EXECUTIVE SUMMARY FOR
PROPOSED ROUGH STONE QUARRY
CATEGORY – B1 (CLUSTER)

ToR Lr.No.SEIAA-TN/F.No.8656/SEAC/ToR-1365/2023 dated 09.02.2023

PROPOSED QUARRY LEASE DETAILS	
SURVEY NOS	168 (Part-1)
VILLAGE	VADA ALAPIRANDAN
TALUK	CHEYYAR
DISTRICT	TIRUVANNAMALAI
EXTENT	4.50.0 HA
PROPOSED PRODUCTION QUANTITY FOR FIVE YEARS	19,19,520 m^3 OF ROUGH STONE
LAND	GOVERNMENT LAND

(Sector No. 1(a) (Sector no.1 as per NABET)
Category of the Project: B1 Cluster Mining, Total Cluster Area – 9.00 Ha

APPLICANT

THIRU.N.VENKATESH
S/O. THIRU. NATRAJAN,
158, KURINJI NAGAR, VELLISEMMANDALAM,
CUDDALORE DISTRICT.

ORGANIZATION

M/S. GLOBAL MINING SOLUTIONS
(NABET ACCREDITED & ISO 9001 CERTIFIED CONSULTANT)
PLOT NO. 6, SF NO. 13/2, A2, VS CITY, RC CHETTYPATTY,
KOTTAMETTUPATTY, OMALUR, SALEM, TAMIL NADU – 636 455
NABET ACCREDITATION NO – NABET/EIA/2326/IA 0110

June -2023

EXECUTIVE SUMMARY

1.0 Introduction

Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

Thiru.N.Venkatesh has obtained Precise Area communication letter from the District Collector, Tiruvannamalai District, to quarry out 19,19,520 m^3 of Rough Stone over an extent of 4.50.0 Ha., located at the Survey No. 168 (part-1) of Vada Aalapirandhan Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu.

As per EIA notification, 2006 and its subsequent amendments the proposed **"**Vada Aalapirandhan Rough Stone Quarry of Thiru.N.Venkatesh**"** cluster is falls under Schedule 1(a) Mining of Minerals. It is further classified under Category B1 due to the overall extent of cluster area is 9.00 Ha which is >5 Ha. The ToR for preparation of EIA/EMP was approved vide letter No.SEIAA-TN/F.No.8656/SEAC/ToR-1365/2023 dated 09.02.2023. This report has been prepared in line with the approved TOR for production of maximum excavation 19,19,520 Cu.m of Rough Stone for a period of five years.

1.1 Details of Project Proponent

Name of the Proponent	:	Thiru. N Venkatesh
Status of the Proponent	:	Individual
Address		Thiru. N Venkatesh S/o. Thiru. Natrajan, 158, Kurinji Nagar, Vellisemmandalam, Cuddalore District.

1.2 Size and Location of the Project

S. No.	Feature	Description
1	Co-ordinates of the project	Latitude: 12°38’06"N to 12°38’ 16"N Longitude 79°36’ 28"E to 79°36’ 35"E
2	Type of land	Government land
3	Extent of lease area	4.50.0 Ha
4	Type of lease	Fresh lease
5	Toposheet No.	57-P/10
6	Geological Resource	40,50,000 m^3 of Rough Stone
7	Mineable Resource	24,97,520 m^3 of Rough Stone
8	Proposed production quantity for five years	19,19,520 m^3 of Rough Stone
9	Proposed depth of mining	60m (40m Above ground level and 20m Below ground level)

1.3 Statutory Details:

This is a fresh Rough Stone Quarry project. There is no litigation/court cases pending against this project.

(a) Precise Area Communication:

The Project Proponent has obtained Precise Area Communication from the Deputy Director, Department of Geology and Mining, Tiruvannamalai, vide e Rc No.16/Kanimam/2019 dated 28.05.2019.

(b) Mining Plan Approval Letter:

The project proponent has prepared mining plan under rule 9(l),41 &42 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the same has been approved by the Deputy Director, Dept. of Geology & Mining, Tiruvannamalai vide Rc.No.16/Kanimam/2019, dated 07.06.2019.

(c) 500m radius quarry features:

The project proponent has obtained an official letter from Deputy Director, Dept. of Geology & Mining, Tiruvannamalai vide Rc.No.16/Kanimam/2022 dated 07.06.2022.

(d) Blasting Agreement:

The Project Proponent have agreement with Manonmani Explosives to carry out the blasting operation for the proposed quarry.

(e) Land document of the proposed lease area:

It is a Govt. Waste land and the applicant has obtained this land through Govt. tender.

2.0 Project Description

The type of the project is opencast semi-mechanized mining method to excavate Rough Stone within the proposed Mine Lease area with drilling, blasting, loading and transportation.

2.1 Location details

This project site is located at S.F.No.168 (Part-2) over an area of 4.50.0 Ha in Vada Alapirandan Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu. The nearest highway is Kanchipuram – Vandavasi road (SH 116) at a distance of 3.33km, SW. The nearest railway station is Kanchipuram Railway Station which is located at a distance of 25.8km, NE from the project site. The nearest airport is Chennai (Meenambakkam) Airport which is located at a distance of 71.39km, NE.

2.2 Geological resources

Geological Resources is estimated at 40,50,000m^3 of Rough Stone after leaving necessary safety distance from the lease boundary as indicated in the Precise area letter and relevant mining laws in force.

Section	Topography	Length (m)	Width (m)	Dept (m)	Volume (m^3)	Geological Resources of Rough stone (m^3)
XY-AB	Above Ground level	225	200	40	1800000	1800000
	Below Ground level	225	200	50	2250000	2250000
Total						4050000

2.3 Mineable resources

The mineable reserves calculated by deducting 7.5m and 10m safety distance and bench loss.

Section	Topography	Bench	Length (m)	Width (m)	Depth (m)	Volume m^3	Mineable Reserve of Rough stone in m^3
XY-AB	Above Ground Level	I	52	65	5	16900	16900
		II	122	136	5	82960	82960
		III	201	182	5	182910	182910
		IV	210	185	5	194250	194250
		V	210	185	5	194250	194250
		VI	210	185	5	194250	194250
		VII	210	185	5	194250	194250
		VIII	210	185	5	194250	194250
	Below Ground level	IX	210	185	5	194250	194250
		X	200	175	5	175000	175000
		XI	190	165	5	156750	156750
		XII	180	155	5	139500	139500
		XIII	170	145	5	123250	123250
		XIV	160	135	5	108000	108000
		XV	150	125	5	93750	93750
		XVI	140	115	5	80500	80500
		XVII	130	105	5	68250	68250
		XVIII	120	95	5	57000	57000
		XIX	110	85	5	46750	46750
Total							**2497020**

2.4 Yearwise production resources

The project proponent has proposed to carry out 19,19,520m^3 of Rough Stone upto a depth of 60m (40m Above ground level and 20m Below ground level) for the period of five years.

Table 2.10 Summary of production For 5 Years								
Year	Section	Topography	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m^3	Mineable Reserve of Rough stone in m^3
I	XY-AB	Above Ground level	I	52	65	5	16900	16900
			II	122	136	5	82960	82960
			III	201	182	5	182910	182910
			IV	110	185	5	101750	101750
Total								**384520**
II	XY-AB	Above Ground level	IV	100	185	5	92500	92500
			V	210	185	5	194250	194250
			VI	105	185	5	97125	97125
Total								**383875**
III	XY-AB	Above Ground level	VI	105	185	5	97125	97125
			VII	210	185	5	194250	194250
			VIII	100	185	5	92500	92500
Total								**383875**
IV	XY-AB	Above Ground level	VIII	110	185	5	101750	101750
		Below Ground level	IX	210	185	5	194250	194250
			X	100	175	5	87500	87500
Total								**383500**
V	XY-AB	Below Ground level	X	100	175	5	87500	87500
			XI	190	165	5	156750	156750
			XII	180	155	5	139500	139500
Total								**383750**
Grand Total								**19,19,520**

2.5 Land use of the project area

The proposed Mine Lease area is dry government land and the Land use pattern of the project site is given below.

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1	Quarrying Pit	Nil	3.85.0
2	Infrastructure	Nil	0.01.0
3	Roads	Nil	0.02.0
4	Green Belt	Nil	0.25.0
5	Unutilized	4.50.0	0.37.0
	Total	**4.50.0**	**4.50.0**

The ultimate pit dimension at the end of conceptual period is given below.

Pit No.	Length (max) (m)	Width (Avg) (m)	Depth (max) (m)
I	210	185	60m (40m Above ground level and 20m Below ground level)

2.6 Method of mining

Opencast Semi-mechanized mining with a bench height of 5m and bench width of 5m and 80^0 Slope is proposed. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, loading and transportation of Rough Stone to the needy customers. Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting.

2.7 Greenbelt Development

Green belt development plan is proposed for the 5 year period.

S.No.	Year	Species	No. of trees	Spacing	Survival
1	I	Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indiaca	200	3m x 3m	80%
2	II		200		
3	III		200		
4	IV		200		
5	V		200		
Total			**1000**		

3.0 Description of the Environment

The project area is located in Vada Alapirandan village, Cheyyar Taluk, Tiruvannamalai District over an extent of 4.50.0Ha. The project area is considered as Core zone and the area in the surrounding 10km radius is considered as Buffer Zone. The meteorological data collected in the study area from March to May 2023 which includes Temperature, Wind speed, Wind direction and Relative humidity. The predominant wind blow from West. Temperature range was from 20°C (minimum in night) to 45°C (maximum in day).

3.1 Ambient Air monitoring Data

Ambient air quality monitoring has been carried out in 5 locations. One in the core zone and remaining four locations are in the buffer zone areas. The concentrations of the monitoring value well within the prescribed government norms. For all the components in the table, the unit are in μg/m^3

S. No.	Parameters	A1 Near Mine lease area		A2 Athi village		A3 Kil nethapakkam village		A4 Vada Alapirandan Pudur village		A5 Anappathur village		NAAQ limits
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
1	PM10	42.4	54.5	45.1	56.4	43.1	57.2	45.4	60.2	47.2	61.3	100
2	PM2.5	19.3	29.3	20.4	29.3	18.7	29.1	20.6	30.2	22.2	34.3	60
3	SO_2	3.4	5.8	3.7	6.4	4.0	6.4	3.8	8.4	4.2	7.6	80
4	NO_x	5.4	7.9	5.8	7.6	6.2	9.2	6.7	11.4	6.8	10.4	80
5	CO	BDL (DL – 1144)										2 mg/m3

3.2 Water Environment

Water samples (bore wells) were collected from 5 different locations and the results are given below.

Table 3.4 Results of Water sampling Analysis in 5 locations

S. No.	Parameter	WS1	WS2	WS3	WS4	WS5	Limits	
		Near Mine lease area	Athi	Kilnethapakkam	Vada Alapirandan	Anappathur	Acceptable Limits	Permissible Limits
1	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
2	Turbidity	<1	<1	<1	<1.0	<1	1	5
3	pH at 25 °C	7.28	7.81	6.89	7.34	7.29	6.5- 8.5	No Relaxation
4	Electrical Conductivity	1018	389.4	710.5	1656	985.7	-	-
5	TSS	612	236	430	995	596	500	2000
6	Total hardness as $CaCO_3$	431	171	235	349	408	200	600
7	Calcium as Ca	83.1	43.1	56.8	64.3	74.5	75	200
8	Magnesium as Mg	53.6	15.1	22.3	45.2	53.2	30.0	100
9	Calcium as $CaCO_3$	208	108	142	161.0	186	-	-
10	Magnesium as $CaCO_3$	223	62.7	93.0	188	221	-	-
11	Total alkalinity as $CaCO_3$	319	147	160	326	254	200	600
12	Chloride as Cl^-	82.2	34.2	134	342	117	250	1000
13	Free Residual chlorine as Cl^-	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL (D.L -0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	0.2	1
14	Sulphates as SO_4^{2-}	124	13.6	72.6	208	114	200	400
15	Iron as Fe	0.09	0.08	0.05	0.15	0.12	0.3	No Relaxation
16	Nitrate as NO_3	3.26	BDL(D.L-1.0)	3.5	2.08	2.93	45	No Relaxation

17	Fluoride as F	0.36	0.13	0.21	0.39	0.24	1	1.5
19	Manganese as Mn	BDL(D.L-0.05)	BDL(D.L-0.05)	BDL (D.L -0.05)	BDL(D.L-0.05)	BDL(D.L -0.05)	0.1	0.3

3.3 Noise Monitoring

Noise Monitoring were done at 5 different locations and the results are given below.

S. No	Location	Day equivalent	Night equivalent	Day and Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	NM1 – Mine lease area	45	37.7	43.6	55	45
2	NM2 – Athi	47.3	38.1	45.8		
3	NM3 – Kilnethapakkam	46.2	39.0	44.8		
4	NM4 – Vada Alapirandan	45.2	37.5	43.8		
5	NM5 - Anappathur	48.7	38.7	47.2		

3.4 Soil Sampling

Soil samples have been collected from the mine lease area and 2 other locations from Athi village and Kilnethapakkam village and the results are given below.

S. No.	Parameter	SS1 Mine lease area	SS2 Athi	SS3 Kil Nethapakkam
1	pH	7.95	7.25	7.67
2	Electrical Conductivity	184.9	156.7	110.2
3	Dry Content	97.6	96.5	98.3
4	Water Content	2.4	3.5	1.7
5	Organic Mater	0.15	0.22	0.32
6	Sulphur	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)
7	Phosphorus	4.5	3.2	2.7
8	Texture	sandy loam	clay	silt loam
9	Sand	55.64	32.57	36.58
10	Clay	28.95	26.44	52.47
11	Loam	15.41	40.99	10.95
12	Total Nitrogen	53	68	102
13	Sodium	476	540	386
14	Potassium	720	910	562
15	Water Holding Capacity	3.3	3.7	3.5
16	Porosity	16.4	18.6	16.9

4.0 Anticipated Environmental Impacts and Mitigation Measures

In order to maintain the existing environmental scenario of the proposed mine lease area it is mandatorily required to assess the present ecology and environment of the proposed mine lease area and buffer area of the project before starting mining operations.

4.1 Land Environment

This is a proposed Rough Stone and Gravel Quarry of Thiru.N.Venkatesh at S.F.No. 168 (Part-1) over an extent of 4.50.0 Ha in Vada Alapirandan Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu. The method of mining is Opencast Semi mechanized with a bench width and height of 5m. It is proposed to excavate to 12,54,020 m^3 of Rough Stone upto a depth of 60m (40m above ground level and 20m Below ground level)for the period of five years.

Anticipated Impacts and Mitigation Measures

The major impact due to this project on land environment is the change in land use. Since this quarry is a small one and the production is less, mining activity will be carried out only up to 40m AGL. Other than quarrying of minerals, no other change will be done since there is no dumping. To prevent soil erosion during monsoon season, garland drain will be constructed with silt traps. At the mine closure stage, 3.85.0 Ha of lease area will be left as rain water harvesting pond. 0.25.0 Ha will be developed with green belt. For this, plants like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indiaca are selected. A total of 1000 trees are planned to be planted. Spacing will be 3m x 3m.

4.2 Solid Waste Management

The waste generation in the form of Solid waste (Municipal Waste) is very negligible. A detailed solid waste management system for the project area is given below and the same will be executed by proper awareness and sign boards. The sign boards will be in two language i.e., Vernacular language (Tamil) and common language (English). The plastic waste generation is very negligible and it will be collected from the source level in specific dustbin and disposed through the municipal bins.

4.3 Water Environment

Impacts on Surface Water Resources

There is no seasonal or perennial Odai within the M.L area. The drainage pattern of the region is plane to sub-dendritic. Surface run-off water of the M.L. area is drained through proposed drainage and collected in the bottom of the quarry and collected water will be used for same quarry operation as such for plantation & dust suppression.

There is a canal located at a distance of 1.22km western side and Cheyyar River is located at a distance of 1.34 km northwestern side from the proposed ML area. Water table is found at a depth of 58m in summer and 55m in rainy seasons.

Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made into these water bodies, there is no major impact. The project proponent will restrict the mining operation only within the lease and no other work will be carried out near the canal or any area outside the mining lease.

Impacts due to water use in Mines

In the proposed mines water will be mainly used for domestic purpose, dust suppression & plantation. Total water requirement for the project is 5.0 KLD which will be sourced from outside agencies. Negligible sewage of 0.64 KLD will be generated, for which a septic tank with soak pit will be set up.

Impacts on Ground Water

The mining activity is not likely to intersect ground water as the ground water table occurs at 58 m BGL in summer season and in Rainy season at 55 m BGL. The mining will go up to the maximum depth of 60m (40m above ground level and 20m Below ground level). So there will be no chance of intersecting the ground water table by the mining activity. So the impact of mining on the ground water is not envisaged.

Mitigation Measures

Entire lease area will be provided with proper garland drains. Check wears will be provided to prevent solids from wash off. Construction of garland drains around

freshly excavated so that flow of water with loose material is prevented. The mine water will be passed through the natural slopes and valleys and gets accumulated in the settling tank (Bottom pit).

4.4 Air Environment

Impacts due to mining operation

Mining activities in the proposed lease area not only pollutes the air in the core zone but also the nearby areas. The major air pollutants due to mining operations are fugitive emissions like PM_{10}, $PM_{2.5}$. Other than these pollutants, gaseous emissions of sulfur dioxide (SO_2) and oxides of nitrogen (NO_x) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

Furthermore loading, unloading and transportation of rough stone and gravel as well as wind erosion of the exposed area and movement of light vehicles will cause pollution within a 500-meter radius of the project area due to quarrying activities. This has a cumulative impact on the ambient air environment around the project area.

Mitigation measures for various impacts

S. No.	Impact	Mitigation measures
1	Dust emission due to drilling	• Using Wet drilling methods • Allowing drilling only with PPE
2	Dust emission due to Blasting	• Carrying out blasting only during specified times • Avoiding blasting during unfavourable weather conditions • Using explosives of good quality

3	Transportation	• Using mist sprayers • Regular wetting of transport roads • Covering the materials carried in tippers with tarpaulin • Proper maintenance of vehicles used for transportation • Conducting regular emission tests for vehicles used for transport • Development of greenbelt is proposed in the safety zone of 10m and 7.5m barriers in the lease area.

4.5 Noise Environment

The main noise generating source during mining operation and related activities are drilling, excavation, loading and transportation. Intermittent noise is generated due to operation of diesel generator.

Impacts

Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area. As per DGMS (Directorate General of Mines Safety) limits, the acceptable noise level is 85 dB(A) for an exposure period of 8 hours. Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife. Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing.

Mitigation Measures

As the distance between the source and receptor increases, the noise level decreases. Hence, there will be a natural attenuation. The proponent has planned to develop green belt in the periphery of the lease area which diminishes sound volume by dampening them. All the equipment/machinery/tippers involved will be properly maintained to control noise generation. Conducting regular health checkups for employees involved. Employees will be made to work on shifts to reduce their exposure time. Providing earplugs to all employees. Providing green walls/nets

wherever possible.

4.6 Socio Economic Impact

The lease area is Government Poramboke land and the proponent has obtained tender from the government. No rehabilitation is needed. Hence, there is no negative impact. The proponent has planned to spend INR 5,00,000 for CER activities.

4.7 Occupational Health

Impacts

The occupational risk due to proposed mining may be due to drilling, blasting, excavation and transportation. A total of 50 workers will be engaged in the mining activity. Mining activity may cause various health problems to the mines workers as follows:

- Dust generated during excavation, drilling, stone cutting, sizing and transportation may cause health problems like Silicosis, Asthma, Tuberculosis and other respiratory lungs disorders.
- Heavy weight lifting by the workers may cause injuries to arms, legs and back.
- Noise generated during the mining activity may cause Noise Induced Hearing Loss (NIHL).

Mitigation Measures

- The mines worker will be provided with dust mask to minimize the inhalation of the dust.
- Water sprinkling twice in a day is in practice on the haul roads, near excavation and roads to reduce the fugitive dust emission.
- Wet drilling and drilling with dust extractor will be practiced.
- Ear muffs will be supplied to the workers working in the noise prone area
- The mining site will be supplied with first aid facilities and the entire mines worker will have access to that.
- The mines workers will be well trained about the safety practices in the mining activities.

- As per Mines Rules, 1955, medical examination of employees at the initial stage and periodically, shall be done by a team of qualified medical officers provided by the project proponent.
- Regular medical checkup camps shall also be arranged for detection of occupational diseases and minor disease in the nearby rural population.
- Free checkup and medicine for treatment for their acute and chronic illness shall be provided by the lessee. Conducting periodical Medical Examination as per DGMS.
- Making all first aid kits available in mines office
- Keeping fire extinguisher in place
- Educating the employees about how to handle unexpected happenings
- Posting information containing emergency contact numbers in mines office
- By adopting all these measures, the safety of the employees working in the quarry will be ensured.

5.0 Analysis of Alternatives (Technology & Sites)

The mining technology is semi mechanized Opencast in single-shift operation without any change in technology. The operation will be carried out as per DGMS norms. No alternate technology will be used.

6.0 Environmental Monitoring Programme

Monitoring is done to measure the efficiency of control measures implemented. Regular monitoring of various environmental parameters like air, water, noise and soil environments is needed to assess the status of environment during the project operation.

A schedule is framed with timeline to monitor various parameters during the operation of the project. The schedule is framed based on MoEF & CC and Tamil Nadu State Pollution Control Board. In case the SEIAA/TNPCB/MoEF & CC or other statutory bodies demand monitoring of any additional parameter/factor, the same will also be done.

The proposed quarry is a small quarry. Hence the Mines-in-charge will be responsible for environmental related activities. After obtaining EC, the conditions mentioned in

EC will be strictly followed. The Mines-in-charge will be responsible for implementing the conditions. EC compliance report will also be submitted periodically.

7.0 Additional Studies

7.1 Risk Assessment & Management

Risk assessment is a method in method in which possible threats/hazards which may arise during mining operations are identified so that adequate machinery/equipment are made available in precaution.

7.2 Rehabilitation and Resettlement (R&R) Plan

No land is acquired from people dwelling in the area. The lease area is an uninhabited land. No R & R plan is proposed.

7.3 Hydrogeological Study

There is a canal located at 1.22km in the Western side of the lease area. Cheyyar River is located at 1.34km in the Northwestern part of the lease area. Due to the presence of these water bodies nearby, a detailed hydrogeological study has been done. As suggested in the Precise Area Communication letter, safety distances of 7.5m to adjacent Patta land and 10m to Government Poramboke land.

7.4 Slope Stability Study

The proposed quarry is a very small quarry and the production is also less. Opencast Semi-mechanized mining with a bench height of 5m and bench width of 5m and 80° Slope is proposed. The depth of mining is proposed as 60m (40m above ground level and 20m Below ground level), which is the ultimate pit limit. Also, there is no overburden since the entire mined out material will be utilized.

7.5 Disaster Management Plan

Precautionary measures are well explained to all staff by the mines in-charge. PPE necessary for all staff are available in the quarry. No person is allowed to enter inside without PPE. Avoiding quarrying during unfavorable environmental conditions. Carrying out safe blasting by following DGMS norms. Safety equipment like fire extinguisher, first aid kit, etc are present in the mine. Proper maintenance of

machinery used for mining. In case of any emergency, the contact numbers of mines in-charge, mines manager, Management contact are available in the mines office.

7.6 Mine Closure Plan

The quarrying operation is proposed up to a depth of 60m (40m above ground level and 20m Below ground level), which will be achieved in 5 years. The ultimate pit dimension will be 210m x 185m x 60m (40m above ground level and 20m below ground level). After completion of quarrying operation, the mined out pit will be left as rain water harvesting pond. The quarry will be properly fenced with barbed wire.

8.0 Project Benefits

The project area is located on barren Government Poramboke land, thereby causing no impact on the loss of agriculture or forest land. The project will create employment opportunities in the area. There will be no adverse effect of mining on the socioeconomic status of the people; rather, mining activities will improve their standard of living. The mining activity creates employment opportunities for the local people, and this definitely raises their economic status. Apart from the overall beneficial impact of the project on the local people of the region, it is felt necessary to augment facilities in the fields of education, health, and social awareness, including concern for the environment and ecosystem.

The mining activity at proposed Rough Stone of Thiru. N. Venkatesh cluster will create direct employment opportunity for 50 local people. The PP has proposed CER amount of Rs.5,00,000 for project surrounding schools development.

9.0 Environmental Management Plan

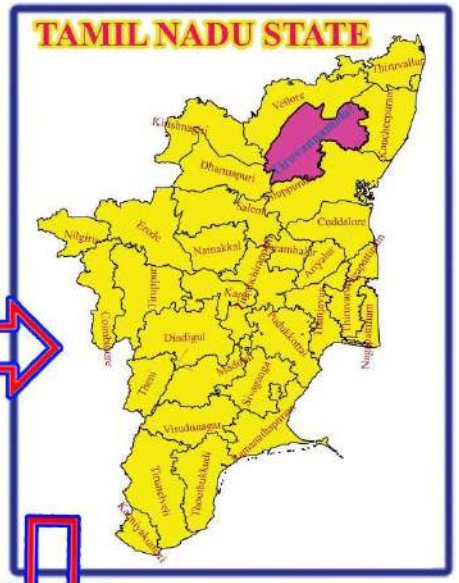
The Environmental Management Plan is developed to ensure that a project is implemented in an environmentally sustainable manner, where all contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to minimize those risks. EMP also ensures that the project implementation is carried out in accordance with the planned design and by taking appropriate mitigation measures to reduce adverse environmental impacts during the project's life cycle.

The effective implementation of EMP is not only reduce pollution load and comply the regulatory requirement but also increase productivity and improve marketability of product. The capital and recurring cost of EMP for the cluster of mines has been given in below table.

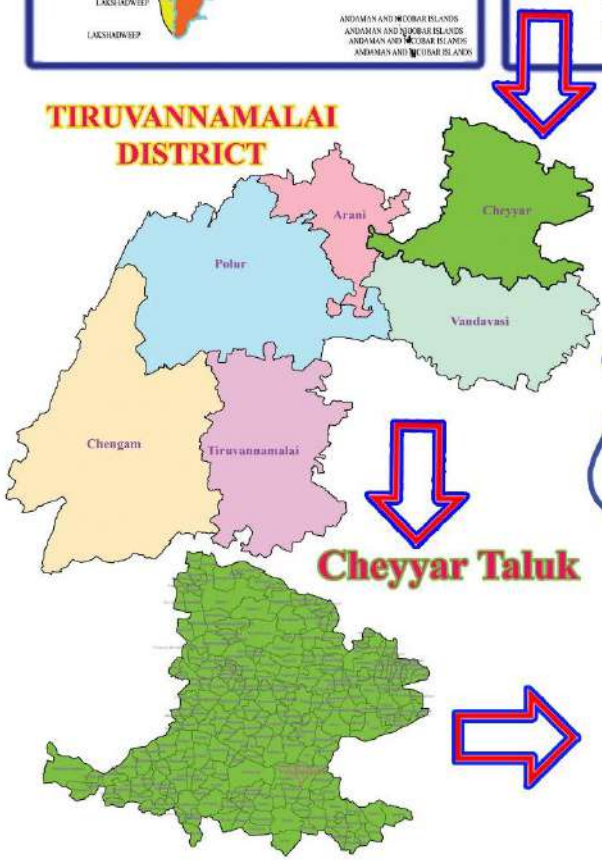
S.No.	Budget planned for	Amount (INR)
1	Air sampling	40,000
2	Water sampling	40,000
3	Noise monitoring	20,000
4	Ground vibration test	20,000
5	Drinking water facility	1,50,000
6	Sanitary arrangement	50,000
7	Safety kits	1,00,000
8	Water sprinkling	2,00,000
9	Afforestation	1,00,000
10	Cost towards charity	50,000
Total		**7,70,000**

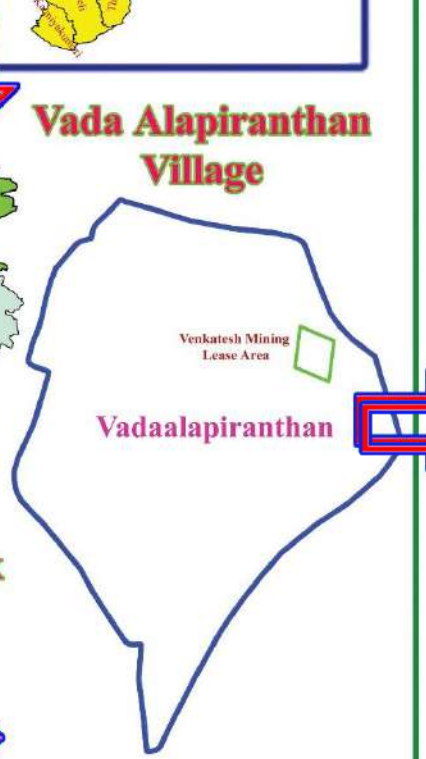
10.0 Conclusion

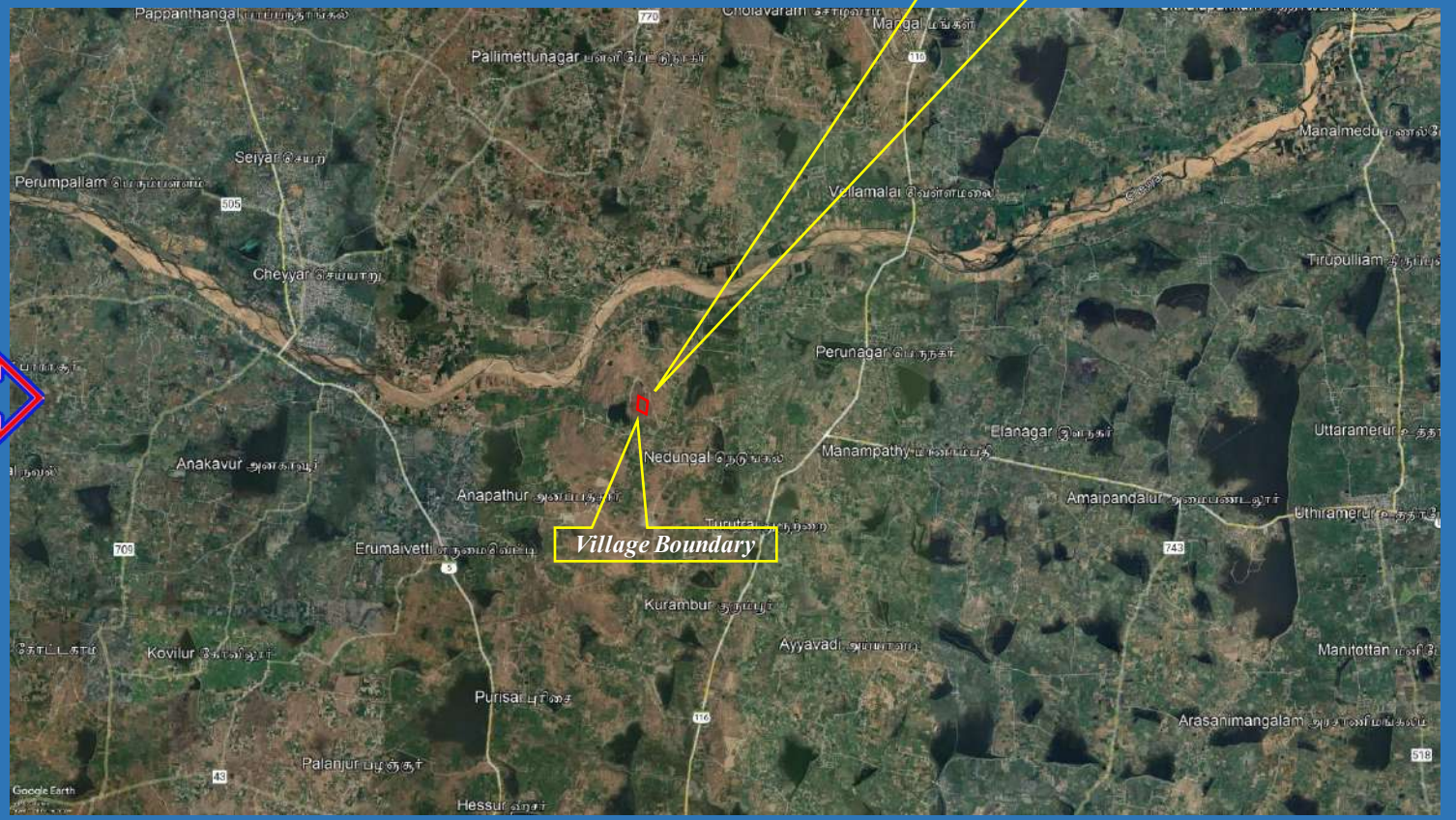
It can be concluded from overall assessment of the impacts, in terms of positive and negative effects on various environmental components, that the mining activities will not have any adverse effect on the surrounding environment.



LOCATION OF THE PROJECT AREA







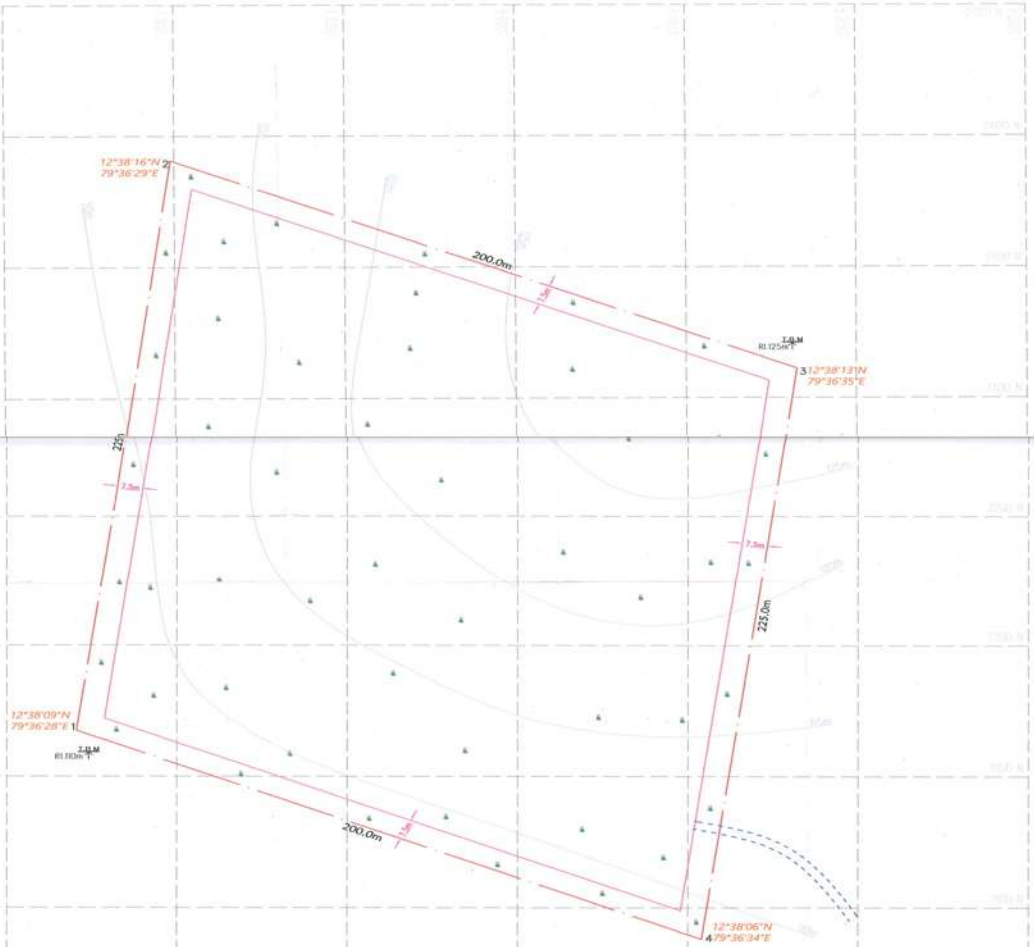


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PLATE NO-II

DATE OF SURVEY : 29.05.2014

APPLICANT:

THIRU.N.VENKATESAN,
S/o. NATARAJAN,
NO.19/I, KURINJI NAGAR,
VELLISEMMANDALAM,
CUDDALORE DISTRICT.

QUARRY LEASE APPLIED AREA:

S.F.NO : 168 (PART-1)
EXTENT : 4.50.0 Ha.
VILLAGE : VADA AALAPIRANDHAN,
TALUK : CHEYYAR,
DISTRICT : TIRUVANNAMALAI.

INDEX

Q.LEASE APPLIED BOUNDARY	
7.5m SAFETY DISTANCE	
TEMPORARY BENCH MARK	T.B.M
APPROACH ROAD	
CONTOUR	
SCRUB	

QUARRY LEASE & SURFACE PLAN

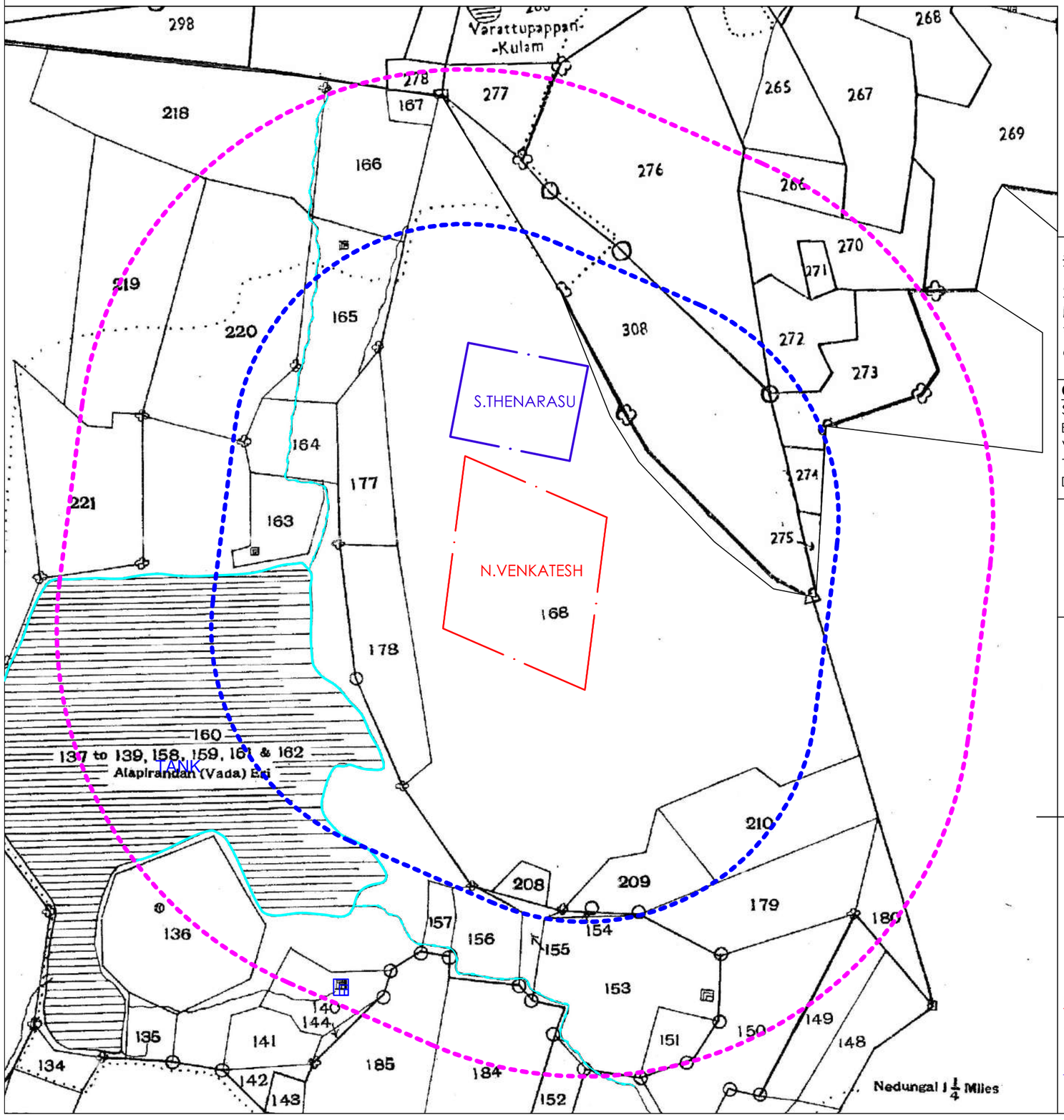
SCALE 1 : 1000

PREPARED BY :

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

C.NATARAJAN, M.Sc.,M.P.hil.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/004/87/A

PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.N.VENKATESH OVER AN EXTENT 4.50.0HA LOCATED AT S.F.NOS. 168 (PART-1) OF VADA ALAPIRANDANVILLAGE, CHEYYAR TALUK, TIRUVANNAMALAI DISTRICT, TAMIL NADU STATE



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APPLICANT:
THIRU.N.VENKATESH,
S/o. NATARAJAN,
NO.158, KURINJI NAGAR,
VELLISEMMANDALAM.
CUDDALORE DISTRICT.

QUARRY LEASE APPLIED AREA:
S.F.NO : 168 (PART-1)
EXTENT : 4.50.0 Ha,
VILLAGE : VADA AALAPIRANDHAN,
TALUK : CHEYYAR,
DISTRICT : TIRUVANNAMALAI.

INDEX
TOPO SHEET NO : 57 P/10

LATITUDE :12°38'20.50"N to 12°38'28.14"N

LONGITUDE :79°35'53.58"E to 79°36'01.61"E

300m Radius :
500m Radius :
Q.L.Applied Area :

TOPO SHEET NO : 57 P/ 10

LATITUDE :12°38'06"N to 12°38'16"N

LONGITUDE :79°36'28"E to 79°36'35"E

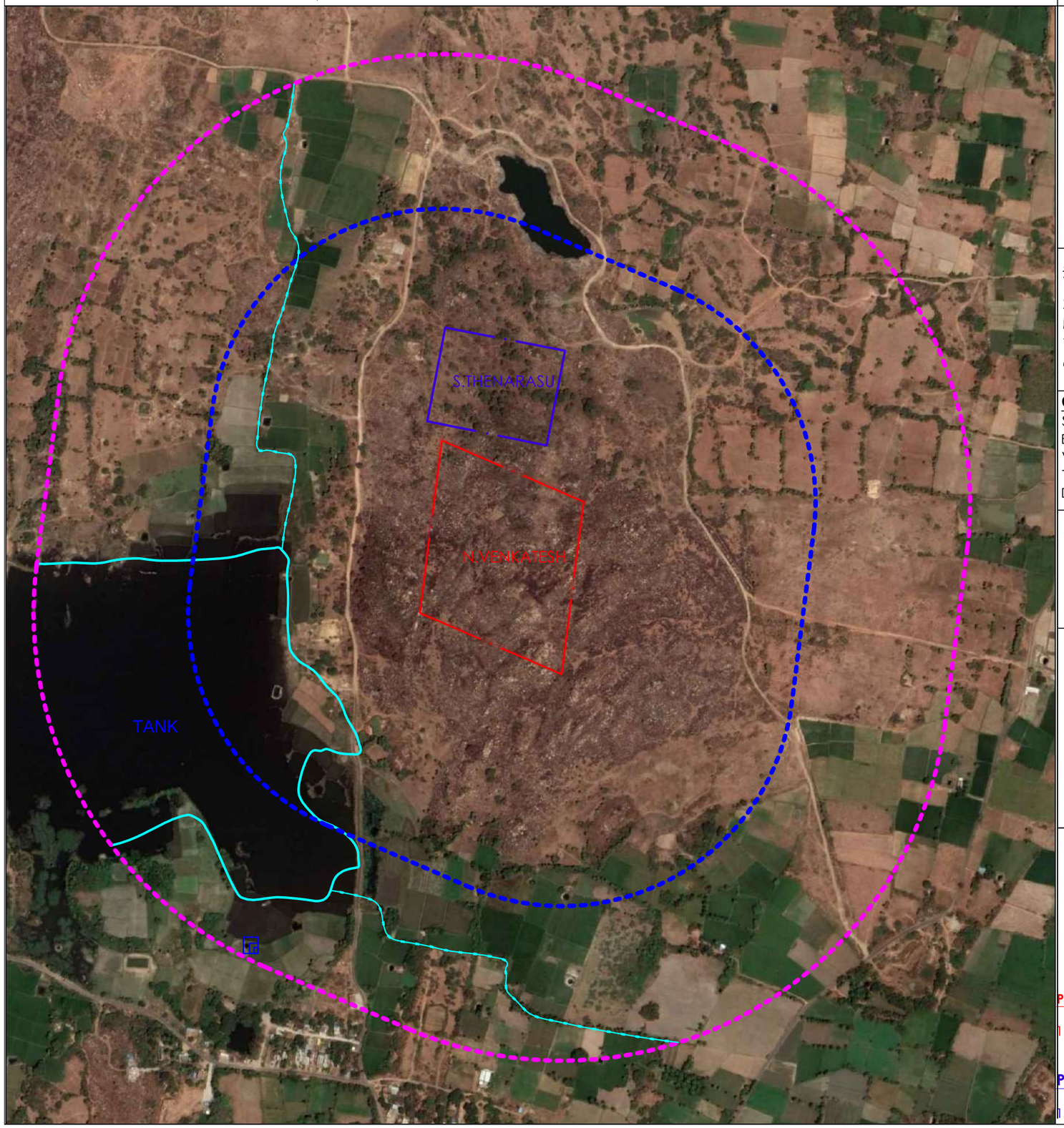
INDEX

WELL
ODAI
TANK

PRESENT PROPOSED QUARRIES
1.N.VENKATESH

PROPOSED QUARRIES
1.S.THENARASU

PROPOSED ROUGH STONE AND GRAVEL QUARRY OF THIRU.N.VENKATESH OVER AN EXTENT 4.50.0HA LOCATED AT S.F.NOS. 168 (PART-1) OF VADA ALAPIRANDANVILLAGE, CHEYYAR TALUK, TIRUVANNAMALAI DISTRICT, TAMIL NADU STATE



APPLICANT:
THIRU.N.VENKATESH,
S/o. NATARAJAN,
NO.158, KURINJI NAGAR,
VELLISEMMANDALAM.
CUDDALORE DISTRICT.

QUARRY LEASE APPLIED AREA:
S.F.NO : 168 (PART-1)
EXTENT : 4.50.0 Ha,
VILLAGE : VADA AALAPIRANDHAN,
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1.S.THENARASU

From
Dr.G.Panneer Selvam M.Sc., M.Phil., Ph.D.,
Assistant Director,
Geology and Mining,
Tiruvannamalai - 4.

To
Thiru.N.Venkatesh,
S/o.Natarajan,
No.158, Kurinji Nagar,
Vellisemmandalam,
Cuddalore District

Rc.No. 16/Kanimam/2019, dated: .06.2019.

Sub: Mines and Minerals – Tiruvannamalai District - Thiru.N.Venkatesh, Cuddalore - Bidder of Proposal Stone quarry in an extent of 4.50.0 Hectare at Govt. Poramboke S.F.No. 168 (Part-1), in Vada Aalapirandhan Village, Cheyyar Taluk – Particulars called for – furnished – regarding.

Ref: Thiru.N.Venkatesh, Cuddalore letter, dt: 03.06.2019

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In the reference cited, the bidder of proposed stone quarry in S.F.No. 168 (Part-1) over an extent 4.50.0 hectare of Vada Aalapirandhan Village, Cheyyar Taluk Thiru. N.Venkatesh, Cuddalore has requested to furnish the details of Proposed / Existing / lease expired quarries located within 500 mts radius from his proposed quarry, so as to submit the same to the Environment Impact Assessment Authority for obtaining Environment Clearance.

In this regard, apart from his proposed quarry in S.F.No. 168 (Part-1) over an extent 4.50.0 Hect., of Vada Aalapirandhan Village, Cheyyar Taluk the details of quarries (Proposed / Existing / Lease Expired) located within 500 mts radius are furnished as follows.

Details of proposed / Existing / lease expired quarries

Sl. No.	Name of the Owner	Village & S.F. No.	Extent in Hect.	Lease Period	Remarks
1.	Thiru.S.Thennarasu, S/o.Selvaraju, No.2/352, Vavipalayam, Paramathi Velur Taluk, Namakkal District.	Vada Aalapirandhan Village, S.F.No. 168 (Part 2)	4.50.0	--	Proposed quarry

Assistant Director,
Geology and Mining,
Tiruvannamalai.