

EXECUTIVE SUMMARY

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT OF

COLOUR GRANITE QUARRY

(As per EIA Notification, 2006 dated 14.09.2006 and amendments)

Category- B1

Project Proponent

Mr. D.M. LOKANATHAN

No. 973/ A, 46th Cross, 49th Main,
Near Water Tank, Kumarasamy Layout,
Bangalore-560078

Project Details

S. F. No	: 609A (P) Bit-4
Extent Area	: 1.80.0 Ha
Village	: Nagojanahalli
Taluk	: Pochampalli
District	: Krishnagiri

ToR Identification No: TO26B0108TN5494100N Dated: 07.04.2026

EIA CONSULTANT



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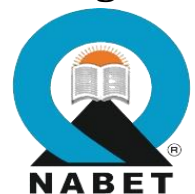
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2026



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1.0 Introduction

The applicant, Thiru.D.M.Lokanathan, No. 973/A, 46th Cross, 49th Main, Near Water Tank, Kumarasamy Layout, Bangalore South Bangalore - 560070, has applied for grant of Colour Granite quarry lease to the Secretary to Government, Industries Dept, Fort St. George, Chennai-9 through District Collector, Krishnagiri and Director of Geology and Mining, Chennai for quarrying Colour Granite from a Government Poromboke Land over an extent of 1.80.00 Hectares in S.F.No. 609A (Part) (Bit-4) Nagojanahalli Village, Pochampalli Taluk, Krishnagiri District, Tamil Nadu.

The Principal Secretary Govt. of Tamil Nadu directed the applicant Thiru.D.M.Lokanathan, through his precise area communication letter No. 1929/MME.2/2021-1, Dated 26.02.2021 to get approved mining plan and obtain Environmental clearance from the Environment Impact Assessment Authority (SEIAA) as per the EIA Notification, 2006 and its amendments for grant of quarrying for Colour Granite over an extent of 1.80.00 hectares of Government land in S.F.No: 609A (Part) (Bit-4), Nagojanahalli Village, Pochampalli Taluk, Krishnagiri District, Tamil Nadu for a period of 20 years under Rule 8A of Tamil Nadu Minor Mineral Concession Rules, 1959.

Accordingly, Mining Plan is prepared under Rule 8A & 12 of Granite conservation and development Rules, 1999 for quarrying colour Granite with due consideration of environmental parameters so as to obtain Environmental clearance (EC) from Environment Impact Assessment Authority (SEIAA) vide MoEF&CC Notification S.O 141(E) dated 15th January, 2016. The mining plan was approved by Department of Geology and Mining, Guindy, Chennai vide his letter Roc No. 921/MM4/2021, dated 25.10.2025 for the period of 5 years.

The Cluster letter issued by the Assistant Director, Department of Geology and Mining, Krishnagiri vide Roc. No.1053/2020/Mines, dated 07.11.2025, indicates that the cluster comprises two proposed quarries (including this proposal), three existing quarries, all located within a 500 m radius cluster area. Resulting in a combined cluster area of 11.09.35 Ha, which exceeds 5 hectares. Therefore, the proposed project falls under Category B1 as per the EIA Notification, 2006 and its subsequent amendments. Now the application has been

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Proponent: D.M.Lokanathan, Colour Granite Quarry, Krishnagiri District

made for Terms of Reference for carrying out EIA studies. The project cost is about Rs. 3,37,20,000/- and EMP cost is Rs. 4,70,000/-.

PROPOSED QUARRIES

1. Thiru D. M. Lokanathan – 1.80.00 Ha
2. TVL. KMB Granites – 4.10.00 Ha

Total 5.90.00 Ha

EXISTING QUARRIES

1. Thiru P. Gandhi – 1.97.35 Ha
2. Thiru D. Dhanapal – 1.68.00 Ha
3. TVL. A.A. Enterprises – 1.54.00 Ha

Total 5.19.35 Ha

Total Cluster Extent = 11.09.35 Ha

As the projects comes under B1(cluster) category, the applicant made TOR application individually the PARIVESH website for carrying out EIA Studies for obtaining Environmental clearance. The details are given in below table 1.1.

Table 1.1 Details on Terms of Reference

S. No	Name of Applicant	ToR Application No	SEAC and SEIAA Meeting	TOR Identification No
1	D.M.Lokanathan	SIA/TN/MIN/ 569355/2026, Dated 26/02/2026	693 th SEAC Meeting dated 17.03.2026 & 988 th SEIAA Meeting dated 02.04.2026	TO26B0108TN5494 100N Dated: 07.04.2026

The Draft EIA report has been prepared based on the Terms of Reference issued by SEIAA. The points raised in the public hearing and the commitments of the project proponent will be given detail in the Final EIA Report which will be submitted to SEAC/SEIAA, TN for obtaining environmental clearance. The production achieved by the Lessee since inception of mining activity as against approved Mining plan/Scheme is given below.

1.2. IDENTIFICATION OF PROJECT AND PROJECT PROPONENT**1.2.1. IDENTIFICATION OF PROJECT****Table 1.2 Details on Project and Project Proponent**

Particulars	Details
Address of the Project Proponent	Thiru.D.M. Lokanathan, No. 973/A, 46 th Cross, 49 th Main, Near Water Tank, Kumarasamy Layout, Bangalore South Bangalore - 560070
S. F. No	609A (Part) Bit-4
Lease Area	1.80.0 Hectares
Site Location	Nagojanahalli Village, Pochampalli Taluk, Krishnagiri District, Tamil Nadu
Geographical Co-ordinates	Latitude :12°22'27.1887"N to12°22'31.6967" N Longitude :78°16'57.0705"E to 78°17'03.0420"E
Toposheet No.	57 L/7
Precise Area Communication	Rc. No. 1929/MME.2/2021-1, Dated 26.02.2021
Mining Plan Approval	Rc. No: 921/MM4/2021, Dated 25.10.2025
Period of Lease	20 years
AD Cluster letter	Rc. No. 1053/2020/Mines, dated 07.11.2025

Table 1.3 Land Particulars

State & District	Taluk	Village	S.F. No.	Total Extent of area (Ha)	Ownership Occupancy
Tamil Nadu & Krishnagiri	Pochampalli	Nagojanahalli	609A (Part) Bit-4	1.80.0	Govt. Poramboke land

1.3 BRIEF DESCRIPTION OF THE PROJECT**1.3.1. Nature and Size of the Project**

Open cast, mechanized mining will be adopted to extract Granite of required size from the quarry area. Hydraulic excavators and diamond wire saw will be used for cutting the rocks. Close spaced cutting of 1m is adapted along a straight line. The Wire saw cutting is adopted below second bench to recover more granite blocks to increase the rate of recovery.

Geological resources and Mineable reserves: Geological resource of total ROM is estimated to be 9,62,243 MT including the resources of safety zone. of which, Colour granite

is about 2,88,674MT at the recovery @30% and granite rejects @70% 6,73,569 MT (Refer Approved Mining Plan Plate No. IVA). The mineable reserve of total ROM is estimated to be 3,81,336MT by deducting the reserve safety zone, block in benches from the total Mineable resources of which, colour granite is about 1,14,402 MT at the recovery of 30% and granite rejects are 2,66, 934 MT @70% up to a depth of 32m below the ground level

Total proposed production of ROM is about 93,479 MT of which, colour granite is about 28,044 MT at the recovery of 30% and granite rejects are 65,435MT @70%, up to a depth of 32m below the ground level (Refer Approved Mining Plan Plate No's. V-VA) for first five years mining plan period. Average production per year 5609 MT of colour granite.

1.2 SCOPE OF THE PROJECT

The proposal for Environmental Clearance of colour granite quarry of D.M. Lokanathan requires EIA/EMP Report as per Terms of Reference for conducting public hearing and obtaining environmental clearance from SEAC/SEIAA.

1.3 ENVIRONMENTAL SETTINGS & MINING DETAILS

FEATURE	DETAILS
Name of the Proponent and address	Thiru.D.M. Lokanathan, No. 973/A, 46 th Cross, 49 th Main, Near Water Tank, Kumarasamy Layout, Bangalore South Bangalore - 560070
Existing/New Quarry	New
Survey number	609A (Part) (Bit-4)
Geographical features	Latitude :12°22'27.1887"N to12°22'31.6967" N Longitude :78°16'57.0705"E to 78°17'03.0420"E Toposheet No: 57 L/7
Site Location	Nagojanahalli Village, Pochampalli Taluk, Krishnagiri District, Tamil Nadu.
Category	B1
Mining lease area	1.80.00 Hectare
Geological Resources	ROM= 9,62,243 MT from which 30% of mineable is calculated as 2,88,674MT

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Mineable Reserves	ROM = 3,81,336 MT from which 30% of mineable is calculated as 1,14,402MT up to a depth of 32m from the highest elevation
Production	ROM = 93,479 MT (28,044 MT of Granite @ 30% of recovery) up to a depth of 32m during the mining plan period of five years
Depth of Mining	32m
Water Table	60m bgl
Method of Mining	Open cast semi mechanized mining
Blasting Pattern	Dia. of the hole – 32-36mm Spacing – 30cms Depth – 2-5m Burden - Min =1m; Max = 2m Charge per hole – D.cord with water or 70 gms of slurry explosive
Types of Explosives	Common explosives used to develop a line of crack along the line of drilling are, i) Detonating Fuse or Cord with 5-10gms of Expl. per metre or Nonel ii) Low explosives like 70 gms of slurry cartridges, iii) Ordinary Detonator, class- 6 iv) Safety fuse, class -6 or Nonel initiation
Measures proposed to minimize ground vibrations due to blasting	During future development of quarrying, removal of rock mass will be done by mild blasting with explosives in holes drilled by Jack hammer of 32mm dia especially. No deep hole blasting is proposed. No impact on surroundings due to blasting.
Storage of Explosive	The Applicant is advised to store the explosives as per the Indian Explosives Act, 1958 and the Explosive Rules, 1983
Mining plan approval	Director of Geology and Mining, Chennai vide Rc. No: 921/MM4/2021, Dated 25.10.2025
Period of Lease	20 years

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Does it attract any general conditions specified in the EIA notification, 2006?	Not applicable
Man Power	18 persons
Water requirement	Total water requirement – 3.5 KLD Drinking water - 0.5 KLD Domestic purposes – 0.5 KLD Water sprinkling – 1.0 KLD, Wet drilling and Green Belt 1.5 KLD. Source: Mineral water supply and nearby bore wells
EMP Cost	Rs. 4,70, 000/-
Project Cost	Rs. 3,37,20,000/-
Nearest habitation	0.68km-East
Nearest Village	N.Thattakkal -0.82 km- East
PMHC	Nagarasampatti –1.4km –SE
Nearest Town	Pochampalli – 10 km –SE
Nearest Road	NH 7 - Kanniyakumari - Bengaluru – 7.0km- W SH 60- Tirupattur – Dharmapuri – 9.80km - SE
Nearest Railway station	Kallavi Railway Station - 21.6km - SE
Nearest Airport	Salem Airport – 70 km - SW
Water bodies	1. Tank- 0.39km -East 2. Sendrayampatti lake 0.65km- NE 3. Tank -0.65km –SE 4. Canal -1.63km- SW 5. Thenpennai River -1.67km -West. 6. Nedungal Dam -1.7 km -SW 7. Nedungal lake -2.7 km- SW
Interstate Boundary	Tamil Nadu -Andhra Pradesh Interstate Boundary -30 km -NE
Coastal Zone	Bay of Bengal – 180km - SE
Reserve Forest	There is no Reserve Forest located within a 1 km radius of the proposed project site. The nearest Reserve Forests are situated beyond 1 km, as detailed below:

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	1. Thattakkal R.F–1.4km – NE 2. Panneshwaramadam R.F–4.2km -NW 3. Thalihalli R.F-3.2km – NW 4. Baleguli-II R.F – 4.1km – NE 5. Chowtahalli R.F–5.3km -NW 6. Thogarapalli R.F – 9.5km – NE			
Wildlife Sanctuary	There is no Wildlife Sanctuary located within a 10 km radius from the proposed Project site. The nearest notified Wildlife Sanctuary is situated well beyond the 10 km buffer, as given below: Cauvery North Wildlife Sanctuary – 34km-West			
Land use pattern	Description	Present area (Ha)	Area to be required during the present Mining Plan period (Ha)	Area at the end of life of quarry (Ha)
	Mine working area	Nil	0.43.00	1.28.00
	Roads	Nil	0.02.00	0.02.00
	Safety and Area under plantation	Nil	0.18.00	0.49.00
	Labour shed and office	Nil	0.01.00	0.01.00
	Waste Dump	Nil	0.41.00	Backfilling
	Unutilized land	1.80.00	0.75.00	Nil
	Total	1.80.00	1.80.00	1.80.00

Table 1.4 Mining Details

Particulars	Details
Method of Mining	Open cast – mechanized mining
Geological resources	ROM= 9,62,243 MT from which 30% of mineable is calculated as 2,88,674MT

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Mineable reserves	ROM =3,81,336 MT from which 30% of mineable is calculated as 1,14,402MT up to a depth of 32m from the highest elevation
Production	ROM = 93,479 MT (28,044 MT of Granite @ 30% of recovery) up to a depth of 32m during the mining plan period of five years
Reject	6,89 598 MT (Rejects60%)
Top soil	-
Side Burden	
Weathered rock	
Ore: Waste ratio	1: 5.4
Depth of Mining	32m bgl
Water Table	60mbgl
Road design	1: 10 inside the pit and ramp 1:16 for transport
Overall Pit Slope	45°
Period of Lease	20 years

1.4 Description of the environment

1.4.1 Base line environmental study

Collection of base line data is an integral part of the preparation of environmental impact assessment reports. The baseline monitoring study has been carried out during March, 2026 – May, 2026 to assess the existing environmental scenario in the area. For the purpose of EIA studies, mine lease area was considered as the core zone and area outside the mine lease boundary up to 10km radius from the lease boundary was considered as buffer zone.

Table No 1.5 Baseline Data

Particulars	Details	Standards
Meteorology (March, 2026 – May, 2026)		
Rainfall (Avg.)	129.6 mm	--
Temperature (Avg.)	22-38°C	--
Wind speed	2.4 m/s	--
Wind Direction	From east to west directions	
Ambient Air Quality (NAAQS)		
PM ₁₀	32-54 µg/m ³	100 µg/m ³
PM _{2.5}	15 – 31 µg/m ³	60 µg/m ³
SO ₂	7 - 19 µg/m ³	80 µg/m ³
NO _x	11 - 30 µg /m ³	80 µg/m ³

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Noise Level (CPCB Standards)		
Day time (6:00 am - 10:00 pm)	Core zone – 37.4 – 40.2 dB (A) Buffer zone -36.7- 38.4 dB (A))	Industrial Area Day Time - 75 dB (A) Residential Area Day Time – 55 dB (A)
Night time (10:00 pm - 06:00 am)	Core zone – 32.5 – 36.4 dB (A) Buffer zone – 33.4 – 35.2 dB(A)	Industrial Area Night Time – 70 dB(A) Residential Area Night Time – 45 dB (A)
Water Quality IS 10500:2012 (Desirable limits)		
pH	6.85 – 7.98	6.5 to 8.5
TDS	296-1794 mg/l	500 mg/l
Electrical conductivity at 25°C	545-2957 micromhos/cm	
Total Hardness as CaCO ₃	128-1390 mg/l	200 mg/l
Total suspended solids	2 - 16 mg/l	IS 3025:P.17: 1984: R. 2017
Chlorides Cl	26 - 1064mg/l	250
Total iron Fe	0.014 – 1.48 mg/l	0.3mg/l
Sulfates SO ₄	14-57 mg/l	200 mg/l
Soil Quality		
pH	6.85 – 7.95	Neutral to slightly alkaline
Bulk density	1.22-1.48 g/cc	Favorable physical condition for plant growth.
EC	234 – 294 µs/cm	-
Organic Matter	0.2 – 2.2 %	-
Hydro Geology		
Mining Depth	32 m	
Water Table	60 m bgl	

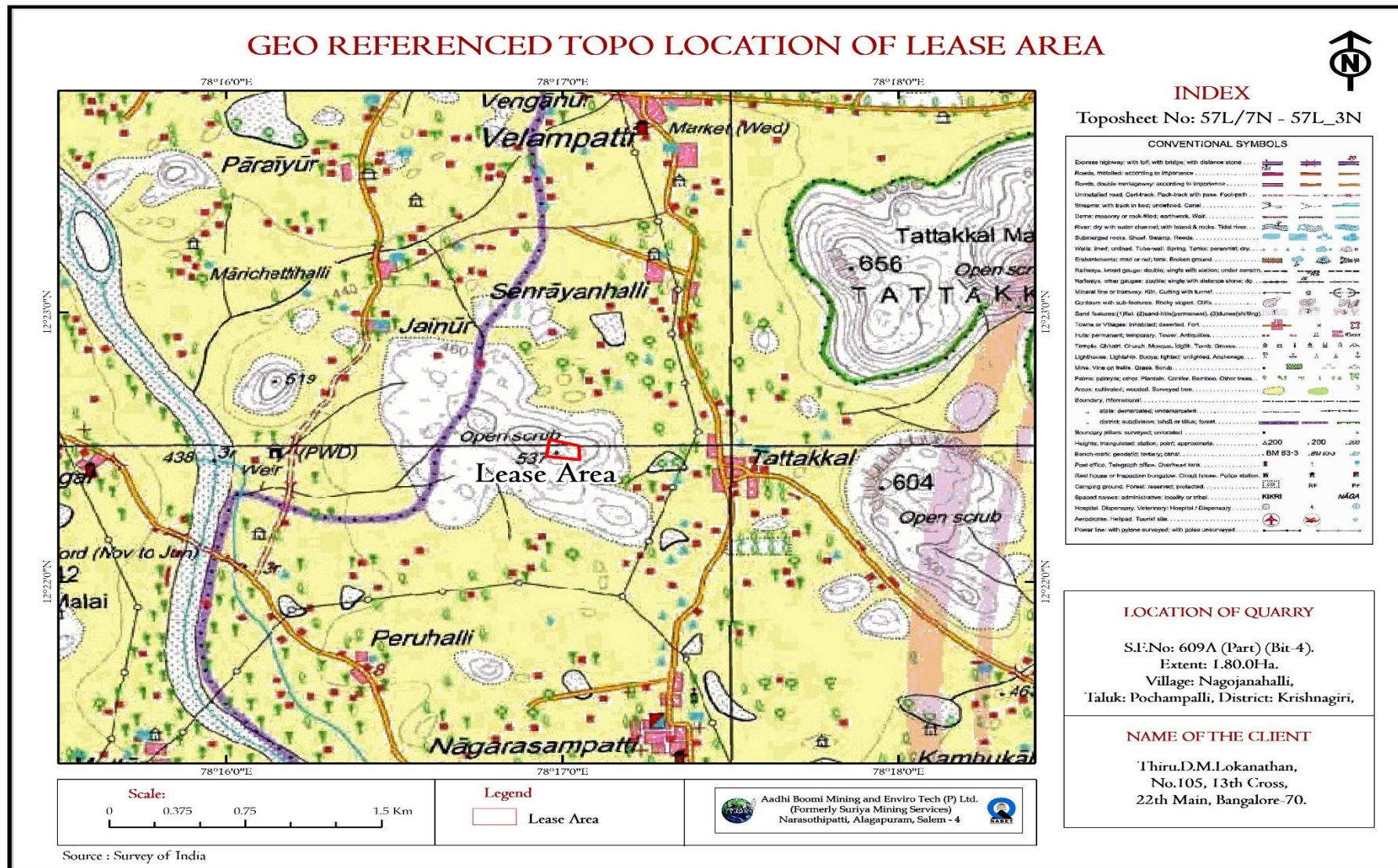


Fig No 1.1 Toposheet showing location of the lease area

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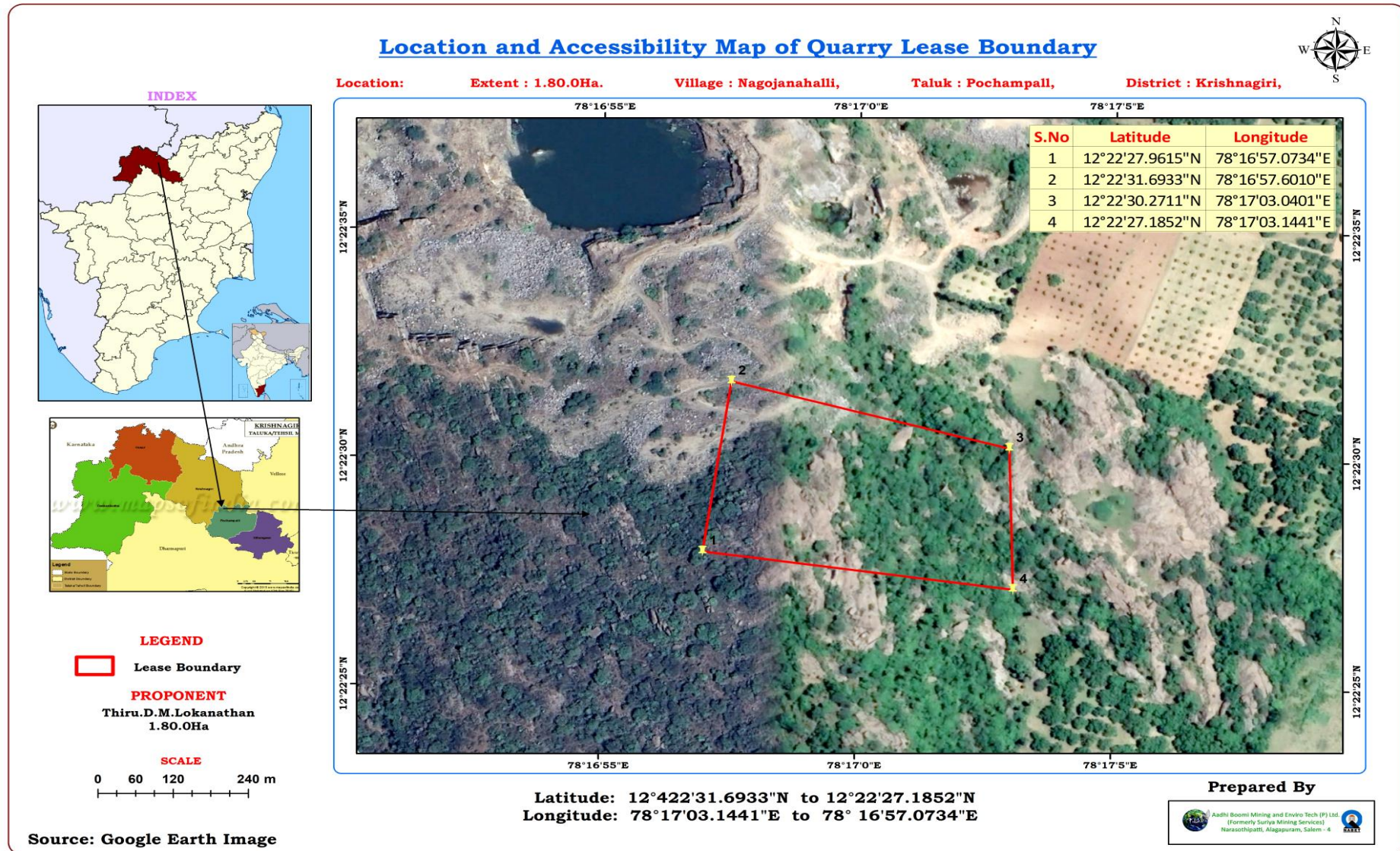


Fig No 1.2 Map Showing the Location and Accessibility of Quarry Lease Boundary

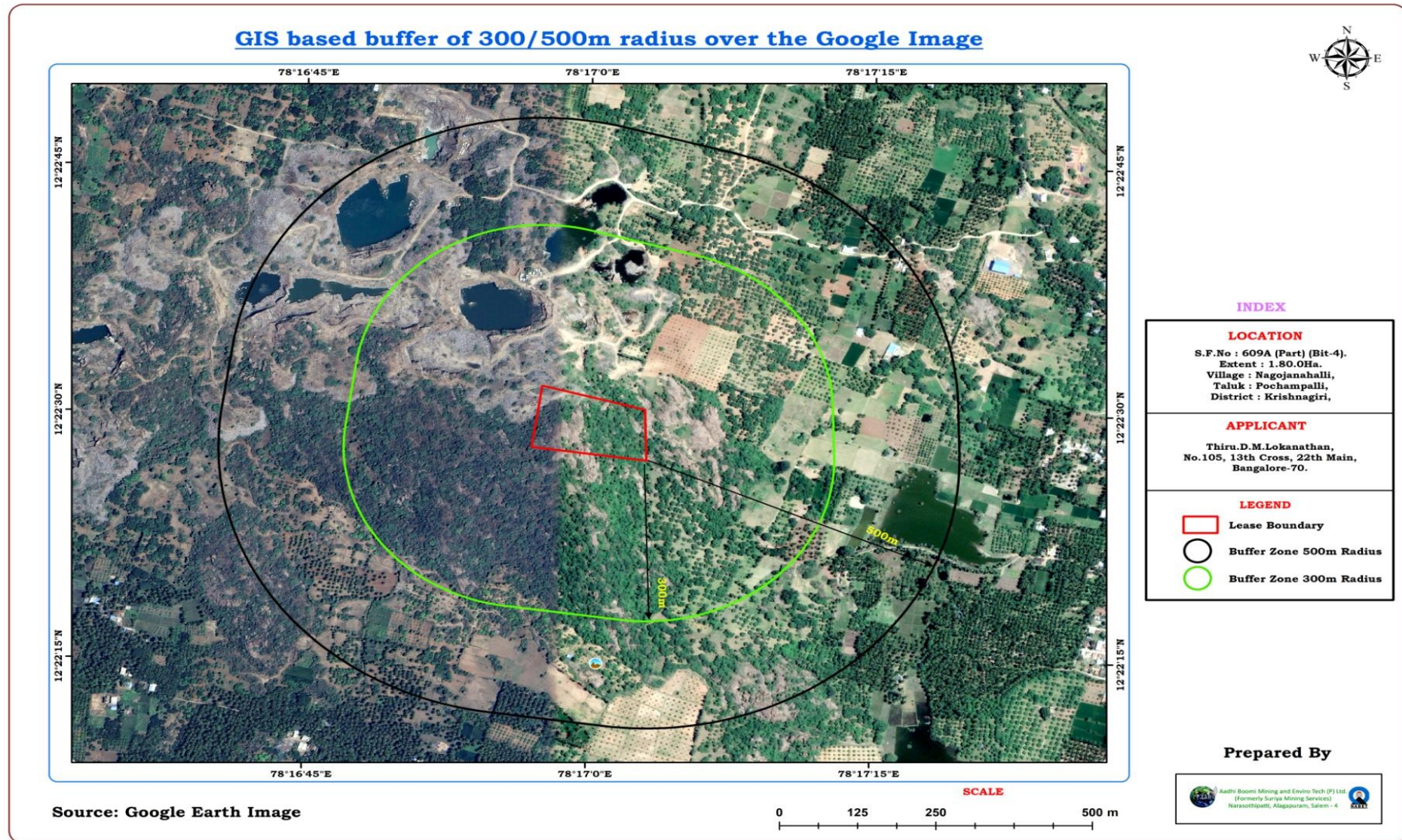


Fig No 1.3 Google Earth Image showing 300m and 500m radius around lease area

1.5 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

1.5.1 Air Environment

The air borne particulate matter is the main air pollutant by opencast mining. The mining operation will be carried out by adopting semi-mechanized methods which involves Jack Hammer drilling and blasting, excavation, loading and transportation.

Total predicted 24-h maximum GLC of PM₁₀ at project site for scenario 1 i.e loading-unloading and transportation and scenario 2 i.e. Blasting was 71.83µg/m³ and 53.28 µg/m³ occurred at the project site after superposition of base-line value 44 µg/m³ over the incremental value of 27.83µg/m³ and 9.28µg/m³ due to combined impact of loading and unloading and transportation over the haul road and due to blasting. Meteorological data under worst case scenario providing 24-h maximum average GLC was discussed above.

Maximum Impact of PM₁₀, SO₂ and NO₂ was observed close to the source within the lease area due to moderate wind speeds.

1.5.2 Noise Environment

Noise pollution poses a major health risk to the mine workers. The sources of noise in the proposed open cast granite quarry are such as Drilling, Blasting, and during movement of vehicles.

The noise generated by the mining activity is dissipated within the core zone. This is because of distance involved and other topographical features adding to the noise attenuation. From the results, it can be seen that the ambient noise levels (day time and night time) at all the locations will remain within permissible limits prescribed by CPCB and 90dB (A) norms of DGMS. At present there is no mining activity carried out. However, the expected noise levels are not likely to have any effect. Precaution will be made to keep down the noise exposure level of 85 dB (A) to the operating personnel for 8 hrs duration.

1.5.3 Ground Vibration

From the above results, it can be seen that the charge per blast of 7 kg is within the Peak Particle Velocity of 5mm/s for the habitation located at the distance of 680m. So, the project proponent if any changes for the production is recommended to adopt delay detonators to keep PPV of ground vibration below 5mm/s.

1.5.4 Water Environment

Mining operations can affect groundwater quality in several ways. The most obvious occurs in the mining below the water table, either in underground workings or open pits. This provides a direct conduit to aquifers. Groundwater quality is also affected when waters (natural or process waters or wastewater) infiltrate through surface materials (including overlying waste or other material) into ground water. But this colour granite quarry mine is devoid of any such impacts.

The WQI of the samples collected from the study area are given in table 4.25. It can be seen that the study area has water quality index value ranging from 65.7 to 301.4 which reflects the Poor water quality to unfit for drinking status of the groundwater quality. The findings demonstrate the varying consistency of groundwater at different locations. All the groundwater samples under poor to unfit for drinking category; it may be due to the absorption of fertilisers, geological condition, channel water, solid waste, sewer drainage, septic tanks, and agricultural waste. The water should be treated by reverse osmosis to reduce dissolved solids and total hardness to the required rate.

1.5.5 Soil Environment

The generation of top soil is estimated as 65,435MT. It will be dumped along mining lease boundary as earth bund and it will be utilized for green belt development within the lease area. No chemical or toxic elements will be used during mining activity. So, the health of soil in and around the quarry will not be affected.

1.5.6 Waste Dump

The proposed rate of production of colour granite for five years is about 28044 MT at the rate of 30% recovery up to permissible depth. The 70% reject of 65,435MT shall be dumped over existing dump in South west side and on virgin barren land in east side as per approved scheme of mining. During monsoon seasons, the runoff from the dump will carry silts and small stones and it affect the land use around the project site which means it may affect the carrying capacity of stream, water holding capacity of lakes and affect nearest agricultural lands.

1.5.7 Biological Environment

There are no notified endangered species in the area, which may be affected due to the quarry activities; therefore, the biological environment will not have significant impact due to quarrying activity. The impact on the biological environment due to amount of dust generation is minimized by well-developed green belt in and around the quarry lease area.

1.5.8 Land Environment

Colour granite Quarry project will result in disturbance of the land use pattern of the mine lease area. The impact on the topography in the form of changed landscape is unavoidable during mining activities like excavation, overburden dumping, soil extraction etc. Land requirement for the project has been assessed considering functional needs. So, reclamation of mined out land will be given due importance as a step for sound land resource management. There is no release of toxic elements into the ground. No adverse impact is anticipated on land use of buffer zone associated due to the mining activity, as all the activities will be confined within the project site. The mining operations will impact the land usage and land aesthetics of quarry lease area. The rate of plantation increases over a period of time due to quarry activity. At the end of the project, the quarried pit will be act as water storage pond. The stored water will be used for developing mango plantation around the mining lease area. It will improve the livelihood of village people. The evaporation rate of the water in the pit is given detail in the report.

1.5.9 Socio Economic Environment

The quarrying activity will definitely increase the employment opportunity (directly as well as indirectly) in the project area. Some of these impacts would be beneficial. The expectation of the people of area is concerned towards employment, education, road and health facilities. The literacy rate may be increased with the economic benefits which may arise from the quarrying activities.

Direct Employment – 18 persons

Indirect Employment - 20 persons

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Table 1.5 Environmental Management Plan

S. No	Parameters	Mining Activity	Mitigation measures
1	Air Environment	Drilling	○ Dust extractor or wet drilling to be followed to control dust at source of emission ○ Use of Sharp drill bits for drilling holes and charging the holes by using optimum charge and using time delay detonator
		Blasting	○ Regular water sprinkling on blasted heaps at regular intervals will help in reducing considerable dust pollution
		Loading	○ Water sprinkling be done before loading by making it moist
		Transportation	○ Water sprinklers along the sides of haul road shall be fixed to control fly of dust while transporting minerals and waste ○ Overloading will be prevented ○ Trucks/Dumpers covered by tarpaulin covers
		DG Sets	○ DG sets will be used only during power failure ○ Adequate stack height for DG sets will be provided as per CPCB norms
		General measures	○ Avenue trees along roads around ML boundary shall be planted as per the norms of MoEF to control fly of dust. ○ Labours engaged in such dust prone areas should be provided with safety devices like ear muff, mask, goggles as per the MMR, 1961 amendments and circulars of DGMS. ○ Regular health check-up of workers and nearby villagers in the impacted area should be carried out and also regular occupational health assessment of employees should be carried out as per the Factories Act ○ Ambient Air Quality Monitoring will be conducted on regular basis to assess the quality of ambient air.

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2	Water Environment	Surface water	Wastewater discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes.
		Ground water	- The mining activity will not intersect the ground water table - Desilting will be carried out before and immediately after the monsoon season
		Storm water	- Pit will be used for Storage of rainwater - Rain water 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 judiciously utilize the rainwater as part of rain water harvesting
		General measures	Regular monitoring and analyzing the quality of water
3	Noise Environment	Drilling	Limiting time exposure of workers to excessive noise
		Blasting	- Carrying out blasting only during day time and not on cloudy days - Noise levels will be controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes. - Providing proper noise proof enclosure for the workers separated from the noise source and noise prone equipment
		Transportation	- Proper and regular maintenance of vehicles, machinery and other equipments. - The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments. - Speed of trucks entering or leaving the mine will be limited to moderate speed to prevent undue noise from empty vehicles.

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			○ Adequate silencers will be provided in all the diesel engines of vehicles. ○ Minimum use of horns and speed limit of 10 km/hr in the village area. ○ It will be ensured that all transportation vehicles carry a valid PUC Certificates
		General measures	○ Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas ○ Provision of Quiet areas, where employees can get relief from workplace noise. ○ The development of green belts around the periphery of the mine to attenuate noise. ○ Regular medical check-up and proper training to personnel to create awareness about adverse noise level effects.
4	Vibration	Blasting	○ Specific charge pattern has to be designed by proper trial vibration studies with varying charge ratios. ○ Milli second detonators shall be used preferably 25–50ms per delay to control vibrations ○ If the vibration still exceeds the limit a long Trench to a depth of 6m may cut in the direction of wave's movement to break longitudinal waves which travel close to surface, preferably near mine buffer zone ○ In spite of all measures periodical testing of vibration and noise using approved seismograph by DGMS has to be followed as a part of Environmental monitoring
5	Soil Environment	Topsoil	○ Humus top soil shall be preserved for reuse in afforestation and agriculture ○ Top soil should not be mixed with other waste or reject materials. It should be conserved by judicious utilization in the mine premises ○ Garland drains will be provided around the mine and dumps to arrest any soil from the mine area being carried away by the rain water. This will

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			also avoid the soil erosion and siltation in the mining pits and maintaining the stability of the benches
6	Waste Dump	Stabilization of Dumps	○ The rejects\ waste dump shall be properly terraced in to 1.5m benches with proper repose angle and then the top soil shall be spread over the dumps and slope to make them humus for some time, after the soil suitable for water retention trees will be planted at the top, slope and toe of the stabilized dumps to form vegetation ○ Garland drainage around dump shall prevent under wash of dump by hydrostatic pressure to be developed by surface water and control wash outs and collapse
7	Plantation	Mine lease boundary and waste dump	○ Provision of green belt all along the periphery of the lease area for control of dust and to attenuate noise ○ Stabilization of Dump with plantation ○ It is strongly recommended that the loss of plant in each year will be counted and again planted in subsequent plantation. ○ The plant should be planted taken from nursery, where the survival rate is high.
8	Land Environment		○ The restoration of the degraded land would cover backfilling and terracing with the overburden / wastes and surfacing the same with top soil. ○ Provision of Garland drainage around the dumps ○ Fast growing trees and other native shrubs would be planted to stabilize the reclaimed land ○ Appropriate measures will be taken for Green belt development. ○ The rain water will be stored in the pit which will recharge the ground water as a part of rain water harvesting scheme for irrigating the nearby agricultural lands.
9	Socio Economic		○ Good maintenance practices will be adopted for machinery and

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			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. ○ Drilling, blasting etc at specified location will be followed with proper schedule. ○ Appropriate air pollution control measure will be taken so as to minimize the environmental impact within the core zone. ○ An emergency preparedness plan will be prepared in advance, to deal with firefighting, evacuation and local communication. ○ For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices has been provided which meet 'BIS' (Bureau of Indian Standards). ○ As a part of CSR activities community welfare measures will be taken by Proponent through local Panchayat
10	Occupational Health		○ First-aid facilities as per provisions under Rule (44) of Mines Rules 1955 ○ Initial and Periodical medical examination shall be conducted for the employees under Rule 29B & 45 (A). ○ Insurance will be taken in the name of the labourers working in the mines ○ Workers involved in mining work shall be provided protective equipments such as Thick Gloves, Goggles, ear plugs, safety boot wears, etc.,

1.6 Analysis of Alternatives

The quarrying site is dependent on the geology and mineral deposition of the area. Hence, this project is, mineral and site specific and no alternative site considered for this project.

1.7 Environmental Monitoring Program

Success of any environmental management programme depends upon the efficiency of the organizational set up responsible for the implementation of the programme. Regular monitoring of the various environmental parameters is also necessary to evaluate the effectiveness of the management programme. Environmental Monitoring Programme will be conducted for various environmental components as per conditions stipulated in the Environmental Clearance Letter issued by SEIAA & Consent to Operate issued by TNPCB.

Table No: 1.6 Post Project Environmental Monitoring Program

S. No.	Environment Attributes	Location	Monitoring		Remarks
			Duration	Frequency	
1	Meteorology and Air Quality	Continuous monitoring weather station in core zone/ nearest IMD station	24 hours	Monthly Once	Wind speed, direction, Temperature, Relative humidity and Rainfall.
2	Air Pollution Monitoring – PM _{2.5} , PM ₁₀ , SO ₂ and NO _x	5 locations (One station in the core zone and at least one in nearby residential, area, one in the upwind, two station on the downwind direction and one in cross wind direction)	8 hours	Once in six months	Fine Dust Sampler and Respirable Dust Sampler
3	Water Pollution Monitoring	Mine effluents, Set of grab samples during pre and post monsoon for ground and surface water in the vicinity.	–	Once in six months	Phyiso–chemical, microbiological characteristics
4	Hydrogeology	Water level in open wells in buffer zone around 1km at specific wells	-	Once in six months	Water level monitoring devices may be used.
5	Noise	Mine Boundary, high noise generating	24 hours	Monthly Once	Sound level meter

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		areas within the lease and at the nearest residential area			
6	Vibration	At the nearest habitation (in case of reporting)	–	During blasting operation	Digital Seismograph
7	Soil	Core Zone and Buffer zone (Grab samples)	–	Once in six months	Physical and Chemical characteristics

1.8 Project Benefits

The proponent, **D.M.Lokanathan** is very much conscious of his obligations to society at large. Under plantation programme, it is suggested to develop greenbelt further all along the boundary of the quarry lease area. Apart from the green belts and aesthetic plantation for eliminating fugitive emissions and noise control, all other massive plantation efforts will be executed with the assistance of experts and cooperation of the local community. The quarrying activity will create rural employment. In addition, there will be indirect employment to many more people in the form of contractual jobs like construction of infrastructural facilities, transportation of Granite and gravel to destinations, sanitation, supply of goods and services to the quarry and other community services etc. The local population will have preference to get an employment. The proponent will help in socio economic development of the village by providing educational facilities to children, and welfare amenities like drinking water to school; road and medical facilities to villages and employment opportunities to nearby villagers. CSR budget is allocated as 2.5% of the profit.

1.9 Conclusion

As discussed, it is safe to mention that the project is not likely to cause significant impacts on the ecology and environment of the area, as adequate preventive measures will be adopted to contain the pollutants within permissible limits. The total operations shall be carried out with ease & minimum risk to the workers. The proposed Environmental Management Plan will keep the area in a safe environment with negligible impact on the environment. Plantation will substantiate the impact due to the quarrying activity. Quarrying activity will help in improving the socio-economic benefits in areas like employment, communication and infrastructure development.