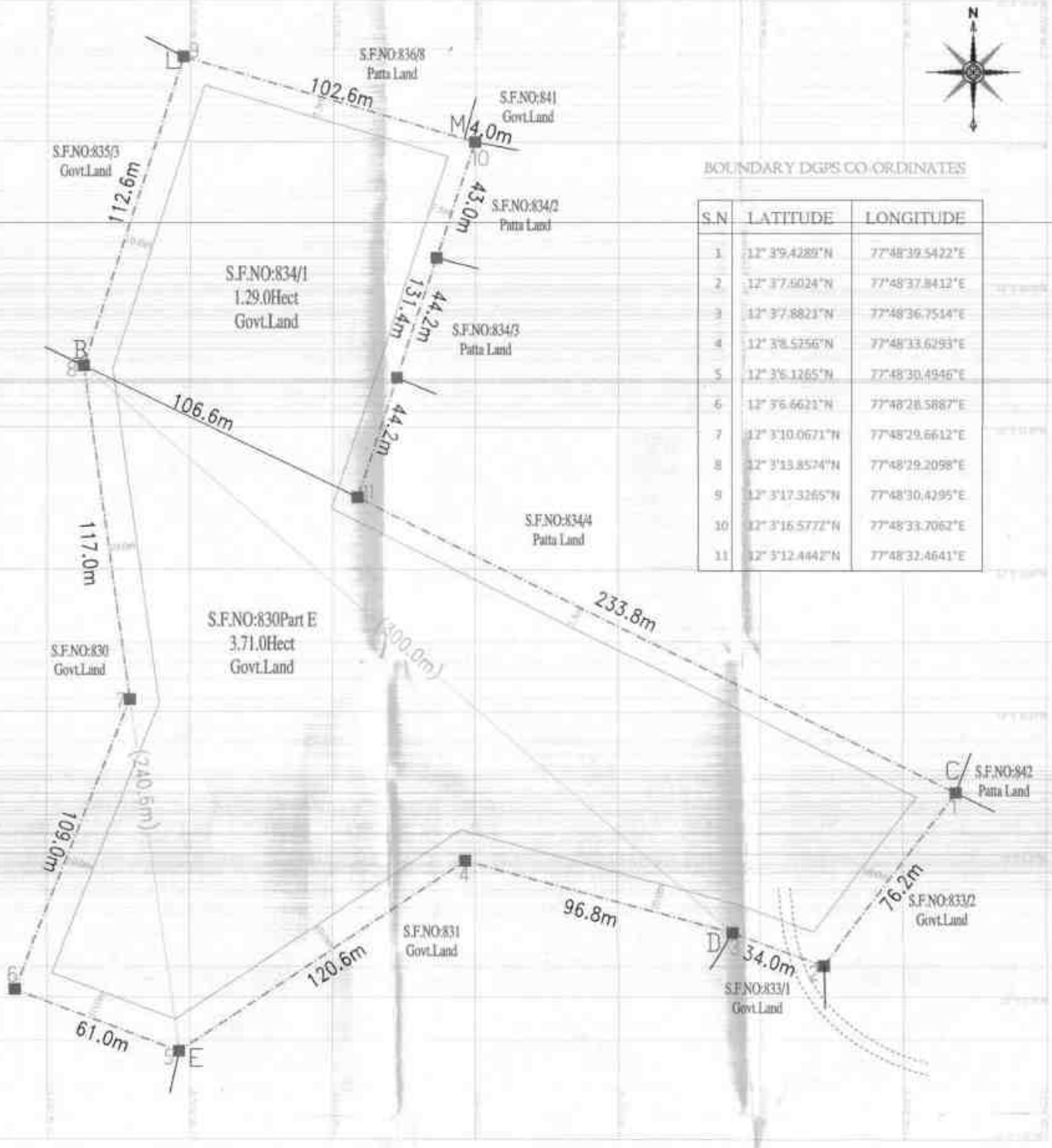
LONGITUDE:77°48'28.5887"E - 77°48'39.5422"E

LOCATION PLAN

Not to Scale

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



BOUNDARY DGPS CO-ORDINATES

S.N	LATITUDE	LONGITUDE
1	12° 3'9.4289"N	77°48'39.5422"E
2	12° 3'7.6024"N	77°48'37.8412"E
3	12° 3'7.8823"N	77°48'36.7514"E
4	12° 3'8.5256"N	77°48'33.6293"E
5	12° 3'6.1265"N	77°48'30.4946"E
6	12° 3'6.6621"N	77°48'28.5887"E
7	12° 3'10.0671"N	77°48'29.6612"E
8	12° 3'13.8574"N	77°48'29.2098"E
9	12° 3'17.3265"N	77°48'30.4295"E
10	12° 3'16.5772"N	77°48'33.7062"E
11	12° 3'12.4442"N	77°48'32.4641"E

PLATE NO-II

LEASE PLAN

SCALE 1 : 1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

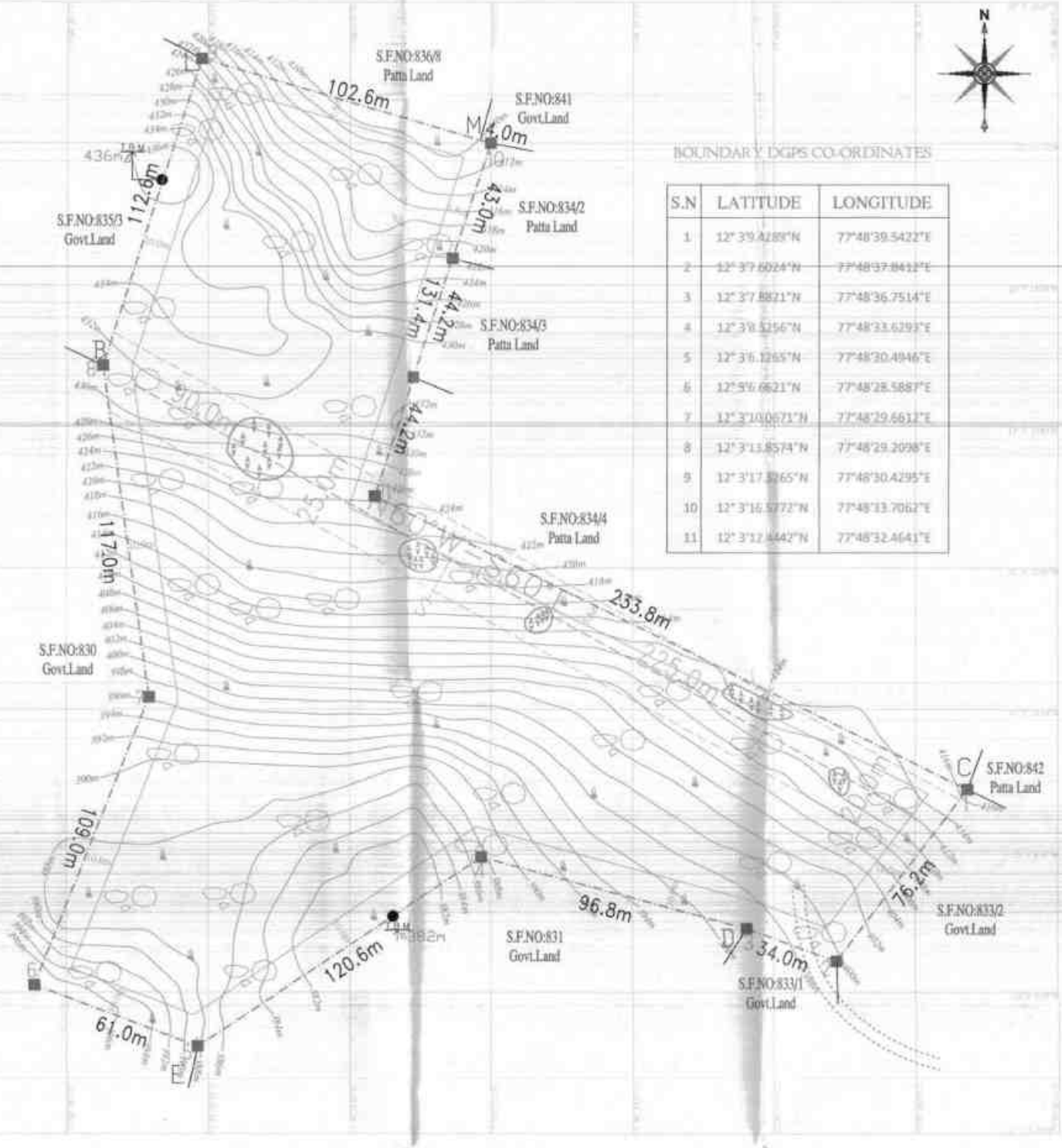
INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
- APPROACH ROAD
- PILLAR STONES

Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



BOUNDARY DGPS CO-ORDINATES

S.N	LATITUDE	LONGITUDE
1	12° 3'9.4289"N	77°48'39.5422"E
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6	12° 3'6.6621"N	77°48'28.5887"E
7	12° 3'10.0671"N	77°48'29.6612"E
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9	12° 3'17.3265"N	77°48'30.4295"E
10	12° 3'16.5772"N	77°48'33.7062"E
11	12° 3'12.4442"N	77°48'32.4641"E

INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- STRIKE & DIP(DOLERITE DYKE)
- PILLAR STONES
- BLACK GRANITE CONTACT LINE
- WEATHERED ROCK
- SHRUB
- OUT CROP
- CONTOUR LINES

PLATE NO-III

SURFACE PLAN

SCALE 1 : 1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

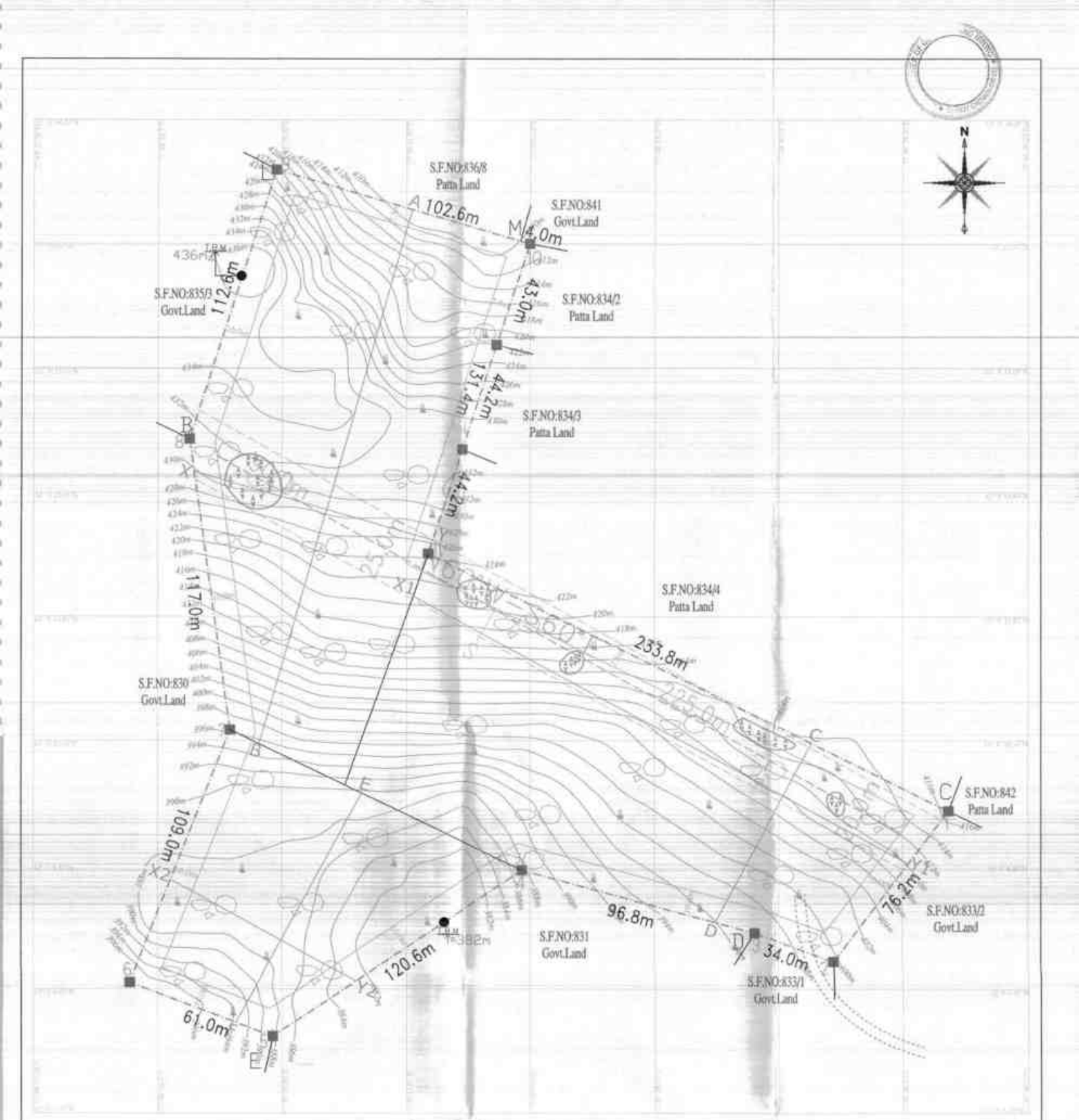
LOCATION:

EXTENT	: 5.00.0Hect.
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



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- QUARRY LEASE AREA
- SAFETY DISTANCE
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- STRIKE & DIP(DOLERITE DYKE)
- PILLAR STONES
- BLACK GRANITE CONTACT LINE
- WEATHERED ROCK
- SHRUB
- OUT CROP
- CONTOUR LINES

PLATE NO-IV

GEOLOGICAL PLAN

SCALE 1 : 1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

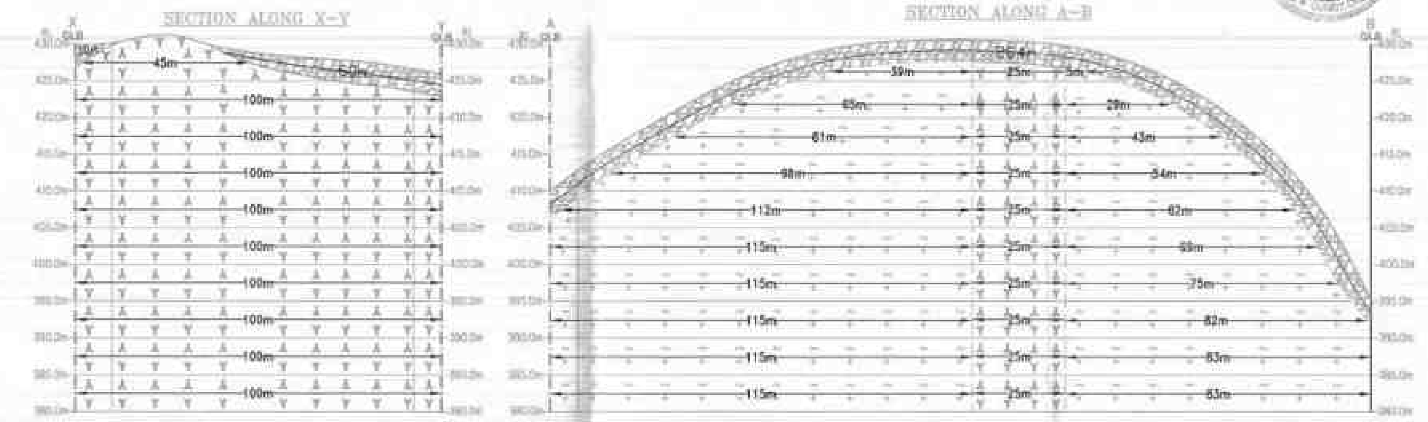
LOCATION:

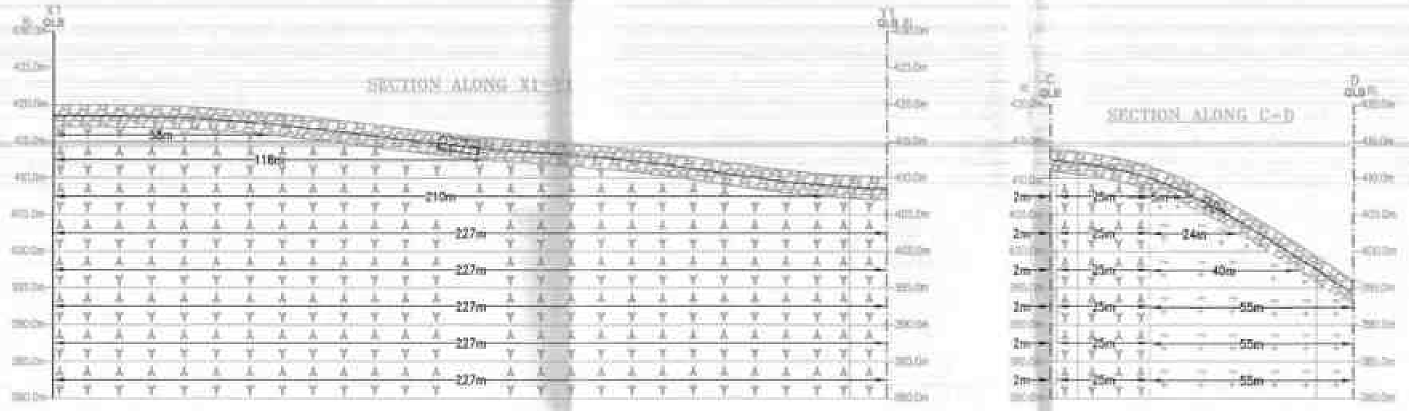
EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

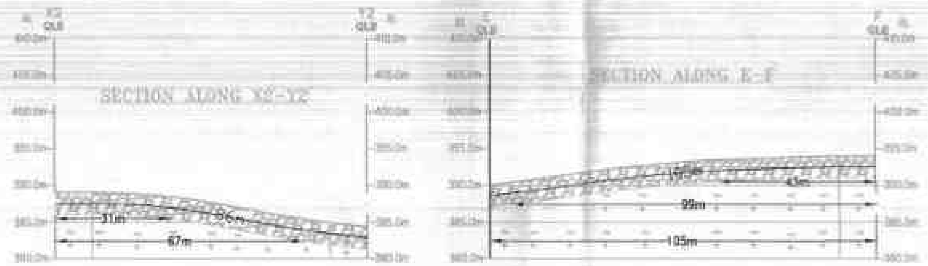
Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A







GEOLOGICAL RESOURCE										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Geological Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	Hill Slope	70	[illegible]	3	[illegible]	—	—	—	—	[illegible]
	I	45	25	5	5625	5625	563	5063	—	—
	I	45	44	5	9900	—	—	—	9900	—
	II	100	25	5	12500	12500	1250	11250	—	—
	II	100	94	5	47000	—	—	—	47000	—
	III	100	25	5	12500	12500	1250	11250	—	—
	III	100	129	5	[illegible]	—	—	—	[illegible]	—
	IV	100	25	5	12500	12500	1250	11250	—	—
	IV	100	152	5	[illegible]	—	—	—	[illegible]	—
	V	100	25	5	12500	12500	1250	11250	—	—
	V	100	174	5	[illegible]	—	—	—	[illegible]	—
	VI	100	25	5	12500	12500	1250	11250	—	—
	VI	100	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	VII	100	25	5	12500	12500	1250	11250	—	—
	VII	100	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	VIII	100	25	5	12500	12500	1250	11250	—	—
	VIII	100	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	IX	100	25	5	12500	12500	1250	11250	—	—
	IX	100	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	X	100	25	5	12500	12500	1250	11250	—	—
	X	100	[illegible]	5	[illegible]	—	—	—	[illegible]	—
TOTAL						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X1Y1-CD	Hill Slope	227	[illegible]	3	[illegible]	—	—	—	—	[illegible]
	I	58	25	5	7250	7250	725	6525	—	—
	I	58	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	II	118	25	5	14750	14750	1475	13275	—	—
	II	118	[illegible]	5	[illegible]	—	—	—	[illegible]	—
	III	210	25	5	26250	26250	2625	23625	—	—
	III	210	7	5	[illegible]	—	—	—	[illegible]	—
	IV	227	25	5	28375	28375	2838	25538	—	—
	IV	227	28	5	[illegible]	—	—	—	[illegible]	—
	V	227	25	5	28375	28375	2838	25538	—	—
	V	227	42	5	[illegible]	—	—	—	[illegible]	—
	VI	227	25	5	28375	28375	2838	25538	—	—
	VI	227	57	5	[illegible]	—	—	—	[illegible]	—
	VII	227	25	5	28375	28375	2838	25538	—	—
	VII	227	57	5	[illegible]	—	—	—	[illegible]	—
	VIII	227	25	5	28375	28375	2838	25538	—	—
	VIII	227	57	5	[illegible]	—	—	—	[illegible]	—
TOTAL						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X2Y2-EF	Hill Slope	[illegible]	105	3	[illegible]	—	—	—	—	[illegible]
	I	[illegible]	45	5	[illegible]	—	—	—	[illegible]	—
	II	[illegible]	99	5	[illegible]	—	—	—	[illegible]	—
	III	67	105	5	[illegible]	—	—	—	[illegible]	—
TOTAL						0	0	0	[illegible]	[illegible]
GRAND TOTAL						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
- COUNTRY ROCK
- BLACK GRANITE CONTACT LINE
- BLACK GRANITE (DOLERITE DYKE)
- WEATHERED ROCK
- OUT CROP

PLATE NO-IVA

GEOLOGICAL SECTIONS

SCALE: SECTION HOR 1:1000
VER 1:500

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

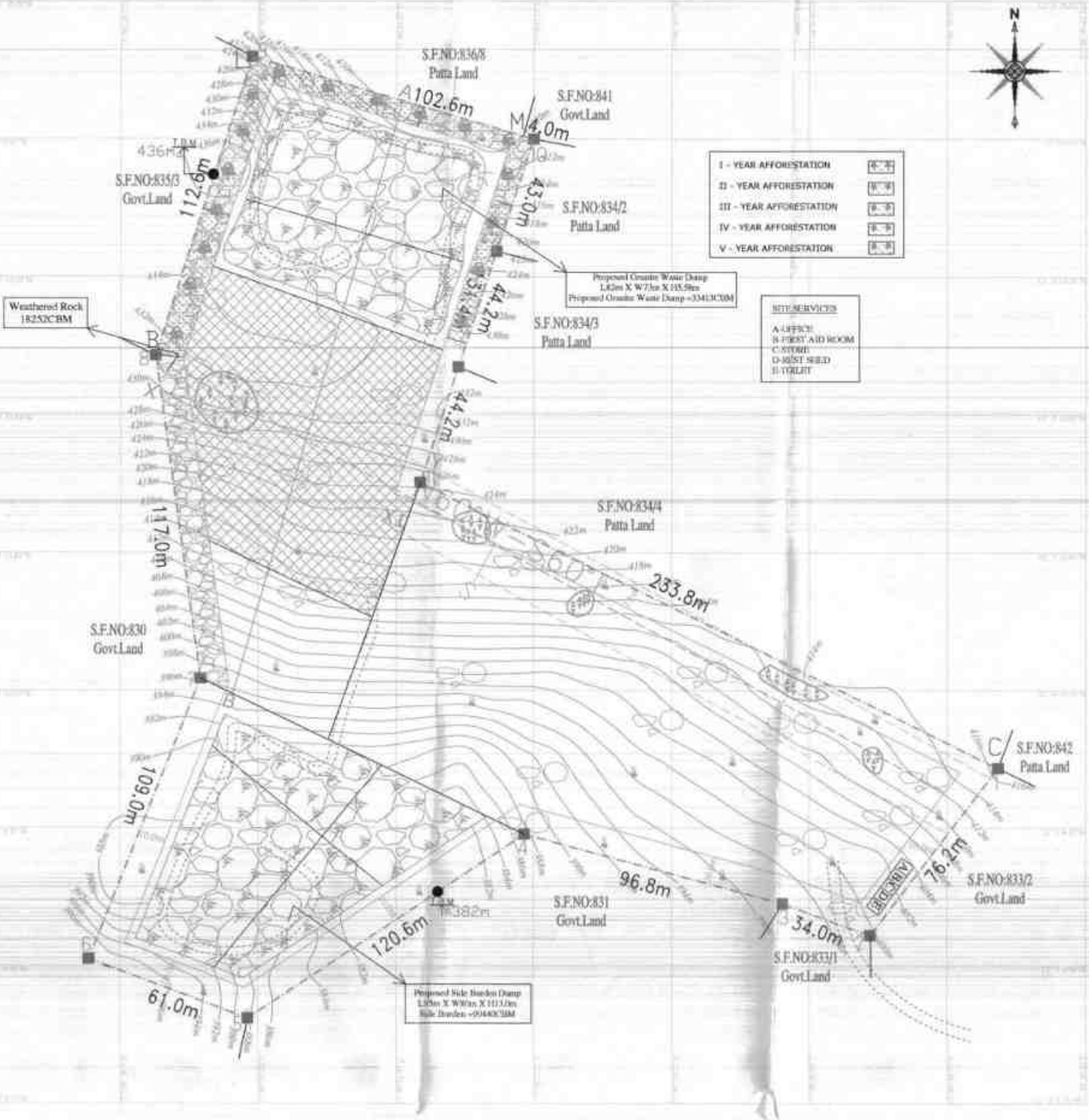
LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



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- APPROACH ROAD
- STRIKE & DIP(DOLERITE DYKE)
- PILLAR STONES
- BLACK GRANITE CONTACT LINE
- WEATHERED ROCK
- SHRUBS
- OUT CROPS
- CONTOUR LINES
- GRANITE WASTE + SIDE BURDEN DUMP

PLATE NO-V

YEARWISE DEVELOPMENT AND PRODUCTION PLAN

SCALE 1:1000

APPLICANT:

M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

Prepared By:

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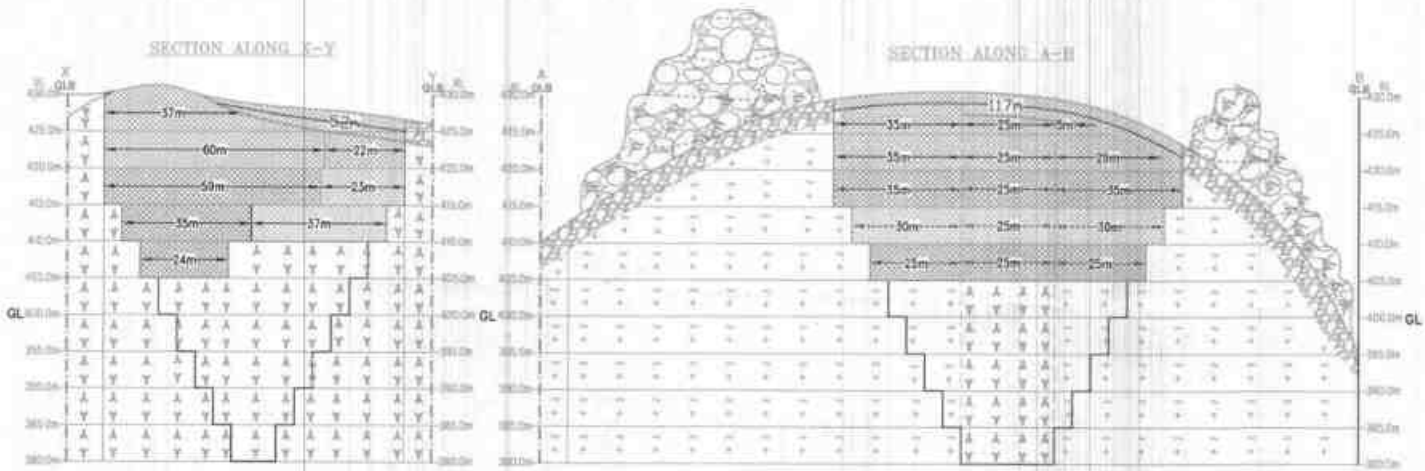
RQP/MAS/216/2014/A



I-YEAR EXCAVATION
I-37mX25mX5m BLACK GRANITE
II-22mX25mX5m BLACK GRANITE

II-YEAR EXCAVATION
II-60mX25mX5m BLACK GRANITE

III-YEAR EXCAVATION
III-59mX25mX5m BLACK GRANITE

IV-YEAR EXCAVATION
III-23mX25mX5m BLACK GRANITE
IV- 37mX25mX5m BLACK GRANITE

V-YEAR EXCAVATION
IV- 35mX25mX5m BLACK GRANITE
V- 24mX25mX5m BLACK GRANITE

YEARWISE PRODUCTION

Section	Year	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Mineable Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	I - YEAR	Hill Slope	52	117	3	18252	---	---	---	---	18252
		I	37	25	5	4625	4625	463	4163	---	---
		I	37	40	5	7400	---	---	---	7400	---
		II	22	25	5	2750	2750	275	2475	---	---
		II	82	64	5	26240	---	---	---	26240	---
	TOTAL						7375	738	6638	33640	18252
	II - YEAR	II	60	25	5	7500	7500	750	6750	---	---
	TOTAL						7500	750	6750	0	0
	III - YEAR	III	59	25	5	7375	7375	738	6638	---	---
		III	82	70	5	28700	---	---	---	28700	---
	TOTAL						7375	738	6638	28700	0
	IV - YEAR	III	23	25	5	2875	2875	288	2588	---	---
		IV	37	25	5	4625	4625	463	4163	---	---
		IV	72	60	5	21600	---	---	---	21600	---
	TOTAL						7500	750	6750	21600	0
	V - YEAR	IV	35	25	5	4375	4375	438	3937.5	---	---
		V	24	25	5	3000	3000	300	2700	---	---
		V	62	50	5	15500	---	---	---	15500	---
	TOTAL						7375	738	6638	15500	0
GRAND TOTAL							37125	3713	33413	99440	18252

INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
- COUNTRY ROCK
- BLACK GRANITE CONTACT LINE
- BLACK GRANITE (DOLERITE DYKE)
- WEATHERED ROCK
- OUT CROP
- PROPOSED GRANITE WASTE DUMP
- PROPOSED BENCH
- ULTIMATE BENCH
- DUMP ROAD

PLATE NO-VA

YEARWISE DEVELOPMENT AND PRODUCTION SECTIONS

SCALE: SECTION HOR 1:1000
VER 1:500

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:
EXTENT : 5.00.0Hect,
S.F.NO : 830 Part East & 834/1
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU

Prepared By:

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Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
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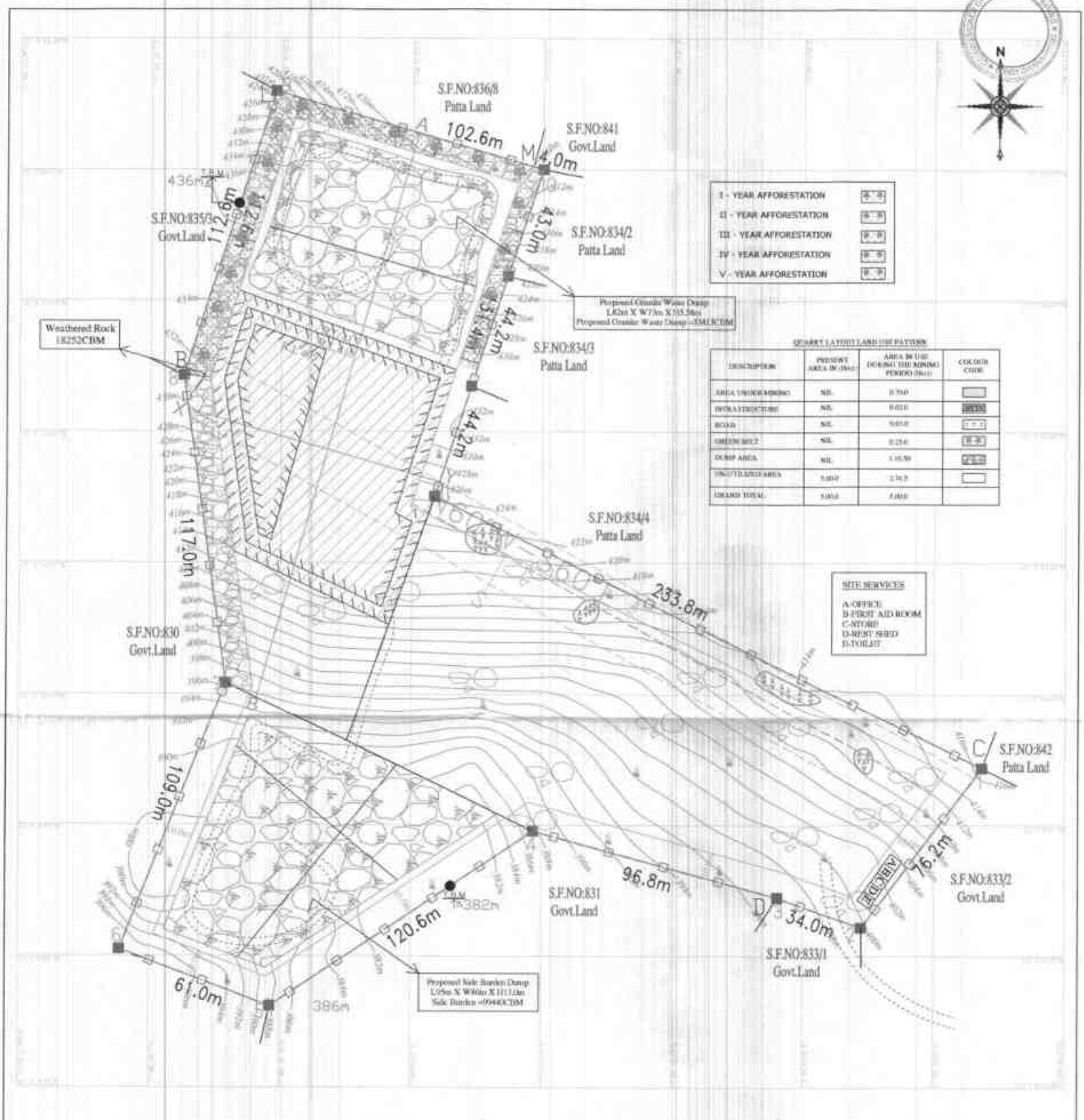
RQP/MAS/203/2014/A



QUARRY LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA IN (Ha.)	AREA IN USE DURING THE MINING PERIOD (Ha.)	COLOUR CODE
AREA UNDER MINING	NIL	3.70.0	
IN HA STRUCTURE	NIL	0.02.0	
ROAD	NIL	0.05.0	
GREEN BELT	NIL	0.25.0	
DUMP AREA	NIL	1.15.50	
UNUTILISED AREA	5.00.0	2.76.5	
GRAND TOTAL	5.00.0	5.00.0	

INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
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- PILLAR STONES
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- WEATHERED ROCK
- SHRUBS
- OUT CROPS
- CONTOUR LINES
- GRANITE WASTE + SIDE BURDEN DUMP
- BENCH
- DUMP ROAD
- FENCING

PLATE NO-VI

QUARRY LAYOUT & AFFORESTATION PLAN

SCALE 1:1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: ATTANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

Prepared By:

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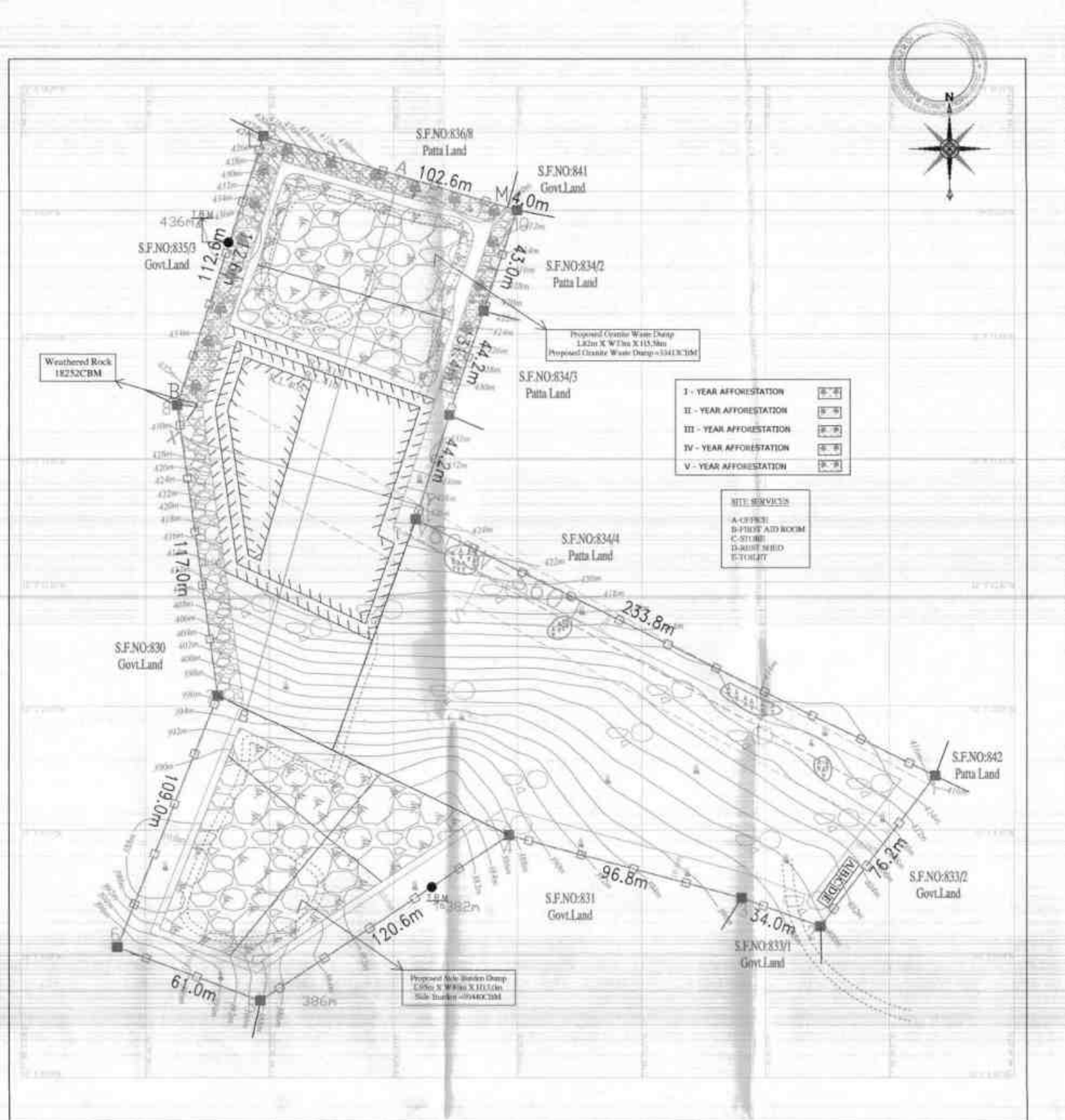
RQP/MAS/263/2014/A



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PILLAR STONES	
BLACK GRANITE CONTACT LINE	
WEATHERED ROCK	
SHRUBS	
OUT CROPS	
CONTOUR LINES	
GRANITE WASTE + SIDE BURDEN DUMP	
BENCH	
DUMP ROAD	
FENCING	

PLATE NO-VII

PROGRESSIVE QUARRY CLOSURE PLAN

SCALE 1:1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect.
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

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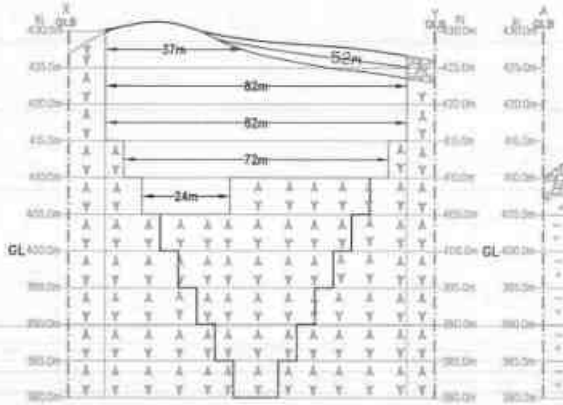
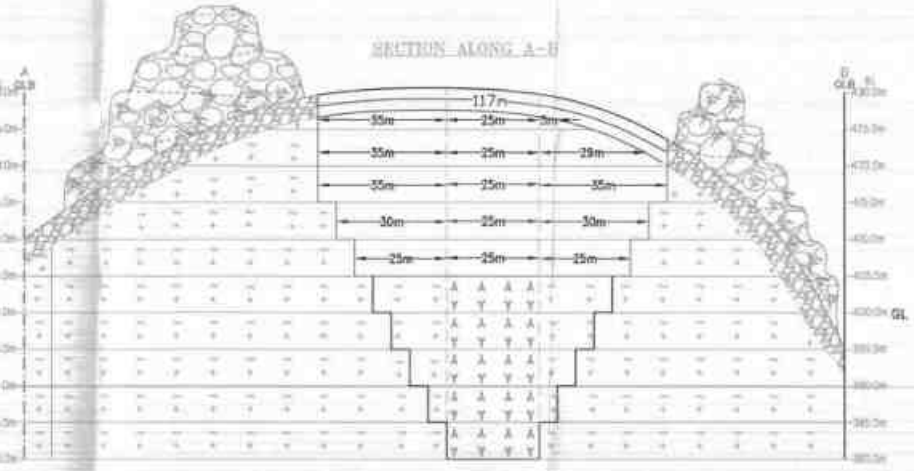
RQP/MAS/265/2014A

SECTION ALONG X-Y



SECTION ALONG A-B



GL = GROUND LEVEL

PRODUCTION RESERVES										
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Mineable Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
XY-AB	Hill Slope	52	117	3	18252	---	---	---	---	18252
	I	37	25	5	4625	4625	463	4163	---	---
	I	37	40	5	7400	---	---	---	7400	---
	II	82	25	5	10250	10250	1025	9225	---	---
	II	82	64	5	26240	---	---	---	26240	---
	III	82	25	5	10250	10250	1025	9225	---	---
	III	82	70	5	28700	---	---	---	28700	---
	IV	72	25	5	9000	9000	900	8100	---	---
	IV	72	60	5	21600	---	---	---	21600	---
	V	24	25	5	3000	3000	300	2700	---	---
	V	62	50	5	15500	---	---	---	15500	---
TOTAL						37125	3713	33413	99440	18252

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- WEATHERED ROCK
- OUT CROP
- PROPOSED GRANITE WASTE DUMP
- PROPOSED BENCH
- ULTIMATE BENCH
- DUMP ROAD

PLATE NO-VIIA

PROGRESSIVE QUARRY CLOSURE SECTIONS

SCALE: SECTION HOR 1:1000
VER 1:500

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:
EXTENT : 5.00.0Hect,
S.F.NO : 830 Part East & 834/1
VILLAGE : AJJANAHALLI,
TALUK : PENNAGARAM,
DISTRICT : DHARMAPURI,
STATE : TAMIL NADU

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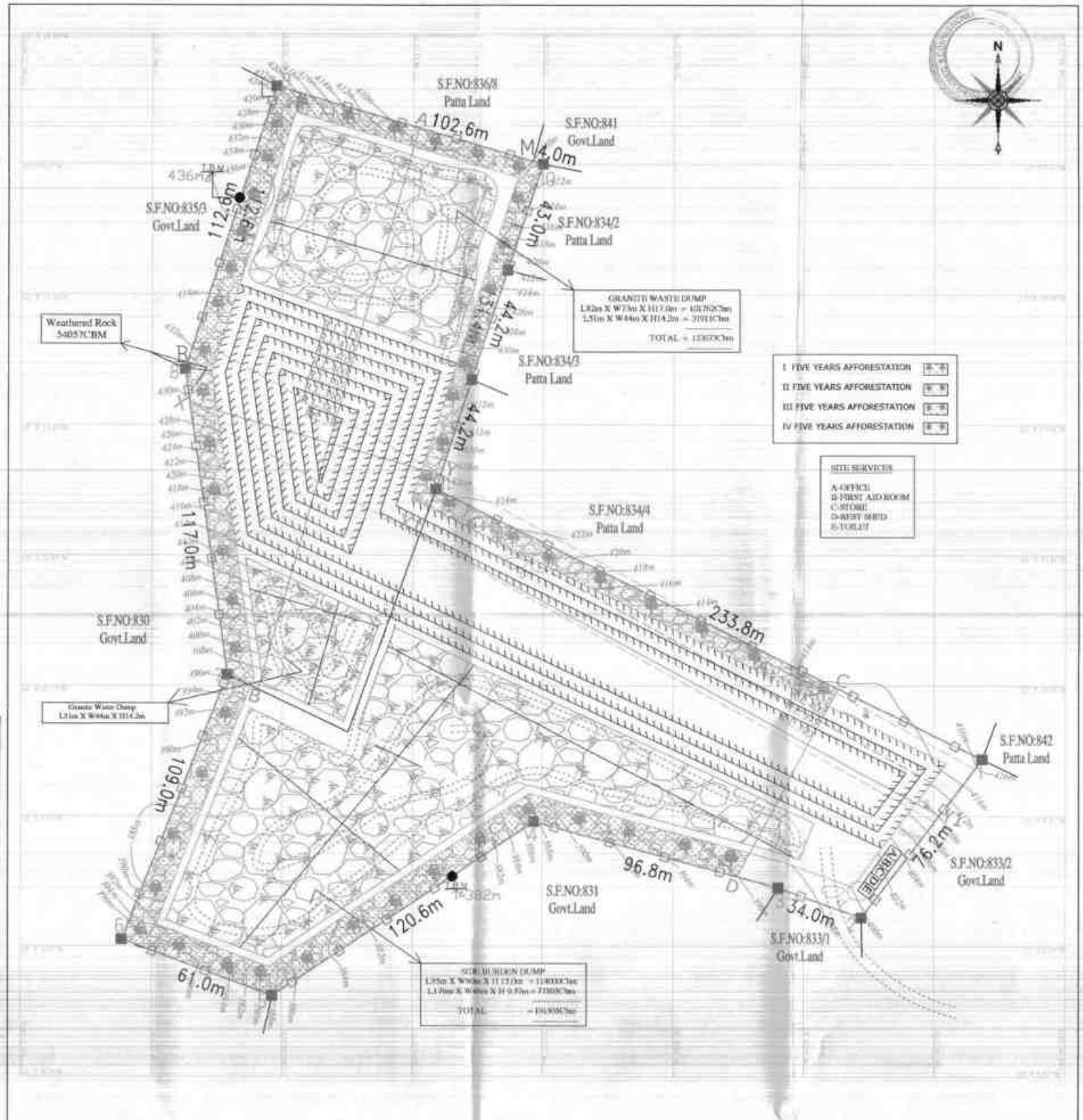

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- SHRUBS
- OUT CROPS
- CONTOUR LINES
- GRANITE WASTE + SIDE BURDEN DUMP
- BENCH
- DUMP ROAD
- FENCING

PLATE NO-VIII

CONCEPTUAL PLAN

SCALE1:1000

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
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TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

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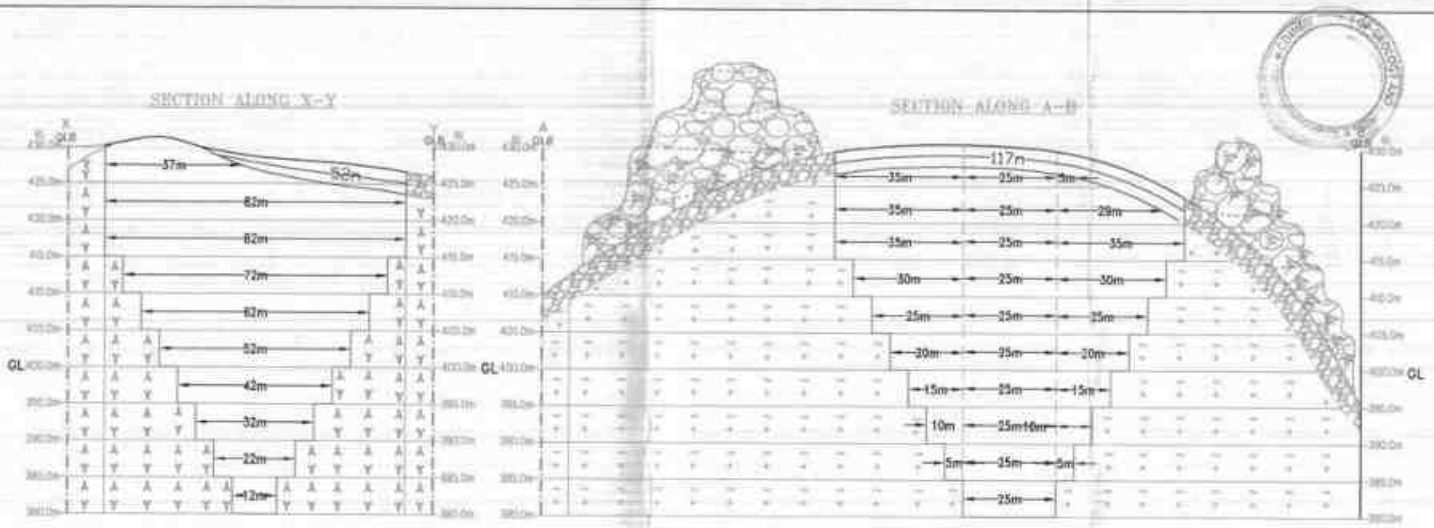
RQP/MAS/263/2014/A



MINEABLE RESERVES											
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Rom in (CBM)	Mineable Reserves in CBM	Black Granite 10% Recovery in CBM	Granite Waste 90% in CBM	Side Burden in CBM	Weathered rock in CBM
X-AB	Hill Slope	52	117	3	18252	---	---	---	---	18252
	I	37	25	5	4625	4625	463	4163	---	---
	I	37	40	5	7400	---	---	---	7400	---
	II	82	25	5	10250	10250	1025	9225	---	---
	II	82	64	5	26240	---	---	---	26240	---
	III	82	25	5	10250	10250	1025	9225	---	---
	III	82	70	5	28700	---	---	---	28700	---
	IV	72	25	5	9000	9000	900	8100	---	---
	IV	72	60	5	21600	---	---	---	21600	---
	V	62	25	5	7750	7750	775	6975	---	---
	V	62	50	5	15500	---	---	---	15500	---
	VI	52	25	5	6500	6500	650	5850	---	---
	VI	52	40	5	10400	---	---	---	10400	---
	VII	42	25	5	5250	5250	525	4725	---	---
	VII	42	30	5	6300	---	---	---	6300	---
	VIII	32	25	5	4000	4000	400	3600	---	---
	VIII	32	20	5	3200	---	---	---	3200	---
	IX	22	25	5	2750	2750	275	2475	---	---
	IX	22	10	5	1100	---	---	---	1100	---
	X	12	25	5	1500	1500	150	1350	---	---
TOTAL						61875	6188	55688	120440	18252
X1-Y1-CD	Hill Slope	217	55	3	35805	---	---	---	---	35805
	I	58	20	5	5800	5800	580	5220	---	---
	I	58	13	5	3770	---	---	---	3770	---
	II	119	20	5	11900	11900	1190	10710	---	---
	II	119	13	5	7735	---	---	---	7735	---
	III	210	20	5	21000	21000	2100	18900	---	---
	III	210	5	5	5250	---	---	---	5250	---
	IV	217	20	5	21700	21700	2170	19530	---	---
	IV	217	22	5	23870	---	---	---	23870	---
	V	212	15	5	15900	15900	1590	14310	---	---
	V	212	17	5	18020	---	---	---	18020	---
	VI	207	10	5	10350	10350	1035	9315	---	---
	VI	207	12	5	12420	---	---	---	12420	---
TOTAL						86650	8665	77985	71065	89805
GRAND TOTAL						148525	14853	133673	191505	54057

INDEX

- QUARRY LEASE AREA
- SAFETY DISTANCE
- COUNTRY ROCK
- BLACK GRANITE CONTACT LINE
- BLACK GRANITE (DOLERITES DYKE)
- WEATHERED ROCK
- OUT CROP
- GRANITE WASTE DUMP
- ULTIMATE BENCH
- DUMP ROAD

PLATE NO-VIIIA

CONCEPTUAL SECTIONS

SCALE: SECTION HOR 1:1000
VER 1:500

APPLICANT:
M/s. PVI TRADING CORPORATION
NO. 62-A, 1ST PULIKUTHI STREET,
GUGAI, SALEM, TAMILNADU, INDIA.
PIN CODE - 636006.

LOCATION:

EXTENT	: 5.00.0Hect,
S.F.NO	: 830 Part East & 834/1
VILLAGE	: AJJANAHALLI,
TALUK	: PENNAGARAM,
DISTRICT	: DHARMAPURI,
STATE	: TAMIL NADU

Prepared By:

I DO HERE BY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/763/2014/A

சான்று

தருமபுரி மாவட்டம் பென்னாகரம் வட்டம் 30. அஜ்ஜனஅள்ளி கிராம புல எண் 830/- பரப்பு 11.68.0 ஏர்ஸ் அரசு புறம்போக்கு காடு மற்றும் புல எண் 834/1 பரப்பு 1.29.0 ஏர்ஸ் அரசு புறம்போக்கு அனாதீனம் ஆகும். இப்புலத்தில் கருப்பு கிரானைட் கற்கள் வெட்டியெடுக்க கோரும் மனு. புலத்தின் அருகில் [illegible] [illegible] PVI Trading Corporation என்ற நிறுவனத்திற்கு குத்தகை அனுமதி வழங்கப்பட்டுள்ளது. எனவே அனுமதி வழங்கப்பட்டுள்ள இடம் 300 m சுற்றளவில் குடியிருப்புகளோ, புராதனச் சின்னங்கள், வழிபாட்டு தலங்களோ மற்றும் எவ்வித உயர்மின்னழுத்த கம்பிகளோ எதுவும் இல்லை என இதன்மூலம் சான்றளிக்கப்படுகிறது.

[signature]
17/6/2021

கிராம நிர்வாக அலுவலர்
30, அஜ்ஜனஅள்ளி கிராமம்
பிறப்பு & இறப்பு பதிவு அலுவலர்
பென்னாகரம் (Tk) தருமபுரி-(D)

மின்னஞ்சல் - dfodharmapuri@gmail.com
தொலைபேசி எண் - 04342 - 230003

தமிழ்நாடு வனத்துறை

அனுப்புநர்

திரு. கே.வி.அப்பால நாயுடு, இ.வ.ப.,
மாவட்ட வன அலுவலர்,
தருமபுரி வனக்கோட்டம்,
தருமபுரி – 5.

பெறுநர்

துணை இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
தருமபுரி.

ந.க.எண். 3266 / 2022 / வ நாள் 13–05–2022

அம்மையீர்,

பொருள் : கனிமங்களும் குவாரிகளும் – சிறுகனிமம் – கருப்பு கிரானைட் தருமபுரி மாவட்டம் – பென்னாகரம் வட்டம் – அஜ்ஜனஅள்ளி கிராமம் – புல எண். 830 (Part) East மற்றும் புல எண் 834/1 மொத்த பரப்பு 5.58.0 எக்டர் அரசு நிலத்தில் அமைந்துள்ள கருப்பு கிரானைட் குவாரிக்கு டெண்டருடன் இணைந்த ஏல முறையில் குத்தகை வழங்க பொது ஏலம் நடத்தப்பட்டது – அதிக தொகை கோரிய தி/ள். PVI டிரேடிங் கார்ப்பரேஷன், சேலம் என்ற நிறுவனத்திற்கு குவாரி குத்தகை வழங்குதல் தொடர்பாக மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மைச் சான்று பெற்று சமர்ப்பிக்க கோரியது – குவாரி அமைக்கப்படவுள்ள இடத்திற்கும் மற்றும் காப்புக்காட்டின் எல்லைக்கும் இடைப்பட்ட தொலைவு விவரம் சமர்ப்பித்தல் – தொடர்பாக.

பார்வை :
1. இவ்வலுவலக ந.க.எண். 1729 / 2017 / வ நாள் 23–04–2018.
2. அரசாணை (நிலை) எண். 295 தொழில் (எம்.எம்.சி.1) துறை நாள் 03–11–2021.
3. துணை இயக்குநர், புவியியல் மற்றும் சுரங்கதுறை, தருமபுரி ந.க.எண்.174/2020 (கனிமம்) நாள் 18–04–2022.
4. இவ்வலுவலக ந.க.எண். 3266 / 2022 / வ, நாள் 20–04–2022.
5. வனச்சரக அலுவலர், பென்னாகரம் ந.க.எண் 46 / 2022 நாள் 02–05–2022.

– • – • – • – • –

தருமபுரி மாவட்டம், பென்னாகரம் வட்டம், அஜ்ஜனஅள்ளி கிராமம் புல எண். 830 (Part) East மற்றும் புல எண் 834/1 மொத்த பரப்பு 5.58.0 எக்டர் அரசு புறம்போக்கு நிலத்தில் கருப்பு கிரானைட் குவாரி குத்தகை வழங்குதல் தொடர்பாக, குவாரிப்பணி மேற்கொள்ளப்படவுள்ள இடத்திற்கும் மற்றும் காப்புக்காட்டின் எல்லைக்கும் இடைப்பட்ட தூரத்தை தெரிவிக்க, பார்வை 3ல் காணும் கடிதத்தில் கோரப்பட்டுள்ளது.

மேற்படி இடத்தை, 02–05–2022 அன்று பென்னாகரம் வனச்சரக அலுவலரால் களத்தணிக்கை செய்யப்பட்டு, பார்வை 5ல் காணும் கடிதம் மூலம் அறிக்கை சமர்ப்பிக்கப்பட்டுள்ளது. இவ்வினம் சம்பந்தமாக கீழ்கண்ட விபரங்களை அன்புடன் தெரிவித்துக்கொள்கிறேன்.

வ. எ ண்.	வட்டம்	கிராமம்	குவாரி உரிமம் வழங்கப்படவுள்ள புல எண்	GPS அளவீடு	காப்புக்காட்டின் பெயர்	இடைப்பட்ட தூரம் (கி.மீ)
1.	பென்னாகரம்	அஜ்ஜனஅள்ளி	புல எண்கள் 830 (Part) East மற்றும் 834/1 மொத்த பரப்பு 5.58.0	N12.05561 E077.81098 N12.05211 E077.81051 N12.05219 E077.81021 N12.05236 E077.80934 N12.05170 E077.80847 N12.05185 E077.80794 N12.05279 E077.80824 N12.05384 E077.80811 N12.05481 E077.80845 N12.05460 E077.80936 N12.05345 E077.80901	பேவனூர்மலை	1.350

மேலும், குவாரிப்பணி மேற்கொள்ளப்படவுள்ள இடத்திற்கும் மற்றும் அருவில் உள்ள குடியிருப்பிற்கும் உள்ள இடைப்பட்ட தூரம் விபரம் பின்வருமாறு,

வ. எ ண்.	வட்டம்	கிராமம்	குவாரி உரிமம் வழங்கப்படவுள்ள புல எண்	குவாரிக்கும் மற்றும் குடியிருப்பிற்கும் இடைப்பட்ட தூரம் (மீ)
1.	பென்னாகரம்	அஜ்ஜனஅள்ளி	புல எண்கள் 830 (Part) East மற்றும் 834/1 மொத்த பரப்பு 5.58.0	436மீ

மேலும், மேற்படி கருப்பு கிரானைட் குவாரிக்கு பணிக்கு அனுமதி வழங்கும்பட்சத்தில், பார்வை 1ல் காணும் இவ்வலுவலக கடிதத்தில் ஏற்கனவே குறிப்பிட்டுள்ள நிபந்தனைகளை கண்டிப்பாக கடைப்பிடிக்க வேண்டும் என்பதை அன்புடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு: பார்வை 1ன் கடித நகல்.

தங்கள் அன்புள்ள

ஒம்./ கே.வி.அப்பால நாயுடு,
மாவட்ட வன அலுவலர்,
தருமபுரி வனக்கோட்டம்,
தருமபுரி.

// உநஉப. //

13/05/2022

வரைதொழில் அலுவலர்.

தமிழ்நாடு तमिलनाडु TAMILNADU CF 908667

M/s. PVI Trading Corporation

21 APR 2021 Salem.

வ.சு.தனபாலன்
மா.ந.நீதிமன்ற முத்திரைத் தாள்
விற்பனையாளர், தருமபுரி.
L.C.No.15203/83

AFFIDAVIT TO SEIAA, TAMIL NADU

I Lakshmidhevi, aged about 43 years Managing Partner of **M/s. PVI Trading Corporation,** registered office at No. 62A, 1st Pulikuthi Street, Gugai, Salem-636006, Tamil Nadu, do hereby solemnly declare and sincerely affirm that,

I have applied for getting prior environmental clearance from SEIAA Tamil Nadu for Black Granite Quarry in S.F.No's: 830 (Part) East (3.71.0 hect) & 834/1 (1.29.0 Ha), over an extent of 5.00.0Hectares of Government Poramboke land in Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District and Tamil Nadu.

For PVI Trading Corporation

V. Lakshmi

Managing Partner

NOTARY
K.C.MADHESWARAN, M.Com., B.L.,
SALEM (Dt.)
G.O.M.S. No:329/2002
21/6/2021
GOVT. OF TAMILNADU

ATTESTED BY
21/6/2021
NOTARY

1. I swear to state that within 10km radius of the mines which I have applied for environmental clearance, none of the followings are situated as per the General Conditions of EIA Notification, 2006.

   - There is no wild life sanctuary or National Park found within 10Km radius.
   - No Critically polluted area as identified by CPCB constituted under Water (Prevention and Control of Pollution) Act, 1974.
   - No Eco Sensitive areas identified by the Forest Dept/State Govt around 10km radius.
   - No Interstate boundary is situated within 10 Km radius from the proposed site.
   - There is no coastal zone found around 10km radius and this project site doesn't attract CRZ Notification, 2011.

2. I will complete the following Corporate Environment Responsibility (CER) Activities before commencement of the quarrying activities in addition to CSR and EMP.

CER Activity	Project Cost (Rs. In Lakh)	CER Cost 2% of Project Cost (Rs in Lakh)
Developing Library & Lab Facilities to Government High school, Ajjanahalli village.	609.70	12.19
Total Cost Allocation	**609.70**	**12.19**

3. These are the quarries located within 500m radius from the periphery of our quarry.

(a) Existing Quarries

Sl. No	Name and Address of the lessee	Village & Taluk	S.F. No	Extent (in Hect)	Lease Period	Classification of land
Nil	Nil	Nil	Nil	Nil	Nil	Nil

NOTARY
K.C.MADHESWARAN, M.Com., B.L., SALEM (Dt.) G.O.M.S.No:329/2002
GOVT. OF TAMILNADU

ATTESTED BY
24/6/2024
NOTARY

For PVI Trading Corporation

Managing Partner

(b) Abandoned or Expired Quarries

Sl. No	Name and Address of the lessee	Village & Taluk	S.F. No	Extent (in Hect)	Lease Period	Classification of land
Nil	Nil	Nil	Nil	Nil	Nil	Nil

(c) Proposed Quarries

Sl. No	Name and Address of the lessee	Village & Taluk	S.F. No	Extent (in Hect)	Lease Period	Classification of land
1.	M/s.PVI Trading Corporation,62A, 1st Pulikuthi Street, Gugai, Salem-636006	Ajjanahalli & Pennagaram	830 (Part) East & 834/1	5.00.0	20 Years from the date of lease execution	Govt Poramboke Land
2.	Tvl.Tamilkumaran Productions Private Limited, No.16/8, Bagavandham Street, Good will court, T.Nagar, Chennai-600017	Ajjanahalli & Pennagaram	830 (Part) East & 835/3	3.14.0	20 Years from the date of lease execution	Govt Poramboke Land
			Total	**8.14.0**		

4. There will not be any hindrance or disturbance to the people living on enroute/nearby my quarry site while transporting the mined-out materials and due to quarrying activities.

5. There are habitations / villages located within 300 meters radius from the periphery of my quarry.

6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.

7. The required insurance will be taken in the name of the labourers working in my proposed quarry.

For PVI Trading Corporation

V. Lakshmi

Managing Partner

NOTARY
K.C.MADHESWARAN, M.Com., B.L.,
SALEM (DL)
G.O.M.S No:329/2002
21/6/2024
GOVT. OF TAMILNADU

ATTESTED BY
21/6/2024
NOTARY

8. The existing road from the main road to the quarry is in good condition and the same will be maintained and utilized for transportation of Materials.

9. I will not be engaging any child labour at my mines and I aware that engaging child labour is punishable under the Law.

10. All types of safety/protective equipment's will be provided to all the laborers working in my quarry.

11. No permanent structures, temples etc are located within 500 m from the periphery of my quarry.

12. The quarrying activity has not yet commenced and it will be carried out only after obtaining environmental clearance.

Deponent

NOTARY GOVT OF TAMIL NADU K.C.MADHESWARAN, M.Com., B.L. NOTARIAL NOTARIAL

(For M/s.PVI Trading Corporation)

V. Lakshmi

Managing Partner

ATTESTED BY

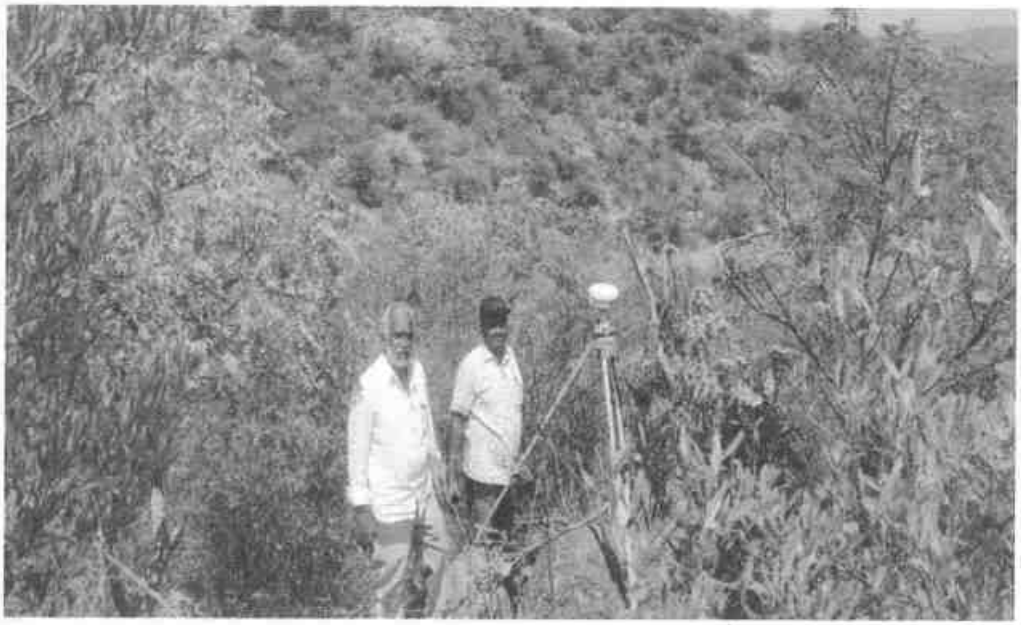
24/6/2023

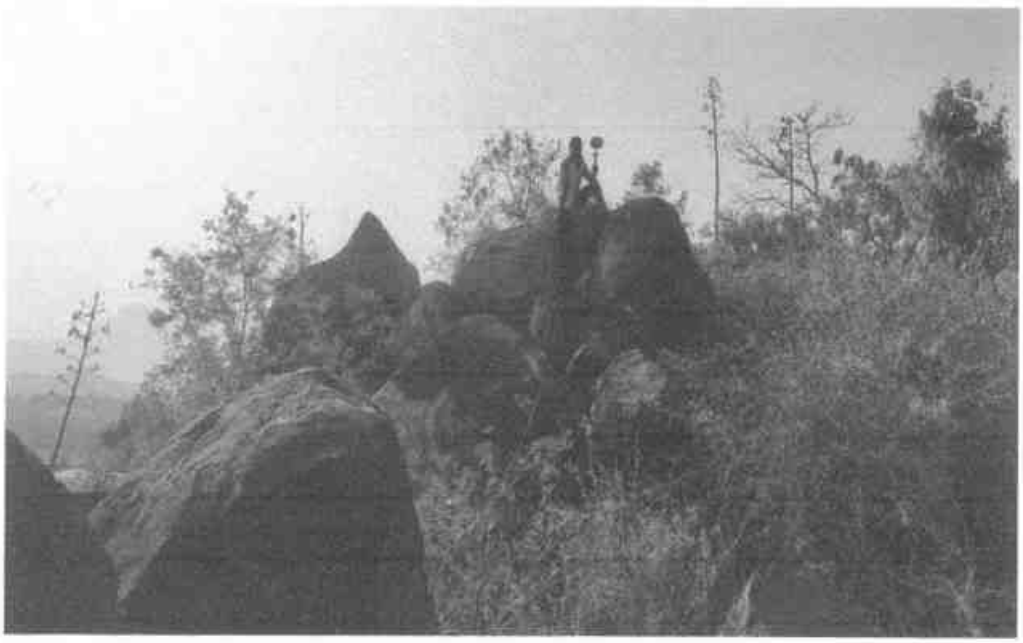
NOTARY

Cell:98427-41943
K.C.MADHESWARAN, M.Com.,B.L.,
ADVOCATE / NOTARY
COMMISSIONER OF OATHS
110/57, Mariamman Koil West Street,
HASTHAMPATTY, SALEM-7.

PHOTOCOPY OF THE PROPOSED LEASE AREA

Field photos in respect of black granite quarry lease, Govt poramboke land, over an extent of 5.00.0Hectares in S.F.No's.830 (Part) East (3.71.0 hect) & 834/1 (1.29.0 Ha), Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Tamilnadu State belongs to **M/s. PVI Trading Corporation**





17/06/2021
கிராம நிர்வாக அலுவலர்
30, அஜ்ஜனஅள்ளி கிராமம்
பிழைப & இழைப பதிவு அலுவலர்
பென்னாகரம் (TK) தருமபுரி (DT)

சான்று

தருமபுரி மாவட்டம் பென்னாகரம் 30.அஜ்ஜனஅள்ளி கிராம புல எண் 830/- பரப்பு 11.68.0 ஏர்ஸ் நிலம் அரசு புறம்போக்கு காடு ஆகும். புல எண் 834/1 பரப்பு 1.29.0 ஏர்ஸ் நிலம் அரசு புறம்போக்கு வனாந்திரம் ஆகும். மேற்படி புல எண் 830/-, 834/1, ல் சுற்றி சுமார் 500m தொலைவில் செயல்பட்டுக்கொண்டிருக்கும் குவாரி மற்றும் கைவிடப்பட்ட குவாரி செயல்பாடுகள் ஏதும் இல்லை என இதன் மூலம் சான்றளிக்கப்படுகிறது.

(signature)
17/6/2021

கிராம நிர்வாக அலுவலர்
30. அஜ்ஜனஅள்ளி கிராமம்
பிறப்பு & இறப்பு பதிவு அலுவலர்
பென்னாகரம் (TK) தருமபுரி-DT.

EHS 360 LABS PRIVATE LIMITED

TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/001	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahatli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1 Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/001
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ1 Core Zone - 12°3'9.34"N 77°48'37.06"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	42.8	21.3	6.8	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	44.3	22.4	6.5	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	42.6	23.8	6.2	20.0	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	43.7	23.9	6.4	20.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	42.8	21.4	6.7	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	42.5	20.3	6.6	20.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	44.9	24.1	7.1	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	43.8	22.9	7.5	19.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	45.5	21.3	7.6	19.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	44.9	21.5	6.5	19.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	43.1	20.1	5.6	18.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	45.6	20.3	5.7	18.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	42.8	21.4	5.6	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	44.1	20.6	5.4	19.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	42.8	21.4	6.3	18.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.9	22.0	6.7	18.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	21.3	6.1	18.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	42.8	22.0	6.5	19.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	45.5	22.8	5.3	18.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	42.4	21.7	5.6	17.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	43.2	21.1	6.4	17.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.8	22.5	5.2	18.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.8	24.3	5.3	17.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	43.6	22.3	6.5	16.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	42.7	22.1	6.8	14.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/001	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/001
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ1 Core Zone - 12°3'9.34"N 77°48'37.06"E		

Date	Period. hrs	SPM ($\mu g/m^3$)	As (ng/m^3)	C6H6 ($\mu g/m^3$)	BaP (ng/m^3)	Pb ($\mu g/m^3$)	Ni (ng/m^3)
05.12.2022	7:00-7:00	63.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	64.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	62.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	61.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	75.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	73.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	71.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	72.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	62.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	62.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	61.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	62.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	73.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	73.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	72.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	75.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	75.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	74.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	74.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	73.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	75.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	70.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	75.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: **BDL**: Below Detection Limit ; **DL**: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 002	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk. Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/002
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ2 Core Zone - 12°3'16.75"N 77°48'22.17"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	43.2	22.1	8.3	19.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	44.3	23.4	7.4	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	45.1	24.2	6.2	20.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	42.7	21.6	6.6	20.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	43.8	22.4	6.9	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	42.7	21.3	6.1	21.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	41.0	21.0	7.5	19.0	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	42.6	21.3	7.7	20.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	45.2	22.1	7.6	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	44.9	22.4	6.9	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	45.6	22.6	5.6	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	44.3	22.2	5.7	18.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	41.3	21.1	5.6	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	42.4	22.6	5.4	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	45.0	22.5	6.2	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	44.1	20.2	6.7	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	43.2	21.3	6.1	20.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	44.8	21.2	6.4	19.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	45.2	22.8	5.9	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	44.9	22.1	5.6	21.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	42.3	23.2	6.5	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.1	22.0	5.2	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	43.4	22.7	5.3	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	44.6	22.9	6.8	21.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	42.7	21.3	6.9	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/ 002	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/002
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ2 Core Zone - 12°3'16.75"N 77°48'22.17"E		

Date	Period, hrs	SPM (µg/m³)	As (ng/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Pb (µg/m³)	Ni (ng/m³)
05.12.2022	7:00-7:00	60.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	61.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	63.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	62.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	61.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	64.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	63.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	62.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	61.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	65.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	70.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	71.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	70.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	70.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	73.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	62.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	62.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	64.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	63.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	62.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	61.0	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	65.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	64.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL**: Detection Limit
Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

CHENNAI 600 083

Authorised Signatory

A-17

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9683

TEST REPORT

Report No	EHS360/TR/2022-23/ 003	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/003
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ3 Ajanahalli - 12°3'25.84"N 77°49'31.47"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	45.8	22.2	7.1	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	43.3	21.2	7.4	19.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	41.4	20.3	8.4	20.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	43.7	22.4	8.2	20.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	42.8	21.4	8.9	21.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	41.5	20.2	9.0	22.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	44.3	22.1	8.7	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	43.9	22.4	8.6	21.0	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	45.2	22.1	7.2	18.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	44.4	23.2	7.1	18.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	43.1	21.2	7.8	18.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	42.3	20.3	7.9	18.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	42.4	21.2	8.0	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	44.3	23.2	8.5	19.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	42.8	22.5	8.8	19.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.9	21.4	7.8	20.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	22.3	7.5	22.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	42.6	21.3	7.6	21.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	45.4	22.5	7.2	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	42.3	21.1	9.0	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	43.2	23.1	7.4	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.4	22.2	7.8	19.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.6	22.3	8.6	21.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	43.3	22.8	8.3	21.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	42.4	21.2	8.9	20.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/ 003	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalll Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/003
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ3 Ajanahalli - 12°3'25.84"N 77°49'31.47"E		

Date	Period. hrs	SPM (µg/m³)	As (ng/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Pb (µg/m³)	Ni (ng/m³)
05.12.2022	7:00-7:00	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	62.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	61.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	65.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	63.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	62.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	62.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	64.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	65.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	70.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	74.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	70.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	68.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	65.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	72.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	73.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	73.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	74.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	73.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	73.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL**: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 004	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/004
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ4 Chinnappanallur - 12°5'3.33"N 77°48'40.48"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	43.4	21.3	7.0	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	42.3	21.2	6.8	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	45.4	22.2	6.5	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	42.3	21.2	6.4	21.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	41.4	20.2	7.2	23.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	44.6	20.3	6.8	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	44.8	21.8	7.1	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	43.8	22.4	7.5	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	44.5	22.3	7.6	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	44.7	22.4	6.5	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	43.2	21.1	6.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	45.6	22.6	8.2	22.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	42.4	21.2	8.5	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	44.2	22.1	7.8	23.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	42.8	21.4	7.6	23.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.4	22.2	8.4	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	22.6	8.9	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	41.8	21.4	9.1	23.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	45.5	24.2	8.7	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	42.2	21.1	8.4	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	43.2	22.3	8.6	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.6	22.1	8.9	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.8	22.4	7.9	20.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	43.3	22.1	7.5	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	44.3	22.8	8.2	22.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Page 1 of 1

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/ 004	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/004
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ4 Chinnappanallur - 12°5'3.33"N 77°48'40.48"E		

Date	Period. hrs	SPM (µg/m^3)	As (ng/m^3)	C6H6 (µg/m^3)	BaP (ng/m^3)	Pb (µg/m^3)	Ni (ng/m^3)
05.12.2022	7:00-7:00	63.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	64.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	63.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	62.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	68.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	65.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	67.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	70.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	73.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	74.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	68.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	70.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	72.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	73.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	69.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	71.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	73.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL**: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

************End of Report************

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 005	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/005
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ5 Koorkampatty - 12°1'24.98"N 77°48'1.05"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	42.4	21.3	7.5	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	43.6	21.2	7.8	20.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	45.4	22.0	7.5	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	42.3	21.8	9.0	23.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	41.4	20.1	7.2	22.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	40.3	20.1	6.4	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	41.8	20.4	7.1	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	42.8	22.4	7.5	22.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	43.5	22.3	7.6	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	43.7	22.4	6.5	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	40.2	21.1	6.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	40.6	22.6	8.2	18.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	42.4	21.2	8.5	18.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	41.2	22.1	7.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	42.8	21.8	7.6	20.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.4	22.6	7.3	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	22.6	8.9	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	41.8	21.4	9.1	23.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	44.5	24.2	8.7	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	43.2	21.3	8.4	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	42.2	22.3	8.6	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.6	22.1	8.9	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.8	22.4	7.9	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	43.3	22.1	7.5	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	44.0	22.6	8.2	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ,DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2. Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/ 005	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/005
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ5 Koorkampatty - 12°1'24.98"N 77°48'1.05"E		

Date	Period. hrs	SPM (µg/m³)	As (ng/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Pb (µg/m³)	Ni (ng/m³)
05.12.2022	7:00-7:00	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	72.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	73.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	70.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	68.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	67.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	70.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	71.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	73.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	67.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	66.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	68.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	72.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	71.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	72.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	71.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL:** Detection Limit
Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2. Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-9683

TEST REPORT

Report No	EHS360/TR/2022-23/ 006	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/006
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ6 Pudusampalli - 12°0'17.31"N 77°48'30.49"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	44.3	21.3	7.3	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	43.7	21.2	7.6	22.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	45.4	22.0	8.0	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	44.2	21.8	8.2	20.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	41.4	20.1	8.4	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	42.3	20.1	8.9	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	43.8	20.4	7.2	22.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	42.8	22.4	7.3	22.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	41.5	22.3	7.4	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	42.7	22.4	6.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	43.2	21.1	6.9	19.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	42.6	22.6	7.2	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	41.4	21.2	7.8	20.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	42.2	22.1	7.6	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	43.8	21.8	7.2	19.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.4	22.6	8.2	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	22.6	8.4	20.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	43.8	21.4	8.6	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	42.5	24.2	8.4	21.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	43.2	21.3	7.2	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	41.2	22.3	7.5	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	43.6	22.1	8.9	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.8	22.4	7.9	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	44.8	22.1	7.5	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	44.7	22.6	8.2	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/ 006	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/006
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ6 Pudusampalli - 12°0'17.31"N 77°48'30.49"E		

Date	Period. hrs	SPM ($\mu g/m^3$)	As (ng/m^3)	C6H6 ($\mu g/m^3$)	BaP (ng/m^3)	Pb ($\mu g/m^3$)	Ni (ng/m^3)
05.12.2022	7:00-7:00	70.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	71.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	72.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	71.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	72.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	70.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	67.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	65.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	66.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	68.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	70.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	74.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	70.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	68.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	66.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	72.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	73.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	71.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	66.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	68.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ,DL: Detection Limit
Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report.
3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client.
4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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EHS 360 LABS PRIVATE LIMITED

TC-8583

TEST REPORT

Report No	EHS360/TR/2022-23/ 007	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/007
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ7 Moongilmaduvu - 12°2'35.40"N 77°49'33.10"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	42.4	21.2	7.5	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	43.6	21.3	7.8	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	45.4	22.5	7.5	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	42.3	21.4	9.0	19.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	41.4	20.2	7.2	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	40.3	20.2	6.4	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	41.8	20.4	7.1	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	42.8	21.4	7.5	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	43.5	22.4	7.6	21.9	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	43.7	23.4	6.5	19.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	40.2	21.1	6.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	40.6	22.6	8.2	18.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	42.4	21.2	8.5	18.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	41.2	22.1	7.8	19.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	42.8	20.8	7.6	20.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	43.4	21.6	7.3	21.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	44.5	20.8	8.9	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	41.8	21.6	9.1	23.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	44.5	22.2	8.7	21.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	43.2	21.3	8.4	22.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	42.2	20.3	8.6	22.8	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	44.6	22.1	8.9	22.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	45.8	22.4	7.9	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	43.3	21.1	7.5	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	44.0	23.6	8.2	22.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

************End of Report************

Authorised Signatory

Verified by

Name : Santhosh Kumar A

Designation : Quality Manager

CHENNAI 600 083

Note: 1. The test results are only to the sample submitted for test. 2. Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/ 007	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/007
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ7 Moongilmaduvu - 12°2'35.40"N 77°49'33.10"E		

Date	Period. hrs	SPM (µg/m³)	As (ng/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Pb (µg/m³)	Ni (ng/m³)
05.12.2022	7:00-7:00	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	72.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	73.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	72.1	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	70.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	68.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	67.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	70.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	72.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	71.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	73.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	67.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	66.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	68.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	71.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	72.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	72.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	70.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	71.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	72.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	71.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL**: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 008	**Report Date**	06.03.2022
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182	**Sample Drawn by**	Laboratory
Sample Name	Air	**Sample Code**	EHS360/008
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ8 Sigaralahalli- 12° 3'19.63"N 77°47'28.41"E		

Date	Period. hrs	PM10(µg/m3)	PM2.5(µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	O3 (µg/m3)	NH3 (µg/m3)	CO (mg/ m3)
05.12.2022	7:00-7:00	20.5	39.5	6.2	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.12.2022	7:15-7:15	20.8	40.6	7.8	20.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
12.12.2022	7:00-7:00	20.0	40.5	6.6	22.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.12.2022	7:15-7:15	21.9	40.8	5.4	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
19.12.2022	7:00-7:00	20.5	40.5	5.7	21.2	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.12.2022	7:15-7:15	21.8	40.1	6.3	23.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
26.12.2022	7:00-7:00	20.6	41.6	6.9	21.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.12.2022	7:15-7:15	20.3	39.5	5.3	21.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
02.01.2023	7:00-7:00	20.5	40.5	5.4	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
03.01.2023	7:15-7:15	19.1	40.1	5.7	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
09.01.2023	7:00-7:00	20.8	41.3	5.4	20.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
10.01.2023	7:15-7:15	21.2	41.6	6.9	20.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
16.01.2023	7:00-7:00	21.5	40.6	5.2	21.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
23.01.2023	7:15-7:15	21.8	41.5	5.4	20.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
24.01.2023	7:00-7:00	20.4	41.6	5.3	23.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
30.01.2023	7:15-7:15	20.9	41.9	7.6	23.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
31.01.2023	7:00-7:00	21.4	41.8	7.5	22.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
06.02.2023	7:15-7:15	21.9	40.5	7.9	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
07.02.2023	7:00-7:00	19.1	41.6	7.2	22.6	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
13.02.2023	7:15-7:15	19.3	42.8	7.8	23.4	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
14.02.2023	7:00-7:00	20.4	41.3	7.6	20.1	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
20.02.2023	7:15-7:15	20.9	42.6	7.5	24.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
21.02.2023	7:00-7:00	21.4	42.9	7.1	24.7	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
27.02.2023	7:15-7:15	20.1	42.8	7.2	21.5	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
28.02.2023	7:00-7:00	20.4	43.9	7.5	25.3	BDL(DL:5.0)	BDL(DL:1.0)	BDL(DL:1.14)
NAAQ* Standard		<100	<60	<80	<80	<100	<400	<4

Note: BDL: Below Detection Limit ;DL: Detection Limit

Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Page 1 of 1

Authorised Signatory

Verified by

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/ 008	**Report Date**	06.03.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District. Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 5182		
Sample Name	Air	**Sample Code**	EHS360/008
Sample Description	Ambient Air Quality Monitoring	**Sample Condition**	Good
Sampling Location	AAQ8 Sigaralahalli- 12° 3'19.63"N 77°47'28.41"E		

Date	Period. hrs	SPM (µg/m³)	As (ng/m³)	C6H6 (µg/m³)	BaP (ng/m³)	Pb (µg/m³)	Ni (ng/m³)
05.12.2022	7:00-7:00	68.5	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.12.2022	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
12.12.2022	7:00-7:00	69.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.12.2022	7:15-7:15	69.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
19.12.2022	7:00-7:00	68.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.12.2022	7:15-7:15	68.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
26.12.2022	7:00-7:00	67.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.12.2022	7:15-7:15	67.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
02.01.2023	7:00-7:00	67.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
03.01.2023	7:15-7:15	67.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
09.01.2023	7:00-7:00	67.7	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
10.01.2023	7:15-7:15	67.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
16.01.2023	7:00-7:00	67.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
23.01.2023	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
24.01.2023	7:00-7:00	68.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
30.01.2023	7:15-7:15	68.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
31.01.2023	7:00-7:00	68.8	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
06.02.2023	7:15-7:15	68.3	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
07.02.2023	7:00-7:00	67.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
13.02.2023	7:15-7:15	67.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
14.02.2023	7:00-7:00	69.9	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
20.02.2023	7:15-7:15	69.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
21.02.2023	7:00-7:00	69.2	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
27.02.2023	7:15-7:15	68.6	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
28.02.2023	7:00-7:00	67.4	BDL (DL:0.1)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:0.1)	BDL (DL:0.1)
NAAQ* Standard		<200	<100	<60	<80	<80	<100

Note: BDL: Below Detection Limit ;**DL**: Detection Limit
Remarks: The values observed for the pollutants given above are within the CPCB standards.

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/009	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/009
Sample Description	Surface Water (SW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	**Moongimaduvu Lake**		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical		
1	Colour	IS 3025 Part 4:1983	10 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983	7.67
4	Conductivity @ 25°C	IS 3025 Part 14:2013	1211 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984	3.5 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984	714 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009	245.15 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991	47.6 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994	30.8 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986	234 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988	184.3 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986	75.5 mg/l
13	Iron as Fe	IS 3025 Part 53:2003	0.22 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.13 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988	8.4 mg/l

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/009	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/009
Sample Description	Surface Water (SW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	**Moongimaduvu Lake**		

**********End of Report**********

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff. 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	BOD @ 27°C for 3 days	IS 3025 Part 44:1993 (Reaff:2019)	9.5 mg/l
32	Chemical Oxygen Demand	IS 3025 Part 58:2006 (Reaff:2017)	40 mg/l
33	Dissolved Oxygen	IS 3025 Part 38:1989 (Reaff:2019)	5.7 mg/l
34	Barium as Ba	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL:0.05 mg/l)
35	Ammonia (as total ammonia-N)	IS 3025 Part 34-1988 (Reaff. 2019)	1.6 mg/l
36	Sulphide as H_2S	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:0.01 mg/l)
37	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
38	Total Arsenic as As	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
39	Total Suspended Solids	IS 3025 Part 17 -1984 (Reaff:2017)	25.5 mg/l
40	**Discipline:** Biological	**Group:** Water	
41	Total Coliform	APHA 23rd Edn. 2017:9221B	960 MPN/100ml
42	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	150 MPN/100ml

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/010	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Customer Name			
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/010
Sample Description	Ground Water (WW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Sigaralahalli		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	5
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	7.61
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	958 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	1.1 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	565 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	190.45 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	32.5 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	26.6 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	161 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	146 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	65.3 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.20 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.11 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	3.4 mg/l

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/010	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/010
Sample Description	Ground Water (WW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Sigaralahalli		

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	Barium as Ba	IS 3025 Part 44:1993 (Reaff:2019)	BDL(DL:0.05 mg/l)
32	Ammonia (as total ammonia-N)	IS 3025 Part 58:2006 (Reaff:2017)	BDL (DL:0.01 mg/l)
33	Sulphide as H_2S	IS 3025 Part 38:1989 (Reaff:2019)	BDL (DL:0.01 mg/l)
34	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
35	Total Arsenic as As	IS 3025 Part 34-1988 (Reaff. 2019)	BDL (DL:0.005 mg/l)
36	Total Suspended Solids	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:1.0 mg/l)
	Discipline: Biological	**Group:** Water	
37	Total Coliform	APHA 23rd Edn. 2017:9221B	220 MPN/100ml
38	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	< 1.8 MPN/100ml

**********End of Report**********

Page 1 of 1

Authorised Signatory

Verified by

Name : Santhosh Kumar A
Designation : Quality Manager

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/011	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/011
Sample Description	Ground Water (WW-2)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Ajjanahalli		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	5 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	6.76
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	1246 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	1.3 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	735 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	219.95 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	37.4 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	30.8 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	237 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	200 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	96.4 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.17 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F.D	0.13 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	5.5 mg/l

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/011	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/011
Sample Description	Ground Water (WW-2)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Ajjanahalli		

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	Barium as Ba	IS 3025 Part 44:1993 (Reaff:2019)	BDL(DL:0.05 mg/l)
32	Ammonia (as total ammonia-N)	IS 3025 Part 58:2006 (Reaff:2017)	BDL (DL:0.01 mg/l)
33	Sulphide as H_2S	IS 3025 Part 38:1989 (Reaff:2019)	BDL (DL:0.01 mg/l)
34	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
35	Total Arsenic as As	IS 3025 Part 34-1988 (Reaff. 2019)	BDL (DL:0.005 mg/l)
36	Total Suspended Solids	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:1.0 mg/l)
	Discipline: Biological	**Group:** Water	
37	Total Coliform	APHA 23rd Edn. 2017:9221B	120 MPN/100ml
38	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	< 1.8 MPN/100ml

**********End of Report**********

Authorised Signatory

Verified by

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-8583

TEST REPORT

Report No	EHS360/TR/2022-23/012	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/012
Sample Description	Ground Water (BW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Moongilmaduvu		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	5 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	7.11
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	1072 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	1.0 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	632 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	212.26 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	35.8 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	29.9 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	224 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	165 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	62.1 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.30 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.12 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	4.4 mg/l

**********End of Report**********

Page 1 of 1

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CHENNAI 600 093

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/012	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Customer Name			
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/012
Sample Description	Ground Water (BW-1)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Moongilmaduvu		

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	Barium as Ba	IS 3025 Part 44:1993 (Reaff:2019)	BDL(DL:0.05 mg/l)
32	Ammonia (as total ammonia-N)	IS 3025 Part 58:2006 (Reaff:2017)	BDL (DL:0.01 mg/l)
33	Sulphide as H_2S	IS 3025 Part 38:1989 (Reaff:2019)	BDL (DL:0.01 mg/l)
34	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
35	Total Arsenic as As	IS 3025 Part 34-1988 (Reaff. 2019)	BDL (DL:0.005 mg/l)
36	Total Suspended Solids	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:1.0 mg/l)
	Discipline: Biological	**Group:** Water	
37	Total Coliform	APHA 23rd Edn. 2017:9221B	100 MPN/100ml
38	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	< 1.8 MPN/100ml

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/013	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Customer Name			
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/013
Sample Description	Ground Water (BW-2)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Koorkampatty		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	5 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	6.97
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	1073 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	1.2 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	633 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	192.99 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	32.2 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	27.4 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	197 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	165 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	88.6 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.13 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.18 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	6.4 mg/l

**********End of Report**********

Verified by

CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/013	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Customer Name			
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/013
Sample Description	Ground Water (BW-2)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Koorkampatty		

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	Barium as Ba	IS 3025 Part 44:1993 (Reaff:2019)	BDL(DL:0.05 mg/l)
32	Ammonia (as total ammonia-N)	IS 3025 Part 58:2006 (Reaff:2017)	BDL (DL:0.01 mg/l)
33	Sulphide as H_2S	IS 3025 Part 38:1989 (Reaff:2019)	BDL (DL:0.01 mg/l)
34	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
35	Total Arsenic as As	IS 3025 Part 34-1988 (Reaff. 2019)	BDL (DL:0.005 mg/l)
36	Total Suspended Solids	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:1.0 mg/l)
	Discipline: Biological	**Group:** Water	
37	Total Coliform	APHA 23rd Edn. 2017:9221B	170 MPN/100m
38	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	< 1.8 MPN/100ml

**********End of Report**********

Authorised Signatory

Verified by

Name : Santhosh Kumar A
Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/014	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Customer Name			
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/014
Sample Description	Ground Water (BW-3)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Chinnappanallur		

S.No.	Parameters	Test Method	RESULTS
	Discipline: Chemical	**Group:** Water	
1	Colour	IS 3025 Part 4:1983 (Reaff:2017)	5 Hazen
2	Odour	IS 3025 Part 5:2018	Agreeable
3	pH at 25°C	IS 3025 Part 11:1983 (Reaff:2017)	7.14
4	Conductivity @ 25°C	IS 3025 Part 14:2013 (Reaff:2019)	1042 µmhos/cm
5	Turbidity	IS 3025 Part 10:1984 (Reaff:2017)	1.0 NTU
6	Total Dissolved Solids	IS 3025 Part 16:1984 (Reaff:2017)	615 mg/l
7	Total Hardness as $CaCO_3$	IS 3025 Part 21:2009 (Reaff:2019)	186.68 mg/l
8	Calcium as Ca	IS 3025 Part 40:1991 (Reaff:2019)	32.8 mg/l
9	Magnesium as Mg	IS 3025 Part 46:1994 (Reaff:2019)	25.5 mg/l
10	Total Alkalinity as $CaCO_3$	IS 3025 Part 23:1986 (Reaff:2019)	210 mg/l
11	Chloride as Cl	IS 3025 Part 32:1988 (Reaff:2019)	173 mg/l
12	Sulphate as SO_4	IS 3025 Part 24:1986 (Reaff:2019)	62.4 mg/l
13	Iron as Fe	IS 3025 Part 53:2003 (Reaff:2019)	0.21 mg/l
14	Residual Free Chlorine	IS 3025 Part 26:1986 (Reaff:2019)	BDL (DL:0.1 mg/l)
15	Fluoride as F	APHA 23rd Edn. 2017:4500 F,D	0.13 mg/l
16	Nitrate as NO_3	IS 3025 Part 34:1988 (Reaff:2019)	4.0 mg/l

************End of Report************

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/014	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Water	**Sample Code**	EHS360/014
Sample Description	Ground Water (BW-3)	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 Litres	**Sample Received On**	21.02.2023
Sample Condition	Fit for Analysis	**Test Commenced On**	21.02.2023
Sampling Location	Chinnappanallur		

S.No.	Parameters	Test Method	RESULTS
17	Copper as Cu	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.01 mg/l)
18	Manganese as Mn	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
19	Mercury as Hg	USEPA 200.8	BDL (DL:0.0005 mg/l)
20	Cadmium as Cd	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.001 mg/l)
21	Selenium as Se	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
22	Aluminium as Al	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
23	Lead as Pb	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.005 mg/l)
24	Zinc as Zn	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
25	Total Chromium as Cr	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.02 mg/l)
26	Boron as B	IS 3025 Part 65:2014 (Reaff:2019)	BDL(DL : 0.05 mg/l)
27	Mineral Oil	IS 3025 Part 39-1991 (Reaff. 2019)	BDL(DL : 0.01 mg/l)
28	Phenolic compounds as C_6H_5OH	IS 3025 Part 43-1992(Reaff: 2019)	BDL (DL:0.0005 mg/l)
29	Anionic Detergents (as MBAS)	IS 13428 – 2005 (Reaff:2019) (Annex K)	BDL (DL:0.01 mg/l)
30	Cyanide as CN	IS 3025 Part 27-1986 (Reaff. 2019)	BDL (DL:0.01 mg/l)
31	Barium as Ba	IS 3025 Part 44:1993 (Reaff:2019)	BDL(DL:0.05 mg/l)
32	Ammonia (as total ammonia-N)	IS 3025 Part 58:2006 (Reaff:2017)	BDL (DL:0.01 mg/l)
33	Sulphide as H_2S	IS 3025 Part 38:1989 (Reaff:2019)	BDL (DL:0.01 mg/l)
34	Molybdenum as Mo	IS 3025 Part 65:2014 (Reaff:2019)	BDL (DL:0.02 mg/l)
35	Total Arsenic as As	IS 3025 Part 34-1988 (Reaff. 2019)	BDL (DL:0.005 mg/l)
36	Total Suspended Solids	IS 3025 Part 29-1986 (Reaff: 2019)	BDL (DL:1.0 mg/l)
	Discipline: Biological	**Group:** Water	
37	Total Coliform	APHA 23rd Edn. 2017:9221B	110 MPN/100ml
38	*Escherichia coli*	APHA 23rd Edn. 2017:9221F	< 1.8 MPN/100ml

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2. Any correction of the test report in future part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 015	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 015
Sample Description	Soil 1	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Core Zone		

S.No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.51
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	455 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	44.5 %
04	Bulk Density	By Cylindrical Method	1.04 g/cm^3
05	Porosity	By Gravimetric Method	41.7 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	159 mg/kg
07	Magnesium as Mg		81.7 mg/kg
08	Chloride as Cl	APHA 23rd Edn 2019 4500 Cl B	136.2 mg/kg
09	Soluble Sulphate as SO_4	IS 2720 Part 27 : 1977 (Reaff:2015)	0.011 %
10	Total Phosphorus as P	IS 10158 : 1982 (Reaff: 2019)	1.13 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	288 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.79 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.04 %

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/ 015	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 015
Sample Description	Soil 1	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Core Zone		

S.No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	33.8 %
	Sand		35.7 %
	Silt		30.5 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	24.3 mg/kg
16	Zinc as Zn		1.22 mg/kg
17	Boron as B		1.11 mg/kg
18	Potassium as K		23.5 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.57 mg/kg
23	Iron as Fe		1.93 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	38.9 meq/100g of soil

**********End of Report**********

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Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/ 016	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 016
Sample Description	Soil 2	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Core Zone		

S. No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.88
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	630 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	40.1 %
04	Bulk Density	By Cylindrical Method	1.1 g/cm^3
05	Porosity	By Gravimetric Method	41.1 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	178 mg/kg
07	Magnesium as Mg		130 mg/kg
08	Chloride as Cl		190 mg/kg
09	Soluble Sulphate as SO_4		0.010 %
10	Total Phosphorus as P		1.10 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	455 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.38 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.38 %

**********End of Report**********

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Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/ 016	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 016
Sample Description	Soil 2	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Core Zone		

S. No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	37.4 %
	Sand		36.6 %
	Silt		26.0 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	25.3 mg/kg
16	Zinc as Zn		1.08 mg/kg
17	Boron as B		2.22 mg/kg
18	Potassium as K		42.3 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.57 mg/kg
23	Iron as Fe		2.03 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	35.7 meq/100g of soil

**********End of Report**********

Verified by

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Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TC-8583

TEST REPORT

Report No	EHS360/TR/2022-23/ 017	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 017
Sample Description	Soil 3	**Sample Collected Date**	**20.02.2023**
Qty. of Sample Received	2 KG	**Sample Received On**	**21.02.2023**
Sample Condition	Good	**Test Commenced On**	**21.02.2023**
Sampling Location	Ajjanahalli		

S. No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	7.97
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	505 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	47.4 %
04	Bulk Density	By Cylindrical Method	0.97 g/cm^3
05	Porosity	By Gravimetric Method	42.1 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	240 mg/kg
07	Magnesium as Mg		73.5 mg/kg
08	Chloride as Cl		159 mg/kg
09	Soluble Sulphate as SO_4		0.019 %
10	Total Phosphorus as P		1.57 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	410 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.74 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.01 %

*************End of Report*************

Verified by

CHENNAI 600 083

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/ 017	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 017
Sample Description	Soil 3	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Ajjanahalli		

S. No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	35.7 %
	Sand		31.5 %
	Silt		32.8 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	25 mg/kg
16	Zinc as Zn		4.1 mg/kg
17	Boron as B		1.09 mg/kg
18	Potassium as K		40.1 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.59 mg/kg
23	Iron as Fe		1.76 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	42.7 meq/100g of soil

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

Report No	EHS360/TR/2022-23/ 018	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 018
Sample Description	Soil 4	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Pudusampalli		

S. No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.09
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	480 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	38.2 %
04	Bulk Density	By Cylindrical Method	1.03 g/cm^3
05	Porosity	By Gravimetric Method	41.5 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	176 mg/kg
07	Magnesium as Mg		122 mg/kg
08	Chloride as Cl		75.4 mg/kg
09	Soluble Sulphate as SO_4		0.009 %
10	Total Phosphorus as P		1.31 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	480.4 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.76 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.60 %

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TEST REPORT

Report No	EHS360/TR/2022-23/ 018	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 018
Sample Description	Soil 4	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	Pudusampalli		

S. No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	37.7 %
	Sand		34.0 %
	Silt		28.3 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	20.4 mg/kg
16	Zinc as Zn		1.43 mg/kg
17	Boron as B		0.97 mg/kg
18	Potassium as K		35.7 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.73 mg/kg
23	Iron as Fe		2.84 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	41.6 meq/100g of soil

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A
Designation : Quality Manager

Note: 1. The test results are only to the sample submitted for test. 2.Any correction of the test report in full or part shall invalidate the report. 3. Sample will be retained for 15 days from the date of reporting except in case of regulatory samples or specifically instructed by client. 4. Perishable samples will be discarded immediately after reporting. 5. Under no circumstance's lab accepts any liability or loss/damage caused by use or misuse of test report after invoicing or issued of test report.

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TC-8583

TEST REPORT

Report No	EHS360/TR/2022-23/ 019	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 019
Sample Description	Soil 5	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	**Moongilmaduvu**		

S. No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.79
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	353 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	41.0 %
04	Bulk Density	By Cylindrical Method	1.30 g/cm^3
05	Porosity	By Gravimetric Method	38.4 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	158.1 mg/kg
07	Magnesium as Mg		114 mg/kg
08	Chloride as Cl		173.2 mg/kg
09	Soluble Sulphate as SO_4		0.019 %
10	Total Phosphorus as P		1.57 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	413 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.12 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.23 %

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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TEST REPORT

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Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 019
Sample Description	Soil 5	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	**Moongilmaduvu**		

S. No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	36.7 %
	Sand		34.6 %
	Silt		28.7 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	21.5 mg/kg
16	Zinc as Zn		2.09 mg/kg
17	Boron as B		4.4 mg/kg
18	Potassium as K		320 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.29 mg/kg
23	Iron as Fe		1.70 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	42.7 meq/100g of soil

**********End of Report**********

Verified by

Authorised Signatory

Name : Santhosh Kumar A

Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

TC-9583

TEST REPORT

Report No	EHS360/TR/2022-23/ 020	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 020
Sample Description	Soil 6	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	**Sigaralahalli**		

S. No	Test Parameters	Protocols	Results
01	pH @ 25°C	IS 2720 Part 26 - 1987 (Reaff:2016)	8.66
02	Conductivity @ 25°C	IS 14767 - 2000 (Reaff : 2016)	509 µmhos/cm
03	Water Holding Capacity	By Gravimetric Method	40.5 %
04	Bulk Density	By Cylindrical Method	1.16 g/cm^3
05	Porosity	By Gravimetric Method	44.9 %
06	Calcium as Ca	Food and Agriculture organization of the united Nation Rome 2007 : 2018	158.2 mg/kg
07	Magnesium as Mg		119 mg/kg
08	Chloride as Cl		129 mg/kg
09	Total Soluble Sulphate as SO_4		0.015 %
10	Total Phosphorus as P		2.10 mg/kg
11	Total Nitrogen as N	IS 14684 : 1999 (Reaff:2019)	394.1 mg/kg
12	Organic Matter	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.19 %
13	Organic Carbon	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.27 %

**********End of Report**********

Page 1 of 1

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Verified by

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Designation : Quality Manager

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EHS 360 LABS PRIVATE LIMITED

TEST REPORT

Report No	EHS360/TR/2022-23/ 020	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	SOP Method	**Sample Drawn by**	Laboratory
Sample Name	Soil	**Sample Code**	EHS360/ 020
Sample Description	Soil 6	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	2 KG	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023
Sampling Location	**Sigaralahalli**		

S. No	Test Parameters	Protocols	Results
14	**Texture :**		
	Clay	Gravimetric Method	37.1 %
	Sand		36.4 %
	Silt		26.5 %
15	Manganese as Mn	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	20.2 mg/kg
16	Zinc as Zn		1.17 mg/kg
17	Boron as B		1.8 mg/kg
18	Potassium as K		39 mg/kg
19	Cadmium as Cd		BDL (DL : 1.0 mg/kg)
20	Total Chromium as Cr		BDL (DL : 1.0 mg/kg)
21	Copper as Cu		BDL (DL : 1.0 mg/kg)
22	Lead as Pb		0.54 mg/kg
23	Iron as Fe		19.5 mg/kg
24	Cation Exchange Capacity	USEPA 9080 – 1986	46.2 meq/100g of soil

**********End of Report**********

Verified by

Authorised Signatory

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EHS 360 LABS PRIVATE LIMITED

TC-9683

TEST REPORT

Report No	EHS360/TR/2022-23/ 021	**Report Date**	25.02.2023
Site Location	**M/s.Ajjanahalli Black Granite (Dolerite) Quarry** S.F.Nos.830 (Part) West and 835/3 & 830 (Part) East & 834/1Ajjanahalli Village, Pennagaram Taluk, Dharmapuri District, Extent: 3.14.0Ha & Extent: 5.00.0Ha		
Sampling Method	IS 9989	**Sample Drawn by**	Laboratory
Sample Name	Noise Level Monitoring	**Sample Code**	EHS360/ 021
Sample Description	Ambient Noise	**Sample Collected Date**	20.02.2023
Qty. of Sample Received	-	**Sample Received On**	21.02.2023
Sample Condition	Good	**Test Commenced On**	21.02.2023

S.No.	Locations	Day Time Results in dB (A)	Night Time Results in dB (A)
1	Core Zone -1 - 12°3'9.34"N 77°48'37.06"E	63.2	58.2
2	Core Zone - 2 - 12°3'16.75"N 77°48'22.17"E	65.5	60.6
3	Ajanahalli - 12°3'25.84"N 77°49'31.47"E	66.8	61.1
4	Chinnappanallur - 12°5'3.33"N 77°48'40.48"E	64.7	57.2
5	Koorkampatty - 12°1'24.98"N 77°48'1.05"E	68.8	62.2
6	Pudusampalli - 12°0'17.31"N 77°48'30.49"E	67.3	61.5
7	Moongilmaduvu - 12°2'35.40"N 77°49'33.10"E	67.4	61.9
8	Sigaralahalli- 12° 3'19.63"N 77°47'28.41"E	66.6	60.3
Noise permissible limits as per TNPCB Norms		***75 dB(A)***	***70 dB(A)***
Reference Method - IS: 9989:1981			

************End of Report************

EHS360 LABS PRIVATE LIMITED CHENNAI 600 083

Verified by

Authorised Signatory

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Designation : Quality Manager

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Geo Exploration & Mining Solutions, Salem

No. 17, Advaitha Ashram Road, Fairlands, Salem – 636 004, Tamilnadu, India.

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

S.No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals opencast only	1	1 (a) (i)	A
2	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
3	Building and construction projects	38	8(a)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Jan 06, 2023 and posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/2684 dated Feb 20, 2023. The accreditation needs to be renewed before the expiry date by Geo Exploration & Mining Solutions, Salem following due process of assessment.

Sr. Director, NABET
Dated: Feb 20, 2023

Certificate No.
NABET/EIA/2225/RA 0276

Valid up to
August 06, 2025

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website.